



ENVIRONMENTAL ISSUES AND SOCIAL INCLUSION IN A SUSTAINABLE ERA

Edited by

R. Iqbal Robbie, Ali Roziqin, Shannaz Mutiara Deniar,
Ardik Praharjo and Kenny Roz



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The Sustainable Development Goals (SDG) and the Paris Climate Agreement are examples of initiatives where countries show recognition of their interconnected interests and goals. This is particularly evident in the case of global environmental issues because they require global decision-making. The emergence of global environmental issues such as climate change, marine pollution and biodiversity loss has brought new challenges to governance and requires political support and innovation of global public policies. In addition, many social problems arise because of the environmental crisis.

Environmental Issues and Social Inclusion in a Sustainable Era discusses environmental and social inclusion from a socio-economic perspective. The contributions analyse the management of global environmental problems at local, national and international levels, with a special focus on multilevel governance, innovative public policies, and economic development finance and business.



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PROCEEDINGS OF THE 2ND INTERNATIONAL CONFERENCE ON HUMANITIES AND SOCIAL SCIENCES (ICHSOS 2022), MALANG, INDONESIA, 1–2 JULY 2022

Environmental Issues and Social Inclusion in a Sustainable Era

Edited by

R. Iqbal Robbie

Department of Management, Universitas Muhammadiyah Malang, Indonesia

Ali Roziqin

Department of Government Studies, Universitas Muhammadiyah Malang, Indonesia

Shannaz Mutiara Deniar

Department of International Relations, Universitas Muhammadiyah Malang, Indonesia

Ardik Praharjo and Kenny Roz

Department of Management, Universitas Muhammadiyah Malang, Indonesia

First published 2024
by Routledge
4 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN

and by Routledge
605 Third Avenue, New York, NY 10158
e-mail: enquiries@taylorandfrancis.com
www.routledge.com – www.taylorandfrancis.com

Routledge is an imprint of the Taylor & Francis Group, an informa business

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Funded by Universitas Muhammadiyah Malang.

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ISBN: 978-1-032-41938-1 (hbk)

ISBN: 978-1-032-41939-8 (pbk)

ISBN: 978-1-003-36048-3 (ebk)

DOI: 10.1201/9781003360483

Typeset in Times New Roman
by MPS Limited, Chennai, India

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Preface

Today's societies face two major challenges: environmental sustainability and social inclusion. According to Brundtland Report 1987, sustainable development is defined as development that meets the needs of the present without jeopardizing future generations' ability to meet their own needs. Scholars have increasingly argued for paying closer attention to the links between ecological and social sustainability and analyzing these challenges holistically. Three crucial connections should be highlighted. First, negative environmental impacts disproportionately affect poor and marginalized groups and individuals, as extensively researched in the environmental justice literature. Second, policies and measures that seek to lessen environmental harm run the danger of having a relatively greater impact on society. Third, since their lifestyles are more materialistic, energy-intensive, and travel-intensive, wealthy countries or richer households and people within countries contribute a greater share to environmental issues like climate change and local air pollution.

In addition to socially inclusive, in all areas where there are cultural, economic, political, or other differences due to the presence of people and their unique method of settling in a nation or region, social inclusion must be understood as a component of human development. The notion of social leverage is based on the fundamental idea of social inclusion. This final idea primarily alludes to the work typically done by public institutions, whose primary goal is to socially and economically integrate social groups that exhibit a high level of vulnerability. These are low-income individuals and social organizations that are struggling to survive.

As contribution from academic discourse, The Faculty of Social and Political Sciences and the Faculty of Economic and Business, Universitas Muhammadiyah Malang was held an international conference under the name, the Second International Conference on Humanities and Social Sciences (ICHOS) 2022, on 1–2 July 2022, in Universitas Muhammadiyah Malang, East Java, Indonesia. The conference was held hybrid (online and offline) due to the pandemic with keynote speaker by Dr. Siti Nurbaya, M.Sc, Minister of Environment and Forestry Republic of Indonesia and five main speakers Jewel Andoh, Ph.D. CSIR-Forestry Research Institute of Ghana, Dr. Nik Hazimah Bt. Nik Mat, Universiti Malaysia Trengganu, Malaysia, Alam Surya Putra, Deputy Director of Environmental Governance Unit, The Asia Foundation, Prof. Dr. Tri Sulistyarningsih, M.Si, Universitas Muhammadiyah Malang and Prof. Djoko Sigit Sayogo, Ph.D., Universitas Muhammadiyah Malang.

Under the theme entitled “Environmental Issues and Social Inclusion in Sustainable Era”, the Conference gathered participants from various universities in Indonesia and other countries. The conference accepted 90 articles to be presented. There were 45 articles inside the book series published by CRC Press Balkema, Taylor & Francis Group. Hopefully that the participants of the conference will be able to dissect problems, find solutions and get alternative perspectives in preventing about environmental issues and social inclusion.



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Acknowledgements

This book has been published. We would like to thank Rector of Universitas Muhammadiyah Malang, who have supported to this event. This event is collaboration between the Faculty of Social and Political Sciences, and the Faculty of Economic and Business. All articles in this book are the final version of the paper presented in the International Conference on Humanities and Social Sciences (ICHSOS) which was held on 1–2 July 2022 through an online and offline seminar. On behalf of the committee, we would also like to thank all keynote speakers and reviewers for the contribution and dedication for this conference. All article in this book has gone through the blind review process. Finally, we would like to thank for the committee, authors, participants, and all peoples who have supported in this conference.

We hope we meet again in the next conferences.

Malang, March 1, 2023

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Publication

Ali Roziqin, M. PA
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Ahmad Mujahid Arrozy, S.Sos., M.Sos
Universitas Muhammadiyah Malang, Indonesia



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The implementation of sustainable energy policy in Indonesia: New and renewable energy

Asep Nurjaman*

University of Muhammadiyah Malang, Malang, Indonesia

ABSTRACT: The purposes of this study are to examine the potential new and renewable energy (NRE) sources and policy to support sustainable energy in Indonesia. This research is a type of qualitative, the data of NRE policy was analyzed by regulatory impact assessment (RIA), and NRE technology is analyzed by strength-weakness-opportunities-threats (SWOT) analysis. The results of the study show that Indonesia has many types of NRE sources; however, the target for obtaining NRE cannot be met in Indonesia. These findings have an implication for the importance of reforming policies in the energy sector. Moreover, the finding can encourage universities to conduct technological research to develop NRE, and for the government to become the basis for national energy development.

Keywords: NRE, Energy Policy, Sustainable Energy, Regulatory Impact Assessment (RIA), Indonesia

1 INTRODUCTION

Recently, the Ukraine conflict has made countries around the world aware of the importance of energy independence. Therefore, efforts are needed by countries in the world for energy sustainability by developing new and renewable energy (NRE). However, NRE generation is not developing at all, as it is a 2.5% development rate every year. Since global warming was taken after natural contracts around the world such as the Kyoto Convention, the use of fuels has been criticized to a great extent in the world. These fuels are non-renewable and can be used up (Zafar *et al.* 2019), and the use of fossil energy can also produce pollution and adversely affect climate change (Irena 2019; Kurnia *et al.* 2021). The Indonesian government has implemented NRE sources in order to overcome energy problems (Endri *et al.* 2021; Laila *et al.* 2021; Prayitno *et al.* 2021; Srinita & Effendi 2021). Indonesia has a variety of NRE sources that can be utilized, examples are mentioned in Bridle *et al.* (2018), and Endri *et al.* (2021). Despite having many NRE sources, Indonesia depends a lot on non-renewable natural resources, such as coal and petroleum as fossil energy sources (Suparjo *et al.* 2021). Moreover, the current NRE development policy is deemed urgent for Indonesia to be implemented due to the increasing need for energy (Al-Tal & Al-Tarawneh 2021; Bridle *et al.* 2018; Suparjo *et al.* 2021; Tiep *et al.* 2021; Zhakupova *et al.* 2021).

NRE has a role as an alternative resource that replaces fossil energy which cannot be renewed and is limited in number if it is used continuously (Agbonifo 2021; Tiep *et al.* 2021). Oil-type fuels have a use limit because they are limited in quantity and cannot be reproduced (Muse 2021). However, almost all industries and daily activities cannot be separated from their dependence on non-renewable energy (Asian Development Bank 2020; Ireland 2019). The exploitation of oil resources that are too large and too fast will make the supply of fuel run out more quickly (Rowley and Westwood 2003; Zafar *et al.* 2019). On the other hand,

*Corresponding Author

renewable energy can also be used in a sustainable manner (known as sustainable energy) in the future (Alrikabi 2014; Plutshack *et al.* 2019).

Indeed, some works have shown promise in this area such as Bridle *et al.* (2018) and Endri *et al.* (2021). These authors showed that Indonesia has a variety of new potential energy sources that can be utilized. Meanwhile, in the implementation of energy policy, Setyowati (2020) mentioned that in Indonesia there are several regulatory barriers and regulatory uncertainty is one of the main barriers to mobilizing private climate finance for renewable rural electrification. It has a similarity to the China's case. The regulatory framework to facilitate the uptake of renewable energy is constantly changing and often inconsistent, due to the pragmatic policy (Nurjaman *et al.* 2018), lack of woman participation (Soedarwo 2014), and more concern for economic growth than green environment (Susilo 2020). The resulting regulatory uncertainty increases costs for project developers, both in terms of the time investment required to understand the implications of new regulations and costs.

2 RESEARCH METHOD

This study is focused on Indonesia. The country of Indonesia was chosen because it reflects various stages of economic development, the current situation of electricity generation, and the potential for renewable energy technology. Data were collected from publicly available databases. Then, various government reports and investment agency statements are reviewed to determine the potential renewable energy capacity set by the Indonesian state based on its geographic and geological characteristics. Moreover, we examined peer-reviewed journal articles accessed through the VosViewer application on current and future energy efficiency technologies. Finally, we conducted a focus group discussion (FGD) to elaborate more comprehensive data about renewable energy in Indonesia from various backgrounds of stakeholders such as academicians, researchers, and professional staff of the Indonesian parliament.

3 RESULTS AND DISCUSSION

Renewable energy is the processing of energy from natural processes that are sustainable and used as alternative energy. Renewable energy is environmentally friendly, thus contributing to overcoming global warming and reducing carbon dioxide emissions. Indonesia shows that it has abundant energy sources compared to its neighbors. In particular, countries such as Singapore, and Malaysia with few domestic resources can maintain reasonable economic growth, high levels of social welfare, and high GDP. Based on Government Regulation Number 79 of 2014 concerning National Energy Policy, Indonesia is targeting the use of NRE to a minimum of 23% (by 2025) and 31% (by 2050).

3.1 *NRE technology*

In 2013, renewable energy utilization was 19% of worldwide energy utilization, whereas ASEAN's energy request is anticipated to grow 2.4 times by 2040 agreeing to the 5th ASEAN Energy Outlook. In 2040, ASEAN's GDP is anticipated to have a triple increment from as it were USD2.56 trillion in 2015 and the region's add up to populace develop to over 760 million with 0.7% per year on normal compared to 630 million in 2015. Rising energy requests will impact the security of the ASEAN energy supply and the capacity to create economic value whereas these lead ASEAN to convert to a more energy-intensive economy within the locale (Veng *et al.* 2020). Meanwhile, in Indonesia, the oil demand will continue to increase and supply will decline, resulting in a very large gap between supply and demand. Because of this reason, Indonesia as a member of ASEAN is trying to develop a NRE policy that will be the best energy source to successfully replace traditional energy sources.

Currently, 80% of conventional energy is used to fulfill the general public's needs and industries. The depletion of oil and gas reserves and rapid growth in conventional energy

consumption have continuously forced us to discover renewable energy sources, like solar, wind, biomass, and hydropower, to support economic development in the future (Handayani and Ariyanti 2012). The importance of switching from non-renewable energy to renewable energy is not only decreasing the potential for oil but also decreasing prices. However, according to Sri Mulyani (Coordinating Minister for Economics), world crude oil prices are a new threat to the prospects for the 2020 State Budget (APBN) because the decline in oil prices risks depressing state revenues, especially from income tax (PPH) and non-tax state revenues (PNBP), the oil and gas sector.

In relation to this regulatory aspect was always correlated with the NRE technology (see Table 1). The government (executive and legislative) has issued many regulations related to NRE. This is based on the awareness that the use of NRE technologies is a necessity because of the impact of fossil energy which is very damaging to the environment and will eventually run out due to its limitations. Therefore, the Government of Indonesia has the commitment to use more NRE as an energy source in accordance with Law Number 30 of 2007 concerning Energy which requires the central and regional governments to encourage the use of NRE. This was also encouraged by the Paris Agreement in 2015. Its contents encourage efforts to contain global temperature increases below two degrees Celsius and develop policies to reduce gas emissions, one of the ways is by reducing the use of fossil energy and switching to NRE. Of the 196 countries that participated in the negotiation of the agreement, France is one of the leaders in terms of the policy by committing not to use coal to produce electricity by 2022. This means that France will strongly side with NRE sources.

Table 1. Strength-weakness-opportunities-threats (SWOT) analysis of NRE technologies and their implementation in Indonesia.

Strengths	Weakness
High potential of NREs in Indonesia, specifically solar energy. Since the system is modular, it's suitable for remote locations. Reduction of environmental contamination.	High expenses for investment. Lack of motivation for private section to engage.
Competitive and low-cost technologies for domestic application. Abundant well-equipped and powerful colleges and research centers in this field. Availability of oil export.	Absence of stable effective policies and promising incentives. Dearth of necessary cooperation between various private and governmental sections. Absence of research sectors and universities in development processes of technology. Economic instability of the country specifically fluctuation of foreign currencies.
Opportunities Engagement and development of private section Stepping toward economical and sustainable development.	Threats Low prices of fossil fuels. Enormous accessible reservoirs of fossil fuels, especially in shared fields with neighboring countries.
Creation of potential market for technology introduction and maturation. Reduction in reliance on fossil fuels.	Personalized and impromptu decision making by managers. Lack of understanding of the need for development of this sector.
Possibility for energy export to neighboring countries. Possibility of scientific and practical development of research centers and colleges for initiation of essential technologies.	Shortage of social awareness. Political issues such as forced sanctions make investors lack of motivation to continue.

Sources: Adopted from Aien and Mahdavi (2020)

3.2 Policy for sustainability energy in Indonesia

In the APEC 1 forum held in Beijing on September 2, 2014, the Indonesian minister of energy agreed to target doubling the share of NRE in the energy mix by 2030. However, according to Adzikri *et al.* (2017) and Bridle *et al.* (2018), Indonesia has not met the percentage target of the energy mix as stated in the APEC1 forum, with a growth rate of 2.5% per year. Meanwhile, the target of installing a capacity of 6235 GW is estimated to be achieved by 2040 with the share of renewable energy reaching 35% (Zafar *et al.* 2019). The regulatory framework to facilitate the uptake of NRE is constantly changing and often inconsistent, due to the pragmatic policy (Nurjaman *et al.* 2018), lack of woman participation (Soedarwo 2014), and more concern for economic growth than green environment (Susilo 2020). The resulting regulatory uncertainty increases costs for project developers, both in terms of the time investment required to understand the implications of new regulations and costs (Gil-Garcia & Sayogo 2016). The literature shows that policy failure is the main problem for not meeting energy needs from renewable sources. Therefore, the purpose of this paper was to analyze the NRE sources and the implementation of energy policy in Indonesia, without considering the type of renewable energy individually.

Indonesia's policy on NRE is quite clear, similar to other countries, especially in the field of nuclear energy (Panina *et al.* 2020). The Indonesian government has made various policies on NRE sources to address energy problems (Endri *et al.* 2021; Laila *et al.* 2021; Prayitno *et al.* 2021; Srinita & Effendi 2021). The NRE development policy is deemed urgent to be implemented because of the increasing need for energy not only in Indonesia but also in other countries in the world (Al-Tal & Al-Tarawneh 2021; Bridle *et al.* 2018; Suparjo *et al.* 2021; Tiep *et al.* 2021; Zhakupova *et al.* 2021), nevertheless, the policy implementation was a failure due to lack of political commitment and inconsistency in the implementation. Indonesia has not met the target of reducing fossil energy sources and until now, it depends a lot on non-renewable natural resources, such as coal and petroleum as energy sources (Suparjo *et al.* 2021). However, the Indonesian government is aware that these resources are non-renewable and can be exhausted (Zafar *et al.* 2019), and the use of fossil energy can also produce pollution and adversely affect climate change (Irena 2019; Kurnia *et al.* 2021).

According to the Indonesian Energy Policy (Kebijakan Energi Nasional, KEN), in 2025, estimated Indonesia's total energy demand will increase to 2.41 billion BOE (Barrel of Oil Equivalent) or an increase of 84% of the total national energy demand in 2013 which reached 1.31 billion BOE (Adzikri *et al.* 2017). To fulfill the need for energy, various kinds of alternative energy sources are explored as much as possible, but not all of them are easy to achieve. This is constrained by several problems such as geographic challenges, coordination between central and regional governments, renewable cost technology, incentives, public perception, and institutional capacity. Apart from technological constraints, values, and public perceptions often clash (Abolhosseini *et al.* 2014).

Currently, Indonesia also has a road map for national energy development with the National Energy Policy stipulated in Government Regulation No. 79/2014 which targets a NRE mix of 23 percent by 2025 and 31% by 2050. Referring to these regulations, it is actually very difficult for Indonesia to achieve. In this year alone, the percentage of new renewable energy is only 11% of the national energy mix. The difference between planning and facts in the field has made Indonesia start to boost the use of new renewable energy using solar power for rural and archipelagic areas. Indonesia is also developing geothermal power which is estimated to have a potential of around 29 GW which is currently being optimized by PT Pertamina Geothermal Energy of 437 MW with 12 working areas. In addition, the government has also started to build a Wind Power Plant (Pembangkit Listrik Tenaga Bayu, PLTB) with a capacity of 75 MW in Sidrap, South Sulawesi.

An overall system for environmentally friendly power improvement is available in Indonesia. For instance, Law 17 of 2007 backs environmentally friendly power project sending by executing a public long-term development plan making financing for sustainable power projects. Moreover, Governmental Regulation 79 of 2014 accommodates the decrease of Indonesia's petroleum derivative reliance and urges the shift to perfect and sustainable power sources. It likewise incorporates

arrangements for the increase of power supply at the public level and forgiving energy access explicitly in the distant rustic spaces of Indonesia. Mix Renewable Energy (MRE) is remembered for the country's meaning of sustainable power, and, consequently, its objective of sustainable power advancement incorporates MRE exercises, including pilot testing, in anticipation of full-scale commercialization. The National Energy Council is now investigating its public energy and intends to join MRE into Indonesia's public energy blend (Quirapas and Taeihagh 2021).

Based on these regulations, the government's efforts to encourage the achievement of the NRE target are still facing challenges, including in relation to the use of support from the State Revenue and Expenditure Budget (Anggaran Pendapatan dan Belanja Negara, APBN) which has not been optimal and the determination of electricity rates based on the Power Purchase Agreement of Electricity. This causes investment in the NRE sector to be considered less profitable or unattractive. Therefore, the government feels the need to identify factors that can encourage investors to invest in the EBT sector. One of them is the identification of the effect of fiscal incentives on investment in EBT power plants based on the type of EBT, which can then be used in making adjustments to the calculation of the economic price of the EBT electricity selling price.

6 CONCLUSION

Indonesia as a country located on the equator has abundant energy sources, including both fossil and non-fossil energy sources. However, until now, most of the energy produced and used comes from fossils, amounting to 95%. With a steady and strong rate of economic growth in recent years, energy demand will continue to increase. The high level of dependence on fossil energy, which is relatively limited in number, can trigger an energy crisis in Indonesia. Therefore, the issue of sustainable energy will continue to be a major concern of the government in the future, especially with the increasing problem of environmental impacts due to burning fossil energy for various national socio-economic activities. Renewable energy is one of the energy sources that can meet energy needs and contribute to the national energy mix and help mitigate the impacts of global climate change. Furthermore, as an energy resource, almost the entire world has utilized renewable energy as a strategic energy source to anticipate the energy crisis.

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The effect of sustainability report disclosure on company value with profitability as a moderating variable

Muhammad Wildan Affan* & Kresnalan Wicaksana

Faculty of Economics and Business, University of Muhammadiyah Malang, Malang, Indonesia

ABSTRACT: This study aims to the effect of the Sustainability Report on Firm Value with profitability as a moderating variable. The formulation of the problem in this study is that sustainability report disclosure has an effect on firm value, and profitability has an effect on the relationship between sustainability report and firm value. The population used in this study are companies listed on the ESG Sector Leaders IDX KEHATI index in 2021. The sample in this study was 37 companies determined by the purposive sampling technique. The research method used in this research is quantitative associative. The data analysis technique used is simple linear regression analysis. The results of the study found that the Sustainability Report has an effect on firm value and profitability has an influence on the relationship between the sustainability report and firm value.

Keywords: Sustainability report, firm value, profitability

1 INTRODUCTION

Disclosure of information openly about the company is very important, especially for public companies. This is done as a form of accountability and transparency of the company to shareholders. Disclosure of this information are used for consideration in decision-making by stakeholders. All companies that have been listed on the Indonesia Stock Exchange should comply with the submission of financial statements that have passed the audit results by the Public Accounting Firm (KAP) before the financial statements are published to the public.

Providing information to the public is not limited to financial statements. Disclosure in general terms and even in environmental responsibility is no less important. Environmental responsibility also has a close relationship with sustainable development. This is because sustainable development is carried out with one of the principles, namely not to damage the environment so that environmental benefits are not reduced in the future.

Companies that provide good disclosure will have added value, especially for stakeholders. If a company has good trust from the community, it will be easier to run the company. Good financial reports and disclosures as well as appropriate environmental responsibility will make investors invest in the company. This has a positive impact because it will make it easier for the company to expand and develop.

The value of a company is very important, both for internal parties and stakeholders. Because the high value of the company will be followed by the prosperity of investors. This is in line with the main goal of a company going public, which is to enable the public to participate in the company and increase the wealth of company owners or shareholders.

Research conducted by Ethika, Azwari & Muslim (2019) found that environmental accounting disclosures made by companies had a significant positive effect, but

*Corresponding Author

environmental performance had a significant negative effect on firm value. Likewise, the research conducted by Amalia & Wahidahwati (2021) found that good corporate governance and financial performance had a positive effect, while intellectual capital disclosure and leverage did not affect firm value. From the above discussion, it shows that disclosure is something that can encourage company value. However, companies must also assist the government in driving the economy and development, whereas in sustainable development, it is not only the task of the government alone (Karyanto & Martiana 2020).

Based on the background and description above, the researcher will analyze the effect of sustainability report disclosure on firm value by using profitability as a moderating variable. It becomes interesting to study where the government is committed to continuing to carry out sustainable development and the growth rate of capital market investors in Indonesia. In contrast to previous studies, this study used a sample of all companies listed on the IDX KEHATI ESG Sector Leaders index in 2021.

2 LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Stakeholders have an important role in the sustainability of a company. Because stakeholders have the power to control a resource needed in the process of operating a company's activities. Therefore, companies must have good relationships with stakeholders. This can be done by accommodating existing wants and needs.

A sustainability report is one way to maintain the interests and relationships of each party so that they are well maintained. With the publication of a sustainability report, the company will provide transparent information about the company's position and activities in the economic, environmental, and social aspects so that the performance of a company can be directly assessed by various parties such as the government, community, community organizations, media, especially by creditors and investors. As they have great power over the company's operational activities, they will be careful and sensitive enough to every company activity so that it is maintained and no negligence can harm many parties, including them.

GRI (Global Reporting Initiative) has established several principles for the preparation of the sustainability report. These principles are important for sustainability reporting, therefore all organizations must apply these principles in the preparation of sustainability reports. In outline, the principles are divided into two groups: those that determine the quality of the sustainability report and those that determine its content.

The principles for determining the quality of the sustainability report are as follows:

1. Comparability

An organization must collect, select and report information consistently. A report should be presented in a way that allows stakeholders to analyze changes in the organization's activities over time and that can support the analysis relative to other organizations.

2. Balance

A report must reflect the positive and negative aspects of the organization's activities to enable a justified assessment of the activities of an organization as a whole.

3. Clarity

An organization must be able to make information available in a way that is easy to understand and understandable, while also being accessible to the stakeholders who will use the sustainability report.

4. Accuracy

The information contained in the report must be strong and accurate and detailed for users and stakeholders that can be used to assess the work of the organization.

5. Reliability

An organization must collect, compile, record, disclose, and analyze the information and processes that will be used to prepare the report so that the report can be tested and

this will determine the quality and materiality of the information in the sustainability report.

6. Punctuality

An organization in making reports on a regular schedule so that information will be available on time for users and stakeholders to make the right decisions.

Profitability is a way to find out if the company is producing and getting profits or profits within a certain period, so we need a tool that can assess it. These tools are financial ratios (Rivandi 2021). Profitability is the main factor in the company with regard to the results obtained by the company through its business activities. As more investors become more interested in the company, the company's share price rises. The high net profit generated by a company attracts more investors to invest in the company. Companies can increase profits in terms of asset sales and capital.

Companies that have been listed in the stock market must report their financial statements every year. Usually, the value of a company on the stock market does not only reflect the company but also reflects the public's interest in the company. Suranto & Walandouw (2017) stated that "The market price of the company itself. In the stock exchange, market price means the price investors are willing to pay for each share of a company's stock." Therefore, firm value is the investor's perception of the company which is always associated with stock prices.

Basically, the value of the company is something that becomes important information for stakeholders. Because the existing information can be used as an overview of the performance of a company. If a company's value increases, the stakeholders will be willing to invest their capital in the target company. With this investment, stakeholders expect the company to increase from the investment. Usually, the value of the company is reflected in several aspects such as increasing the quality of shares and increasing the quality of the products or services produced. If this increases, the value of the company will also feel good and increase as well.

2.1 *Effect of sustainability report on firm value*

The overall disclosure of the sustainability report by the company is expected to provide concrete evidence that the production process carried out by the company is not only profit-oriented but also pays attention to social and environmental problems. (Imaniar Arvida Natalia 2022). Research conducted by Imaniar Arvida Natalia (2022) shows that the disclosure of the Sustainability Report and environmental performance has a positive effect on the value of the company. Firm value is the value that investors are willing to pay for a company. The higher the value of the company, the greater the level of welfare of the shareholders of the company. One of the company's goals is to improve the welfare of the company's internal and external parties. However, corporate responsibility is not limited to liability holders. Companies also have a responsibility to society. Therefore, the good image of the company will usually affect the value of a company. Because the company has a good image, investors will not hesitate to invest in the company. Melyana & Syafruddin (2015) stated that the level of voluntary disclosure had a positive effect on firm value, so the higher the level of disclosure, the higher the value of a company. According to research conducted by Latifah & Luhur (2017), it can be concluded that from partial testing, the sustainability report (SR) disclosure variable partially affects the company value as proxied by Tobin's Q.

H1: Sustainability Report Disclosure Has a Significantly Positive Effect on Company Value.

The effect of profitability on the relationship between sustainability report disclosure and firm value

In accordance with the need to create demand for the company, company managers will be motivated to meet user needs and avoid the negative effects of earnings management. In this context, there is an inseparable relationship between earnings quality and optional

accounting disclosures such as sustainability reports as bearers of information that reduce asymmetry in the delivery of information. Companies with low earnings quality have little incentive for optional disclosures and thus investors will view them as less credible. In some of the literature that the researchers found, there were several research results on the effect of profitability on firm value. According to Rivandi & Septiano (2021), profitability has a positive and significant influence on firm value in manufacturing companies listed on the IDX. From the literature, it can be implied that the higher the profitability, the more it will encourage an increase in firm value.

H2: Profitability has an influence on the relationship between sustainability reports and firm value.

3 RESEARCH METHODS

This type of research is an associative type of research with the independent variable being the disclosure of the Sustainability Report. The population in this study are companies listed on the ESG Sector Leaders Index IDX KEHATI as many as 48 companies and report their financial statements and report sustainability reports. In determining the sample, the researcher uses a technique, namely purposive sampling, which involves taking a sample based on certain considerations or criteria based on the interests or objectives of the researcher. There are several criteria used in the selection of the sample as follows:

Publish annual financial reports for the period 2020.

1. Have complete information needed for researchers, namely balance sheets and income statements.
2. The company publishes audited financial statements.
3. The company publishes a sustainability report to external parties or stakeholders.
4. Operational Definition and Measurement of Variables Dependent Variable

The dependent variable is the dependent variable, which is the quality of financial statements and firm value of the company.

In this study, researchers define the value of a company as market value. Because the prosperity of shareholders is determined by the value of the company, if the share price is high, the prosperity of shareholders will increase, this is in line with Aini's research (2020). For company value, researchers use Tobin's Q measuring instrument. reliable in measuring the effectiveness of the management in utilizing and managing Damayanthi's resources (2019). The following is the formula for measuring Tobin's Q according to Melani & Wahidahwati (2017).

$$\text{Tobin's Q} = ((\text{MVE} + \text{DEBT})/\text{TA})$$

Information:

Tobin's Q : Company Value

MVE : Market Value of Equity (Equity Market Value = year-end closing share price × number of shares outstanding at the end of the year)

DEBT: Total Company Payable

TA: Total Assets of the Company Independent Variable

Based on GRI-G4, the disclosure of the sustainability report in Corporate Social Responsibility (CSR) is defined as a report on corporate responsibility related to social activities carried out by the company covering several indicators, namely economic, environmental and social. Sustainability reports can be published separately or as one in the Damayanthi Annual Report (2019). Disclosure of sustainability reports in CSR uses the Sustainability Report Disclosure Index (SRDI) measurement with the GRI-G4 standard which includes 91 Damayanthi disclosure items (2019). Giving a score of one if an item is

disclosed and zero if it is not disclosed. Next, the scores are added up to obtain the overall score for each company (Latifah & Luhur 2017). The following is a formula for measuring the disclosure of sustainability reports in CSR.

$$SRDI = V/M$$

Information :

SRDI: Sustainability Report Disclosure Index V: Number of items revealed

M: Total maximum score (GRI-G4 = 91 items)

3.1 *Moderating variables*

Profitability is the company's ability to generate profits from business activities carried out. In measuring the value of profitability, researchers use return on equity (ROE) which shows the company's ability to generate profits from the use of all its resources or assets. If the ROE ratio is high, then the company has a good performance in generating profits.

$$ROE = \text{PROFIT}/\text{EQUITY}$$

3.2 *Data analysis techniques*

In this study, the data analysis technique used by the researcher is a simple linear regression analysis technique, simple linear regression is a method used to see the relationship between one independent variable (free) and has a straight-line relationship with the dependent variable (bound). This model is suitable for use in this study because the researcher wants to examine the relationship between sustainability reports and firm value and sustainability reports on financial reporting quality. The stages in data analysis in this study are:

1. Descriptive Statistics

This descriptive statistical test is used to provide information about the general description of each research variable. This descriptive statistical analysis provides an overview of the data seen from the minimum value, maximum average, and standard deviation of each research variable.

2. Classical Assumption Test

In the classical assumption test, it is a requirement to perform simple linear regression, where this test must be fulfilled so that the parameter estimates used and the regression coefficients are not biased.

3. Hypothesis Test

The purpose of hypothesis testing is to examine the effect of the sustainability report on firm value and the sustainability report on the quality of financial reports. For this test, the t-test will be used. The t-test or what is known as the partial test is to test the truth or falsity of a hypothesis. This test can be known by comparing the t count with the t table or by looking at the significance column in each t count. In this study, the method used was by looking at the significance column for each t count.

4 RESULTS AND DISCUSSION

Based on the results of sample selection using the purposive sampling technique, we used several criteria. Companies listed on the IDX KEHATI ESG Sector Leaders index in 2021 consist of 48 companies. Based on the results of determining the sample with certain criteria, the sample that has been obtained can be seen in Table 1.

Based on the information listed in Table 1, it can be concluded that the sample that will be used in this study with predetermined sample criteria is 37 companies. The list of company names used as samples is presented in Appendix 1.

Table 1. Results of research sample selection criteria.

No	Research Sample Criteria	Jumlah
1	Company Listed On IDX KEHATI ESG Sector Leaders Index 2021	48
2	The company publishes a sustainability report to external parties/stakeholders	(11)
Amount		37

4.1 Data analysis and hypothesis testing

1. Classical Assumption Test

a) Normality Test

Table 2. Normality test results X against Y.

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		37
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	.16420896
	Absolute	.112
Most Extreme Differences	Positive	.112
	Negative	-.101
Kolmogorov-Smirnov Z		.682
Asymp. Sig. (2-tailed)		.741

^aTest distribution is Normal.

^bCalculated from data.

The data presented is normally distributed if the significance number is greater than 0.05. Table 2 has shown that the significant number of the One-Sample Kolmogorov Smirnov Test for normality is 0.741. This means that the regression model has data that are normally distributed.

a) Simple Linear Regression Result

Table 3. Simple linear regression X against Y1 and X against Y2.

Coefficients ^a							
Model	Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	.385	.130		2.959	.005		
<i>Sustainability Report</i>	.659	.277	.373	2.379	.023	1.000	1.000

1. Based on Table 3, some results have been processed in the form of columns, one of the columns, Unstandardized Coefficients part B, represents the gain from a simple linear regression test shown in the following equation:

$$Y = 0,385 + 0,659X$$

From the value of the equation above, it can be interpreted that the constant (α) is 0.385, while the value is 0.659. So that it can be interpreted that the coefficient is the coefficient of the regression direction and states the average change of the Y variable for each change in the X variable of units. The change is an increase if is positive and a decrease if it is negative. So from the above equation, it can be interpreted as:

1. The constant of 0.385 states that if there is no value then the firm value variable, (α) is 0.385.
2. The regression coefficient of 0.659 states that for every additional disclosure in the sustainability report, the value of the firm value variable increases by 0.659.
3. Hypothesis Test

In this study, the t-test was used. The simple linear regression equation also displays a significance test with the t-test which is used to determine whether there is a significant effect on the Sustainability Report (X) variable itself on the Variable (Y) Quality of Financial Statements and Firm Value.

Table 4. T-test results with financial statement quality and firm value as dependent variables.

Coefficients					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.385	.130		2.959	.005
<i>Sustainability Report</i>	.659	.277	.373	2.379	.023

1. From the output of the processed data above, it can be seen that the value of the t count is 0.023. So with the value of t count < 0.05 , it means that H2 is accepted. This means that there is a significant or significant effect on the Sustainability Report (X) variable on the Firm Value variable (Y2).

4. Interaction Test

Interaction test results

In regression equation 2 by testing the interaction between the results of the hypothesis, it can be seen by comparing the results of R square from equations 1 and 2.

From the results of the interaction test of the two equations, it can be seen that the value of R square in equation 2 is 0.004 greater than equation 1 which can be seen in the table of 0.139. This means that ROE can moderate or strengthen the influence of the relationship between Sustainability Report Disclosures on Company Value.

Table 5. Parallel 1.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.373 ^a	.139	.115	.16654

5 DISCUSSION

5.1 *Effect of Sustainability Report (SRDI) on company value*

In this study, the Sustainability Report is proxied by Sustainability Report Disclosure Index (SRDI). Based on the results of the t-test in Table 5, the Sustainability Report has a significant influence on the Firm Value variable. So from the results of the t-test, it can be concluded that H1 in this study is accepted.

Table 6. Parallel 2.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.379 ^a	.144	.089	.12281

The results of this study are in line with research conducted by Anggaraini, Morine; Yulia Syafitri (2022). In this study, it was concluded that the Sustainability Report has a significant positive effect on firm value. In addition, the Legitimacy Theory and Stakeholder Theory also relate to the same thing. Here, the theory of legitimacy is a process that leads to an organization that is seen as legitimate, this organization seeks to ensure that they are still operating within the limits and norms that apply in the region and in the community of each activity that is considered legitimate Ponny (2011). In addition, in the Stakeholder theory, it is said that the company should maintain relationships with stakeholders. Because the company is not only responsible to internal but also to external parties. A sustainability report is one way to maintain the interests and relationships of each party so that they are well maintained. With the Sustainability Report, the company will provide transparent information about the company's position and activities on the economic, environmental, and social aspects so that the performance of a company can be assessed directly by various parties such as the government, organizations, society, media, especially by creditors and investors because both those parties who are very thorough and sensitive in seeing and assessing the activities and performance of a company.

Based on the results of the interaction test in the first and second equations, company profitability can be moderated by strengthening the influence of the relationship between sustainability reports on firm value. This is in line with a signal theory which is a measure of company management that provides clues or information to investors about management's view of the company's prospects. This theory states that investors can distinguish between high-value and low-value companies. A company that is always profitable shows that it is in relatively good shape and promising compared to other companies. A company with low profitability.

6 CONCLUSION

Based on the discussion and research conducted by researchers at companies listed on the 2021 KEHATI IDX ESG Sector Leaders Index regarding the effect of the Sustainability Report on the Quality of Financial Statements and Company Value, it can be concluded as follows:

1. The Sustainability Report has a significant effect on Company Value in companies listed on the IDX KEHATI ESG Sector Leaders index in 2021. Therefore, the second hypothesis which states that the Sustainability Report has a significant influence on company value is accepted.
2. Profitability influences the relationship between the sustainability report and firm value and strengthens the relationship between the sustainability report on firm value.

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Human resources management: Bibliometric analysis of green training

Nurul Asfiah, Ratya Shafira Arifiani & Titiek Ambarwati
Universitas Muhammadiyah Malang, Malang, Indonesia

ABSTRACT: This study aims to determine the practice of human resource management, especially aspects of green training. This research was conducted in June 2022 by analyzing data from the Scopus Database through Harzing's Publish or Perish. Data were processed and analyzed using the VOSViewer software to determine the bibliometric development map of research about green training. The results show that the number of studies on green training will increase in 2020. The citation presentation shows that the Journal of Cleaner Production is more often used for publications with the theme of green training with high citations so that it can be used as a reference for further research.

Keywords: Green human resource management practices, green training, bibliometric

1 INTRODUCTION

Environmental issues are a major concern in many businesses nowadays, particularly while performing managerial duties. Concern for environmental issues prompted the corporation to change its concept and begin using green practices. Human resource management is one of the management functions that play an essential part in an organization's long-term viability. The human aspect, in this case, human resource management, also determines an organization's success (Dessler 2015). Human resource management is currently paying attention to environmental factors to produce sustainable firm performance, which is required to raise employee awareness for improved quality and dedication to environmental sustainability referred to as Green Human Resource Management (GHRM). GHRM is the implementation of human resource policies and practices in a sustainable business organization (Marhatta & Adhikari 2013). According to research, GHRM is a more "green" human resource policy and practice (Arulrajah & Opatha 2015). Companies are concerned about social responsibility, particularly environmental challenges (Rajnoha & Lesníková 2016). In the face of increasingly serious environmental challenges, the corporation changed various policies, one of which was related to human resources. Recruitment and selection, training, and compensation are all kinds of GHRM Practices. These principles are critical for businesses to practice when hiring individuals who can support both employee and corporate performance. Training is one of the stages done by employees in the company to acquire and improve performance skills.

Training is the process of acquiring specific knowledge and skills for them to be skilled and work in line with their obligations. One of the primary strategies through which human resource management creates environmental management support and efforts is through environmental training and development (Jabbour 2013). Green training is a technique for preserving the environment. This kind of training can be done online to raise staff awareness of environmental protection (Sinaga & Nawangsari 2019). Green training promotes employee awareness and sensitivity to the environment by educating employees about

energy-efficient work methods and allowing them to engage in environmental problem resolution (Nawang Sari & Sutawidjaya 2018).

Some research has been conducted to investigate green human resource management, particularly green training. Satyawati & Satrya (2020) investigated green training as a means of improving organizational citizenship behavior through organizational culture development. According to the report, when businesses undertake green training, there must be moderation in green training activities, one of which is organizational culture. Furthermore, the social exchange hypothesis suggests that when employees obtain firm benefits, they must reciprocate (Fung *et al.* 2015). Some investigations also demonstrate that green training can lead to extra-role behaviors Pinzone (2019) by creating a supportive working environment through suitable interventions aimed at the successful execution of green goals. Arulrajah *et al.* (2015) performed research on the importance of green education and employee training in delivering the information and skills required for effective environmental performance. Employees can understand environmental management by receiving the necessary knowledge and training (Prasad 2013). The company's green training approach for employees will raise environmental awareness and competency, allowing employees to be better able to take necessary actions to reduce environmental impacts in the workplace (Khan *et al.* 2020). According to Jabbour (2015), the measurement of green training is related to the implementation of some environmental training for all employees; every employee has an equal opportunity to be trained on environmental issues; environmental training is used effectively by all employees; and evaluation of employee performance after the training environment. This study is expected to be a contribution, particularly in the subject of human resource management, by examining many studies done by other researchers, so that it can be expanded with new concepts in the future. Using bibliometric analysis, this study investigates human resource management techniques, particularly green training. This study is divided into four sections: the introduction, the method employed, findings and discussions, and the conclusion in the last part.

2 METHOD

This study uses a bibliometric approach. The research data collected is a Scopus publication accessed using Harzing's Publish or Perish with the topic of Green Training. Data collection was carried out in June 2022 by accessing the software using the Green Training keyword, from 2012–2022. The types of documents used are journal articles and conferences/proceedings. From the filtering of the data, 38 articles were found related to Green Training in the field of Human Resource Management. Furthermore, the results were analyzed using VOSViewer. This software can create and view bibliometric maps that visualize articles and other publications (Van Eck & Waltman 2010).

3 RESULTS AND DISCUSSION

This section discusses data on the development of the number of research on Green Training Human Resource Management from 2012 to 2022. The results show that research on green training has been carried out annually, but there has been no more significant increase. Based on a search through the Scopus database through publish or perish, there are obtained 38 articles related to green training. The development of the number of researchers studying green training is presented in Table 1.

Based on the data in Table 2, the top 10 articles were carried out by Teixeira (2016) with 165 citations. This study shows how to apply green training and link it with green supply chain management in companies in Brazil. In rank 2, research was also conducted by Teixeira (2012) by examining the relationship between green management and environmental training in

Table 1. Total publication development per year (2012–2022).

Year of Publication	Total
2022	2
2021	6
2020	10
2019	3
2018	2
2017	1
2016	2
2015	2
2014	3
2013	4
2012	3
Total	38

Table 2. Top 10 article.

No	Publication year	Author	Title	Journal	Cites
1	2016	A. Teixeira	Green training and green supply chain management: Evidence from Brazilian firms	Journal of Cleaner Production	165
2	2012	A.A. Teixeira	Relationship between green management and environmental training in companies located in Brazil: A theoretical framework and case studies	International Journal of Production Economics	153
3	2019	M. Pinzone	Effects of 'green' training on pro-environmental behaviors and job satisfaction: Evidence from the Italian healthcare sector	Journal of Cleaner Production	80
4	2018	A. Di Vaio	Management innovation for sustainability in seaports: Managerial accounting instruments and training for competitive green ports beyond the regulations	Sustainability (Switzerland)	64
5	2017	C. Aragão	Green training for sustainable procurement? Insights from the Brazilian public sector	Industrial and Commercial Training	55
6	2020	J. Liu	Uncovering the influence mechanism between top management support and green procurement: The effect of green training	Journal of Cleaner Production	43
7	2020	S. Cop	Perceived behavioral control as a mediator of green training commitment, and organizational citizenship behavior: A sustainable environmental practice	Business Strategy and the Environment	39
8	2018	N.T. Pham	Enhancing the organizational citizenship behavior for the environment: The roles of green training and organizational culture	Management and Marketing	32
9	2019	A.P. Srivastava	Examining the effect of employee green involvement on perception of corporate social responsibility: Moderating role of green training	Management of Environmental Quality: An International Journal	27
10	2020	G. Joshi	Green training in enhancing green creativity via green dynamic capabilities in the Indian handicraft sector: The moderating effect of resource commitment	Journal of Cleaner Production	20

companies with a total of 153 citations. In 2019, research on green training was conducted by Pinzone (2019) in the Journal of Cleaner Production with 80 citations, which researched how the effect of green training on pro-environmental behavior and job satisfaction. Furthermore, Table 2 shows that research on green training is more often published in the Journal of Cleaner Production with a reasonably high citation level. Further research on this topic can be a reference for publication in that journal.

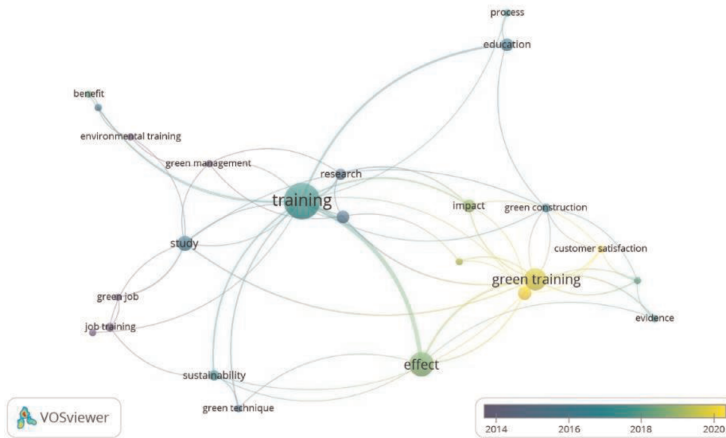


Figure 1. Overlay visualization publication of green training.

Figure 1 regarding the overlay visualization publication of green training shows a mapping of research related to training. Based on the picture, a study with the training aspect has been widely discussed and carried out over the last 10 years, and many were carried out in 2017, looking at the colors shown. However, related to green training research, the research trend has seen an increase since 2020 by linking several keyword trends such as customer satisfaction, green construction, etc.

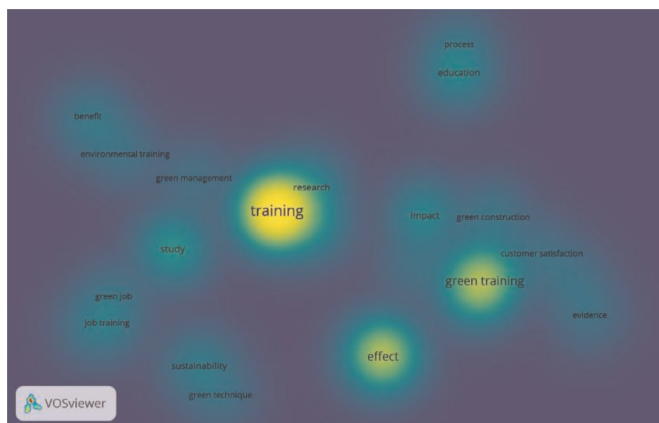


Figure 2. Overlay visualization publication of green training.

Figure 2 shows an outline of the general nature of the bibliometric map by focusing on keywords. Visualization of keyword density map green training can be seen by connecting several other keywords to be continued in further research.

4 CONCLUSION

Based on the discussion results above, it can be concluded that several points are related to green training research. Research about training's topic has been carried out in the last decade, but the topic of green training is more often carried out in 2020. The citation presentation shows that the Journal of Cleaner Production is more often used for publications with the theme of green training with high citations so that it can be used as a reference for further research. The limitation of this research is that the data sources used still use publish or perish and do not include whole Scopus data due to limited access; therefore, further research can use data from other accesses such as the Scopus website (www.scopus.com) or Web of Science (WoS).

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The performance measures of Islamic banking in Indonesia based on the Sharia Maqashid Index

Masiyah Kholmi, Adi Prasetyo* & Tri Wahyu Oktavendi

Faculty of Economics and Business, Universitas Muhammadiyah Malang, Malang, Indonesia

ABSTRACT: This research aims to analyze the performance of a sharia bank based on the approach of Sharia Maqashid Index. This research is a quantitative descriptive that describes performance of *maqashid sharia* on general sharia banks in Indonesia, using three indicators: educating individuals, upholding justice, and maintaining the welfare. The samples considered in this research are 12 public sharia banks. The type of data used is the secondary data obtained from the annual reports that are published on their official website. Based on the data analysis, it shows that the *sharia maqashid* performance in Indonesia is generally still low on average. Based on the data analysis, a conclusion is drawn that the ratio of the performance Sharia Maqashid Index from 2017 to 2020 has not reached 50%. This is seen from the three *sharia maqashid* indicators of education, justice, and welfare. The highest rank of the Sharia Maqashid Index is Bank Panin Syariah (40.59%) and the lowest one is BTN Syariah with 20.74%. For further research, it does not only focus on the Maqashid Sharia Index but also uses several other variables, such as good governance of sharia business.

Keywords: Sharia Maqashid Index, Islamic banking, performance, sharia banking, sharia maqashid performance

1 INTRODUCTION

The development of sharia banking in Indonesia has witnessed improvements. This is shown by the fact that in 2018, the global sharia financial asset had reached USD 2.52 trillion, which is an increase of 3.5% from the previous year with USD 2.46 trillion. The State of Global Islamic Economy Report 2019/2020 stated that the sharia banking sector dominated the global sharia financial asset with 70%, *Sukuk* (sharia bonds) with 19%, Islamic Funds with 4%, and other sector with 7%. Meanwhile, by 2019, the sharia banking assets indicated growth, although it also experienced delay compared to the previous year. Based on the data of sharia banking financial performance in Indonesia during the nine months of 2019, the performance got weaker in ten Sharia General Banks (BUS) and the Sharia Business Unit (UUS) summarized by *Bisnis*. This is due to the condition of instability of global and domestic economy. The Head of Board of Commissioners of Deposit Insurance Agency (LPS), Hali Alamsyah, mentioned that the recent performance of sharia banking is still slow. The slow sharia banking performance always becomes a topic of discussion, especially the issue of proliferating the capital, liquidity, and efficiency (<https://www.antaraneews.com>).

Indonesia is one of the countries that adopt the dual banking system, which are the conventional and sharia banking system. Both of the systems gained the legitimacy from the government to run their businesses. The sharia banking system is based on the principle of

*Corresponding Author

profit sharing, wherein it is deemed beneficial for all, the individual and the bank. Moreover, this system prioritizes the aspect of fairness in transactions, ethics-based investment, the value of togetherness and fraternity in production, and avoiding any speculation in financial transactions (Mulyani 2019). Through the cooperation system of profit sharing, there will also be risk sharing (Nurhayati & Wasilah 2014: 72). The risk emerges from the financial activities that are not the responsibility of the capital grantee solely (business owners), but the capital grantor is also responsible for such risk (loss) fairly according to the agreement in the beginning.

Wahid *et al.* (2018) and Firmansyah (2018) explained that measuring the performance of sharia bank is different from measuring it for the conventional banks. The measurement for conventional bank only observes one side of the business that is the ability to make a profit. The evaluation on sharia banking recently tends to prioritize the profit-making ability, where, in some cases, sharia bank forgets their duty to fulfill their social functions (Mutia & Musfirah 2017). The evaluation on financial performance is measured using the ratio of Return on Equity (ROE), Return on Investment (ROI), Return on Asset (ROA), Capital Asset Management Earning, Liquidity, Sensitivity of Market Risk (CAMELS), and Economic Value Added (EVA). Meanwhile, the performance evaluation from the non-financial aspects and the intangible assets are commonly ignored. The financial performance only relies on the past performances, so that it is less capable to direct the company to the company target (Yuwana *et al.* 2012). In Islam (aspect of justice), the profit of the bank is not the primary indicator for the performance measurement, but other aspects like social aspects and the human resources also given more attention.

Sharia bank has the main goal to contribute to achieving *sharia maqashid*. *Sharia maqashid* is a sharia objective in terms of protecting the religion, soul, mind, descendants, and assets related to all cases or human business that is related directly to daily activities (Febriadi 2017; Muchlis & Sukirman 2016). The sharia goal discussed here is if one works in the banking world, of course, their daily activities and duties may not backlash with the Islamic sharia principles (*sharia maqashid* concept). Febriadi (2017) mentioned that *sharia maqashid* means the goal is to set sharia for the *welfare* of the people. This *welfare* is within the justice, blessing, happiness, and wisdom.

The inevitability of sharia bank performance is measured by the *sharia maqashid* in terms of redirecting the objectives of the existence of sharia bank. The performance of sharia bank is not only about profit returns but also about the aspects of environment, social, and the aspect of the goal of *maqashid* calculated for measuring the performance of a sharia bank. Mohammed & Razak (2008) in their research using the Sharia Maqashid Index formulated the measurement of the performance of sharia banking that is developed based on the principles of *sharia maqashid* with the purpose of measurement of performance of a sharia bank. Al-Syatibi mentions: sharia actually aims to create *welfare* for the humans in the world and for the afterlife (Kara 2012). *Sharia maqashid* becomes the main source in each operational development and the products existing in the sharia banks, such as the *mudhrabah* and *musyarakah* funding (Febriadi 2017).

The research about the performance of sharia bank by using the Sharia Maqashid Index has been conducted by several researchers. Mohammed & Razak (2008) explained that Sharia Maqashid Index could be used as a strategic alternative approach in the measurement of the performance of sharia banking that is universal and can be implemented in the form of strategy as well as policy that is comprehensive to achieve the goal of the sharia bank. The findings of Mohammed & Razak (2008) show that the variable of *sharia maqashid* indicated a better percentage in the measurement of sharia banking performance compared to the performance measurement of conventional banking. Wasyith (2017) by his findings shows that the revitalization of the concept of *maqashid* of Muhammad Abu Zahrah and Abdul Majid Najjar can be used to implement the concept of Sharia Maqashid Index that is developed based on three main factors, namely educating the individuals, upholding the justice, and creating *welfare* (Mohammed & Razak 2008).

Sharia Maqashid Index model, until recently, has been applied in the scientific study to measure the performance of sharia banking in many countries, including Indonesia. The measurement of performance of sharia banking through the aspect of *sharia maqashid* has been conducted by Antonio (2013), the findings show that the health level of the application of sharia principles in Indonesia is generally better than the sharia banks of Jordan. This finding is in line with the research of Mutia & Musfirah (2017) by using the Sharia Maqashid Index and the SAW method (Simple Additive Weighting). The performance of *sharia maqashid* of 25 sharia banks in Southeast Asia, consisting of the banks of Indonesia, Malaysia, Thailand, Brunei, and the Philippines, shows that Indonesia has the best performance with 46.22% followed by Malaysia with 43.15%, and the lowest is the Philippines with 1.12%.

Sudrajat & Sodiq (2016), based on their research results, provide the rating of sharia commercial bank as follows: 1) Bank Panin Syariah, 2) BCA Syariah, 3) Bank Muamalat, 4) Bukopin Syariah, 5) BRI Syariah, 6) BNI Syariah, 7) Bank Syariah Mandiri, 8) Maybank Syariah, 9) Bank Mega Syariah. The findings of Wahid *et al.* (2018) are supported by the findings of Firmansyah (2018) that Panin Bank Syariah has successfully used the operational cost to gain high income and also successfully achieved better performance of *sharia maqashid* compared to other banks in Indonesia.

Cakhyaneu (2018) indicates that the five banks that have the highest Sharia Maqashid Index are Bank Syariah Mandiri, Panin Bank Syariah, Bank Mega Syariah, BNI Syariah, and Bank Muamalat Indonesia. The findings of Sudrajat and Sodiq (2016), Wahid *et al.* (2018), and Firmansyah (2018) indicated that Panin Bank Syariah ranks first in terms of performance of the Sharia Maqashid Index. However, the study of Cakhyaneu (2018) indicated that the bank with the highest performance of *sharia maqashid* is the Bank Syariah Mandiri. Meanwhile, Rosyidah *et al.* (2018) indicated that the best ranking of the banks based on the Sharia Maqashid Index of 2014 to 2016 are Bank Muamalat Indonesia, Bank Syariah Mandiri, and BNI Syariah.

Mulyani (2019) revealed that during the *sharia maqashid* of the sharia banking during 2012–2016, the first objective for individual education achieved is less than 5%, which means that the *sharia maqashid* in terms of education is less optimal. The second objective of *sharia maqashid* is to uphold the justice, which has been achieved very well, which is the *mudharabah* and *musyarakah* funding with 67.14% and the interest-free income is on average of 99%. The third objective of *sharia maqashid* is to maintain the *welfare* that has the percentage of *zakat* and bank's profit ratio less than 5%, which means that the sharia banks have not optimally maintained their *welfare*. Based on the idea and the findings of the research, the researchers are impressed to use the Sharia Maqashid Index in measuring the performance of public sharia bank in Indonesia for the 2017–2020 period, where 2020 has become the year when COVID-19 pandemic was declared across the world, including Indonesia. The researchers hoped to see the achievement of the *sharia maqashid* on the sharia banks of Indonesia. In addition, the importance of this research is that there is no comparable and practicable Sharia Maqashid Index measurement model.

The theoretical contribution of this research is to the application of the theory of *sharia maqashid* as a measurement of the performance of sharia banking and the implication of the policy of this research. It is expected that this research may give information to the people or all parties about the degree of *sharia maqashid* of a sharia bank in Indonesia during 2017–2020 period.

1.1 *Sharia banking*

Islamic Commercial Banks are given the authority to provide payment traffic services, while Rural Banks do not have this authority. Rural Banks are not involved in several types of services for foreign exchange and demand deposit business activities. This regulation is also carried out for BPRS which is regulated in the Sharia Banking Law. This research focuses more on the sharia banks that are operating to provide services based on the traffic of

transaction concept. According to Article 3 of the Constitution No. 21 of 2008, sharia banking aims to support the conduct of national development in terms of improving the justice, togetherness, and equal distribution of welfare. Sharia banks are developed based on the principle that does not separate the worldly and religious urges.

The Board of Sharia Accounting Standard (DSAS) and IAI (Indonesian Association) have constructed five principles of sharia transaction, those are:

1. Principle of fraternity (*ukhuwah*), wherein a sharia transaction upholds the value of togetherness in gaining benefit (sharing economics), based on principles of: knowing each other (*ta'aruf*), understanding each other (*tafahum*), helping each other (*ta'awun*), ensuring each other (*takaful*), and synergizing each other (*tahaluf*).
2. Principle of justice, wherein the essential value is to give something only to those who have the right to it and according to the portion. The sharia banking operation must be based on the principles as follow: interest free (*riba'*), violation (*dzalim*) free, speculation free (*masyir*), unclarity free (*gharar*), conducting halal financing operation.
3. The principle of *welfare* is all types of kindness and benefits applied in the dimension of worldly and (afterlife) *ukhrawi*, material and spiritual, as well as individually and collectively. The materials that become the purpose of sharia terms (*sharia maqashid*) that is in the form of maintenance upon: *aqidah* (beliefs), faith and obedience (*dien*); cognitive (*'aql*); descendance (*nasl*); soul and welfare (*nafs*); and the assets (*mal*).
4. Principle of balance (*tawazun*), the main point is that the sharia transaction is not only focused on achieving benefits for the stakeholders But also the presence of balance in the business and social life.
5. The principle of the universalism (*syumuliyah*), wherein the point is that transaction can be done by all parties with urgencies without the separation of the religions, races, and groups of people.

1.2 *The measurement of performance of sharia banking*

According to Badreldin & Mohamed (2009), the performance measurement of the sharia bank recently tends to use the financial ratio adopted from the conventional bank performance measurement, such as calculating ROA, ROI, ROE, CAMELS, and EVA. All of those measurements are limited to the aspect of material and give the impression that sharia banking orientate on the profit instead of social purposes (Mohammad & Shahwan 2013). In line with the sharia purpose (*maqashid*), then the sharia entity, including sharia banking needs the measurement of performance that is specifically based on the *sharia maqashid*, according to the sharia banking, that the performance measurement of the sharia banking is more specific and is aimed to the purpose that is expected to be achieved based on the sharia principles and also measured from the sharia perspective (*sharia maqashid*), so that it can be discovered as to whether the performance of the sharia banking or the *muamalah* operation that is conducted according to the values and principles of sharia.

1.3 *The performance of sharia maqashid*

Linguistically, *sharia maqashid* consists of two words, *maqashid* and *sharia*. *Maqashid* means objective, meanwhile sharia is a way to the water spring or a path to source of life (Ghifari *et al.* 2015). *Sharia maqashid* through the framework of *welfare* attempts to push all kinds of kindness and avoids all kinds of damage. The sharia perspective upon assets impacted on how the *sharia maqashid* can be applied to determine the administration upon the assets (read: accounting) and the information delivery upon the basic and the position of assets: especially related to source and the use of the income (Birton 2015). Birton (2015) mentioned that the framework of *welfare* here is applied in the gaining, management, administration, and the accounting information delivery upon the source and the use of assets of an entity. Since the Islamic sharia really emphasized on

the right and obligation fulfillment of the party, directly and indirectly, including the assets, then the objective of the financial report also covers the fulfillment of right and obligation.

In the previous researches, it is explained that *sharia maqashid* according to Abu Zahrah is divided into three categories of *tahdzib al-fard* (individual education), *iqamah al-adl* (upholding justice), and *welfare* (welfare). This concept here is transformed into a measurement in evaluating the performance of the sharia banking. That is because the sharia banking system is very different from the conventional banking. The fundamental difference is related to the value reference (Islamic Worldview) of each of the financial institutions.

This fundamental difference will bring implications for the difference on the formulation and creation of the products of both banking model, including the performance evaluation model of each of models. Umar Chapra concluded that the difference between one economic to another system lies on the three main things: (1) Islamic Worldview; (2) Objective; (3) Strategy or policy (Chapra 2003).

Different worldview with the conventional one will bring implications to the formulation of the objective of sharia bank that is different. The formulation of different objective will also affect the process of strategy generating or even different evaluation models as well. These values are not only expressed in the form of *fiqh* legality of a certain product. However, more than that, it must also affect widely on the economic and social aspects as the consequences of the attempt in achieving *sharia maqashid* (Rosly *et al.* 2003). Mohammed & Razak (2008) in the research under the title of “Testing the Performance Measured Based on Maqasid al-Shariah (PMMS) Model on 24 Selected Islamic and Conventional Banks” formulated a performance evaluation for the sharia banking by referring to the concept of *sharia maqashid*. The variables used to refer the theory of *sharia maqashid* of Abu Zahrah that covers the *Tahdzib al-Fard* (educating the individuals), *Iqamah Al-Adl* (establishing justice), and *Welfare* (Welfare). Through the Sekaran Concept, the three *maqashids* are interpreted and are classified into several elements (Taufik & Nugraha 2012).

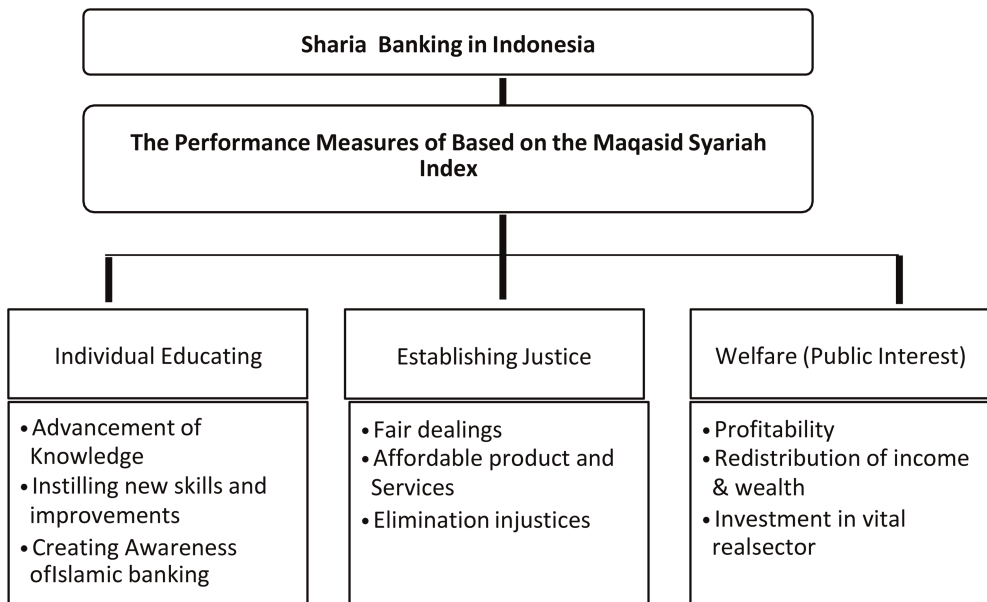


Figure 1. Sharia Maqashid Index.

The three *maqashids* can be transformed into nine dimensions and ten elements. The ten elements are then transformed into performance ratio. The first meaning of educating the individual in *maqashid* is the presence of the development of knowledge and skill on the

individual so that the values of spirituality increase. Sharia banking must design an educational program and training with the moral values so that it is able to increase the knowledge and skill of the staffs. The banking must also give information to the stakeholders that the products offered are according to the sharia. The ratio in the first *maqashid* here is the education grant, research, training, and publicity promotion (Mohammed & Razak 2008). The second *maqashid* is justice, the sharia banking must ensure the honesty and justice in every transaction and in the business activity that is covered in their products, pricing, and terms of contract. Moreover, every deal (*akad*) must be free of any elements of injustice, such as *maysir*, *gharar*, and *riba*. The ratio in the second *maqashid* is the ratio PER (Profit Equalization Reserve), the skim portion of the funding of *mudharabah* and *musyarakah* (functional distribution) as well as the ratio of interest free income. Meanwhile, the third *maqashid* is called *welfare*, which means that the banks must develop investment projects and social services to increase the welfare of the people. That can be seen from the ratio of *zakat* paid by the banks and the investment in real sector. The ratio of the third *maqashid* is the profit returns, personal income transfer (*zakat*), and investment ratios in real sector (Mohammed & Razak 2008).

Based on the supporting theory and the review of previous studies mentioned above, this research focuses on how the performance of sharia banks in Indonesia measured using the Sharia Maqashid Index is based on three objectives that are to be achieved, which are individual education, upholding justice, and creating *welfare* for the people, not only for selected parties but for all. The description can be seen in Figure 1.

2 RESEARCH METHOD

This research is a descriptive quantitative study that describes the *maqashid* performance of the public sharia banks in Indonesia. The sample-collecting technique in this research is purposive sampling with the sample criteria of public sharia banks, which are registered in Financial Services Authority (OJK) and publish the annual report consistently from 2017 to 2020. The sample gained in this research are 12 public sharia banks, Bank Muamalat Indonesia, Bank Syariah Mandiri, Bank Mega Syariah, Bank BRI Syariah, Bank Syariah Bukopin, Bank BNI Syariah, Bank Jabar Banten Syariah, BCA Syariah, Bank Victoria Syariah, *Maybank* Syariah Indonesia, BankPanin Syariah, and BTPN Syariah. In this research, a variable is analyzed, that is the performance measurement of the sharia banks using the Sharia Maqashid Index. The performance of *sharia maqashid* is divided into three parts (Mohammed & Razak 2008) those are educating individuals, establishing justice, and public interest (*welfare*). Meanwhile, the operationalization of the variables in this research is shown as follows:

Table 1. Variable operational definitions.

Variable	Dimensions	Elements	Performance Ratios
Educating Individual	D1. Advancement Of Knowledge	E1. Education grant	R1. Education grant / Total Expenses
		E2. Research	R2. Research Expense / Total Expenses
	D2. Instilling new skills and improvement	E3. Training	R3. Training Expense / Total Expenses
	D3. Creating Awareness of Islamic banking	E4. Publicity	R4. Promotion Expense / Total Expenses

(continued)

Table 1. Continued

Variable	Dimensions	Elements	Performance Ratios
Establishing Justice	D4. Fair dealings	E5. Fair returns	R5. Bagi hasil belum dibagi / Total Income
	D5. Affordable products and Services	E6. Affordable price	R6. Mudharabah and Musharakah / Total Pembiayaan
	D6. Elimination injustices	E7. Interest free product	R7. Interest free income/Total Income
Welfare (Public Interest)	D7. Profitability	E8. Profit ratios	R8. Net Profit / Total assets
	D8. Redistribution of income and wealth	E9. Personal income	R9. Zakah /Aset bersih
	D9. Investment in vital real sector	E10. Investment ratios in real sector	R10. Investasi sector total Riil/ investasi

Source: (Mohammed & Razak 2008)

Table 2. Average weights for the three objectives.

Objectives	Average Weight (100%)	Elements	Average Weight 100%
Education	30	E1. Education grant/donation	24
		E2. Research	27
		E3. Training	26
		E4. Publicity	23
		Total	100
Justice	41	E5. Fair returns	30
		E6. Fair price	32
		E7. Interest-free product	38
		Total	100
Welfare	29	E8. Bank's profit ratios	33
		E9. Personal income transfers	30
		E10. Investment ratios in real Sector Total	37
Total	100		

Source: (Mohammed & Razak 2008)

The data used are the secondary data in the form of annual reports of the sharia banks from 2017 to 2020 gained from the official website of each bank.

The analysis data technique used is the following:

1. Content analysis was done by identifying the *sharia maqashid* from the annual report of the Public Sharia Banks in Indonesia
2. Calculating the ratios of the *sharia maqashid* using the measurement developed by (Mohammed & Razak 2008). Meanwhile, the steps of the ratio analysis are as follows:
 - (a) Measuring the ratios of each element from the bank objective that is based on the *sharia maqashid*: education, justice, and welfare.
 - (b) Moving the result of the ratios measurement in regard to the weight of each elements (like presented on Table 2) and is added according to the classification of each element depending on their objectives. Then, the result will be multiplied by the weight of it according to the objective. After the result of the multiplication gained,

then the calculation of the Sharia Maqashid Index is conducted by multiplying all the performance indicators of sharia banking.

- (c) Conducting the sharia bank ranking determination by adding all the performance indicators from one variable with the three factors of the Sharia Maqashid Index.
3. Conclusion drawing. The conclusion of this research is in the form of determining the performance of the *sharia maqashid* as a general, the highest *sharia maqasihd*, and the lowest *sharia maqashid*.

3 RESULT AND DISCUSSION

The Sharia Maqashid Index uses the Islamic bank performance measurement model proposed by Mohammed & Razak (2008) under three objectives, namely: *education, Justice, and Welfare*. Each objective can be described as follows: a). *Education* has four elements, namely *Education Grant, Research, Training, and Publicity*; b). *Justice* is divided into three elements, namely *Fair Returns, Fair Price, and Interest-free Product*; c). *Welfare* is divided into three elements, namely *Bank's Profit Ratios, Personal Income Transfers, and Investment Ratios in real Sector*.

The following are the results of the calculation of the Islamic Commercial Banks' performance ratio:

1. *Educating individual*

Table 3. Average value of maqashid shariah performance ratio individual education year 2017–2020.

Bank Name	Educational Assistance / Scholarship (R1)	Research Activities (R2)	Training Activities (R3)	Publication Activities (R4)
Bank Muamalat	0,0155	0,0050	0,0155	0,0441
Bank Syariah Mandiri	0,0152	0,0405	0,0152	0,0646
Bank Syariah M	0,0178	0,0000	0,0178	0,2025
BRI S	0,0063	0,0178	0,0063	0,0450
BUKOPIN S	0,0172	0,0305	0,0172	0,0371
BNI S	0,0228	0,0040	0,0228	0,1429
JABAR S	0,0279	0,0068	0,0387	0,0000
BCA S	0,0175	0,0000	0,0209	0,0181
VICTORIA S	0,0076	0,0934	0,0076	0,0228
MAYBANK S	0,0109	0,1983	0,0109	0,0159
PANIN S	0,0098	0,0367	0,0098	0,0568
BTN S	0,0201	0,0000	0,0201	0,0193

Source: Processed data 2021.

Based on the average value of the first *sharia maqashid*, the performance objective (educating individuals) is divided into four elements. The first element is education (E_1), the ratio of *education grand* the bank with the highest value is bank Jabar Syariah with a ratio value of 0.0279 (2.79%). It shows that the total expenditure of 2.79% intended for education donations, meanwhile, the lowest value achieved by BRI Syariah, which is 0.0063 (0.63%).

The second element is research (E_2), the highest achievement in research activities was Maybank Sharia at 0.1983 (19.83%), while the lowest achievement was Bank Mega Syariah, BCA Syariah, and BTN Syariah, which during 2017–2020 did not incur research costs (0%).

The third element is training (E_3), the highest achievement in terms of training achieved by Bank Jabar Syariah at 0.0387 (3.87%) and the lowest achievement was BRI Syariah at 0.0063 (0.63%). Meanwhile, the fourth element is a publication (E_4) with the highest ratio

was achieved by Bank Mega Syariah at around 0.2025 (20.5%) and the lowest ratio was achieved by Bank Jabar Syariah at 0%.

2. Enforce justice

Table 4. Average value of maqashid shariah performance ratio for the second objective (Establishing justice) Year 2017–2020.

Bank Name	Fair Return (R5)	Distribution Function (R6)	Interest-Free Products (R7)
BMI	0,0288	0,5041	0,9998
BSM	0,0108	0,6808	1,0000
MEGA S	0,0170	0,2880	0,9996
BRI S	0,0156	0,4021	0,9996
BUKOPIN S	0,0115	0,6502	0,9989
BNI S	0,0125	0,9816	0,9997
JABAR S	0,0009	0,9583	0,9998
BCA S	0,0258	0,9981	0,9999
VICTORIA S	0,0209	0,7851	0,9989
MAYBANK S	0,0472	0,7189	0,6339
PANIN S	0,0224	0,8944	0,9920
BTN S	0,0048	0,0011	0,9999

Source: Data processed 2021.

The second objective of *maqashid sharia* performance is to enforce justice and has three elements; those are providing fair returns (E₅), creating affordable products and services (E₆), and eliminating injustice (E₇). The first element that obtained the highest value of a fair return ratio (E₅) was Maybank Syariah with a value of 0.0472 (4.72%) and the lowest achievement was Bank Jabar Syariah with a ratio value of 0.0009 (0.09%). The highest achievement in the distribution function (E₆) was BCA Syariah at 0.9981 (99.81%) and the lowest achievement was BTN Syariah with a ratio value around 0.0011 (0.11%). The highest achievement in terms of interest-free products (E₇) is that almost all Islamic banks in Indonesia reach 100%, but the ones that actually achieve 100% are Syariah Mandiri banks. Meanwhile, the lowest interest-free income was Maybank Syariah at 0.6339 (63.39%).

Table 5. Average value of maqashid shariah performance ratio for the third objective (*Welfare*) year 2017–2020.

Bank Name	Profits (E8)	Personal Income (E9)	Investment Ratios in Real Sector (E10)
BMI	0,0005	0,0003	0,0824
BSM	0,0082	0,0004	0,0112
MEGA S	0,0077	0,0045	0,1396
BRI S	0,0030	0,0003	0,0087
BUKOPIN S	0,0002	0,0000	0,2735
BNI S	0,0100	0,0003	0,0822
JABAR S	0,0137	0,0000	0,5026
BCA S	0,0079	0,0000	0,0295
VICTORIA S	0,0016	0,0000	0,2328
MAYBANK S	0,8718	0,0056	0,0299
PANIN S	0,2967	0,0000	0,7200
BTNS	0,0741	0,0000	0,3282

Source: Data processed 2021.

The third objective of *maqashid sharia* performance is *Welfare Public Interest* and has three elements, those are *Profit Ratios* (E_8), *Personal Income Transfers* (E_9), and *Investment Ratios in Real Sector* (E_{10}). In the eighth element that achieved the highest score for *Profit Ratios* (E_8) was Maybank Syariah with a value of 0.8718 (87.18%) and the lowest achievement was Bukopin Syariah with a ratio value of 0.0002 (0.02%).

The highest achievement of *Personal Income Transfers* (E_9) was *Maybank Syariah* at 0.0056 (0.56%) and 0% achieved by Bukopin Syariah, Bank Jabar Syariah, BCA Syariah, Victoria Syariah, Panin Syariah, and BTN Syariah. The highest achievement in (E_{10}) was by Bank Panin Syariah with 0.7200 (72%) investment in the real sector and the bank with the lowest real sector investment was bank Syariah Mandiri with 0.0112 (1.12%).

3.1 *Sharia Maqashid performance*

In Indonesia, the average performance of *maqashid sharia* is still low. This is evidenced by the fact that the average performance of *maqashid sharia* in 2017–2020 did not surpass 50%. In Table 6, the performance of *maqashid sharia* in Indonesia is shown: based on the results of the Maqashid Sharia Index performance ratio for 2017–2020, in terms of the three objectives of *maqashid sharia* related to the objectives of education, justice, and benefit, the performance fluctuated and had not reached 50%. During 2017–2020, Sharia Commercial Bank that had the highest index value was Bank Panin Syariah (0.4059), second was Bank Jabar Banten Syariah (0.3441), and the third was BNI Syariah (0.3240), while the performance of *maqashid sharia* is lowest for BTN Syariah (0.2074). This is because BTN Sharia has not been maximal in implementing the three objectives of *maqashid sharia* in implementing the two objectives, which are enforcing justice and educating individuals.

Table 6. Performance of *Maqashid Syariah* on BUS in 2017–2020.

No	Bank Name	Educating Individuals PI(O1)	Enforcing Justice PI(O2)	Maintaining the Benefit PI(O3)	Maqashid Index	Ranking
1	BMI	0,0058	0,2256	0,0089	0,2401	8
2	Bank Syariah Mandiri	0,0100	0,2470	0,0020	0,2590	7
3	Bank Mega Syariah	0,0167	0,1962	0,0161	0,2290	10
4	BRI Syariah	0,0055	0,2107	0,0012	0,2174	11
5	Bank Syariah Bukopin	0,0076	0,2424	0,0294	0,2794	6
6	BNI Syariah	0,0136	0,2867	0,0089	0,3101	3
7	Bank Jabar Syariah	0,0056	0,2833	0,0552	0,3441	2
8	BCA Syariah	0,0041	0,2904	0,0033	0,2979	4
9	Bank Victoria Syariah	0,0103	0,2613	0,0251	0,2967	5
10	Maybank Syariah	0,0188	0,2010	0,0032	0,2230	9
11	Bank Panin Syariah	0,0084	0,2919	0,1057	0,4059	1
12	BTN Syariah	0,0043	0,1607	0,0423	0,2074	12

Data source: processed 2021.

4 CONCLUSION

The results of data analysis show that Islamic *maqashid sharia* performance in Indonesia is still low on average. This can be seen from the results of the average performance of *maqashid sharia* in 2017–2019, which did not reach 50%. Based on the results of the *maqashid sharia index performance ratio* for 2017–2020, in terms of the three objectives of *maqashid sharia* related to the objectives of education, justice, and benefit. The highest ranking with Maqashid Sharia Index was achieved by Bank Panin Syariah (40.59%) and the lowest Maqashid Sharia

Index was achieved by BTN Syariah at 20.74%. The limitation of this research is that the Maqashid Sharia Index performance of each Islamic bank tends to be low, wherein the results obtained were found to be not optimal. For further research, other variables can be used to determine what factors cause low Maqashid Sharia Index performance.

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A zero-waste communication campaign on a vocational school environmental design through mural and signage

D. Trihanondo, T. Haryotedjo & D. Endriawan
Telkom University, Bandung, Indonesia

ABSTRACT: Previous research has shown that murals can be used for social campaigns to mobilize certain elements of society. This paper discusses the application of murals and signage as part of a zero-waste campaign for vocational school students in Bandung as one of the supports for face-to-face learning in the context of the new normal after the COVID-19 pandemic in Indonesia. A partner in implementing this campaign is a vocational school focusing on chemistry and pharmacy education. This research is considered qualitative research, which aims to obtain the development of a campaign form that is suitable for use in vocational education. This research uses a participatory methodology to support the development of murals and signage that will be used. The results obtained from this study indicate that the vocational school is target community was very enthusiastic during this research project. The murals being made deliver a message of a zero-waste campaign. In addition, the murals and signage that have been developed have proven to be able to form a positive environmental atmosphere for the target school community. This research is an initial study regarding the impact of murals on education, especially in vocational education. In the future, it is hoped that this research can be replicated in other schools to obtain more experimental samples.

Keywords: Zero-waste, mural, communication

1 INTRODUCTION

1.1 *Signage and mural*

Murals have been widely used worldwide, especially as filling in empty walls. In addition to its function as filler, murals are also considered very effective in conveying certain messages, political messages, marketing, or social and cultural messages (Lopez 2014). Therefore, murals can be viewed from an aesthetic point of view and as a means of communication and information. Previous research has also shown that murals can reduce the level of vandalism in the form of graffiti that tends to be careless. Another effect that needs to be considered is the effect of murals as placemaking, namely forming an atmosphere of environmental atmosphere that can support certain activities. This is especially important to be applied to public spaces such as schools which are places for building the character of their students.

In Indonesia itself, the mural is not a new thing. In 2003, for example, the record for the longest mural in Indonesia was recorded by MURI (Indonesian Record Museum) (Trihanondo & Endriawan 2019). The mural was made along a wall on Babakan Siliwangi Street in Bandung city. This mural was initiated and made by students of the Bandung Institute of Technology, especially by FSRD (Faculty of Fine Arts and Design) students. Until this writing, the mural has been repainted several times with newer murals so it becomes a specialty of Bandung itself. Indeed, the existence of murals can become a tourist attraction that can bring tourists to certain places. This happened in Georgetown, Pulau Pinang, Malaysia. After international mural artist Ernest Zecharevich decorated the corners of Georgetown with

murals in 2012, tourists flocked to Georgetown to see and take selfies. However, this kind of thing is not always appreciated by the government because Ernest Zecharevich was once banned from entering Malaysia due to his work on the mural in Georgetown. Ernest is one of the most famous muralists besides Banksy, who often creates murals throughout Europe and the Middle East, especially in Palestine, to convey social messages.

After the incident in Malaysia, the Medan city government in Indonesia specifically invited Ernest Zecharevich to paint the corners of the city of Medan. Then, Ernest made murals in various places in Medan in 2017. However, this was not without problems, the people of Medan still did not appreciate the work, so some of Ernest's works were vandalized. Not giving up, Ernest returned to Medan to renovate his works in 2018. In general, the messages conveyed through murals are usually messages to protect the environment, invitations to maintain peace, and other positive messages. Apart from Medan and Bandung, mural art can be found in almost all big cities in Indonesia, such as Yogyakarta, Bali, Jakarta, and other cities.

The signage itself has a more specific function than murals. Specifically, signage is a communication medium to convey information on directions to the place intended by the audience (Calori 2015). Apart from being a medium of direction, signage also reinforces the brand image and image of a location or company. The existence of signage is important for users and visitors, especially those who are not familiar with the locations visited. The presence of signage will also minimize conversations with strangers to reach the destination. In general, both murals and signage fall into the environmental graphics category, where there are three main functions of environmental graphics, first as a provider of information/location/direction, second as identity or brand, and third as a builder of environmental atmosphere or placemaking.

1.2 *Research and community service program at SMKN 7 Bandung*

This paper is part of the publication of research and community service activities at SMKN 7 Bandung. This school focuses on Chemistry and Pharmacy vocational education located on Jl. Soekarno Hatta, Bandung city, West Java, Indonesia. There are several reasons why SMKN 7 Bandung is a partner for this research and community service activity. Vocational schools are specific schools where specific themes can be raised and instilled in their students. This school also has achievements where many students successfully work in accordance with the fields of expertise taught at the school. In addition, many also continue to higher education levels and are accepted at favorite universities. The main activities carried out during this research and community service included revamping the school area, making murals, and making signage.

Teachers and students were also involved in revamping the school environment, not forgetting to do documentation and interviews regarding the effectiveness of this research and community service activity. All activities that involve the participation of school members are very important because the purpose of all these activities is to empower the school community itself so that after the activities are carried out with partners, the school community can continue and develop and maintain what has been created, without or with little intervention from the research team.

2 METHODOLOGY

2.1 *Communication campaign*

A communication campaign uses various media to reach the targeted audience. To maximize the achievement of the desired goals, the coordination related to the media used should also be supported by methods of interpersonal communication and community-based communication. At this time, the campaign has become very strategic and also complicated. To support the effectiveness and achieve the goals set, a campaign designer must better understand the context and characteristics of the campaign to be created. Therefore, in a more specific community, such as SMKN 7 Bandung community, the involvement of teachers is especially crucial. This is in accordance with research conducted by Coffman in 2002 (Coffman 2002).

The research method that is suitable to be implemented in this research is research based on participatory action research (McTaggart 1991). This study seeks to change the habits of the target community or partners. The target community is targeted to be able to change their habits, especially in maintaining the school environment, and have new ideas to develop a comfortable environment and support the ongoing educational process. This study uses a qualitative method supported by a visual culture transformation theory approach. As part of community service, every activity carried out is recorded and evaluated related to planning, activities, and follow-up actions. In essence, there are three research stages: planning, activity, and evaluation. The results of the research activities that have been carried out are in the form of a recommendation for follow-up that can be beneficial for the community and activities that can be carried out in the future.

2.2 *Zero waste, vocational school, and research outputs*

This study is research based on qualitative methods that produces discussions and results that can be implemented in further research. Previous studies are also used to reference the research activities carried out. This initial research needs to be studied further in terms of the results, and the method used, especially if it is used in communities and locations that are quite far away. The conclusions obtained are expected to enrich scientific treasures, especially those related to communication science and art, that can be referred to in conducting community service-based research in the future.

The waste problem is a problem that will always exist as long as humans still rely on the process of consuming industrial goods, which massively produces waste that cannot be decomposed directly by the environment. Therefore, the use of goods that produce waste needs to be reduced or replaced with more environmentally friendly materials. In addition, a recycling approach can also be carried out, namely the reuse of materials that can still be used. This is to avoid polluting the surrounding environment and avoid hazardous materials that can threaten our lives. In relation to SMKN 7 Bandung, which focuses on pharmacy and chemistry. The use of industrial chemical goods must be considered, their use can be adjusted according to needs as much as possible. New more environmentally friendly approaches need to be conveyed to students so that they can creatively generate new ideas related to their field of science by adjusting to the existing industrial conditions. The environmental campaign with the theme of zero waste is expected to be a small step that can encourage future progress for the school community.

The vocational school used as a research base and a partner is SMKN 7 Bandung, a public school operated by the state through the Ministry of Education and Culture. The uniqueness of this research is expected to emerge from the activities carried out directly in the field with partners. Another hope is that the specific characteristics of vocational education can strengthen the visual concept of the campaign and can be more related to the audience who are also members of the vocational school (Corazzini 1967).

3 DISCUSSIONS

3.1 *Mural as zero waste campaign*

The process of making murals is not completely left to partners, in this case, members from SMKN 7. However, the research team coordinates activities from design, and implementation, to evaluation. In the activities coordinated by the research team, members from SMKN 7 were gradually involved, starting from the teachers, and students, to the support staff at the school. In practice, the research team previously held a coordination meeting with the teachers responsible for the laboratory and the rooms where the murals would be made. In carrying out all these activities, the research team tries to use technology that can help make murals faster and better, including infocus projection technology. From the process that has been carried

out, it has been found that ideas can come not only from the research team, but ideas can arise from teachers and students. These ideas continue to emerge so that they can be applied directly by students and teachers and in the end, produce a previously unimaginable product.



Figure 1. Coordination meeting between teachers and research team.

The form of a mural with an environmental theme, specifically zero-waste, as the results of the discussion were directed towards the mix of reduce, reuse, and recycle (3R) themes, with their application in the chemical laboratory, related to reducing the use of hazardous materials, as well as how to minimize the hazardous waste generated (Samiha 2013).

The mural activity, such as the one conducted at SMKN7 Bandung, is not the first activity undertaken and initiated by the research team. Previously, the research team had initiated and carried out mural work in Girimekar Tourism Village, Bandung Regency, besides that the research team had also carried out similar activities at junior high school (SMP Istiqomah Bandung) and State High School 11 Bandung. These research activities have been published scientifically before (Trihanondo dan Endriawan 2018).



Figure 2. Mural concepts for SMKN 7 laboratories.

With the creation of a zero-waste-themed mural, making the mural must also consider zero-waste in the manufacturing process. Therefore, the research team is trying to use technology, which can reduce processing time, effectiveness, and materials use. In working on this mural, to speed up the work of the mural, computer graphics were used in the design process, starting from sketching to coloring the sketch, which was completely done digitally. In addition, to transfer the sketch image to the wall, infocus projection is also carried out at night. Thus the next day, the sketch that has been transferred to the wall can be directly colored, and then the finishing process can be carried out. With this way of working, better results are obtained, and the processing time is also faster using more efficient materials. Paints and other materials are also ensured with environmental certification so they do not damage the environment. Indeed, at this time, we can also directly print designs in large sizes, but such work will reduce the aesthetic and artistic value of the murals that are made. Furthermore, the aesthetics of manuals that humans do cannot be replaced by the aesthetics of machines (Wyse 2020).

3.2 Signage for vocational school identity and branding

Signage that was developed at SMKN 7 Bandung is directed to be able to support the branding and identity of SMKN 7 Bandung. The developed signage was mainly placed in front of the entrances of several laboratories in the school. In addition, the signage also serves to convey information related to the rules for using the laboratory and directions to support the zero-waste campaign in the laboratory environment of SMKN 7 Bandung.

Several laboratories are located at SMKN 7 Bandung, namely the Chemistry Laboratory, Industrial Chemistry Laboratory, Industrial Pharmacy Laboratory, Textile Laboratory, Screen Printing Laboratory, and the Dark Room. The entire laboratory must have a clear color and visual identity to facilitate the identification and strengthen the branding of SMKN 7 Bandung. The forms developed also need to apply environmental concepts with colors that tend to be natural but bright, as well as visual forms taken from environmental concepts.

An explanation of the information on the rules for using the laboratory is also very important when it is related to the current conditions, namely after the COVID-19 pandemic, which is in line with industry standards, the use of masks, gloves, goggles, must be conditioned and informed as a rule before the students can enter the laboratories at SMKN 7 Bandung.

4 CONCLUSIONS

In conclusion, making murals part of educational facilities, especially vocational education, is considered possible, as well as helping to give new faces and generate new ideas from all school residents who have been deemed less attention to the environment, especially the school environment. The key to the success of the campaign through murals is to link the message or information to be conveyed with things that are close to the daily lives of users, in this case, teachers and students. Information conveyed through signage acts as a mural reinforcement, namely by providing more specific information, so that between murals and signage at SMKN 7 Bandung are two things that cannot be separated. This zero waste education-based mural produced the following findings, as a vehicle for generating new ideas and simultaneously implementing these ideas, building involvement among school residents in one activity (the mural), as a form of teaching a culture of environmental concern. The development of murals in Indonesia is still rare, even though various institutions and the government initiate it. However, it seems that some people still do not understand the value of mural art, so it is necessary to cultivate the role of murals in educational institutions.

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Indonesia green human resource management: A bibliometric analysis

Khusnul Rofida Novianti & Aniek Rumijati

Universitas Muhammadiyah Malang, Malang, Indonesia

ABSTRACT: Green Human Resource Management (HRM) strives to influence employee behavior to assist firms in achieving their green objectives. Green HRM research is relatively sparse, particularly in Indonesia. The bibliometric methodologies were used to investigate green HRM to give a relevant reference for further research. This study aims to conduct a comprehensive bibliometric literature review on Indonesian Green HRM. The publications for this study came from the Scopus database, and there were 13 articles about Indonesia's green HRM from 2019 to 2022. VOSviewer software is used by researchers to perform co-authorship, co-occurrence, and citation analysis. Furthermore, they are also related to dominant themes such as green human resource practice, environmental performance, and green supply chain practice. The importance of this research lies in the discovery of the notion of green HRM studies, which can aid in developing conceptual frameworks in future research. Meanwhile, the study's limitation is that the publications it analyzed were all retrieved from the Scopus database, thus, it lacks comparable data. As a result, future studies will need to employ a comparative analysis approach that integrates various databases.

Keywords: Green HRM, bibliometric, Indonesia

1 INTRODUCTION

Global warming and pollution have become significant challenges, necessitating a higher awareness of environmental ethics among all parties involved, including businesses as commercial players. Environmentally conscious personnel and all members of the company at all levels must support the company's efforts to preserve the environment. As a result, personnel must adhere to higher moral standards and engage in ecologically responsible behavior (Bissing-olson *et al.* 2013; Devi 2018; Ren *et al.* 2018; Suharti & Sugiarto 2020), also known as pro-environmental commitment (Luu 2018). One of the key organizational functions for managing human resources is Human Resource Management (HRM) (Suharti & Sugiarto 2020). HRM allows organizations to encourage positive behaviors among employees and other members. HRM is also thought to help firms shape their "employees' environmentally responsible behavior.

Green Human Resource Management, or Green HRM, is implementing the Green Business idea in HRM (Aykan 2017; Suharti & Sugiarto 2020). Many countries now use Green HRM to gain a long-term competitive advantage (Aykan 2017; Leonidou *et al.* 2015; Suharti & Sugiarto 2020) by improving organizational environmental performance (Rawashdeh 2018). Although some research from Asian countries has surfaced recently, the numbers are still very small. In the meantime, Indonesia is dealing with major environmental issues. As a result, this research aims to look into the Indonesian green HRM field. Even though the green HRM idea is gaining traction among practitioners and scholars such as Farrukh *et al.* (2021) and Yi *et al.* (2019), there is a scarcity of comprehensive bibliometric

analyses that have been studied and investigated the growing body of green HRM literature. This bibliometric method allows us to provide the study domain direction, structure, and shape as it evolves and advances (Farrukh *et al.* 2021). We can also use bibliometric tools to assess publications and citations that scholars have used in their research. This study aims to recognize and analyze the influence, relationships, and key contributions of works in the field of green HRM in the Indonesian context.

2 METHOD

Business and management researchers are rapidly using the bibliometric technique to study and evaluate authors, publications, journals, and countries (Wu *et al.* 2019). Bibliometrics is a strategy for comparing and evaluating published academic literature using bibliographic data. It examines various bibliographic factors, including the number of publications, citations, social networking (co-authorship), and main subject trends. In addition, the researcher used the VOSviewer software to view co-authors, co-occurrence, and citations during the analysis process. VOSviewer can also compare and contrast distinct items (Van Eck & Waltman 2010). As illustrated in Figure 1, this study used a five-step technique adapted from the results (Tranfield *et al.* 2003).

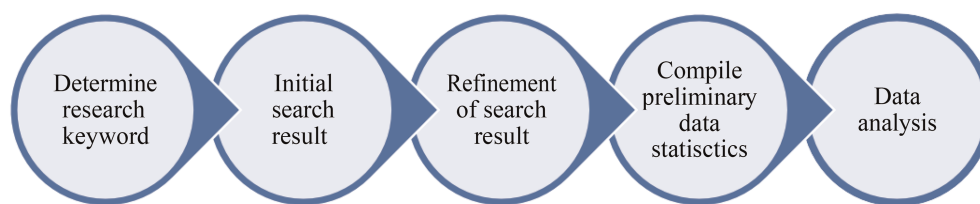


Figure 1. Stages of bibliometric analysis (Tranfield 2003).

The researcher determines research keywords using “Indonesia Green HRM” or “Indonesia GHRM” or “Indonesia green human resource” to get the result from the Scopus database. The search was conducted in June 2022 on the Scopus databases using Publish and Perish Software. Researchers conducted searching for “Journal” and “Proceeding” that only included “title words” and “keywords.” The result found that 13 articles from 2019 to 2022 related to Indonesia’s Green HRM. The CSV formatted results include other needed information such as title, affiliation, summary, keywords, researcher name, references, and more. Scopus retrieves and indexes articles required by title, selecting only publications from “Journals” and “Proceedings”. Furthermore, the metadata for all articles is further processed into an Excel file, saved as a CSV file, and used for future data analysis for correct development. The information gathered will be saved in the CSV format. The components of journal articles and their completeness, such as year of publication, volume, number, pages, and so on, are checked first. If any articles are incomplete, the researcher will complete them. VOSviewer software was used to do bibliometric analysis to see the research network. VOSviewer is a data-collecting software offering several intriguing analyses, visualizations, and surveys to help you get the most out of data (Van Eck & Waltman 2010). VOSviewer also assigns publisher, author, and journal attributions based on co-citing, keyword attribution, and co-citations.

3 RESULT AND DISCUSSION

This research was conducted to analyze the literature related to keywords “Indonesia Green HRM” or “Indonesia GHRM” or “Indonesia green human resource” from Scopus

databases journal and proceeding range from 2019 to 2022. Co-authorship, co-accuracy, and citations are among the three aspects examined. The VOSviewer software was used to perform the bibliometric analysis. The researcher employs the minimal occurrence limit 1 when providing co-authorship, co-occurrence, and citation data. Co-authorship data can be seen in Figure 2 below:



Figure 2. Co-authorship based on author name.

According to Figure 2, it can be seen that 10 authors, Andjarwati *et al.* (2019), Danilwan *et al.* (2020), Jemsittiparsert *et al.* (2019), Muafi & Kusumawati (2021), Muafi *et al.* (2021), Nawangsari & Sutawijaya (2019), Saifudin *et al.* (2021), Sakharina *et al.* (2020), Suharti & Sugiarto (2020), and Muafi (2021a, 2021b), are related to Indonesia Green HRM although there is no connected network.

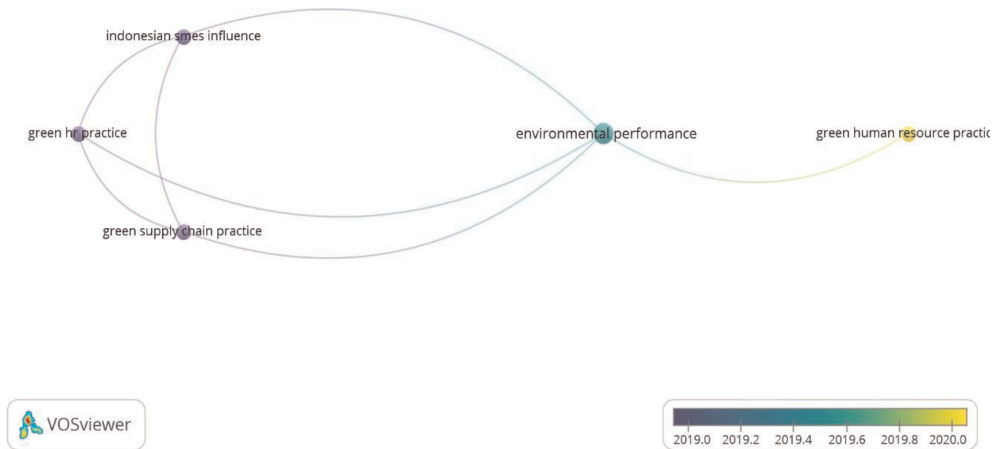


Figure 3. Co-occurrence based on keywords.

According to Figure 3, research on Indonesian Green HRM has a wide range of keywords, with the term environmental performance dominating, connected with green human resource practice, green HR practice, green supply chain practice, and mostly used in Indonesian SMEs influence. This can be a starting point for further research into various facets of green human resource management.

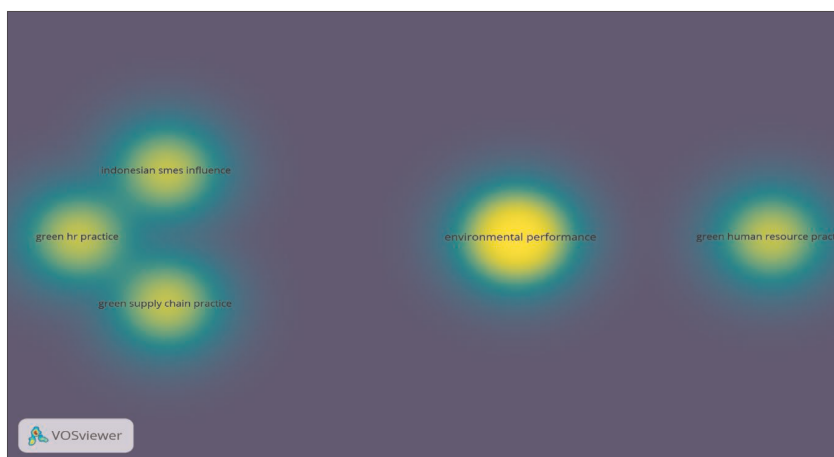


Figure 4. Density visualization based on keywords.

According to Figure 4, it can be seen that the most dominant research conducted ranging from 2019 to 2022 was about green human resource management related to environmental performance. This finding is expected to be a reference in future research to raise topics related to other aspects of pro-environmental behavior in individual and organizational aspects related to green human resource management in the Indonesian context. Analysis of the most citation used in Indonesia green HRM can be seen in Table 1 below:

Table 1. Top 10 scopus journal citation.

No	Year	Author	Title	Journal	Cites
1	2019	Jermittiparsert <i>et al.</i>	Determining the environmental performance of Indonesian SMEs influenced by green supply chain practices with the moderating role of green HR practices	<i>International Journal of Supply Chain Management</i>	24
2	2019	Andjarwati <i>et al.</i>	The impact of green human resource management to gain enterprises sustainability	<i>Polish Journal of Management</i>	6
3	2020	Suharti & Sugiarto	A qualitative study of green HRM practices and their benefits in the organization: An Indonesian company experience	<i>Business: Theory and Practice</i>	4
4	2021	Saifudin <i>et al.</i>	Hospital digitalization in the era of industry 4.0 based on GHRM and service quality	<i>International Journal of Data and Network Science</i>	3
5	2021	Muafi	The effect of green HRM on business sustainability with the mediation role of pro-environmental behavior	<i>Quality – Access to Success</i>	2
6	2021	Muafi & Kusumawati	A nexus between green HRM (GHRM), supply chain performance (SCP) and business performance (BP): The mediating role of supply chain organizational Learning	<i>Journal of Industrial Engineering and Management</i>	2
7	2020	Sakharina <i>et al.</i>	The impact of green human resource practice on environmental performance	<i>Polish Journal of Management</i>	2

(continued)

Table 1. Continued

No	Year	Author	Title	Journal	Cites
8	2021	Muafi	Green HRM (GHRM) and business sustainability: The mediation role of environmental management Strategy	<i>Quality – Access to Success</i>	1
9	2021	Danilwan <i>et al.</i>	Inducing organizational citizenship Behavior through green human resource management bundle: drawing implications for environmentally sustainable performance	<i>Journal of Security and Sustainability Issues</i>	1
10	2022	Muafi	MSMEs business sustainability models in Indonesia		1

Based on Table 1, it is known that the most cited research was by Jermittiparsert *et al.* (2019), which were ranked first with a total of 24 citations. The second was Andjarwati *et al.* (2019), with six citations, and Suharti & Sugiarto (2020), with four citations. This research focuses on Green HRM, which is still rare, particularly in Asian nations like Indonesia. The importance of these findings is numerous for both practitioners and academics. Researchers might analyze the extent to which academic research addresses practical difficulties by identifying current research topics in green HRM in the Indonesian context. "Managers' growing concerns about sustainability, green management, and pro-environmental behavior for their workers. The study suggests several potential research directions that could aid the researcher in identifying future research topics, top-cited publications to consult, and the journal to submit to. The study can aid the editorial teams of journals in determining which areas have the most promise for future research growth.

4 CONCLUSIONS

Green HRM is a method for gaining a long-term competitive advantage that combines industrialization, urbanization, and ecological management. The goal of a bibliometrics study is to figure out what are the most common research trends in a given topic or journal. "It's a good technique to get data about a certain study area for a specified period and assists readers in obtaining valuable information from various sources. From 2019 through 2022, this study will look at research on green HRM published in various journals using the Scopus database. The term environmental performance dominates research on Indonesian green human resource management, and it is linked to green human resource practice, green HR practice, and green supply chain practice. It is widely utilized in Indonesian SME's influence that can be used for future direction.

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Constructing green human capital concept for corporate sustainability: Interdisciplinary perspective

Driana Leniwati* & Mudrifah

University of Muhammadiyah Malang, Malang, Indonesia

ABSTRACT: The study aims to formulate a Green concept of human capital based on Neuro-Psycho Spiritual (NPS) science. The data collected are from various commercial bank employees' experience with variation grades and positions at local and international banks in Indonesia. Using an interdisciplinary approach and case study research design, this study tried to integrate the sciences to study humans holistically by including materialistic, psycho, and spiritual dimensions. The result of the study is a formulation of Green Human Capital based on Neuro-Psycho Spiritual (NPS), which integrates physical human capital, psychology human capital, and spiritual human capital owned by an individual as her/his work involved individual capability, individual motivation, leadership, work atmosphere, and effectiveness of teamwork that have economic, noneconomic, psycho and spiritual values in intellectual, skill, and experience, psycho managed (harmony), and divine sense in the heart, obtained by gratitude and God blessing of their working. The main contribution of the Green Human Capital concept is to broaden the meaning of human capital, which may raise awareness of divine love in humans. In a broader range, it is expected that the concept is also enlighten and enlightens people to build heaven by working as a stepping-stone for a happy life in the hereafter.

Keywords: accounting, human capital, sustainability, neuro-psycho spiritual sciences

1 INTRODUCTION

The triple bottom line that emphasizes profit, people, and the planet is increasingly being applied by companies in the world to achieve corporate sustainability (Alhaddi 2015; Gimenez *et al.* 2012; Leniwati 2020, 2021; Riyadh *et al.* 2019; Triyuwono 2016). The existence of this concept that emphasizes profit, people, and the planet can bring companies to business continuity. There have been many studies examining how companies achieve sustainability by paying attention to the environment (planet) and economy (profit) (Elkington 2013; Hubbard 2009; Slaper 2011; Triyuwono 2016). Most researchers focus on the environment and the economy, but very few researchers focus on people (human) (Sjaastad *et al.* 2005; Slaper 2011; Weber & Marley 2012). In fact, human sustainability (people) is very crucial to the sustainability of a company. Human determines whether the company will continue or not. Why? Because humans are the ones who run the company, humans are the driving force of the company's business. Humans are assets of the company (Milne & Gray 2013). It can be said that humans are the "real company".

Therefore, humans, in this case, employees, are very important to be studied more deeply for the company's sustainability, considering that humans are unique creatures who have a reason, lust, feelings, and spirit (*ruh*) in themselves. How can companies manage human capital? How can employees sustain and feel comfortable in the company? That is what the company expects.

*Corresponding Author

Sustain here is not only that people will spend their time working until retirement without doing something or doing something normal without individual capability, motivation, etc. but sustain here includes how employees can synergize with all policies, change the company comfortably and happily so that they will provide sustainability value to the company. The synergy here means that both parties do something with “pleasure” to achieve goals.

Considering the above, modern companies are very concerned about human sustainability and have done many things related to human capital (Agyeman 2008; Joel Matthews 2017; Richards & Zen 2016; Sreitzer *et al.* 2012). Human sustainability is focused on human capital, including individual capability, motivation, leadership, organizational climate, and workgroup effectiveness.

With strict recruitment, the company is sure to get employees with the individual capability at the beginning of recruitment. Then, the process of increasing the individual capability of employees does not end there. Companies provide many employees with training and other activities that are useful in supporting the abilities/skills of employees, such as leadership, social relations, and others.

Meanwhile, to foster employee motivation, the companies pay close attention to employee welfare, which is reflected in the form of regular employee salary increases, bonuses, and thousands of programs to improve the quality and welfare of employees. Of course, all these programs are also given in relation to the performance of the employees. Bonuses are given based on performance. Bonuses are given when employees can achieve good performance. The law of the Reward and Punishment system applies here. In essence, Reward aims to motivate employees to increase the profitability of the company. Punishment is given if the employees cannot achieve the target.

Leadership or expertise in managerial fields is also very important in an organization/company. Employees are also given career development opportunities to train the leadership skills of their employees. Employees’ leadership abilities will be trained by providing opportunities to occupy certain positions according to their academic abilities.

Then next is the organizational atmosphere. The organizational atmosphere becomes an important point at work. Company policies, rules, and work systems greatly influence the work atmosphere of an organization. Even habits, culture, and social relations between employees can affect their performance of employees (Askary *et al.* 2008; Blesia 2017; Dubrow *et al.* 2018)

The last one is the effectiveness of the working group. Organizational progress cannot be done individually. Company achievement is the contribution of all employees in each teamwork. Therefore, the company, at the beginning of recruitment, has emphasized that new employees should not work selfishly and individually. However, teamwork will be better at improving performance.

Whatever it is, everything the company does is aimed at forming human capital that provides sustainability value. Of course, the company has a goal with all the “welfare” issued to employees to motivate employees in line with the company’s vision and mission. Training, provision, bonuses, incentives, or other employee development programs are given to employees. Does it synergize what the company has given employees with what they want? Are all the company’s efforts effective in making employees truly loyal to the company?

This last five-year phenomenon has happened to bank employees in Indonesia who prefer to flock to resign from banks that have given them life for decades at the top of their careers. Of course, they already get all forms of welfare from the company. In fact, their existence has now become a community consisting of resigned bank employees. The community is called the Indonesia X bank community. The unique thing being appointed is that most of them have good quality as human resources and occupy important positions in companies at a young age. Many of them have achieved a lot in their work. But unexpectedly, they submitted a resignation. What’s wrong with them? Haven’t they all got all the welfare? Knowledge and work experience, career development, salaries, bonuses, incentives, facilities, work atmosphere, and social relations? That’s not what motivates them to work. This study tries to look at the perceptions of employees related to phenomena that occur in the banking world in Indonesia.

Banks are one of the modern companies that care about the welfare of their employees. Many previous studies said that salary is the main reason people choose companies to work. Salary, rewards, bonuses, employee facilities, and all forms of welfare provided by the company should be able to make employees comfortable, happy and keep working until retirement. Didn't it motivate them when they first started working as an employee?

In addition, other studies examine the relationship between income and happiness, where the research argues that when income improves, there is a point at which happiness decreases (Arthaud-day & Near 2005; Jebb *et al.* 2018). It means that there is a paradigm shift in humans that the idea of "everything costs money" has shifted to become "money does not always equate to happiness". This becomes natural because, from a modern perspective, the human being is assumed as a creature with only one dimension, i.e., a physical creature. Humans are assumed to be rational economic beings, homo economicus, or economic men with strong economic self-interest. Many criticisms are addressed towards the homo economicus assumption. So it is natural that a bank will prosper its employees with an abundance of material which is one of the dimensions of the human dimension, namely the physical dimension.

In contrast, Mustofa, 2015 states that human beings have three dimensions: body, mind, and spirit. The body and mind are subject to change and development depending upon the environment in which they live; however, the spirit is immortal. Spirit will return to God. Thus, human being, in essence, has material, mental, and spiritual bodies. Ideally, the bodies should be in balance and harmony otherwise, physically, mentally, and spiritually unhealthy. One can suffer from sickness, stress, discontent, disorientation, and lack of meaning in life, not understanding what life is, what the purpose and mission of life are, what is the real destination in life, and so forth.

Whatever reasons they reveal, employee turnover will affect performance, if not all, a nation's economy. Employee turnover may result from poor corporate policies, poor recruitment policies, poor supervision, and bad complaints or lack of motivation. Therefore, this research is very urgent to be carried out. This research tries to fill the research gap by seeing humans as the object of research as a whole, namely humans as God's creatures, material, psycho, and spiritual. Humans are not only beings who are considered to be pursuers of "matter," but humans also have feelings (psycho) and spirit (spiritual). These three dimensions will be studied more deeply in shaping the company's human capital concept. By examining employees' perceptions of what the company provides to employees to improve human capital, including the work atmosphere, welfare, and employee facilities, a holistic human capital concept will be formed that sees people as a whole, in this case, employees towards the sustainability of the company.

This research is beyond the modern way of thinking, which is positivistic. It attempts to integrate more than one discipline covering neuroscience, transpersonal psychology, and spiritual science. This research integrates those three disciplines aimed to understand the perceptions of bank employees through their consciousness, be it at the level of consciousness, psycho-consciousness, or spiritual (or divine) consciousness. Clearly, the concept of human capital based on NPS science is the one that sees human sustainability. This means that the concept reflects the existing reality in a oneness that cannot be separated and cut into fragments, as done by a modern perception that is partial. The oneness of reality has a greater value and is the richest treasure for human beings, leading them to a transcendental experience (Taylor 2017). By using NPS, this research tries to integrate three aspects of reality in formulating a holistic concept of human capital toward human sustainability.

2 LITERATURE REVIEW

2.1 *Human capital theory*

Human Capital is defined as the knowledge, skills, and experience that employees bring when managing the company (Zuliyati & Mirah 2017). Today's organizational challenge is a

shift from being focused on the problem of economic industry towards economic knowledge. This shift consists of all aspects of organizational management, namely efficiency operations, marketing, and organizational structure that will produce higher business profits. Qualitative measurement of human capital is centered on values and actions in humans. Mayo (2000: 120) component of human capital consists of five components. These five components include 1). Individual capability, 2). Individual motivation, 3) Leadership, 4). The organizational climate, and 5) Workgroup Effectiveness. Individual abilities (individual capital) which can be seen from the individual ability of each employee, and individual motivation (individual motivation). This ability can be seen from each of the different motivations obtained from each employee, leadership, and organizational atmosphere (the organizational climate); the creation of an atmosphere organization can be seen from the treatment of employees with his work relatives without any distinction from one another, and workgroup (workgroup effectiveness). Human capital is a stock of competence, knowledge, and social and personality attributes, including creativity, embodied in the ability to do work, thereby generating economic value. Human Capital or human capital is the ability of oneself. Each component has a different role in creating the company's human capital, which ultimately determines the value of a company.

2.2 *Corporate sustainability and human capital*

Human capital is the most important part of the company (Giuliani 2016; Joel Matthews 2017; Šlaus & Jacobs 2011; Sreitzer *et al.* 2012). Because of its importance, humans are considered an intangible company asset. The asset is the "wealth" of the company. The company's success is very dependent on human capital, so human capital needs to be maintained in a company.

According to the triple bottom line, a company's sustainability is measured by three things: people, profit, and the planet. Human sustainability includes people. People are very important in creating corporate sustainability. These people greatly influence the company's performance. People also determine whether a company is continuing or not. Companies certainly want employees who provide benefits for the company. Likewise, in this case, employees, need to "benefit" from companies according to their point of view. There is synergy between employees and the company. The mutually beneficial relationship between the two parties, namely the company and its employees, could make the company move towards "true" sustainability.

2.3 *Neuro-Psychological Spiritual (NPS) science*

Neuroscience studies the human neural system, especially how it is structured, develops, and works. Interestingly, for instance, one slice of biology science, it is developed under a multidisciplinary approach incorporating philosophy, medicine, chemistry, mathematics, engineering, computer science, and linguistics. Its main objectives are to analyze, describe, and understand the human brain's structure and functions and how it matures itself and works. It is also employed to analyze how the nerves trigger the release of hormones resulting in emotions influencing perception and behavior.

The human brain and how the brain changes to respond and behave to any events and activities. As neuroscience said, what happens to a person starts from the brain, such as realizing her/his identity, knowing whom she/he is, investigating her/his existence, and perceiving reality until revealing the veil of the universe. It is possible to change a person's bad traits to be good. It means that the sensory information systems in the brain are still good. Human perception and behavior about our world depend on sensory information systems' function (Brynie 2009). the human brain is not a rigid and an inanimate object that cannot be changed. The brain can regenerate nerve cells. The cells can adapt and make changes in their structure based on experiences received from the environment and life experiences. This

ability is called *the neuroplasticity* of nerve cells (Brynie 2009). The brain can develop itself in the context of environment and behavior (Pasiak 2014). Then how does the brain work to arouse the presence of sense? Other mechanisms have to do with the activity of chemical compounds in the brain that play a role in changing human behavior. This activity is called a *neurotransmitter*. This activity triggers certain potential actions, behaviors, and emotions.

Under both *neuroplasticity* and *neurotransmitter*, the bank employee's perception of income, shaped by the work environment, work culture, experiences, and social environment, can be explained. Some stimuli trigger nerve cells to release a certain hormone in the brain. By releasing a sufficient quantity, the hormone affects the human body entirely. For example, endorphin is a kind of hormone that has a positive effect on improving the immune system, preventing stress, and curing various diseases (Maeda *et al.* 2006). Dopamine and norepinephrine have the function of controlling stress and emotions (Guillén *et al.* 2015).

Transpersonal psychology is a sub-division that studies the integration of spiritual and transcendent aspects of human's daily life experiences. The experiences extend beyond the person himself/herself and connect to other persons, the universe, and God. Thus, transpersonal psychology is not a set of beliefs, dogmas, or religion. Rather, it is a science that explains and can be used to bring a person to a full level of human experience, a peak of spirituality, and finally, to perfect happiness through a spiritual journey. Of course, the spiritual experience of each person varies depending upon his/her sincerity and how close the person is to God.

The person's consciousness perceives the experience, that in neuroscience it can be explained that God is the part of human consciousness. The more we think about God, the more we change neural circuit systems in our brain that finally awaken and empower our divine consciousness. The human brain is unique, created to receive and produce spiritual reality, and universal that, consequently, there is no difference between Muslims, Christians, Hindus, Buddhists, and Konghucus.

Spiritual experience is an experience of a person's spirit in the connections with God, the universe, and human beings. The study that focuses on this area is called spiritual science, a study on the nature of spirit understood as a basic substance of all existences emanated from, and a part of, God. It is not a dogma or superstition whatsoever, but rather a real experience of being spiritually connected with others, including God.

This research integrates those three disciplines to understand the perceptions of bank employees through their consciousness, be it at the level of consciousness, mental/psycho consciousness, or spiritual (or divine) consciousness. Then, this research attempts to formulate the perceptions into a holistic concept of human capital based on NPS. This new concept tries to integrate physical, psychic (mental), and spiritual aspects of human capital as perceived by bank employees. It recognizes the physical aspect, usually measured in monetary terms, and psychic and spiritual aspect, which cannot be measured. In this research, NPS science will see humans holistically. It will see existing reality/ phenomenon in a oneness that cannot be separated and cut into fragments, as done by a modern perception that is partial. The oneness of reality has a greater value. It is the richest treasure for human beings, which in turn leads him/her to a transcendental experiential individual capability, individual motivation, leadership, organizational atmosphere, and individual workgroup effectiveness (Jebb *et al.* 2018). Using NPS science, this research tries to integrate three aspects of reality/dimensions in formulating a holistic concept of human capital. But it does not go further into a technical accounting formulation, such as recognition, measurement, disclosure, and report.

3 RESEARCH METHOD

This study uses a case study research design. Using the postmodernism paradigm, this study tries to include other disciplines to see the phenomenon above that has occurred in the banking world in the last five years and continues today. Empirical data are collected

through interviews that involve nine informants. They work for various types of conventional local banks and international banks in Indonesia. This research uses both current and former bank employees as informants. This research commences by revealing the phenomenon of the resignations of many bank employees with various grades and positions. The various grades and positions presented are intended to acquire a fair representation of the perceptions of bank employees of all levels and positions, despite the discrepancy that may occur in reality due to different awareness throughout their life events.

The informants were selected by convenience sampling by considering the tenure and position/grade in the office where they worked. Their positions were made, and each informant was represented so that it was hoped that with such grades, the informants could provide complete data related to their perceptions so that they could be used to construct the concept of human capital. Using NPS science, this research is expected to be able to see humans from the physical, mental, and spiritual dimensions. I use an analogy the human body, which consists of physical, mental, and spiritual bodies. The physical body is what we see physically in our body. While the mental body cannot be seen physically, we can know its existence by sensing it. It is basically psychic, so we have to sense it by using our psychic; the spiritual body is the deepest essence of our body that makes us alive, expresses divine attributes, and feels connected with God. Therefore, based on this analogy, income includes three dimensions of human beings: physical, mental, and spiritual. Based on the explanation above, it can be conceived that human beings may be seen from the physical, emotional, and spiritual aspects finally reflected in daily behavior through interactions involving a person to other persons who are different.

Based on phenomena in social reality, this research tries to (1) understand deeply the meaning behind the reality experienced by the object of research, (2) analyze human experience, which will ultimately affect human perception, motivation, behavior, and actions, (3) having the human perception empirically and analyze it based on Neuro-Psycho Spiritual science. (4) Constructing the holistic concept of human capital based on NPS sciences. The relevant informants were categorized as follows:

Table 1. Informants based on grade/position and working period.

No	Informants	Grade	Working Period	Status
1	Mr. Edi	Senior VP	19 years	No active
2	Mr. Yudi	VP*	11 years	No active
3	Mr. Fadli	AVP*	11 years	No active
4	Mr. Sony	AVP*	21 years	Active
4	Mrs. Yani	Manager	24 years	Active
5	Mr. Adi	Manager	13 years	Active
6	Mrs. Dian	Assistant Manager	17 years	No active
7	Mr. Hadi	Assistant Manager	9 years	Active
8	Mrs. Ina	Assistant Manager	7 years	Active
9	Mrs. Della	Assistant	4 years	No active

*VP is an abbreviation of Vice President, and AVP is Assistant Vice President

Qualitative data collected are through interviews and following a framework, such as the form of human capital, the motivation to work, and feelings that arise regarding company rules, policies, work atmosphere, and employee welfare. The empirical data was then analyzed and constructed using a conceptual framework based on Neuro-Psycho Spiritual science premises. The framework uses an interdisciplinary approach, integrating neurosciences, transpersonal psychology, and spirituality. Some Quranic verses are used to strengthen the analysis to build premises that will be used as a tool for construction.

4 RESULT AND DISCUSSION

Data collected from bank employees are reduced and grouped. A very interesting result from this process is that human capital comes to mean a human capital aspect in a broader and holistic concept. Human capital is not only interpreted in the physical aspect as the existing component of the human capital concept but also involves mental/psychological aspects and a sense of divinity, which involves the spiritual aspect.

Researchers use the existing components of the human capital concept, which becomes interesting when interpreted more broadly. According to them, after being grouped, human capital is united with the qualities of physical such as intellectual, skill, and experience, psychological economy, psychological-non economy, and spiritual (Table 2).

Table 2. Form of human capital.

Component of Human Capital	Categories	Form of Human Capital
Individual Capability	Physical Psychology spiritual	Having academic education, skill, and his/her job Capable to manage emotions under work pressure Capable to involve a sense of divinity/intuition/heart in his/her job
Individual Motivation	Physical-economy Psychological-economy Psychological-non economy Spiritual	Motivated to salary, wages, bonus, incentives, fringe benefits, performances allowances, job allowances, awards, facilities, health insurance, pension funds, soft loan facilities, recreational, and other related financial compensations Motivated by lifestyle, prestige, social status Motivated to obsessions, dreams, childhood dream Motivated to work as a form of gratitude to God, work for worship (sincerity)
Leadership	Physical economy Psychology Spiritual	Using intellectual skills and experience, he/she leads company rules for company goals/profit. Using intellectual skills, experience, and heart, he/she leads and gives solutions considering heart without breaking company rules. Empathy, caring, and wisdom for the interest of Lead on guidance from God without ignoring your intuition/conscience/sense of divinity within yourself so all decisions taken are truly guided by God
Work Atmosphere	Physical Psychology	Work-based on company work standards, work Reward and punishment system is professional, full of pressure, passionate, and disciplined. All is done for company profitability Work-life balance and customer satisfaction is the goal. Building family networking with customers and other employees, helping each other, social relation and doing the work together, ethics, and honesty. All is done for company profitability

The above classifications are empirically obtained when the researcher conducts in-depth interviews with key informants. Human capital is interpreted more broadly, not only physically, but also by involving a sense of fellow human beings, the environment, and a sense of divinity within them. This is an intact and holistic model of human capital. The model is similar to the description of the human body, where a human has spiritual, mental, and physical bodies. The spiritual body radiates in mental and physical form. The spiritual body is central and immortal, while the other is mortal.

The forms of human capital at each of these components indicate a shift in human consciousness. Human capital is interpreted not only as physical but psychological and spiritual aspects. Humans process within themselves when interpreting their job, environment, and others. In interpreting their work, individual abilities involve not only physical reasoning but also emotions and intuition/inner voice. Likewise, with the self-motivation component, inner warfare exists within him/herself when the emptiness of the soul cannot be fulfilled with a lot of wages, incentives, and any other worldly welfare that the company provides. Even further, when a human being collides with a situation in which he/she must be able to accept all the “anxiety” in their job with sincerity, and gratitude, then the salary/incentive or whatever is no longer the main motivation for work. There is a sense of anxiety that arises when there is no balance between work and soul. Ultimately, the feeling motivated him more to work than just salary and others. A sense of divinity also arises in oneself as gratitude for the job, considering nowadays not everyone is allowed to work. It is increasingly convincing them that whatever their work is one of the fortunes God has given them. The leadership component is also interpreted more broadly, where leading does not only involve the “ego” in oneself but leads with the heart and considering that it is a mandate from God. So it will provide a work atmosphere that is truly comfortable and conducive, and the effectiveness of teamwork is achieved, which is not only limited to a working relationship between superiors and subordinates but is already a family, a large family as a religious community.

Empirically, human capital has penetrated not only about materialism which involved the human brain, but also synergy among the brain, lust, heart, and spirit. These four elements form the informants’ perceptions of humans as creatures of God. Materialistic dimensions, such as intellectual, skill, and experience, are indeed one form of their efforts to meet their needs. Intellectual skills and experience are one way to fulfill their physical economy motivation, such as salary, incentives, etc. The needs is also strengthened by Maslow’s theory (Page & Page 2018; Stoyanov 2017; Yahaya 2008), which explains that humans work to meet their physical needs. This theory places physical needs as the first need in human life. Needs are natural and must be met for humans to survive. Therefore, it is natural and justifiable that the main and basic purpose of human work is to meet their physical(material) needs. The theory also suggests that two kinds of motivation move people to meet their needs: deficiency motivation and growth motivation. In general, every creature, including humans, will try to survive. So, one of the human motivations is a fulfilling deficiency. Growth motivation is based on the capacity of every human to grow and develop. Safety, social, esteem, and self-actualization needs are the development of human beings depending on their capacities.

The question now is, what about psychological needs that are currently shifting? Psychological needs are no longer talking about belonging and love and esteem needs, but their motivation to work has deviated from that. Employees work for salary/income, not just to fulfill needs, as Maslow said. Most employees work more on prestige to fulfill a lifestyle. That lifestyle is formed along with their social status in society. Besides that, the lifestyle is also formed due to the work demands and the company’s work culture. On the other hand, the psychological-non economy appears when they work because it has become an obsession or their dream since childhood. Whatever happens to them at work, they will accept and be happy. It could be irrational, but it happened, and they enjoy their work.

On the contrary, at a certain point, when the spiritual dimension is touched, it is empirically found that they finally accept their “anxiety” at work sincerely and return to their nature. Human nature is to worship God in every form of human endeavor. The belief in the “fortune” and blessing of God ultimately motivates them to work. This can be seen in Table 3 below,

Then after they work and get employee welfare in the form of materials and facilities from the company, what do they feel? Empirically, this study found that the amount of materiality, such as a large salary and abundant facilities, does not always make people happy. Instead is a sense of stress because of overloaded work, no time with family, disharmony, and a sense of emptiness and loneliness in the abundant pile of material. But as a survival creature, some of the employees interpret all the anxiety with their spirituality. They kept carrying out their work

Tabel 3. Motivation to work.

No	Motivation	Description
1	To make ends meet	Work to get a high salary to make ends meet
2	To fulfill the obsession /dream of working in a bank	Work because of the obsession that forms in the mind. Salary is the second alternative
3	To get health facilities, work for protection	Work for health insurance
4	To socialize	Working to join with social communities
5	To add knowledge, skills, and experience	Work to increase knowledge, experience, and skills. Income still dominates the main objective.
6	To social status (recognition)	The higher the skill or expertise, the higher Work for social status. Want to get recognition from the surrounding
7	To balance the soul	Work to meet work–life balance. The salary must be in balance with the sacrifice. Still dwelling on the material even though there are thoughts of leaving the material because of feelings of anxiety
8	To worship God according to religious sciences	Work for blessings of God. Income is not the main goal. Therefore, it is possible for them to leave their current jobs if their work is not in compliance with religious teachings. They behave according to their

sincerely. They continue to carry out their work sincerely. There is a sense of gratitude when they have to work on their “discomfort.” when employees have reached this point, salaries, facilities, and other forms of welfare from the company will no longer be the main goal. They continue to carry out their work sincerely. There is a sense of gratitude when they have to work on their “discomfort”. When employees have reached this point, salaries, facilities, and other forms of welfare from the company will no longer be the main goal (Table 4).

Table 4. The feeling when they work.

No	Informant	Grade/Working period	Feeling when working	Status	Reason to keep work/resign
1	Mr. Edi	Senior VP	The feeling of emptiness, There is no work life balance, no time for worship	Resign	Spiritual experience further encouraged him to resign. This is what makes him believe that his work is not in
2	Mr. Yudi	VP	There is a feeling of emptiness in the heart when he works	Resign	Feeling emptiness even though his material needs have
3	Mr. Fadli	AVP	There is a feeling of emptiness in the heart when he works, the fear of death increases his “fear” when he believed that his current work not in accordance with religious teachings. This also causes them to work only hoping for God’s blessing	Resign	There is a belief in him that the work he has been doing so far is not in accordance with religious teachings. So that the decision to resign occurred spontaneously without thinking following his heart even though he must leave the material world and start life with zero points.
4	Mr. Sony	AVP	Not comfortable with his job but trying to enjoy work because of the long journey of his career which has twisted up to this stage	Active	There is a desire to resign, but he did not do it. There is a sense of gratitude to perform well, in his current Position
5	Mrs. Yani	Manager	Sincerity by enjoying work even though there is a feeling of discomfort at work (legowo)	active	There is a desire to resign because she has no an opportunity career advancement due to company regulations.

(continued)

Table 4. Continued

No	Informant	Grade/Working period	Feeling when working	Status	Reason to keep work/resign
6	Mr. Adi	Manager	Sincerity by enjoying work with all the pressures of work demands, policies, and culture	active	Besides, there is discomfort in the work atmosphere but he prefers to fight and go through it all
7	Mrs. Dian	Assistant Manager	Uncomfortable because there is no career advancement	Resign	There is no appreciation related to her education and working periods. Her career was "stunted" due to company policy
8	Mr. Hadi	Assistant Manager	Happy. There is a certain satisfaction in being able to achieve what the company has given by working honestly	Active	There is no intention of resigning because they are still motivated by the fulfillment of life's needs. Even though the work atmosphere is less ethical among employees, he still maintains a code of ethics and honesty in his work. He is very satisfied with the
9	Mrs. Ina	Assistant Manager	Sad because there is no work-life balance. There is no time for the family, the overloaded work. There is no time for the family because she has to work more than normal working hours		There is no intention of resigning. Even though, there is no work-life balance, she felt that what she has achieved now is "a gift" from God. Employees who have the same period of work as her have not reached her position. That is the reason why she responds to all his "inconveniences" with gratitude for her current job. Gratitude to God is the reason she could tolerate "discomfort" in her environment
10	Mrs. Della	Assistant	Glad to be able to achieve work achievements and have a better position than her peers. She has a high salary but there is always a sense of anxiety. She believed there was "something wrong" with her work so she often experienced calamities in her life.	No active/resign	She felt that what he experienced in her life was not always a blessing. So she thought of giving up all of his work because she felt that his job was not in accordance with religious law

Based on the empirical data above, it can be generally said that human capital is divine resources, which are physical, including intellectual, skill, and experiences, psychological-economy, psychological-non-economy, and spiritual. It is processed at work, surviving with circumstances and increasingly honing human spirituality for receiving everything because of God. The interesting thing from empirical data is that humans can survive amid "discomfort" and continue to work "comfortably". The sense of acceptance (legowo) that arises in humans is a human capital that a persona person can use can use to maintain her/his survival, other persons, and the universe in the life span of this world and the hereafter. On the other side, if he/she believes that his work has deviated from religious teachings, all aspirations, obedience, and everything to the company will be erased with a sense of love for God.

Another interesting thing from informants is that the working period does not affect their perceptions. The fear of losing the "world" is natural when humans consider abandoning everything. It is empirically proven that some humans still use their minds (brain) to think about the world, but surprisingly there is a human who spontaneously leaves his/her work without thinking "what to eat tomorrow." The fear of death, the fear of God motivated them to work for worship and God's blessing.

This sub-chapter basically formulates human capital based on empirical data, which is the informants' perception of human capital. This empirical construction is then used as material to construct a new concept of human capital based on Neuro-Psycho Spiritual science.

5 THE FORMULATION OF GREEN HUMAN CAPITAL BASED ON NEUROPSYCHO SPIRITUAL SCIENCES

Humans are God's masterpieces designed perfectly. Based on neuroplasticity, anyone can become a person as expected just by maximizing the function of her/his brain through practice and experiences. The brain also has other mechanisms related to the activity of chemical compounds in the brain playing a role in the formation of human behavior. Positive thoughts will trigger nerves to release endorphin hormones to work and bring about happiness. Otherwise, when humans do activities with emotions, prejudice, and insincerity, the brain will trigger nerves to release the cortisol hormone to work and cause a feeling of stress and sadness. That is the greatness of the human brain.

External stimuli outside humans trigger the brain to perceive reality and release hormones that will shape our behavior. The ability oneself can also change due to external stimuli that trigger nerve cells to release hormones and form behavior. In this case, these stimuli are intentionally created by a company in the form of work systems as instruments at work.

It could be possible if the employees perceive the stimuli as they think, so the instruments previously intended to improve professionalism motivate employees to work better and improve welfare have a different impact from their original goals. I find another oneself's perception to be triggered by a stimulus that occurred at the bank. I divide it into two major stimulus parts: positive and negative. For negatives stimulus, they are motivated to work as a result of this stimulus. Still, it cannot be avoided when this stimulus triggers nerves releasing emotional hormones, which as the cortisol hormone associated with stress, shame, and fear of punishment. Excessive release of the cortisol hormone and "excessive" motivation for income over a long period have an adverse effect on human beings. Humans become greedy and angry, even behaving dishonestly to get everything unethically. It is very possible to create new humans who are away from divine values because of negative stimuli, especially when the stimuli trigger them for a long time and form habitsthat automatically shape their character.

On the other side, when employees perceive their work, the feeling of patience, empathy, and care for customers emerges when the nerves release the oxytocin hormone. This hormone is responsible for the love feeling that bonds human relationships. In other words, oxytocin binds people in harmony. Serving customers well, even though the final goal is the incentive, it still triggers nerves to release the oxytocin hormone and endorphins. It brings a sense of happiness and love. Serving customers with empathy and sincerity creates a positive culture in doing something or actions.

What about the spiritual dimension? Spirituality means connectedness with God and all creatures by using the human spirit (soul). There is a sense of peace when we feel a closeness with God. Spirituality is related to the spirit (soul) of the human heart. The heart functions as a transmitter between us and God.

All efforts, so long as we do it sincerely, draw us closer to God. The connectedness can only be felt with a sense of peace, happiness, gratitude, and so on. For example, they are happy when they help customers from difficulties without expecting compensation. All are done with sincerity. The senses of empathy, care, and assistance show a connection with God. The senses also trigger oxytocin and endorphins hormones in perceiving human capital.

Based on the empirical data above, they realize and aspire to a sense of peace and freedom. But they have trapped the system they cannot get away from. They do not have enough bravery to leave the world. At this time, they can only accept and work at their best sincerely. Sincerity is one way to connect with God. It proves that there is still spirituality in their souls even though it is still in the form of a sense, not yet an action to get out of the circle of the material income trap.

Every human being indeed owns spirituality. God breathed the soul into humans when humans were still in the womb. Newberg in his book, also states that God has designed the brain in such a way that humans are always connected with God. God gives the brain, heart, and lust. The heart is the transmitter between humans and God. The brain is affected by the heart and lust in controlling all activities. How to harmonize the brain, heart, and lust should be used as a solution to control external stimuli. Controlling emotions (lust) and “accept” whatever the condition worse or god is a way to harmonize the heart, brain, and lust.

Emotions could be controlled through good habits, values, culture, knowledge, and religion. That is why, for mature and established individuals, no matter how hard the emotions are felt, they can control and express them politely. This is because they have the ability to recognize, feel, and control the emotional impulses experienced through the role of the sensory cortex and the hippocampus related to perception and memory. Serving and helping customers with difficulties patiently is also an exercise and becomes a good habit that stimulates nerves to release oxytocin hormone to control emotions. Work culture also affects emotional control. Excessive emotions will have a bad effect on the body, thus emotional management is essential for survival. The sense of patience is also an emotion that may connect a person with God. That proves that human absolutely is divine creature which has brain, heart, and lust. The ability to harmonize brain, lust, and heart in every condition is the real human capital.

Based on the empirical data, intuition, and the results of the *tafakur*, it could be formulated a holistic concept of human capital that I call Green Human Capital including physical, psychological, and spiritual dimensions. Thus, the premise of Neuro-Psycho Spiritual (NPS) based Human Capital is the integration of physical human capital, psychological human capital, and spiritual human capital owned by an individual as her/his work involves individual capability, individual motivation, leadership, work atmosphere, and effectiveness of teamwork that have economic, noneconomic, psycho and spiritual values intellectual and skill, psycho managed (harmony), and divine sense in the heart, obtained by gratitude and God blessing of their working.

6 CONCLUSION

Green Human Capital based on NPS is the divine capital in humans. It is very much influenced by the level of one’s awareness and response to stimulate things from the environment. The response of the brain in capturing information outside forms different perceptions. This study shows that the existing component of human capital is interpreted in physical, psychological, and spiritual aspects. External stimuli when they work, such as policy, system, culture, and social effect, create a positive attitude such as empathy, helpful, and sincerity. Vice versa. It could emerge as negative behavior such as unethical behavior, fraud, and crime. The harmonization of the brain, lust, and heart in working which expected to raise awareness of divine love that brings the company to real sustainability. The greatest human capital is when he has surrendered himself, his work, and everything only to God’s blessing. Human capital is not defined as physical interests, but it has manifested itself into psychological human capital and spiritual capital.

Green Human Capital has been enlightened and is expected to raise awareness of the divine love (*mahabbatullah*) of accounting users. In a broader range, it is expected that accounting is also enlighten enlightens people to build heaven on earth as a stepping-stone for a happy life in the hereafter. Therefore, divine love of Green human capital is indispensable. This divine love is universal, transcending the teachings of various religions. Everyone can use any religious teachings to awaken her/himself.

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Superior and inferior: CSR, assurance CSR, performance and value of firm, and halo effects

Endang Dwi Wahyuni, Fahmi Dwi*, Mawardi & Agung P.N. Wicaksono
Universitas Muhammadiyah Malang, Malang, Indonesia

ABSTRACT: This study empirically aims to analyze CSR disclosure's effect on firm value by considering the reviews conducted by third parties on CSR. The sample used in this study is all companies listed on the IDX. The data analysis technique used moderated regression analysis (MRA) with e-views ten and the Global Reporting Initiative (GRI). The results of the study show that CSR disclosure has an effect on the company's performance and value and is reinforced by the existence of third-party reviews of CSR in inferior and superior positions. In addition, this study found an indirect halo effect on the relationship of CSR disclosure on firm performance and value.

Keywords: Corporate social responsibility, CSR third party reviews, halo effect financial performance, value firm

1 INTRODUCTION

The current business perception has shifted from a stakeholder orientation to creditor investors to a long-term orientation, namely all stakeholders (Akisik 2017; Hossain *et al.* 2015). The company's main goal today is to fulfill the wishes of creditor investors and all levels of stakeholders from contributing directly or indirectly (Mozes *et al.* 2011). This change in the global perception of business forces companies to survive by paying attention to the preferences of all stakeholder layers (Akisik *et al.* 2017). An increase in company performance and value measures the company's success in meeting stakeholder preferences (Lin *et al.* 2018); (Zheng *et al.* 2014). To meet these goals, companies must balance all aspects desired by stakeholders, namely sustainable company growth (Servaes & Tamayo 2013).

There are two projections for the company's performance: superior and inferior (Choi & Wang 2009). Superior company performance represents the company's success in managing its business. In contrast, inferior performance is a company condition that tends to be inconsistent in processing its business, including poor operational value chains (Zheng *et al.* 2014). This study divides these two conditions because they are different dimensions but are integrated (Lin *et al.* 2009). A company in an inferior state does not mean that it does not have the opportunity to change its situation. Still, it is necessary to study the causes and solutions for its downturn. Likewise, superior companies must be able to maintain the existence of their business performance by understanding the same factors.

The dynamic business environment encourages companies to re-orient the concept of financial performance to become a sustainable performance concept (Windolph *et al.* 2014). This concept arises due to stakeholders' attention and pressure, which is constrained on all public companies (Mawardi *et al.* 2019). Several corporate phenomena motivated by

*Corresponding Author

stakeholder attention and pressure appear when the company's orientation is only on financial interests (Gray 2010). This phenomenon can be caused by various stakeholders, such as consumers who no longer use the company's products, a decrease in employee motivation to work, and NGO pressure on the company's business environment. The position of stakeholders becomes centric for the company, so it is necessary to find a strategy to overcome this phenomenon, one of which is through the CSR mechanism (Lin *et al.* 2018) (Yusof *et al.* 2013). The theory also predicts the phenomenon of a decline in company performance and value due to the shift to the era of sustainability. Stakeholder support is expected to improve the performance and value of the company, so it is necessary to analyze the factors that can affect the increase in company performance and value. As previously explained that these factors can be through the CSR mechanism. CSR is the company's commitment to fulfilling the triple bottom line: profit, planet, and people. Fulfill these aspects to obtain full legitimacy from the community. In line with the supporting theory, namely legitimacy, which states that companies can get full legitimacy, one is through CSR.

The CSR issue has become a concern for the business world, along with the disclosure of corporate actions that are detrimental and even threaten the lives of the wider community. An environmental activist Erin Brokovich tried to provide an overview and resistance to treating California's Pacific Gas and Electric (PG&E) company in 1993. The company carried out irresponsible actions by polluting the environment during its operations. Another case was when Nestle terminated its contract with Sinar Pulp and Paper at Greenpeace's insistence, which claimed that Sinar Mas' products came from large-scale logging without any forest conservation efforts. Another phenomenon is the decrease in shell sales consecutively by almost 70% when there is a company policy that dumps waste oil into the Atlantic Ocean, resulting in a boycott initiated by Greenpeace. On the other hand, there was a stakeholder support effect when The Body Shop won the company's position, as indicated by the increase in sales after carrying out the "Forever Against Animal Testing" campaign, which is an act of social and environmental concern.

There are many studies on the relationship of CSR with financial performance. However, inconsistent results on the impact of CSR on performance are still relatively common (Lockett *et al.* 2006). Research by Lin *et al.* (2018); Akisik (2017); Michelon *et al.* (2015); Waworuntu *et al.* (2014); Yusof *et al.* (2013) stated that CSR has a positive effect on financial performance and firm value. While the research of Hossain *et al.* (2015), Jamali *et al.* (2015), and Chih *et al.* (2010) stated that CSR has no effect on firm value but does affect financial performance. Margolis & Walsh (2001) state that when used as an independent variable, CSR has a positive relationship with financial performance in 53% of the studies that have been reviewed; the rest show mixed results. Information on the company's CSR activities is one of the important aspects besides financial information (Chaudhri 2014; Dhaliwal *et al.* 2012). In corporate communication, CSR disclosure is one of the important aspects to do (Benn & Bolton 2011; Carroll & Shabana 2010; Park & Brorson 2005; Windolph *et al.* 2014).

Akisik & Gal (2014) found that there is evidence that although CSR is still not included in the components of financial statements, but has an impact on financial performance measures. Companies will reveal good things to survive in running their business (Clarkson *et al.* 2008). CSR activities in Indonesia are regulated in law number 40 of 2007 concerning limited liability companies, where limited liability companies established in the Indonesian economic area are required to carry out social responsibility activities. However, the disclosure and regulations on green industry standards are still voluntary (Luthfia 2012). (SIH) (Ministry of Industry.go.id). In Indonesia, CSR disclosure is still in the development stage. Companies in Indonesia generally disclose their CSR activities voluntarily in the company's annual report. Some companies disclose their activities separately from the annual report, namely the sustainability report. This is proven based on *The Center for Governance Institutions and Organizations* (CGIO). The disclosure of corporate CSR reports in Indonesia is below Thailand and Singapore in 2018–2021, with a disclosure value of 57.8%.

Some underlying issues position stakeholders as superior parties in influencing the company. Stakeholders are investors and creditors, and more than the community, NGOs, customers, employees, and other individuals and community groups. From the perspective of corporate communication, a credible CSR report will contribute more to the company's performance. Credible CSR is a positive signal for stakeholders that the company is concentric on social commitments.

Credible CSR can also create a positive image, even further the halo effect on its use. From the perspective of semantic communication theory, a company's CSR report must be pragmatic, not syntactic, symbolic, or simulacra. The consequences will lead to a psychological effect on its users, namely the halo effect on CSR reports.

The halo effect will occur when users feel the company is making social commitments through CSR disclosure representations without seeing the actual situation. On the other hand, there is no synchronization between implementation and disclosure. Users seem to believe in disclosure only because of the limited time and opportunity to seek the truth of the information. The second factor is that stakeholders only trust the simple interpretation of other stakeholders who may also not understand the report's substance. Trust is only based on the informant's background, such as education, position, or other factors that lead to trust in other personnel. When stakeholders feel that disclosure is good, but the implementation of facts is different, there will be abnormal business continuity information. So, stakeholder support is a pseudo-support for the company, even though the company is in a position to benefit.

This concept has become concentric for researchers to find solutions so that the abnormality of CSR information is relevant to its application. (Global reporting initiative) provides review services by competent parties to create credibility for CSR reports (GRI 2019). A study by Akisik & Gal (2014) found that CSR report reviews could increase the credibility of CSR reports, ultimately affecting the company's performance. The results of CSR reviews become one of the stakeholder portfolios in making decisions to support the company, even assessing the company's commitment on an ongoing basis and even reducing the halo effect. This study reviews CSR reports to strengthen CSR disclosure, which will later affect the company's performance and value. The samples taken are all publicly listed companies because the justification for public accountability for companies is high. Another reason is that transnational issues focusing on environmental and social issues make researchers examine all companies.

Researchers also fill in the limitations of Akisik (2019) related to the evidence of the relationship between CSR and financial performance in developing countries. Another novelty is separating performance and value into two subs, inferior and superior. This study will also analyze more deeply related to the phenomenon of the halo effect successfully conceptualized by the researchers so that it will be proven through research results. The research sample uses financial data of companies in Indonesia listed on the Indonesia Stock Exchange (IDX) in 2014 – 2020 and qualitative data on CSR reviews on the GRI website or the website of each company that uses GRI guidelines.

The data analysis technique used moderated regression analysis (MRA) with e-views ten and the Global reporting initiative (GRI). The results of the study show that there is an effect of CSR disclosure on the performance and value of the company, which is strengthened by the existence of third-party reviews on CSR. In addition, this study found an indirect halo effect on the relationship of CSR disclosure on firm performance and value.

2 LITERATURE REVIEW

2.1 *Legitimacy theory and stakeholder theory*

Legitimacy theory provides a strategic reference for companies to build and maintain legitimacy (Suchman 1995). Corporate social responsibility (CSR) is one of the strategies companies must carry out to maintain the company's legitimacy (Kumar & Das 2007).

According to the view of legitimacy theory, CSR is a strategy that is in line in maintaining social norms and values between stakeholders and the company (Garay & Font 2012). Legitimacy theory views CSR as an effort and strategy to gain acceptance from stakeholder relationships (Campbell 1997; Kaplan & Ruland 1991). Stakeholder theory views CSR as a consequence of the company's nexus of contract with stakeholders (Freeman *et al.* 2010). Companies in business activities must maintain communication and relationships with their stakeholders (Benn & Bolton 2011). Good relations with stakeholders will create stable conditions in business operations (Carroll & Sabana 2010; Park *et al.* 2014). These two theories are the basis of research by researchers, linking CSR, financial performance, firm value, and interactions with key stakeholders.

Financial Performance and Company Value

Company performance is one indicator of management's success in managing the company (Akisik & Gal 2014; Gray 2010). Another performance projection is a company value, namely market value reflected in stock prices, where companies with high share prices will also reflect the company's value to be high (Eccles *et al.* 2012; Servaes & Tamayo 2013). Both projections are a representation of the company's main objectives. To achieve this, companies must be able to balance economic, social, and environmental aspects (sustainability development) through CSR activities (Akisik 2017; Mozes *et al.* 2011). The company's condition is divided into two, namely superior conditions and inferior conditions. Superior conditions are conditions when a company can demonstrate competitive strength in business, characterized by a performance that shows persistent numbers (Freeman *et al.* 2010; Porter 1990), While the inferior condition is a condition when the company loses strategic steps in conducting business innovation (Choi & Wang 2009). This condition must be immediately restored by regaining the company's good reputation, which aims to gain sympathy from stakeholders (Chaudri 2014; Robert & Dowling 2002). CSR is a strategic step for companies to gain and maintain stakeholder support, especially the main stakeholders, namely employees and customers.

Some of the issues described earlier show the position of increasingly superior stakeholders. The intended stakeholders are not only investors and creditors, but more than that, including employees, customers, NGOs, the community, the government, and other layers of individuals or groups. When viewed from the perspective of credible CSR report communication, it contributes more to creating social commitment, a positive image, and the report's halo effect (Chaudri 2014). GRI reviews the company's CSR reports to ensure the credibility of CSR reports and disclosures (GRI 2019). Akisik's study (2017) found that third-party CSR reviews can strengthen the credibility of CSR reports which will later affect company performance. Credible CSR can be reviewed by independent and competent reviewers so that the information reported is relevant between implementation and disclosure. CSR disclosure will also cause psychological effects for users, namely the halo effect (Madden *et al.* 2012; Mawardi *et al.* 2019). This effect arises from the approach of semantic communication theory, which assumes that reports are only symbolic. This means the report does not reflect the actual situation between implementation and disclosure. So that the recipient will feel the halo effect on the information obtained. The report's readers (stakeholders) can receive the halo effect when they only examine the company's CSR information raw without knowing the truth of the implementation that occurs. This becomes difficult because not all stakeholders can see or feel the implementation due to limited information, distance, and other factors. Researchers use third-party CSR reviews as a solution to information users' limitations, so the hope is that the information is credible and free from the halo effect.

2.2 *Halo effect: Corporate Social Responsibility (CSR) in Indonesia*

CSR is an initiative carried out by companies to balance the three dimensions of business activities, namely economic, social, and environmental (Akisik 2017; Carroll 1991; Habek &

Wolniak 2015; Mozes *et al.* 2011). One of the mechanisms to communicate CSR activities to stakeholders is to carry out disclosure activities (Benn & Bolton 2011; Carroll & Shabana 2010; Park & Brorson 2005; Windolph *et al.* 2014). In Indonesia, CSR disclosure is still in the development stage. Companies in Indonesia generally disclose their CSR activities voluntarily in the company's annual report. Some companies disclose their activities separately from the annual report, namely the sustainability report. This is proven based on *The Center for Governance Institutions and Organizations (CGIO)*. The disclosure of corporate CSR reports in Indonesia is below Thailand and Singapore, with a disclosure value 48.4. Until 2019, 67 companies in Indonesia published CSR reports separately in the form of sustainability reports.

CSR reporting using reviews is the most credible reporting practice. The CSR reports reviewed have more value in the relevance of the information for stakeholder decision-making. Third-party reviews of CSR reports are carried out by independent parties who are not affiliated with the company so that the results of these reviews are in accordance with the actual situation. The independent party is chosen by the global reporting initiative (GRI) organization that is competent in the field of CSR. In Indonesia, only around 15 companies use third-party reviews selected by GRI. Credible CSR will create a social commitment, positive image, or halo effect in the eyes of stakeholders (Chaudhri 2014). CSR disclosure will also cause a halo effect (Madden *et al.* 2012; Walker 2016). The halo effect is caused by CSR reports that are only symbolic. This halo effect will be felt by users of CSR reports, such as stakeholders, employees, and customers who judge CSR reports too early and generalize the entire situation of the company without any evidence of the relevance of the information to activities. CSR reports should contain substantive elements that show the company's commitment to social and environmental (Hong & Andersen 2011).

2.3 *Stakeholder roles: Customers, employees, and investors*

Stakeholders are parties in the company's business environment, both those who have a direct role and those who do not have a direct role (Campbell 1997; Freeman *et al.* 2010). Maignan & Ferrell (2005) found that some stakeholder groups have more attention looking at social responsibility activities and directly influence the company's business operations, namely stakeholder groups of employees, customers, and investors. This group has their respective layers in their role in influencing the company. Employee and customer stakeholder groups play a role in influencing the company in the short term, while stakeholder investors have a role in influencing the company in the long term. Customers are more willing to support the products and operations of socially responsible companies than companies that are not (Bigger & Selame 1992; Brown & Dacin 1997; Web *et al.* 2008). Employees and prospective employees choose companies aware of their social responsibility (Montgomery & Ramus 2003) because the company will create a good and stable work climate (Backhaus *et al.* 2002; Bauman & Skitka 2012; Kinney 2000). Investors are central in funding the company by buying shares and improving market sentiment. Investors also feel they own the company, so it is possible to support the company in both an inferior and superior position. This support can be based on the company's social and environmental commitments. The current business paradigm allows modern-thinking investors to support companies in creating the concept of sustainability development, because the company will create a good and stable work climate (Backhaus *et al.* 2002; Bauman & Skitka 2012; Kinney 2000).

2.4 *CSR disclosure and assurance*

One of the mechanisms to communicate CSR activities to stakeholders is to carry out disclosure activities (Benn & Bolton 2011; Carroll & Shabana 2010; Park and Brorson 2005; Windolph *et al.* 2014). The purpose of CSR disclosure is to gain legitimacy in the form of

support from stakeholders (Mozes *et al.* 2011; Murphy 2005). To increase this support, it is necessary to have credible and relevant reports in accordance with stakeholders' wishes. Michellon *et al.* (2015) stated that three CSR reporting practices are useful for increasing credibility, namely stand-alone (separate reports), assurance (external party reviews), and reporting guidelines issued by the global reporting initiative (GRI).

3 METHODOLOGY

3.1 Sample and data

The population in this study were all companies listed on the IDX in 2016–2020. This selection was based on the lack of CSR disclosure based on the global reporting initiative (GRI) guidelines for companies in Indonesia. The sampling method used purposive sampling with the following criteria (Sekaran & Bougie 2013; 252):

Table 1. Research sample.

No	Sample Criteria	Amount
1	Companies listed on the IDX	556
2	Companies that do not have complete data related to CSR (Global reporting initiative), financial performance, company value, and CSR assurance	(501)
	Total sample used	55
	Total observations for 5 Years	275

The type of data used is secondary data in the form of reports *Annual report* sourced from the IDX website (www.idx.co.id) and a sustainability report sourced from the GRI website (www.globalreportinginitiative.com).

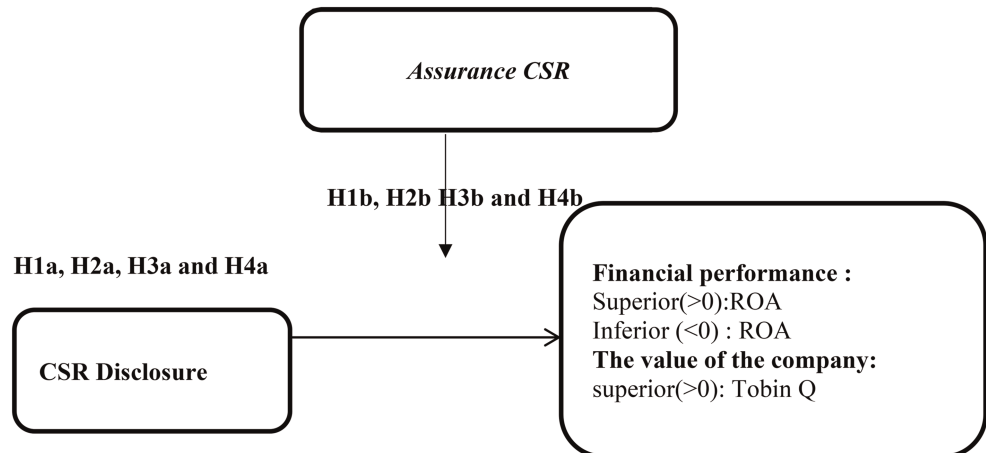


Figure 1. Research model.

3.2 Measurement

Dependent variables in this study use financial performance and firm value. Financial performance is measured using ROA, namely total profit/total assets (Akisik 2017) and firm value using Tobin's Q, namely {Close pricing x Number of shares) + liabilities + Inventory}}

– Current Asset/Total Asset (Servaes & Tamayo 2013). Following Akisik (2017) this study uses two subsamples, namely companies in an inferior (>0) and superior (<0) position.

Independent variable. In this study, CSR was measured using the GRI G4 Index consisting of 91 items. The moderating variable in this study uses third-party reviews, namely the dummy variable 1 if the CSR report uses reviews and 0 if it does not (Akisik & Gal 2014). The control variable uses the current ratio (current assets/current liabilities), debt ratio (total debt/total assets), efficiency (cost of goods sold/sales), and intensity (total assets/total employees) (Akisik 2017; Lu *et al.* 2013).

3.3 Regression model

This study uses moderated regression analysis (MRA) and the classical assumption test as the model fixation. The analytical tool used is e-views 10, with the best model requirements for panel data. In testing the hypothesis, this study uses an autoregressive model (Akisik 2017; Choi & Wang 2009). The regression equation (econometrics) used is divided into four models as follows:

Model 1: (Superior)

$$ROA = b_1X + b_2 Z1 + b_3 X*Z1 + b_5 DAR + b_6 CR + b_7 EFF + b_8 CIT + e$$

Model 2: (Inferior)

$$ROA = b_1 X + b_2 Z1 + b_3 X*Z1 + b_5 DAR + b_6 CR + b_7 EFF + b_8 CIT + e$$

Model 3: (Superior)

$$\text{Tobin's Q} = b_1 X + b_2 Z1 + b_3 X*Z1 + b_5 DAR + b_6 CR + b_7 EFF + b_8 CIT + e$$

Model 4: (Inferior)

$$\text{Tobin's Q} = b_1 X + b_2 Z1 + b_3 X*Z1 + b_5 DAR + b_6 CR + b_7 EFF + b_8 CIT + e$$

Information:

Y : Financial Performance (ROA) & Firm
Value (Tobin's Q) : CSR Disclosure

X

Z1 : Assurance/CSR 3rd party reviews
DAR : debt ratio
CR : Current ratio
EFF : Efficiency
CIT : City
e : error

4 RESULT AND DISCUSSION

4.1 Descriptive statistics

The statistical data descriptively presents the basic data analysis: the min, max, mean, and standard deviation values. Table 2 shows data from all research variables. CSR disclosure has a minimum value of 0.122 and a maximum value of 1, indicating the lowest value of disclosure in this study is 12%, and the maximum value is 100%. It is clarified by the Mean value of 63%, which means that the average SR disclosure in this study for 8 years has a high average of above 50%. The standard deviation is normally distributed with the mean value higher than the standard deviation.

CSR Assurance has a minimum value of 0 and a maximum of 1, using a dummy nominal scale. The mean value is 0.325, indicating that CSR assurance is still not high in Indonesia. The standard deviation is normally distributed with the mean value higher than the standard deviation.

ROA is divided into two, superior and inferior, each with a minimum value of 0.002 and -0.098 and a maximum value of 0.288 and -0.001. The mean values are 0.039 and -0.016, respectively, which indicate that the superior ROA is still below 5% and the inferior is still high.

Tobin's Q is divided into two, superior and inferior, each with a minimum value of 0.005 and 0.039, and a maximum value of 4.425 and 2.701. The mean values are 1.198 and 0.876, respectively, which indicate that the Tobin's Q value is superior, and that the firm's value is in a good phase/stage of its investment activity. But not with an inferior value; this is said to be reasonable because the company is in a state of under-performance.

Table 2. Descriptive statistical results.

Variable		M	SD	Min	Max
CSR (Disclosure)	CSR (Assurance)	0.635	0.335	0.122	1
		0.325	0.278	0	1
ROA	Inferior	-0.016	0.023	-0.098	-0.001
	Superior	0.039	0.019	0.002	0.288
Tobin's Q	Inferior	0.876	0.351	0.039	2,701
	Superior	1.198	0.790	0.005	4.425
CIT		21,246	1.616	10,446	24.31
CR		124,741	72,337	8,781	523.0
DAR		2,451	10,673	0.112	78.29
EFF		0.832	0.201	0.214	1,283

In the classical assumption, the multicollinearity value is less than 10, so the variables used in this study are free from collinearity problems. Likewise, for the value of heteroscedasticity with the White test in the panel regression model, the Prob Chi-square (Obs*R-squared) value is more than 0.05 so that there is no heteroscedasticity problem in the inferior or superior positions.

Table 3. Multicollinearity test results.

Variable	Coefficient Variance (Superior)	Coefficient Variance (Inferior)
X_CSR	2.293657	1.565889
Z_Assurance CSR	1.961879	1.775244
C_DAR	1.876553	2.991021
C_CR	1.323233	1.177639
C_EFF	1.875221	1.561708
C_CIT	1.288604	2.566221

Table 4. Heteroscedasticity test results.

Variable	Obs*R-squared	Prob. Chi-Square (34)
(Superior) ROA	70.37765	0.2245
Tobin's Q	76.44627	0.1654
(Inferior) ROA	41.45387	0.2298
Tobin's Q	32.56278	0.7721

4.2 Regression results

Analysis using regression *moderated regression analysis* (MRA) using panel data. Table 5 shows the regression results of the effect of CSR disclosure on company performance and value moderated by CSR Assurance. This research is divided into four main hypotheses, each of two sub-hypotheses. The relationship between CSR disclosure and superior ROA shows a significance of 0.002 (Superior) with a positive coefficient values of 0.131 and 0.043.

Regression analysis in this study uses *moderated regression analysis* (MRA) using panel data. Table 5 shows the regression results of the dependent variables ROA and Tobin's Q,

including the independent variable CSR and their interactions with employees and sales. *R-square* in this study showed a value of 15.70% (ROA) and 32.3% (Tobin's Q) in the superior subsample, while for the inferior subsample; the values were 67.2% (ROA) and 46.8% (Tobin's Q). To facilitate the discussion scheme for each regression result (see Figure 1), this study is divided into eight hypotheses which are grouped into four parts, namely hypothesis H1 (sub; a, b) in a superior position (ROA), H2 (sub; a, b) in an inferior position (ROA), H3 (sub; a,b) in a superior position (Tobin's Q) and H4 (sub; a,b) in an inferior position (Tobin's Q). Sub-hypothesis 'a' shows the effect (CSR), sub hypothesis 'b' shows the interaction of CSR Disclosure with assurance (CSR*assurance).

Table 5. Regression results.

Independent Variable	ROA		Tobin's Q	
	Superior	Inferior	Superior	Inferior
CSR (Disclosure) (X)	0.131*** (0.012)	-0.150** (0.024)	0.253** (0.031)	0.276** (0.040)
CSR (Assurance) (Z1)	0.451** (0.049)	-0.014 (0.451)	0.182** (0.051)	-0.384** (0.047)
CSR*Assurance (X*Z1)	0.705** (0.003)	0.044 (0.448)	0.423*** (0.001)	-0.455** (0.032)
DAR	-8.35×10^{-5} (0.392)	0.021** (0.026)	-0.001 (0.705)	0.371* (0.071)
CR	-4.45×10^{-5} ** (0.039)	9.98×10^{-5} ** (0.022)	0.001 (0.183)	-0.001 (0.132)
EFF	0.0004 (0.967)	-0.005 (0.627)	-0.564* (0.082)	0.036 (0.874)
CIT	-0.002 (0.117)	-0.001 (0.540)	-0.121** (0.015)	-0.013 (0.594)
R-square	20.3%	72.5%	36.0%	55.3%
Adjusted R-square	15.70%	67.2%	32.3%	46.8%

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The results show that CSR disclosure positively affects financial performance (ROA) in a superior company position and negatively affects company performance in an inferior one. Shown by the positive coefficient (superior) of 0.131 and a significance of 0.002 and a negative coefficient (inferior) of -0.150 and a significance of 0.042 (H1a and H2a are accepted). Supports the stakeholder theory, which states that the company's value cannot be separated from the support of its stakeholders, including the community, investors, creditors, government, consumers, and others (Akisik & Gal 2014). Improved financial performance, both in a superior (profit) and inferior (loss) position cannot be separated from the support of its stakeholders, so companies need to give a signal of concern, one of which is through a social responsibility mechanism (CSR) which is reflected in CSR disclosure. PT Indofood and BRI are examples of companies in a consistently superior position over CSR, both in terms of implementation, from disclosure to sustainability awards, for several years. Community legitimacy also plays an important role in supporting the company's contestation with business rivals to improve the company's financial performance. For well-legitimized companies, getting stakeholder support is easy, both in terms of implementation and the aspect of disclosure to the sustainability award for several years in a row.

It is also inseparable from companies that are in an inferior position need stakeholder support, even though the company's economic decisions (costs) are very heavy to carry out social responsibility, but the concept that is believed by the company is long-term or sustainable. PT Petrosea, Holcim, and Antam, which in recent years have experienced an inferior position, decided to continue implementing the CSR mechanism and its disclosures. The result in a few years after the company has risen to a superior position. The concept used

is to improve the company's reputation and stakeholder skepticism towards the company, starting from the social, economic, and environmental aspects (Akisik & Gal 2014; Choi & Wang 2019). Stakeholders currently need this kind of concept because the current business paradigm shift prioritizes short-term advantages and the long-term. The inferior position does not make the company give a red flag. Still, it becomes the company's motivation that long-term operational and business improvements will be reflected in the inferior empirical performance (Choi & Wang 2019; Cooper & Owen 2007; Freeman *et al.* 2010).

CSR disclosure is also proven to increase firm value (Tobin's Q) based on the statistical results of a coefficient of 0.253 at a significance of 0.031 (superior) and a negative coefficient of -0.276 at a significance of 0.040 (inferior) (H2a and H4a are accepted). This long-term effect occurs when companies carry out a systematic and sustainable CSR mechanism. These sustainable stakeholders include investors and creditors. These stakeholders believe that when a company discloses CSR consistently and credibly, it is demonstrating its sustainability development implementation. This long-term support lies in the capacity of investors, such as buying and maintaining company shares, which lacks stock market dynamics. These results also support stakeholder theory on the company's decision to seek stakeholder support through a consistent and credible CSR mechanism. In addition to stakeholder investors, support can also be through customers who consistently purchase company products/services to increase the company's value (Akisik 2017; Servaes & Tamayo 2013). These two stakeholder supports synergize with each other. This rationalization of customer support will create the company's sales value that continues to increase, and is captured by investors as one of the factors of the company's success from the point of view of customer satisfaction with the company's products (Brown & Dacin 1997; Coors & Winegarden 2005; Dhaliwal *et al.* 2012; Smith & Bower 2012).

PT BRI, Antam, Mandiri, Semen Indonesia, Indofood This is evidence that high company values follow companies with high disclosure as reflected in Tobin's Q in recent years, and their value is increasing. This correlation aligns with the concept of sustainability development, which can increase the company's value through stakeholder support for the product and its short-term value (sales, customer satisfaction, profit, and others). The concept of strengthening the quality of CSR in terms of implementation and disclosure is also very much needed, because stakeholders are currently also divided into two groups, namely stakeholders who tend to be naive and stakeholders who tend to be rational. Naive investors only view CSR from a superficial perspective, so it can lead to inconsistencies in sustainably supporting the company. The consequence is the dynamics of support, which is sometimes high, sometimes down, and tends to be inconsistent. This dynamic can also be strengthened in the psychological realm of stakeholders, called the stakeholder halo effect (Elliot *et al.* 2015). This effect tends to the behavior of stakeholders who only follow other stakeholders without requiring information according to a systematic method. This makes the relationship between CSR and company performance and value biased.

A group of investors, namely rational investors, are conservative on CSR information provided by the company, so it tends to be consistent. However, a strong system or affiliation related to CSR credibility must facilitate this investor conservatism. CSR reviews by independent parties are the right strategy to increase CSR credibility, including avoiding or minimizing naive investors' affiliation. Hypotheses H1b and H3b are accepted, evidenced by the statistical results of the regression coefficient of 0.705 with a significance of 0.003 (ROA) and 0.423 with a significance of 0.001 (Tobin's Q) in superior companies, which were successfully moderated by a third party review. Reviews are an important factor in strengthening the credibility of CSR, the existence contingency theory states that a CSR review can strengthen the influence of CSR on the performance (ROA) of superior companies. PT Bri, Semen Indonesia has a competent CSR review, so it shows credibility in its CSR disclosures.

With CSR assurance, CSR disclosure will be more credible. This credibility will provide a positive signal for all levels of stakeholders. Customers and employees who are direct stakeholders will catch a signal of the company's positive commitment to CSR, which is considered sustainable development (Green & Peloza 2011; Waddock & Graves 1997). The role

of these stakeholders can be in the form of interest in purchasing company products by customers, as well as increasing work commitment and motivation for company employees. Customers also assume that the company's products will be safe because it implements CSR with the assumption that its green products are also high (Benn & Bolton 2011; Freeman *et al.* 2010). This role will increase company sales, improving the company's short-term performance (profitability). Furthermore, increasing the company's performance in a superior position will be a stimulus for other stakeholders, namely investors who will support the company by purchasing shares at high prices and tend to be in large quantities. (Homburg & Hoyer 2005; Porter 1990). This will lead to positive market sentiment so that the stock price will be high and affect the company's value. Investors assume that the company has a high commitment to sustainability, so the risk of going bankrupt is getting smaller. Investors also feel that the company commits to environmental and social care to ensure that the products produced do not damage the existing social and environmental structure, thereby increasing their profit of economics.

In inferior companies, there is no moderating effect, so the H2b hypothesis is rejected with a regression coefficient value of -0.014 with a significance of 0.448 (ROA) Inferior. This is because many companies that are in an inferior state do not conduct CSR reviews because the costs may be high. In addition, the minimal implementation of CSR allows the results of the review to be not as expected, so according to the cost-benefit analysis, according to the company, it is too far. For example, PT X does not use a CSR review. At the same time, the value of low CSR disclosure with the effect of inconsistent performance will give rise to anomaly signals for stakeholders, especially direct stakeholders such as customers and employees. They assume that the company's inconsistency in making commitments is minimal (Galbreath 2010). This role will affect short-term financial performance, namely sales or profitability.

However, there is also evidence that when examined from a long-term perspective, CSR disclosure moderated by CSR Assurance can return an inferior company's position to a superior position (Hypothesis H4b is accepted with a coefficient value of -0.455 and a significance of 0.032). It is possible that other stakeholders, namely investors, think that the company can still develop even though its CSR commitment is low or tends to be inconsistent. The driving factor is that investors are part of the company, so it is necessary to restore the company's position to be good; the second factor is because the company's potential is still high in developing its business line (Walker 2016). At least the company is still committed to maintaining that environmental and social concerns guide its products and business operations. This has become a stimulus for investors to play an active role in helping companies by providing more funds to companies through market mechanisms (Gond *et al.* 2010). This role will affect the value of the company's shares which will be reflected in the increase in company value (Jamali *et al.* 2015).

At the end of the discussion, the results of this study become a reference for the presence or absence of a halo effect on CSR reports that occur in all levels of stakeholders, namely employees, customers, and investors. The halo effect is the effect stakeholders feel when they see the initial appearance of the company's CSR. Stakeholders will judge a good impression at the beginning, regardless of the relevance factor of the actual CSR information. This halo effect arises from the personal psychological assessment of rushed stakeholders. The halo effect arises when CSR does not become a relevant value for stakeholders because it is only symbolic (Madden *et al.* 2012; Walker 2016). The halo effect can be overcome by credible CSR reports, namely by third-party reviews (Akisik & Gal 2014; Michelon 2013). This was also expressed by the global reporting initiative (GRI), which stated that third-party reviews provide several advantages, namely increasing the credibility of information and maintaining the relevance of information between companies and their stakeholders. From these results, the halo effect is more intensive in the direct stakeholder group, namely customers and employees in an inferior position. Allows alliances formed by stakeholders to broadly find the irrelevance between CSR activities and disclosures that demonstrate social and environmental commitment (Akisik 2017; Habek & Wolniak 2016; Maignant 2005; Murphy 2005).

The halo effect is an important factor that must be considered in CSR schemes with financial performance and firm value. This effect is likely to occur when a company's CSR does not show a credible (symbolic) social and environmental commitment. The conclusion shows that indirect stakeholders, namely investors, further strengthen the relationship between CSR with financial performance and firm value, so the halo effect does not occur in this group. Other factors allow the company to be owned by investors so that when they have a high commitment, investors do not hesitate to support the company's steps to be better. On the contrary, direct stakeholder groups in an inferior position cannot strengthen the CSR relationship with company performance and value, so the halo effect is more directed at direct stakeholders. The halo effect is a serious consideration in CSR disclosure because it relates to stakeholder groups that require personal psychological relationships (Mawardi 2022). CSR disclosure is addressed to stakeholders broadly, including internal and external stakeholders. Paying attention to the halo effect will make it easier for companies to analyze strategies in CSR to improve performance. Likewise, for stakeholders, the halo effect can be a reference that currently, the existing CSR phenomenon is purely a substantial company commitment or only for a company symbol.

4.3 *Research limitations*

This research is limited by the lack of companies in Indonesia that use the GRI guidelines. Companies in Indonesia are also not required to conduct third-party reviews of their CSR activities, thereby narrowing the research sample. Future research is expected to expand the research analysis in line with the number of companies that use the same guidelines regarding the information on CSR activities in GRI format.

5 CONCLUSION

This study empirically analyzes the effect of CSR disclosure on firm value by considering the reviews conducted by third parties on CSR. The results show that CSR assurance moderates the relationship between CSR disclosure on financial performance and firm value in superior and inferior positions, but not on financial performance in inferior positions. More deeply, this study finds a strong effect of stakeholder investors in Indonesia on increasing financial performance and firm value in superior and inferior positions influenced by third-party CSR reviews. Stakeholder investors give more appreciation in the form of support for companies that carry out social and environmental commitments; another factor is that companies are also part of investor ownership. Investor support includes additional funds, higher product awards, and a good stigma towards the company. As for direct stakeholders such as customers and employees, this study contributes to the literature on the relationship of CSR disclosure with company performance and value supported by CSR assurance. For companies, this research is a reference for companies to be more intense in carrying out CSR commitments, including increasing CSR credibility assurance, so that it is not carried out symbolically because it will create a halo effect on its users. The results of this study can also be used as a reference for the follow-up of the psychological effects faced by users of CSR reports.

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Fundamentals of peace education: Civic education and peacebuilding in Bangsamoro Autonomous Region in Muslim Mindanao (BARMM)

E. Ian Nasser

De La Salle University, Manila, Filiphina

Berowa, MPA

Mindanao State University, Filiphina

ABSTRACT: This study aims to describe the peacebuilding effort of educators in the BARMM. It also contributes to the identified research gap between civic education and peacebuilding. First, using a constructivist framework, the study found that teachers see themselves as mere conduits of knowledge, constructing themselves as merely building the structural foundations of peace and teaching ways to sustain it without actually dismantling the conditions that disable it. Second, the research found that the course on fundamentals of peace form part of civic education through the provision of civic competence; and that civic education is vital to peacebuilding. Finally, the translation of civic knowledge to a culture of peace is manifested through various actions denouncing violence as an approach to conflict situations, generally preferring rationally sound nonviolent approaches. Hence, establishing a culture of peace must first be constructed via shared meanings and constructions, where the rationality of active agents is required.

Keywords: Constructivist framework, civic education, peacebuilding, culture of peace

1 INTRODUCTION

The basic working knowledge of one's rights and the familiarity with the institutions of government, as well as an understanding of the processes involved in the making of policy choices, forms the basis of civic knowledge. It has long been argued that "basic civic knowledge is central to democratic citizenship" (Galston 2004), hence the centrality of school-based civic education in honing civic attitudes and knowledge. This knowledge allows individuals to actively participate in their communities, as well as the state, in terms of addressing local and national social issues and problems that affect everyday life, including issues of security and peace.

Civic education has been defined as "the science of politics" (Farr 2002), as "concerned with the formation of individuals who can effectively conduct their lives, within, and support, their political community" (Downs 2012), and as "the cultivation of civic virtue" (Callan 2015). However, re-echoing Galston (2004), accordingly, the academic community is not "obliged to agree on a single conception of civic education" (Westheimer 2004). Nonetheless, despite the variations in its conceptions, in reality, it has a common goal of educating the *good citizen*. A citizenry responsive to critical issues, making deliberate and informed choices, to participate in civic engagement in light of their duty and obligation to the state.

Civic education equips us with political knowledge, arming good citizens for political participation and civic engagement, which includes participating in the political process – inclusive of the process of building peace. Accordingly, civic education is taught at an early

age in schools, usually in primary and secondary schools (Djerasimovic 2018), but “the youth who took civics courses during high school were more involved in civic and political activities, suggesting that the mere presence of civic education has a positive association with civic engagement” (Hope & Jagers 2014). Civic education equips the young with political knowledge. This political knowledge supposedly enables a better understanding of the democratic process, empowering citizens to participate actively in the process (Pospieszna & Galus 2020).

However, what is expected in theory may not necessarily be translated into real-life situations, as in the case of peace in Mindanao. The Zamboanga siege of 2013 and the Marawi siege of 2017 were painful reminders that conditions of peace are volatile and impermanent. As a result of this brutal carnage, the Mindanao State University stepped up to the challenge of being an instrument of peace and development in the Mindanao-Sulu-Palawan (MINSUPALA) region through the development of a three-unit course offered in all undergraduate programs in the University System. The Fundamentals of Peace, otherwise also known as FPE 101, is a required basic course taught in all degrees that “intends to produce students who can be agents of positive change and builders of a culture of peace” (FPE 101 Syllabus, n.d.). This course, approved through the University System’s Board of Regents Resolution (BOR) No. 365, especially in the context of the main campus in Marawi City, is lodged in the Department of Political Studies tasked to coordinate the offering of the subject within the University. This subject, along with the course on politics and governance – (now offered in the Senior High School Program by virtue of R.A. 10533) as a specialized subject under the Humanities and Social Sciences (HUMSS) Track (Brillantes *et al.* 2019) – form part of the civic education function of the university, civic education as education for peace. Both courses are offered by the Department of Political Studies at the university, the former is taught by trained faculty and the latter is being exclusively taught by the faculty of the Department.

However, a quick survey of available recent literature reveals that only one research has linked civic education to peacebuilding; the sole work that establishes civic education as education for peace (Djerasimovic 2018). The author argues that civic education has much to share with peace education as it fosters peace-fostering citizenship through the global citizenship agenda (Djerasimovic 2018). This lone publication clearly indicates a research gap; hence, the present research endeavor.

2 REVIEW OF RELATED LITERATURE

This section presents a review of related literature on the subject of the present research.

A quick survey of the existing literature on civic education informs us that: civic education taking place in traditional classrooms significantly raises political knowledge (Galston 2001); civic education has substantively significant effects on local-level participation (Finkel 2002); that civic education significantly affects the following variables – political knowledge, political participation, political tolerance, and the national versus tribal identification (Finkel & Smith 2011); and civic education is positively related to civic engagement (Hope & Jagers 2014). These studies link civic education to political knowledge that translates to political participation and civic engagement, the latter being defined as “any activity, individual or collective, devoted to influencing the collective life of the polity, which includes such activities as participating in the political process, performing public service, and working with various voluntary and community groups” (Downs 2012).

Civic Education. Galston (2001) argues that all forms of education are civic education. He contends that a person’s level of general education has an effect on their level of political knowledge and the quantity and nature of their political participation. This means that the higher the level of education of an individual, the more informed they are, and thus the greater ability to exercise their duties effectively as informed good citizens. Political

knowledge through civic education does not just promote political participation but also ensures support for democratic values among its civically educated citizenry. The idea is that through political knowledge via civic education, citizens would be encouraged to engage in political matters that affect them. Accordingly, education, when properly conducted, could increase political engagement (Galston 2001). This is further elaborated by the argument that citizens who are highly educated are more likely to pay attention to issues of politics, are more inclined to vote, and with a greater likelihood to be involved in community associations (Larreguy & Marshall 2017).

In another research, the author directly links civic education and political participation, strongly positing that the more knowledge the citizens have, the greater the likelihood of their participation in civic and political affairs (Galston 2004). He summarizes this by saying that civic education tends to increase political knowledge among the youth; and that participation in political activities is highly associated with education, among other factors; hence, the traditional and formal classroom settings of civic education provide potent means of teaching civic knowledge. Accordingly, civic knowledge is a significant determinant of civic capability and character (Galston 2007). This then makes civic education inconsistent with neutrality (Callan 2015) because the expectation is that citizens armed with civic knowledge take it upon themselves as a virtue of moral agency to engage especially in political processes that establish just institutions and procedures. Callan (2015) further argues that the role of the state in civic education should, therefore, be on the development of particular (democratic) virtues.

Country studies of civic education. An investigation of the curriculum content of civic education in Singapore reveals that the focus is on the concept of harmony, social cohesion and mutual trust, and concludes that this should be the goal of civic education because democracies count on mutual trust and reciprocity (Ho 2017). Civic education is taught from primary to secondary levels in the form of social studies (SS) along with character and citizenship education (CCE). The Singaporean concept of harmony is of foundational significance because it requires the sacrifice of individuality and personal liberties over the greater “common” good of society. The avoidance of conflict or situations of conflict, which would further create social divisiveness given Singapore’s multi-racial setting, is therefore paramount in their context. This is reflected in their academic curricula, albeit implicitly (Ho 2017), considering harmony as a civic virtue central to the identity of all Singaporean citizens.

This is quite different from the context of Lesotho, where civic education “falls within the parameters of adult education and lifelong learning” (Ngozwana 2017), offered as electoral and voter education. The research presents its analysis thematically. Note that in the first instance, there is no consistency in terms of the meaning of civic education in government manuals that were analyzed. In one document, civic education is defined as electoral education while on the other, as voter education; and in another civic education manual by an NGO, no definition was offered. Hence, the inconsistency as well as to when civic education (i.e. voter education) is instituted – only during the election period – or civic education (i.e., electoral education) provided to the electorate – at all times. The same inconsistency in terms of meaning also applies to other terminologies, such as democracy, its characteristics, and public participation, a concept relevant to the present endeavor. From one perspective, public participation means taking part in governance; while on the other, it means participating in issues affecting their lives through the formation of civil society movements and sectors to influence the government to address urgent matters. Nonetheless, despite these inconsistencies, both these conceptions constitute the present paper’s notion of political participation. For Ngozwana (2017), the contents of civic education courses should include issues on how political systems function and how citizens can influence policy decisions to effect positive change.

Another research focused on civic education for young people spanning across Eastern Europe, inclusive of Belarus, Moldova, Ukraine, and the Russian Federation (Pospieszna &

Galus 2020); they examined how civic education has affected the civic engagement and political participation of the youth. In their research, civic education is referred to as a type of democracy assistance/promotion, strategically targeting young people to educate and activate them via the initiatives taken by non-state actors. Their argument holds that civic education programs create civil spaces for civic skills and the development of civic-mindedness among already politically active youth, strengthening and empowering them. Among other findings, they found that NGOs are perceived as the primary drivers of promoting democracy because of their extensive networks locally and abroad, enabling them to support other civil society groups that espouse the promotion of democracy. In addition, the authors stressed that youth involvement in the political decision-making process is an excellent building block for their collective engagement in public affairs, as they become active adult citizens of the state. Moreover, they emphasize that participation should not be limited to political participation alone, but must also include active participation in civil society activities, community/town hall meetings, and/or political life (Pospieszna & Galus 2020). More importantly, though they observed that former youth participants in these democracy promotion programs are actively pursuing civic and political endeavors, they openly recognized that their methodology is lacking to be conclusive about this finding.

Civic education, political discussions, and democratic values in Kenya were the focus of another, albeit dated, study (Finkel & Smith 2011). This research informs us that civic education significantly affects each of these key independent variables: political knowledge, political participation, political tolerance; and national versus tribal affiliation. Hence, orientations that are relevant to democratic political culture are affected by civic education. The authors conclude that:

(1) Civic education, when taught with participatory teaching methodologies, does work, and may have a direct and immediate effect on fortifying democratic attitudes and raising political awareness among mature citizens in new democracies. (2) There is compelling evidence of widespread indirect effects of civic education training through post-workshop political discussions. (3) There are limitations to what a wide-ranging civic education can achieve in developing democratic societies, like Kenya.

Civic Education in Schools. The aims of civic education in 12 countries were the focus of a research by Reichert & Torney-Purta (2019), considering the civics teacher's beliefs about the aims of citizenship education from Europe to Asia. They found that there were three types of teachers: (1) those who teach with high regard for school participation and consensus building; (2) those who teach for sheer knowledge and community participation; and (3) those who teach to encourage independent thinking and tolerance for the beliefs of others; however, none of these groups believe that encouraging the political participation of students was among the top three aims of citizenship and civic education. Instead, they are more likely to suggest that students be active participants in their respective schools or localities. In addition, they found that teachers in Korea fall under the first group primarily due to the Confucian notion of governance emphasizing hierarchy and conformism; teachers of the second group come from Western European countries including Hong Kong – plus two post-Communist countries (Czech Republic and Poland) – primary attributing it years of foreign rule that citizenship education was not promoted focusing instead on moral education; and the third type of teachers most common in Nordic countries (plus England, Taiwan and the Czech Republic) attributing it to policies that put emphasis on the value of democratic participation, with Taiwan becoming more pluralist with its decentralized education system. Differences in teacher's beliefs are further associated with national contexts, and these beliefs have been found to have a bearing on decisions made about the contents of teaching and in-classroom practices (Reichert & Torney-Purta 2019).

Constructions of civic education of teachers in Hong Kong were also the subject of an earlier study (Wong *et al.* 2017) using mixed methods to examine the perceptions of teachers on the various conceptions of civic education expressed as moral, civic, and national education (MCNE). The study also investigated whether teachers could differentiate between

the concepts of moral education (ME), civic education (CE), national education (NE), moral and civic education (MCE), and moral and national education (MNE). The research reveals inconsistent results between methods. The quantitative strand found that the teachers were competent in differentiating among the concepts, preferring MCE over MNE, while the qualitative result showed that the teachers were unable to distinguish the difference. No explanation was offered for this predicament, except that it invites a puzzle for further study.

Nonetheless, schools can be an important context to prepare the youth to appreciate and understand the principles of democracy, as well as the processes that sustain it (Hope & Jagers 2014). Accordingly, the social studies curriculum is the fundamental means for schools to attain this socializing function. Results show that perceptions of institutional discrimination (among black youth in the United States) were positively correlated with civic engagement, this means that the (black) youth become active agents of civic engagement when they perceive acts of discrimination via the supposed democratic institutions. They also found that political efficacy and civic education have a positive correlation to civic engagement, entailing that confidence in one's abilities due to the possession of political knowledge leads to active civic engagement. Hence, the opposite is also true that the lack of civic education means a meaningfully significant reduction in civic engagement. It is further important to note that authors have mentioned in passing that civic engagement may have separate dimensions – civic and social engagement, formal political participation, and extra-parliamentary and activist engagement.

The question of how schools can fulfill their civic education function was the subject of earlier research (Youniss 2011). Accordingly, schools can choose the contents of civics courses and they may vary on the stress given to the cultivation of citizenship, ranging from a focus on rights, and government functions to a discussion of political issues. The study found that schools should focus on three strategies: (1) promotion of public deliberation and debate of vital issues; (2) provide quality extracurricular and student government activities; and (3) build on particular types of service that have proven to increase civic participation in and identification with one's community. Altogether, these activities provide objective knowledge of the history & government and stimulate students' active participation in governance processes as good citizens.

2.1 *Peace and peacebuilding*

Peacebuilding in itself has also been defined differently by various agencies based on their organization's mandate (Barnett *et al.* 2007), with two conceptions held relevant to the present study. One defines peacebuilding as "the medium- and long-term actions to address the factors underlying violent conflict" and the other, as "the establishment of stable state structures and the creation of the potential for peace within civil society, the media, cultural affairs, and education" – the UK's Department of International Development, and the German Federal Foreign Office, respectively (Barnett *et al.* 2007). For the purposes of the present study, we utilize these two conceptions together to allow us to adopt a definition of peacebuilding as "the actions that address the underlying causes of conflict along with the establishment of state structures and institutions that institutionalize the potential for peace of civil society organizations, the fourth estate, cultural affairs and, more importantly, education." Equipped with this definition, the combined conception allows us to link civic education to peacebuilding.

Peace defined. Peace is the condition when innovative conflict transformation occurs nonviolently (Galtung 1996). It is a process that requires a culture of peace as well as structures of peace to be in place to shape actors to pursue nonviolence and creativity in resolving situations of conflict. Accordingly, the key to peace "must take shape in people's minds as potential, even ideal realities (Galtung 1996), however, the ability to imagine is merely related to knowledge; meaning that the two are not identical." This means that the structural foundations of peace can be taught to institutionalize peace structures that

encourage a culture of peace, and this culture vice versa creates a solid foundation for peace to flourish.

Alternatively, peace is also seen as a condition for perception of everything else; a vision of a human and individual condition that is violence and terror-free (Webel & Galtung 2007). Here, nonviolence is not an option but a proactive stance to resolve differences using creative ways, either through the use of rituals (Zaros 2015) or indigenous approaches to peace (Adeogun & Muthuki 2017), among others.

Peacebuilding defined. Peacebuilding is defined as the “developmental and interactive activities, often facilitated by a third party, which are directed toward meeting the basic needs, de-escalating the hostility, and improving the relationship of parties engaged in protracted social conflict” (Fisher 1993). Accordingly, peacebuilding has two forms: the broad and the limited. The former refers to basal economic, political, and social development that cultivates equity, freedom, and justice among various groups of people, that includes activities of specialized agencies of the United Nations along with international aid and other political forces pushing for democratization. Here, peacebuilding is understood as external interventions that are intended to reduce the risk that a state will erupt into or return to war (Barnett *et al.* 2007). Nonetheless, the United Nations, along with the Bretton Woods institutions, have been considered as a major obstacle to peacebuilding itself (de Soto & del Castillo 2016). The latter form, on the other hand, refers to all forms of citizen intercourse that focuses on an expanded understanding and functional cooperation between various groups or states that are mired in cataclysmic conflict (Fisher 1993).

The Philippine peace process. For material space, a historical account of the peace process is not included in this section, but rather includes literature of immense significance to the Philippine peace process.

An imminent scholar of the peace process in Mindanao once said that “the Philippines is now in the same league as many countries (including many European countries) seriously addressing the problems of their cultural minority communities through territorial autonomy” given the passage of the Bangsamoro Organic Law. He stresses that the BOL “provides an optimal cure for (the) flawed or weak regional autonomy formula produced by past peace processes” (Muslim 2019). This flaw was clearly brought to light with the savage 2013 attack of Zamboanga City by the disgruntled followers of Nur Misuari’s faction of the Moro National Liberation Front (MNLF), when the national government decided to “talk peace” with Hashim Salamat’s breakaway faction, the Moro Islamic Liberation Front (MILF). This culminated in the establishment of a parliamentary regional government, now called the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) with its seat of power in Cotabato City. Al Haj Murad Ebrahim of the MILF is its first Chief Minister.

In his dissertation for the University of Hawaii, republished as a book 20 years after its first publication in 1990, he categorizes the Moro struggle as having both historical and contemporary causes, with only one nonviolent solution: autonomy with compensatory justice (Muslim 2017). Historical causes need not even be mentioned as they have been often specified in the annals of the Muslim struggle in the Philippines, but contemporary causes now include the threat of extremism and fundamentalism, as the *Daesh* inspired ISIS-Maute terrorist group laid waste to Marawi City in 2017, destroying the only Islamic city in the country, permanently displacing thousands, including the author of this present research endeavor. Grapevine information, however, still echoes of terrorist cells lurking within local communities within the region currently suffering from abject poverty.

However, with Muslim’s (2017) autonomy alternative, peace may well be within our reach. Accordingly, genuine autonomy comes with (1) sincerity on the part of the government to grant autonomy to the Bangsamoro with an adequate degree of trust; (2) that efforts to determine Bangsamoro autonomy must be historically informed requiring the acknowledgment that they have been victims of decades of neglect and discrimination; (3) de-institutionalization of the politics of census, the dichotomization of the majority versus the minority in terms of enjoyment of civil liberties and political and economic rights by the

citizens of the state; (4) inclusion of the *mujahideens* (freedom fighters) to actively participate in all efforts to settle the Mindanao conflict.

(5) the need to use the Tripoli Agreement as a framework for the conceptualization of the kind of autonomy to be established in Muslim Mindanao; (6) the inclusion of the Organization of Islamic Conference (OIC) as a security mechanism; (7) the assurance that the autonomy granted allows some form of self-rule or self-determination; and (8) compensatory justice – the established regional government must have the capability to correct or make up for the injustices of the past (Muslim 2017). Moreover, the author stresses that autonomy is an appropriate solution to the Moro problem, not just because of its acceptability to the greater majority of Moros, including *mujahideens*, but also because of its logical compatibility with the archipelagic nature and the diverse composition of the country.

Herbolzheimer (2015) refers to the peace process “as necessarily more inclusive than mere peace negotiations” where women and civil society played both outstanding and fundamental roles. The paper highlights the centrality of historical experience as well as its implications for the Bangsamoro peace process, but its striking point that is relevant to the present enterprise is the acknowledgment that the process itself would not have been possible without engaging the armed actors in inter-religious dialogues and other inclusive civil society initiatives on the ground. Participation in these activities of actors from either side of the fence inculcates political engagement through peaceful dialogue and cooperation.

Participation of International Non-Governmental Organizations (INGOs) in the peace process was also the subject of a policy brief for the United States Institute of Peace (USIP). Hoffman (2011) argues that the impact of INGOs in the peace process through their involvement in the International Contact Group (ICG) is substantial, as they provide information that is not beholden to either party of the peace process. The embedded nature of the INGOs through their local civil society partners allows for a consultative process of hearing out the conflict-affected communities, thus allowing critical engagement with those affected on the ground. The information gathered in those consultative assemblies allows civil society actors to engage formally in the peace process through tripartite peace negotiations involving the government, the Moro Islamic Liberation Front (MILF), and the INGOs.

The Research Questions

This paper endeavors to address the following research questions:

1. How do teachers see their roles as facilitators of knowledge on peace?
2. How does the Fundamentals of Peace Education 101 subject form part of civic education as a component of peacebuilding? And how does the course provide civic competence through civic knowledge?
3. How will peace education translate to a culture of peace?

2.2 Framework of analysis

Constructivism (also known as interpretivism) is an epistemological position of reality with anti-foundationalist ontology; this approach to understanding political phenomena privileges a qualitative methodology. An anti-foundationalist position holds that the world is discursively constructed, denying the existence of objective truth. Its epistemology focuses on the meaning of behavior, emphasizing understanding (adequacy on the level of meaning) rather than explanation (adequacy on a causal level). Furlong & Marsh (2010) claim that despite a variety of constructivisms, following common features: (1) constructions are ontological elements of reality; (2) reality is not discovered, it is actively constructed; and (3) since reality is socially constructed, social, political, and cultural processes shape views on it.

In Nicholas Onuf's (2013) *Making Sense, Making Worlds*, he posits that social relations construct people into the breed of species that they are. Their interaction is governed by *rules*, and active participants in the continuous interaction of people and society are called

agents. The rules give agents options, and agents only make choices bounded by other people's social constructions, practices, and/or artifacts. Subsequently, rules and kindred practices form an unvarying pattern called *institutions*, where these institutions require agents to act and conduct themselves rationally. In addition, any enduring pattern of rules, institutions, and non-deliberate outcomes results in a social *structure*. These structures define and delimit human agency, while conversely, the human agency further defines and redefines social structure; this means that structures affect agents as agents affect structures. These concepts are relevant to this research as it guides the analysis of the data gathered for the study.

Nonetheless, the central argument of constructivism is that the natural world is meaningless and indeterminate for human beings until we begin to socially construct some shared meanings about it (Parsons 2010). For constructivists, ideas, norms, and identities are social constructions. *Social construction* is a social process by which people construct themselves into those ideas and norms, and these social constructs define how we act. Hence, constructivism is a broad family of arguments built on the idea that people only decide to act on something due to their adoption of certain social constructs to construe or interpret their world (Parsons 2010).

Windschitl's (2002) constructivism in practice is crucial to the context of this research. The author discusses four frames of reference that describe teachers' dilemma from a phenomenological perspective. Windschitl's (2002) four frames of reference are the following:

Conceptual dilemmas are rooted in teachers' attempts to understand constructivism's philosophical, psychological, and epistemological underpinnings. *Pedagogical dilemmas* arise from more complex approaches to designing curricula and fashioning learning experiences that constructivism demands. *Cultural dilemmas* emerge between teachers and students during the radical reorientation of classroom roles and expectations necessary to accommodate the constructivist ethos. *Political dilemmas* are associated with resistance from various stakeholders in school communities when institutional norms are questioned, and routines of privilege and authority are disturbed (p. 132).

These descriptive models show a continuum of teacher's concerns ranging from the personal to the intellectual, to the structural and public concerns. These dilemmas provide a theoretical perspective in examining the interplay of the four domains and how they impact on constructivist teaching in practice (see appendices, the four dilemma categories of constructivism in practice). Constructing knowledge is a fundamental activity that binds teachers and students as they construct and reconstructs ideas and meaning through interaction in their respective classrooms. As asserted by the author, all pedagogy results in some kind of "construction" by learners (Windschitl 2002), claiming that knowledge is personally constructed and socially mediated. The point is that teachers focus on activities as starting points of planning to teaching a course, and they eventually choose certain techniques, hence also affecting the choice of activities and the materials specifically chosen to fit their own styles, setting, and students. The setting and the students provide the context of teaching; however, the teaching style is adjusted based on the teacher's own goals and experiences. Windschitl's (2002) two paradigms of constructivism are relevant at this juncture.

Cognitive constructivism is a system of explanations of how learners, as individuals, adapt and refine knowledge, and it posits that meaningful learning is rooted in and indexed by personal experience; hence, the role of the teacher is to assist the student in moving towards ideas that disciplinary communities have validated. On the other hand, *social constructivism* views knowledge as primarily a cultural product shaped by micro- and macro-cultural influences and evolves through increasing participation within different communities of practice. The former focuses on the internal structure of concepts, while the latter focuses on the context of their acquisition (pp. 140–141).

The two paradigms abovementioned enable teachers to understand how students learn, facilitate the design of learning activities, and conceptualize their roles in a myriad of ways. Armed with this understanding, teachers are then equipped to conceptualize their method of

instruction as interactive, allowing for strategies that support students' conceptions as they interact in problem-based activities, such as learning about approaches to situations of conflict or conflict-resolution strategies. However, the facilitators of learning should also possess some level of understanding of the silos of the discipline of the subject matter (i.e., peace and conflict) to develop a philosophy of worthy instructional problems as they offer their students guidance while contemplating problems and tasks for themselves (Windschil 2022).

The *conceptual dilemma* requires that teachers are reflexive in understanding both content and context, admitting the fact that learning is subject to individual interpretation (construction of meaning) and negotiation (interaction, thus reconstruction of the meaning) with other individuals. According to Windschitl (2002), "to understand constructivism, knowledge of its underlying principles is a necessary but insufficient condition," hence "one's epistemology must become an explicit target of change." In constructivist thought, teachers are *agents* (Onuf 2013), and human agency dictates that human actions (such as learning and teaching) should be goal-oriented because to achieve goals is rational conduct. The *pedagogical dilemma* involves how an educator thinks about his/her teaching methods. This requires that teachers must utilize a range of strategies in the classroom that facilitate student learning; hence collaborative learning (where students participate in each other's active construction of learning) is a must. *Cultural dilemma* entails facilitative teaching and learning strategies that allow students to participate in a shared understanding of the lesson, such as lessons on peace, consistent with the cultural backdrop or cultural milieu. Students come from various cultures and may have different conceptions and notions of the subject matter; hence through interaction and facilitative learning, students can generate meaningful ideas representative of the knowledge relevant to a particular cultural context. Thus, by drawing insights from students' lived experiences and cultural backgrounds, participation in generating relevant knowledge and understanding of the subject matter is assured. *Political dilemma* is when constructivist classroom culture entails political ramifications, where the term political refers to aspects of education that deal with authority, invested in the teacher, to decide the contents on what to teach despite an existing syllabi, along with the methods of teaching it. Standardized achievement tests and performance assessment tools must then be appropriate to the standard set by the authorities who approved the course's syllabi. Therefore, the teaching of a course on peace is subject to *rules*, these are statements that tell people what they should do (Onuf 2013). Each of these dilemmas significantly affects a teacher's constructivism in practice.

Formal school curricula are social constructions. The formal curriculum, accordingly, "helps signify *how reality is constructed* and also contributes to the creation of what society has recognized as legitimate and truthful" (Ho 2017). Additionally, education systems and curricula help legitimize detailed conceptions of society and help appportion and desensitize young citizens into accepting these positions through constrained access to their skills and knowledge. *Socialization* is a mechanism where constant interactions allow people to revolve around certain norms and belief systems constantly reshaped as they are reproduced. The idea that peace is for the common good, and that peacebuilding is the means to achieve this are also social constructions. Moreover, civic education curricula and programs are also social constructions, strategically designed to create good citizens who would help sustain democratic values and conditions that preserve democracy and peace. Furthermore, Ho's (2017) assertion that curriculum content needs to be considered at three levels is significant:

At the *institutional level*, the content selection reflects the purpose of schooling and the aims of culture and society. At the *programmatic level*, the institutional curriculum is translated into school subjects and classroom curricular materials. Institutional expectations and other social, pedagogical, and educational goals thus shape the curriculum frameworks, syllabi, and textbooks. At the *classroom level*, curriculum content is determined by the teacher's interpretation of the subject matter and its aims, the role of the learner, the institutional expectations, and knowledge of instructional strategies for a particular classroom context. School subjects are, in other words, social and political constructions that aim to shape human intellect and subjectivity (p. 477).

The syllabus of FPE 101 was crafted by the Committee on Peace Education of the Mindanao State University to produce effective local peace ambassadors in the country. It was initially intended as a proactive mechanism to dissuade the youth, Bangsamoro, Christians, and Lumads alike, from joining extremist causes with fundamental ideologies. The course requires that the students would be able to demonstrate the skills and strategies in conflict resolution through various modalities such as amicable settlement, dialogue, negotiation, and arbitration, among others (FPE 101 Manual, n.d.). The three levels Ho (2017) posited will help our analysis of the syllabi. The syllabi for the course on fundamentals of peace (see Appendices, The FPE101 course syllabi) are divided into two sections. The first section provides descriptive information on the course, its background and rationale, and the expected course outcomes. The second section provides the modules or the breakdown of the course content that covers concepts, strategies, activities, and assessment methods for the subject.

2.3 *Significance of the study*

This study is deemed significant because it attempts to contribute to the research gap on civic education as education for peace. This research considers the context of the Mindanao State University as the premier peace university of the country, uniquely situated in the BARMM region. This is the first attempt to consider the promise of peace education as crucial to civic education, thus impacting peacebuilding.

In addition, this research is significant because it is an attempt to generate knowledge drawn from the Bangsamoro region that pertain to civic education and peacebuilding. The volatility of peace in the region is the litmus test for the enduring enterprise of peace education in the region; and this academic enterprise is part of the effort to contribute to the understanding of the dynamics of civics, peace education, and peacebuilding.

2.4 *Scope and limitations of the study*

This research has very limited scope because it only considers faculty members as respondents; it does not include the recipients of civic knowledge, the students, as part of its source of the pool of information needed to arrive at a well-rounded analysis of the research subject matter.

In addition, if the research had been conducted on the three campuses of the university system of MSU as originally intended, it would have gathered an extensive volume of data that can best describe the perceptions of faculty handling the course on fundamentals of peace. However, because participation in the study is voluntary, the number of respondents/participants could not have increased significantly.

Moreover, the researcher acknowledges that in-depth analysis could have been provided if interviews were conducted to gather the data, rather than relying on an electronic survey instrument.

The research is further limited by the number of voluntary research participants/respondents who took the time to answer the survey instrument electronically. Over a hundred faculty all over the university system (from 10 campuses, out of 12) were trained to teach the course on fundamentals of peace. Still, very few took the time to answer the survey instrument from those from the main campus at Marawi City. Hence, this study has a very limited source of information from trained experts, with only eight (8) respondents.

3 METHODOLOGY

Method of Analysis. This research is descriptive in nature, using content analysis as its analysis method. Data collected is analyzed as guided by the framework whose discussions

are enriched by the RRL. The initial four-item demographics provide an initial description of the range of academic fields/departments that teach the course on fundamentals of peace. At the same time, its substantive content is analyzed by linking its relevance to existing literature to provide descriptive data on how the fundamentals of peace as a component of civic education contribute to peacebuilding.

Research Instrument. The primary research instrument utilized in this study is a survey questionnaire via Google Forms administered to faculty members of the Mindanao State University through the assistance of the University Coordinators for the program. The instrument contains two sections. The first asks about certain demographic characteristics such as age, sex, and their respective Department and College or academic unit. These are necessary demographics to allow the researcher to describe the faculty teaching the course on fundamentals of peace. The second section sought out the teachers' beliefs, perceptions, and convictions regarding their perceived roles, the aims of civic education/peace education, the teaching strategies, and whether they believe the course is an integral component of peacebuilding. In addition, the researcher acknowledges that not all faculty members of the university are technology savvy, hence the hesitancy to participate in the research.

The Research Setting. The Mindanao State University System has 12 campuses, three of which are situated in three (out of five) provinces of the BARMM. The MSU Main Campus is located in Marawi City in the province of Lanao del Sur; another campus is located in the province of Maguindanao (MSU-Maguindanao), and another one in Tawi-Tawi (MSU-Tawi-Tawi College of Technology and Oceanography – TCTO). All these campuses, inclusive of all the others within the university system, offer the FPE 101 subject as mandatory for all its degree offerings. This is to ensure that the University System can live up to its goal as a peaceful university in the country. The researcher originally intended to include the three campuses within the BARMM region, but instead conducted the research within the Main Campus in Marawi City only due to want of material time. Initial contacts have been established with the other two campuses, but the research did not push through because internet access, necessary to accomplish the research instrument, was intermittent.

Sampling Procedure. This research utilized purposive sampling in the choice of the research setting and the selection of respondents. The research originally intended to include all faculty members of the university system who are teaching the course on fundamentals of peace to participate in the study. For the research setting, the only criteria set required that the campus of the university system must be within the BARMM region because that is where the course is intended to have maximum impact. Hence, initially, there were three campuses included. For the selection of participants/respondents, the criteria set were the following: (1) they must be faculty members of the MSU System who have taught or are currently teaching the course on FPE101, (2) their respective campuses must be within the BARMM region, and (3) the respondents may be program coordinators, administrators, or regular faculty members teaching the course on fundamentals of peace.

Demographics. (Please refer to the appendices on Figures and Charts.) With the sampling method utilized above, the data collected shows that the age of the research respondents ranged from 25 to 61. This means that teaching the course does not require a specific age group, only that they are all (100%) required to undergo prior training to teach the course on fundamentals of peace. This entails that the faculty handling the course are equipped with the necessary knowledge and skills to teach the subject matter to their students effectively. In addition, there is a healthy division of the respondents in the distribution based on their sex, with seventy-five percent (75%) female and twenty-five percent (25%) male. This clearly indicates that the teaching manpower of the course is not dominated by males. Moreover, most of the respondents come from various Departments of the University, namely, Political Studies (37.5%), Philosophy (12.5%), Fisheries Technology (12.5%), English (12.5%), Civil engineering (12.4%), and the Office of the Vice President for Academic Affairs (12.5%).

Furthermore, most (87.5%) of the respondents are currently teaching the course on fundamentals of peace, while some (12.5%) are not.

Process of data collection and analysis. The initial step in the data collection process is writing to the respective program coordinators of the university through the Chairperson of the Political Studies Department of the Mindanao State University-Main Campus at Marawi City, Lanao del Sur. The letter was sent via email seeking their approval of disseminating the survey instrument to faculty members handling the course. Subsequently, upon approval, the faculty coordinators provided the list of institutional emails to the researcher, and they also took the initiative to send the instrument themselves via their respective group chats (GC) via the messenger application. Since each respective faculty's participation is voluntary, they may choose to ignore the instrument sent through their institutional emails or their respective GC. Since the instrument is electronic, responses are automatically sent back to the researchers' Google form folder for analysis. The responses are then analyzed using the framework of the study and the substantive contents of the RRL to come up with sound answers to the research questions. In addition, document analysis is required as it subjected both the syllabus for the course and the course manual to rigorous analysis by examining its substantive content juxtaposed to the results of other studies reviewed in this research.

4 RESULTS AND DISCUSSION

The analysis of the findings of the study is presented in this section of the paper. The discussion is presented thematically as guided by the framework of the study and enriched by the RRL. All figures and charts not included in this section are presented in the appendices. Data in this section are presented in basic percentages.

4.1 *Teacher's role*

The respondents were asked how they perceive their role as teachers of the course on fundamentals of peace, and the data is presented in Chart 1. The data shows that the respondents believe that their role is for the appreciation and understanding of the normative value of peace (37.5%), teaching for the establishment of a just and sustainable peace (25.5%), teaching for independent thinking and tolerance for the beliefs of others (25%), and teaching for knowledge and community participation in the establishment of a culture of peace (12.5%). None of the faculty teaching the course believe that their role is to teach for consensus building on the most effective strategies for conflict resolution.

How do you see your role as a teacher of the course FPE101?

8 responses

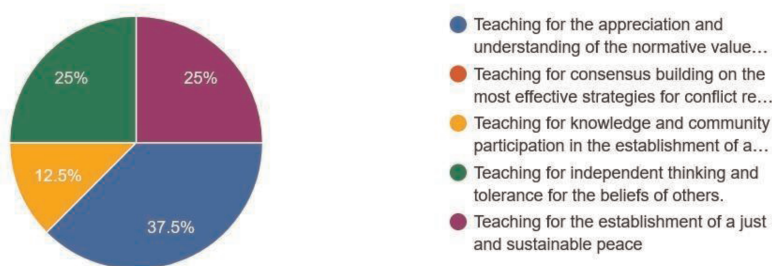


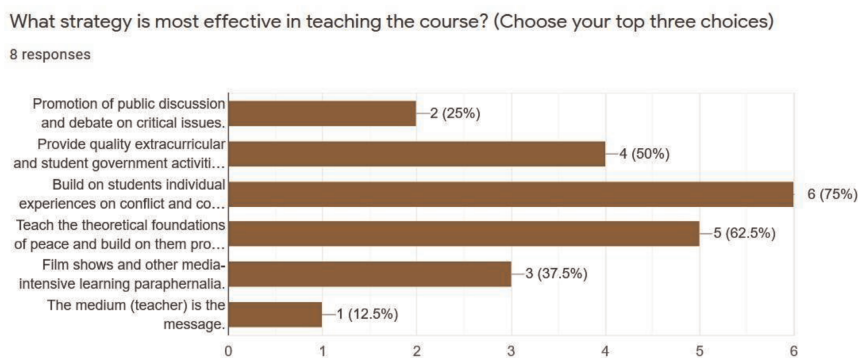
Chart 1. Respondents' beliefs on their role as teachers.

The role of teachers in civic education needs no further emphasis, as they are crucial in delivering this function. Constructivism informs us that reality is socially constructed as shaped by social, political, and cultural processes (Furlong & Marsh 2009); the construction of the perceived roles of teachers in teaching the course on fundamentals of peace (FPE101) is thereby a result of the social, political and cultural processes that exist in the BARMM resulting in the belief that the teacher’s role is to teach students, at the very least, the normative value of peace. The construction of the premise that the pursuit of peace is for the common good allows for an appreciation of peaceful avenues where solutions to situations of potential conflict may be pursued. Peace, in this instance, is, according to Webel & Galtung (2007), the condition for perception of everything else; a vision of a human and individual condition free from violence and acts of terror. In addition, teacher’s beliefs on their roles as active *agents* that facilitate learning (Onuf 2013) impact the content of the course they teach, including the strategies to teach it (Ho 2017). As has been asserted by Reichert & Torney-Purta (2019), differences in teacher’s beliefs are associated with their respective contexts, and these beliefs have been found to sway decisions about their teaching contents and classroom practices/strategies.

The assertion that all pedagogy results in some “construction” by learners (Windschitl 2002), with the claim that knowledge is personally constructed and socially mediated, is thus validated. Therefore, the adoption of certain teaching techniques results from the teacher’s mental construct of how pedagogy should be in relation to the fundamentals of peace. This is related to the point asserted that people only decide to act on something due to their adoption of certain social constructs to interpret or make sense of their world (Parsons 2010). It is apparent also that the adoption of a construct (an idea) entails that in addressing the conceptual dilemma, teachers will eventually address the pedagogical, cultural and political dilemmas, all tailored to fit the level of understanding of the teacher on his/her role as well as the concepts and the subject matter that he/she is about to construct and reconstruct consciously.

4.2 Teaching strategies

The top three strategies in teaching the course are shown in the following bar graph. The data shows that the best strategy is to build on students’ individual experiences in conflict and conflict situations (75%), to teach the theoretical foundations of peace and build on them progressively (62.5%), and to provide quality extracurricular and student government activities (50%). The best strategy somewhat reflects Windschitl’s (2002) assertion that teachers must draw insights from students’ lived experiences and cultural backgrounds, because surely the students would actively participate in generating knowledge and understanding. However, the last item chosen is the same item propounded by Youniss (2011) as a strategy that schools should focus on in fostering civic education. However, this depends on the content of the syllabi as required by the course.



Bar Graph 1. Most Effective Teaching Strategies for the Course.

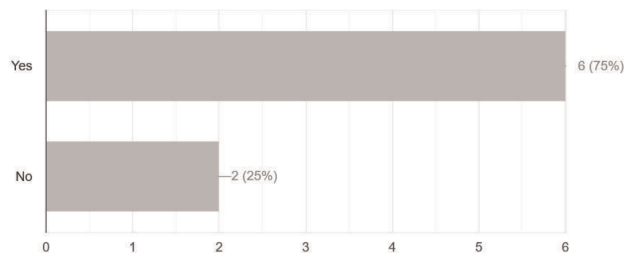
Pedagogy requires the utilization of a range of strategies in the classroom that facilitate student learning (Windschitl 2002). Usually, these methods and practices of teaching are reflected in the teaching and learning activities specified in the syllabi of a course. The contents of the syllabi at three levels, as Ho (2017) asserted: at the institutional level, the contents of the course reflect the aim of an understanding of peace that transcends cultures and religious boundaries. This enables an approach to peace that does not impose, threaten, or silence others but allows for a collaborative effort to establish ideas, norms, and values consistent with social and cultural goals. At the programmatic level, the course on fundamentals of peace is offered with specific syllabi that require activities, learning modules, and e-learning tools that facilitate understanding of the content and context of peace and conflict situations. And at the classroom level, the role of teachers with their respective interpretation of the subject matter is crucial, their agency in the context of structure determines not only the content but the pedagogy as well.

4.3 *Transformed mindsets*

The study also found that the majority of respondents believe that by teaching FPE101 they will be able to ultimately transform the mindsets of their students to advocate for peace (75% affirmative and 25% negative). A transformed mindset is the translation into action (behavior, attitude, and decisions) of the lessons learned in the course.

As a faculty, do you believe that teaching FPE101 will ultimately transform the mindsets of students to be able to advocate for peace initiatives?

0 / 8 correct responses



Bar Graph 2. Transformed Mindsets.

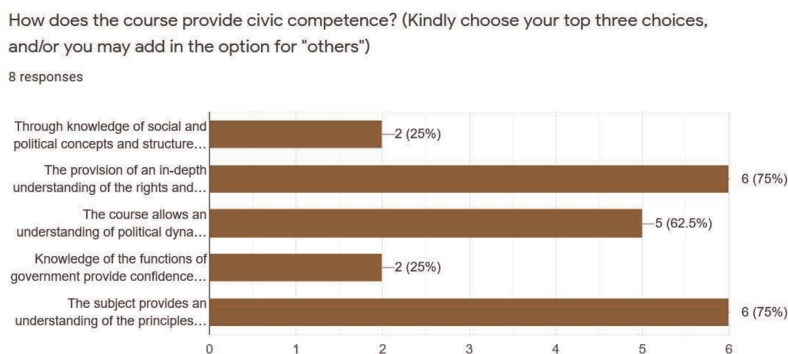
According to the respondents, some manifestations of this transformed mindsets are the following: (1) “I believe transformation may not happen in a blink of an eye since it is a process. Transformation may not instantly happen after a semester, but I think one manifestation of a transformed mindset is how these students respond to conflict (what strategies they use, do they respond peacefully), demonstrate peace-building through humility/reconciliation”; “Students can decide for themselves as they become independent. They recognize the beauty of diversity. They respect other’s cultures, religions, beliefs, etc.”; yet another said that the “heart is transformed leading into a personal transformation through changed behavior.” Another respondent answered that one manifestation is the “tolerance of (for) the beliefs of others.” In comparison, another said one manifestation is they are “transformed as advocates for peace.” The variety of answers provided shows that there could be diverse manifestations of a transformed mindset. Still, the prior requirement is for the teachers to believe that they can actually do it.

Constructivism tells us that teachers are active agents in the construction of knowledge, and their interaction with other agents (their students) allows a reconstruction of knowledge premised on the primacy of ideas, norms, and values thus constituted. These eventually become the structures from which the agents actively construct, observing the rules and

norms embedded therein. Windshitl’s (2002) cultural dilemma brings forth the teacher’s creativity in terms of the approaches to the lessons of peace and conflict resolution that are contextually appropriate for the culture within the BARMM. This research differs from Ngozwana (2017), where civic education is offered as electoral and voter education. In this research, civic education is offered as peace education, which is truly relevant to the context of the BARMM.

4.4 Civic education as component of peacebuilding via civic competence

The respondents all agree (100%) that the course FPE101 is a crucial component of peacebuilding (see appendices) through the provision of civic competence through civic knowledge (see appendices). The top three choices on how the course provides civic competence are shown in Bar Graph number 3. Accordingly, the course provides civic competence through the following: the provision of an in-depth understanding of the rights and responsibilities of good citizens (75%), the subject provides an understanding of the principles of democracy and encourages healthy political participation (75%), and the course allows an understanding of political dynamics and the opportunities of peaceful engagement thus encouraging civic engagement (62.5%).



Bar Graph 3. Provision of Civic Competence.

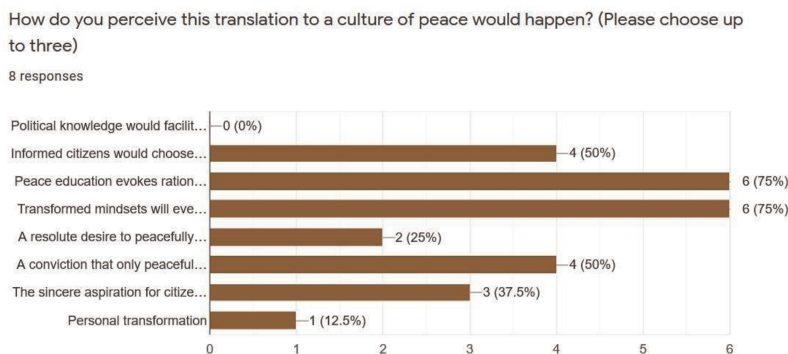
Galston (2007) once asserted that formal, classroom-based civic education effectively teaches civic knowledge. Thus, by providing students with in-depth understanding of his/her rights and responsibilities as good citizens, an understanding of the principles of democracy, along with opportunities for peaceful engagement, allows students the necessary knowledge for civic competence. This validates Hope & Jager’s (2014) finding that political efficacy and civic education positively relate to civic engagement. This means that confidence in one’s abilities due to possessing political knowledge leads to active civic engagement. Constructivism tells us that the formal curriculum helps signify *how reality is constructed* and contributes to creating what society has recognized as legitimate and truthful (Ho 2017).

At this juncture, kindly allow the repetition of the definition of peacebuilding as “the actions that address the underlying causes of conflict along with the establishment of state structures and institutions that institutionalize the potential for peace of civil society organizations, the fourth estate, cultural affairs and, more importantly, education (adopted from Barnett *et al.* 2007). With this, civic education is of crucial significance to peacebuilding.

4.5 Culture of peace

The data also reveals that all the respondents (100%) consider peace education as an integral component of civic education (see appendices) and eventually translate to a culture of peace

(100%) in Mindanao (see appendices). The data in Bar Graph no. 4 shows the top three perceived manifestations of the translation of a culture of peace are the following: peace education evokes rational approaches to conflict situations in avoidance of irrational actions and decisions (75%), transformed mindsets will eventually prefer peaceful modalities of resolving situations of conflict (75%), informed citizens would choose to engage peacefully and a conviction that only peaceful approaches to conflict and situations of conflict are desirable and just (both at 50%).



Bar Graph 4. Translation to a culture of peace..

The notion of a culture of peace is a social construction. Its ideals envisage the attainment of a condition of perpetual peace because the social agents actively constructing it are informed with sufficient knowledge that peace is conducive for democracy to flourish and for a stable economy to take root. Onuf's (2013) notion of constructivism illuminates that the idea of a culture of peace is where peace is the established norm. For constructivists, ideas, norms, and identities are social constructions. *Social construction* is a social process by which people construct themselves into those ideas and norms, and these social constructs define how people eventually act (Parsons 2010). Central to the constructivist argument is the notion the natural world is meaningless and indeterminate for human beings until we begin to socially construct some shared meanings about it (Parsons 2010). The construction of a shared meaning of a culture of peace, shared by all the Bangsamoro, in and outside the BARMM, is a visible and conscious attempt at meaning-making. In addition, the components of peace (harmony with self, with others, with nature, and with God) crafted as a topic of concern by the FPE101 syllabi is similar to that of the Singaporean concept of harmony In Ho (2017). It requires the sacrifice of individuality and personal liberties over the greater "common" good (of society). The avoidance of conflict or situations of conflict is therefore also considered a civic virtue by the framers of the course syllabi on fundamentals of peace, reflective of the aspiration of the Bangsamoro citizens for lasting conditions of peace.

5 CONCLUSION

This section presents the study's conclusions as drawn from the discussion and analysis of the findings.

There are three research questions that this research attempted to answer as guided by the framework and the review of related literature. Initially, it looked at how teachers see their roles as facilitators of knowledge on peace. The data reveals that a good number believe their role is to teach the appreciation and understanding of the normative value of peace. In contrast, some believe that their role is to teach the establishment of a just and sustainable peace, as well as teach independent thinking and tolerance for the beliefs of others. None of

the teachers gave other answers that could have gone beyond the comfortable confines of teaching. Teachers basically see themselves as merely conduits of knowledge, as none considered themselves as generators of knowledge or constructs that could redefine or revolutionize approaches to achieve peace. This means that teachers have constructed themselves as just building the structural foundations of peace and teaching ways to sustain it, without actually dismantling the conditions that disable it.

The research also asked how the course on fundamentals of peace form part of civic education and found that the course forms part of civic education through the provision of civic competence. This civic competence achieved through peace education (specifically, the course on fundamentals of peace) is “actions that address the underlying causes of conflict along with the establishment of state structures and institutions that institutionalize the potential for peace.” Since civic education provides civic competence, and peace education provides the same, civic education is also vital to peacebuilding. In addition, the broad and limited forms of peacebuilding recognize the central importance of peace education and civic knowledge to its institutionalization.

Finally, the respondents were asked how they perceive peace education to translate to a culture of peace, and the respondents agreed that the translation is manifested through various actions that denounce violence as an approach to conflict situations, generally preferring rationally sound nonviolent approaches. Therefore, establishing a culture of peace must first be constructed via shared meanings and constructions of what is appropriate or not based on the context of the conflict. Thus, the rationality of active agents who construct and generate knowledge is crucial to establishing and sustaining peace.

DISCLOSURE STATEMENT

The researcher wishes to disclose that there are no conflicts of interest in the course of this study. However, the timing of the conduct of the study may have affected the number of prospective participants in the research since his colleagues at the University may have misinterpreted the purpose of the present study, despite his assurances that confidentiality would be observed with guaranteed complete anonymity of the respondents. The researchers’ relation to the current Vice President for Academic Affairs (VPAA) of the MSU System, as her eldest son, and in addition to the possibility of the change of administration scheduled next month (March 2022) whereby the VPAA is an applicant to the Presidency of the MSU System, most faculty may have felt threatened by a survey/assessment on the program championed and pioneered by the VPAA and the current administration President. Given the context and the culture within the MSU system, this may have affected the number of respondents to this research despite extensive efforts to be inclusive.

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Does volunteer motivation affect the satisfaction of COVID-19 task force volunteers?

Immanuel Mu'ammal, Siti Nurhasanah & Lukman Dzulhilmi
Universitas Muhammadiyah Malang, Malang, Indonesia

ABSTRACT: Maharesigana organization consists of students from the University of Muhammadiyah Malang. They are the volunteer COVID-19 task force who work in the campus environment and ensure campus residents are safe from the COVID-19 virus. Motivation is pivotal for volunteering and must be evaluated to make volunteering a more evidence-based initiative. What motivates volunteers to work needs to be studied because motivation is proven to satisfy volunteers. Several studies have shown a relationship between motivation and job satisfaction. The subjects in this study were 114 volunteers from Maharesigana. Data analysis was carried out using SEM-PLS with WARP PLS 5 software. The results of statistical tests used the PLS concerning the effect of volunteer motivation and affective commitment. The significance of the p-value of the relationship is 0.02 (<0.005), which means the hypothesis is accepted. The table also shows a path coefficient of 0.70. It shows that volunteer motivation has a relationship that is aligned with volunteer satisfaction.

Keywords: COVID-19 task force, volunteer motivation, volunteer satisfaction

1 INTRODUCTION

After the COVID-19 outbreak, the health status of the general population has suffered a huge threat (Shi *et al.* 2021). There has been a rapid increase in the number of cases of COVID-19 in Latin in many countries that have an insufficient number of physicians and other healthcare personnel (Tempski *et al.* 2021). As an important part of society, the COVID-19 task force carries out voluntary work with the knowledge and skills to deal with the pandemic to ensure the community is safe against the virus (Ferreira *et al.* 2012). The youth movement plays an important role in communities and contributes to the development of young people in many ways (Abdulkadir *et al.* 2021). Likewise, the Maharesigana organization consists of students from the University of Muhammadiyah Malang. They are the volunteer COVID-19 task force who work in the campus environment and ensure campus residents are safe from the COVID-19 virus.

The topic of volunteer motivation has significant practical implications. As mentioned earlier, volunteerism contributes immensely to the country's economy and provides essential services such as health care and education to society (Widjaja 2010). Motivation is pivotal for volunteering and must be evaluated to make volunteering a more evidence-based initiative (Tempski *et al.* 2021). Finding out what motivates people to give their time and energy to take on the responsibilities of being a board member is important for organizations (Lhotka 2020).

Several reasons make the topic of volunteer motivation interesting to study, especially for volunteers at a young age. One of the reasons that make young people are willing to volunteer is the opportunity to practically apply their current knowledge and to improve their skills and competencies; volunteering students might be more motivated for their

further studies and their future career (Büssing *et al.* 2022). In addition, sociopolitical conditions and discourses concerning COVID-19 interact with volunteer experiences, working conditions, and organizational relations to influence volunteer motivation (Heyerdahl *et al.* 2021).

High job satisfaction can increase productivity, reduce turnover, increase attendance, reduce accidents, reduce work stress, and reduce unions. Satisfaction with voluntary participation is of great significance. Thus, it is important to support volunteers, keep in touch with them, and encourage them to cooperate (Rozmiarek *et al.* 2021). Volunteering, as well as its close relationship with altruism, is also an instrument that allows the volunteer to achieve the inner satisfaction that the volunteer needs. However, it also seems to be a charity activity for others by creating a space where the individual becomes socialized (Halis *et al.* 2020). Volunteer satisfaction at work will certainly be beneficial for the organization.

Several studies have shown a relationship between motivation and job satisfaction. Research conducted by Abdulkadir *et al.* (2021) indicates that the motivation of volunteers is differentiated according to volunteers' personalities (some of them need the achievement factor to feel satisfaction, some of them need the power factor, and some of them need affiliation to the organization). In addition, Finkelstein (2008) suggested that motivations for helping should be determined early in the volunteering process in order to match individuals with tasks they will find most rewarding. Evidence shows that satisfaction is multi-faceted and can be tied to motivation (Pauline 2011). Voluntary motivation and volunteer satisfaction are closely related in their research (Lee *et al.* 2014). The results of the study revealed that two motivations (patriotism and intrinsic) out of four affected satisfaction. From the background described previously, this study aims to determine whether volunteer motivation affects volunteer satisfaction. From the background described, this study aims to determine whether volunteer motivation affects volunteer satisfaction at work.

2 LITERATURE REVIEW

2.1 *Volunteer motivation*

Work motivation is an effort that can lead to a behavior, direct behavior, and maintain or maintain behavior that is in accordance with the work environment in the organization (Steers & Porter 1996). If volunteer motivations are known, organizations can better attract volunteers by developing persuasive communications matching individuals' or groups' specific functional motives (Widjaja 2010). Volunteer motivation was developed by Clary *et al.* (1998). This theory was developed based on functional theory, which takes a broad perspective on sociology and anthropology and seeks to interpret society as a structure with interrelated parts. Clary *et al.* (1998) suggest that six general psychological functions are performed by volunteers. Through a series of six studies, he developed, verified, and perfected what he called the Volunteer Function Inventory (VFI). The measurement of volunteer motivation used in this research, Volunteer Function Inventory (VFI) (Clary & Snyder 1999), has been developed. VFI comprises five indicators: Values, Understanding, Enhancement, Career, Social, and Protective.

2.2 *Volunteer satisfaction*

Job satisfaction is an important aspect of organizational behavior because it positively correlates with employee performance (Robbins 2003). According to Spector (1997), job satisfaction is a person's feelings towards work and aspects of the job. (Cnaan & Goldberg-Glen 1991) suggested that people will remain volunteers if they gain valuable experience and can satisfy their needs. Job satisfaction is one of the most important aspects of organizational behavior and human resource management, which is most commonly studied (Galindokuhn & Guzley 2002). Job satisfaction is "feelings or affective responses to facets of the situation" (Smith 1969). A review of the nature of the volunteer environment – unpaid

work – demonstrates the importance of having job satisfaction measurement tools for volunteers (Galindo-kuhn & Guzley 2002). Job satisfaction from volunteers measured using indicators from (Luthans 2021) is as follows: satisfaction with promotion, satisfaction of coworkers, satisfaction of leaders, and satisfaction with the work itself.

3 METHOD

This study uses a positivist approach with quantitative methods. The data used and analyzed in this study is qualitative data in the form of the opinion of respondents who agree or disagree about something, which is then quantified. The type of research used in this research is explanatory research. Explanatory research is a study that explains the causal relationship between research variables and hypothesis testing (Blumberg *et al.* 2014). This research was conducted at the Muhammadiyah University Maharesigana organization. The subjects in this study were 114 volunteers from Maharesigana. The time of research was held from June to August 2021. The number of female respondents is 63% more than male respondents, which is 37%. The volunteer who joined Maharesigana between 0 and 3 months is 72 people or 63%. The volunteer with more than one year working period is 21 people or 18% of the total respondents. In this research, there are no specific selection criteria for respondents those who have joined the membership of Maharesigana. Every Maharesigana member can be a respondent. Data analysis was carried out using SEM-PLS with WARP PLS 5 software.

4 RESULT AND DISCUSSION

Table 1. Discriminant validity: Cross loading.

Variable	Items	Validity Test		
		Outer Loading	P-Value	Note
Volunteer Motivation	X 1 Value	0.087	0.001	Valid
	X 2 Understanding	0.088	0.004	Valid
	X 3 Social	0.089	0.018	Valid
	X 4 Career	0.089	0.010	Valid
	X 5 Protective	0.088	0.004	Valid
	X 6 Enhancement	0.089	0.008	Valid
Volunteer Satisfaction	Y 1 Satisfaction on promotion	0.086	<0.001	Valid
	Y 2 Satisfaction on leader	0.087	<0.001	Valid
	Y 3 Satisfaction on peers	0.086	<0.001	Valid
	Y 4 Satisfaction on Job Itself	0.086	<0.001	Valid

The validity of this study was measured using the combined loadings and cross-loading output criteria. The indicator or item is declared valid if the loading factor value is more than 0.40 and the *p*-value is significantly less than 0.05 (<0.05). Table 1 shows if the outer loadings of all variables are above 0.40 and the *p*-value of all variables is below 0.05, which means that all variables are declared valid.

Table 2. Reliability test.

Variables	Cronbach's Alpha	Composite Reliability	Note
Volunteer Motivation	0.703	0.819	Reliable
Volunteer Satisfaction	0.853	0.931	Reliable

Table 2 depicts the results of reliability constructs in this study also fulfilled, showing that the composite reliability of each construct has a value of more than 0.7. The Cronbach's Alpha of three variables is above 0.70 with details: volunteer motivation is 0.703, volunteer satisfaction is 0.853, and affective commitment is 1.000. The composite reliability value of the three variables also shows a value above 0.70 with the following details: volunteer motivation is 0.819, volunteer satisfaction is 0.931, and affective commitment is 1.000.

Table 3. Results of direct effect hypothesis testing.

Hypothesis	Relationship	Path Coefficient	Path Value	Note
Hypothesis	Volunteer Motivation => Volunteer Satisfaction	0.70	<0.01	Significant

To test the proposed hypothesis, it can be seen from the value of path value between paths. The results of statistical tests used the PLS concerning the effect of volunteer motivation and affective commitment. The significance of the p-value of the relationship is 0.02 (<0.005), which means the hypothesis is accepted. The table also shows a path coefficient of 0.70. It shows that volunteer motivation has a relationship that is aligned with volunteer satisfaction. This research shows that all indicators of volunteer motivation (career, social, understanding, enhancement, values) are positively related to volunteer satisfaction. Meanwhile (Trautwein *et al.* 2020) shows that the fulfillment of the career, social, and understanding function was not relevant for the formation of COVID-19 volunteering satisfaction, and the fulfillment of the enhancement motive and the values motive positively affected COVID-19 volunteer satisfaction. (Trautwein *et al.* 2020). Younger volunteers, satisfaction decreases when social motives are high (Aranda & Zappal 2019).

5 CONCLUSION

Students reported the importance of management and leadership skills as a curricular component, motivations to volunteer, and acquired skills from volunteering in management and leadership-related activities, thereby indicating the development of resilient attitudes (Siqueira *et al.* 2022). Leaders of organizations need to understand the motivation of volunteers because, in this study, it is known that motivation has a positive and significant influence on volunteer satisfaction. If volunteer motivation is high, it is directly proportional to their satisfaction. What makes volunteers highly motivated to work needs to be studied because motivation is proven to satisfy volunteers. Ferreira *et al.* (2012) said that if the highest satisfaction arises from an intrinsic sense of volunteers using their talents and skills to meet their expectations and feel fulfilled, volunteer satisfaction is determined by whether their abilities can help others. It can be said as their motivation to become volunteers. Role satisfaction is a significant factor in the decision to continue volunteering (Lhotka 2020). Volunteers' satisfaction is important in creating their loyalty to the work itself. Therefore, the achievement of volunteer satisfaction needs to be studied further.

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Marketing management: Bibliometric analysis of social media marketing during the COVID-19 pandemic

Rohmat Dwi Jatmiko & Rinaldy Achmad Roberth Fathoni*

Universitas Muhammadiyah Malang, Malang, Indonesia

ABSTRACT: The objective of this study is to determine the progression of research within the framework of social media marketing. Understanding the usage of social media marketing in the pandemic era requires a literature review approach to study social media marketing in the pandemic era. Knowing the evolution of social media marketing can provide insight into the likelihood of future expansion following the outbreak. This analysis was done in June 2022 by analyzing Scopus database data using the keywords social media marketing and pandemic. The data from the search results were reviewed descriptively based on publication year and research topic. VOSViewer was used to analyze data in order to determine the evolution of the bibliometric map of social media marketing research developments. The number of studies on social media marketing during the epidemic has declined over the past two years, according to the data. Nine clusters describe the subject's key phrases.

Keywords: social media marketing, pandemic, COVID-19, bibliometric

1 INTRODUCTION

A pandemic broke out toward the end of December 2019, wreaking havoc on several fronts (Noor *et al.* 2020). The global epidemic has wreaked havoc on the service industry, the economy, and tourism (Jiang & Wen 2020). The community's activities were restricted in order to prevent COVID-19 from spreading further. This is known as social distancing, which is a restriction on direct interaction (Ling & Ho 2020). In many regions of the world, social distance is occurring virtually simultaneously. People have been inspired to alter services as a result of the movement constraints that have happened (Carnevale & Hatak 2020). The use of digital media to carry out numerous tasks such as coordinating teaching and learning activities, office activities, and trading activities has replaced physical interaction. Several platforms are employed to ensure that people's daily activities go smoothly.

The internet and social media have transformed the way businesses and customers communicate at this time. With the advent of the internet era, any corporation may now conduct business globally. The effect of social media is one that is growing on the internet. In recent years, it has become clear that social media is rapidly evolving. Because of the unique characteristics of social media and as a result of its rapid development, marketing strategies, as well as advertising and promotion, have been revolutionized.

Content marketing is a marketing approach that aims to attract the target market and encourage them to become customers of a company by distributing, planning, and creating attractive content. Social networking sites, such as Facebook, Twitter, and Instagram, allow anybody to build a personal web page and then connect with others to share information and

*Corresponding Author

converse. Social media is defined as a collection of internet-based apps that employ Web 2.0 ideology and technology to allow people to generate or exchange content. Facebook, Twitter, Instagram, YouTube, blogs, and others are some of the most popular social media platforms in Indonesia, with millions of users. Users of social media can communicate with millions of other users.

The research focuses on social media marketing carried out during a pandemic when social media marketing is used to address a variety of demands. COVID-19 has an impact on companies and may influence customer behavior (McKinsey 2020). Because research on social media marketing studies in the pandemic era has not been extensively addressed, researchers are encouraged to do research on social media marketing in the pandemic era using a literature review strategy. This study is beneficial for understanding the applicability of social media marketing in the pandemic age. Knowing the evolution of social media marketing research will give you a good idea of how far it can go after the epidemic. This information may be used to help company actors and creators of social media marketing initiatives.

This study is anticipated to add to the subject of social media marketing by employing citation analysis and taking into account the frequency of citations in publications, authors, and journals to acquire a better knowledge of social media marketing. Building networks and clusters reveals trends and themes in social media marketing, possibly increasing the field's theoretical, conceptual, and empirical growth and allowing social media marketing to be related to other ideas.

A bibliometric study is a quantitative analytical approach to assessing books on a certain topic. A quantitative investigation of the distribution structure may be performed using the bibliometric technique. This can reduce the subjectivity of the point of view expressed in the literacy review (Bornmann & Marx 2018). Internal and external features contribute to the bibliometric study's thoroughness. Internal characteristics can be organized using keywords, research topics, and references. External features, on the other hand, include publishing time, country, institution, journal writer, and others (Xiao *et al.* 2021).

2 METHOD

The data in this study comes from the Scopus database, which was acquired utilizing the publishing or perishes method to find international publication data on the subject of social media marketing. From 2019 to 2022, data was gathered by searching Scopus with the terms social media marketing and pandemic in the article title and keywords categories. There were a total of 147 things found. The information used in this strategy comes in the form of the number of publications and journals that publish papers on social media marketing each year. In addition, the VOSViewer software was used to investigate the evolution of publishing in the field of social media marketing. This program allows you to create and explore bibliometric maps, as well as use text mining to create and display correlations in articles and publications. It may give and communicate exact information about a bibliometric visual map that allows for a quick understanding of a link (van Eck & Waltman 2010). Publication maps may be viewed in a number of ways and with different features like zooming, scrolling, and searching to better map articles and publications.

3 RESULT AND DISCUSSION

From 2019 to 2022, this section studies the rise of global social media marketing articles related to the COVID-19 pandemic. The statistics show the number of publications released each year in the field of social media marketing, as well as the topic areas of current publications.

3.1 Social media marketing publication development per year

From 2019 to 2022, statistics on the number of research on social media marketing are discussed in this section. The findings demonstrate that social media marketing research is conducted every year, however, there is a large reduction each year. A total of 147 publications connected to social media marketing were found during the COVID-19 epidemic after a search via the Scopus database using publish or perish. Table 1 shows the growth in the number of scholars investigating social media marketing.

Table 1. Total publication development per year (2019–2022).

Year of Publication	Total
2019	78
2020	51
2021	17
2022	1

3.2 Bibliometric map of research development in social media marketing based on keywords

A search of the Scopus database using the publishing or perishes strategy turned up 147 papers on social media marketing. The following information was discovered once the RIS export operation was completed and analyzed:

(a) Co-word network visualization

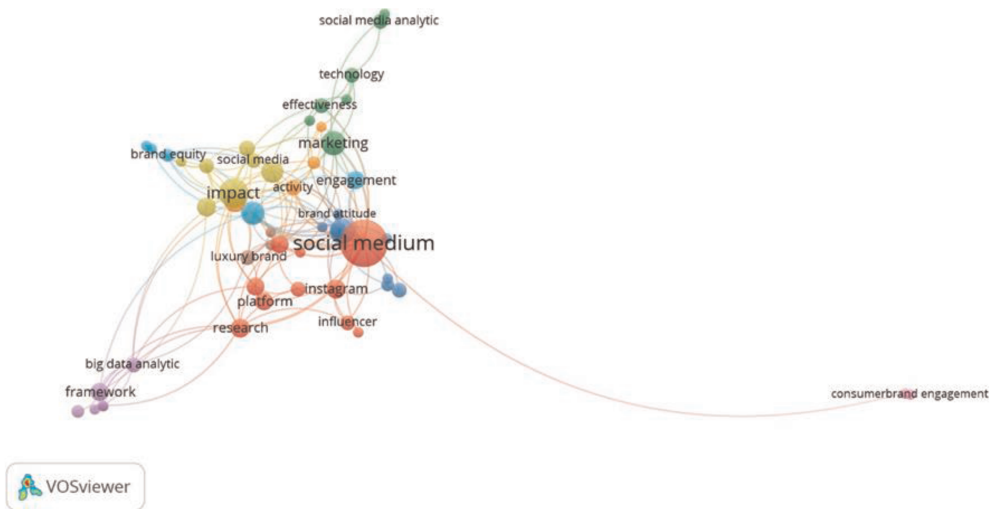


Figure 1. Network visualization publication of social media marketing.

The 147 articles in this section identified concepts described in network visualizations related to the study’s subject. The findings of their VOSviewer assessments also indicated the existence of nine concept clusters. Figure 1 shows the names of the ideas generated by the cluster density display. A list of the concepts that stand out from each cluster was also seen

using the color codes assigned to each of them. The purpose is to identify as many topics as possible that have been cited often in previous studies in order to employ them in future research. Figure 1 displays the cluster density, which is denoted by a distinct color for each cluster.

Figure 1 shows how identification in the form of mapping can help researchers, especially young ones, get a head start on their research. With the assistance of this study, individuals can read articles linked to a topic of interest in a certain field they are interested in customer engagement, Facebook, future, influencer, Instagram, perspective, platform, research, social commerce, and social media are all connected ideas in Cluster 1. Cluster 2 focuses on big data, business, effectiveness, marketing, social media analytics, social media engagement, technology, and travel. Advertising, brand attitude, corporate social responsibility, credibility, effect, product interest, purchase intention, and social media advertising are all concepts covered in Cluster 3, while brand loyalty, content, impact, influencer marketing, social media, social media influencer, trust are all concepts covered in Cluster 4. Cluster 5 is also concerned with art, big data analytics, framework, social media influencer, state, and taxonomy. Cluster 6 focuses on brand engagement, brand equity, consumer, engagement, and social media communication. Activity, customer experience, outcome, and social media marketing are all concepts focused on in Cluster 7. Cluster 8 is also concerned with customers, luxury brands, and social media context, and finally, Cluster 9 is concerned with consumer brand engagement and influence. This clustering will aid researchers in determining which themes are relevant to the theme of social media marketing during the COVID-19 pandemic.

(b) Co-word overlay visualization

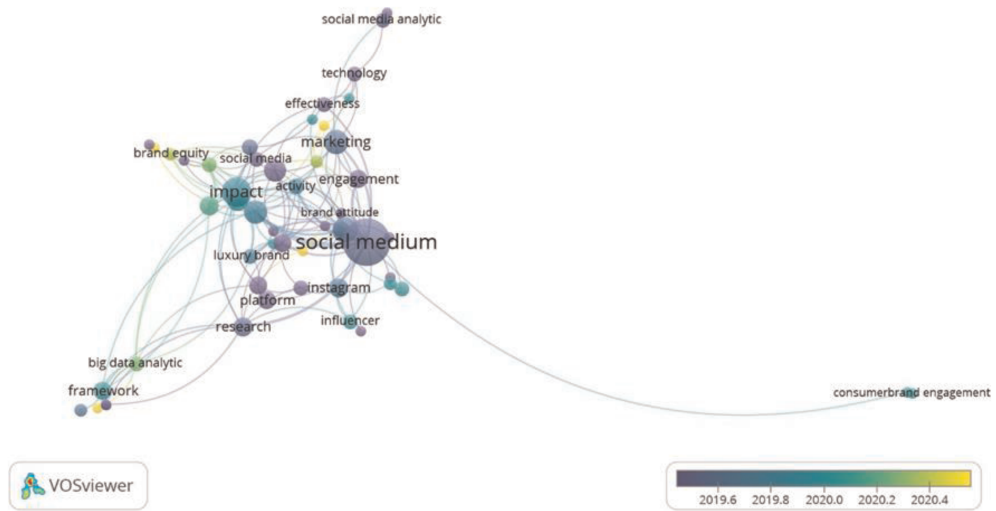


Figure 2. Overlay visualization publication of social media marketing.

Figure 2 regarding the overlay visualization publication of social media marketing shows a mapping of research related to marketing. Based on the picture, a study with the social media marketing aspect has been widely discussed and carried out over the last four years, and many were carried out in 2019, looking at the colors shown. However, related to social media marketing research, the research trend has seen a decrease since 2019 by linking several keyword trends such as social media, impact, etc.

(c) Keyword density visualization

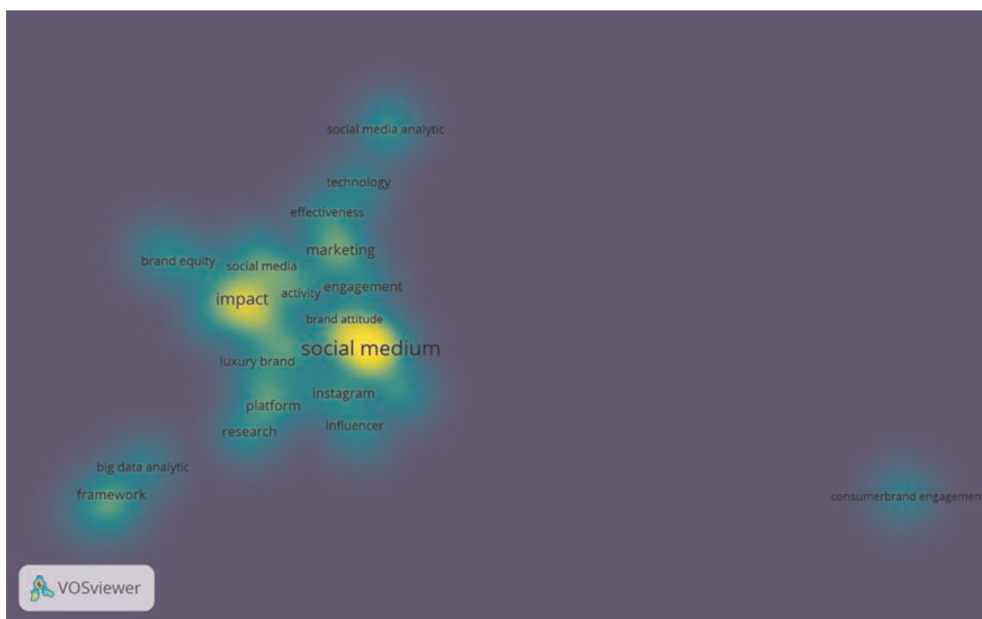


Figure 3. Density visualization publication of social media marketing.

The density cluster represents the same terms as the specified keywords (Simao, Carvalho, & Madeira 2020). Color is applied to each keyword based on its current density (Tupan 2016). This section is very useful for acquiring a sense of the general structure of the bibliometric map by concentrating on which sections of the keywords are considered significant to investigate. As a consequence, it's possible that it's one of the most commonly used terms in a publication. The issue's co-word density map is depicted in Figure 3. The deeper the hue, the more terms related to social media marketing were used in articles throughout time, according to this density chart. Certain keywords have become a popular subject of debate when it comes to the issue of social media marketing, according to the findings of the study.

4 CONCLUSION

This review study focuses on social media marketing, and it is divided into nine groups by nine important topics. It also shows that 147 items from the Scopus database were gathered. There are nine idea clusters, according to VOSviewer's analysis: With the assistance of this study, individuals can read articles linked to a topic of interest in a certain field they are interested in customer engagement, Facebook, future, influencer, Instagram, perspective, platform, research, social commerce, social medium are all connected ideas in cluster 1. Cluster 2 focuses on big data, business, effectiveness, marketing, social media analytics, social media engagement, technology, and travel. Advertising, brand attitude, corporate social responsibility, credibility, effect, product interest, purchase intention, and social media advertising are all concepts covered in cluster 3, while brand loyalty, content, impact, influencer marketing, social media, social media influencer, trust are all concepts covered in Cluster 4. Cluster 5 is also concerned with art, big data analytics, framework, social media

influencer, state, and taxonomy. Cluster 6 focuses on brand engagement, brand equity, consumer, engagement, and social media communication. Activity, customer experience, outcome, and social media marketing are all concepts in cluster 7. Cluster 8 is also concerned with customers, luxury brands, and social media context, and Cluster 9 is concerned with consumer brand engagement and influence.

This research contributed to the mapping of social media marketing during the COVID-19 pandemic study, which gives a summary of the most popular issues. This article discusses how social media marketing may be utilized as a promotional tactic to help businesses survive during a pandemic. Finally, excellent business management highlights the need for social media marketing innovation, which is vital in the digital environment to aid boost sales and marketing growth so that businesses can survive the COVID-19 epidemic. Because all of the papers were discovered in the Scopus database, there was no way to compare them. As a result, future research will need to employ a comparative analysis technique that combines the Scopus and Web of Sciences databases (WoS).

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Green finance bibliometrics analysis for current research, future, and sustainability

Chalimatuz Sa'diyah

Universitas Muhammadiyah Malang, Malang, Indonesia

ABSTRACT: Bibliometric analysis is a widely used approach for examining and analyzing a variety of scientific data. This article offers a bibliometric study of journals indexed by Scopus on green finance and sustainability finance using the VOSviewer application. The purpose of bibliometric analysis in this study is to determine the development of studies related to green finance and sustainability finance. Specifically, this article discusses developments, publication trends, title trends, and keywords, along with the topic of green finance and sustainability finance in 2015–2021. Data were collected from the Scopus database using the keywords “green finance and sustainability finance”. The author then analyzes and visualizes the database using VOSviewer software. The results of the study show that the growth development of publications on the topic of green finance and sustainability finance which is indexed by Scopus is the highest in 2021, reaching 84 publications (39.06%). Most publications in the journal *Sustainability* (Switzerland) with 21 articles, and global finance journal with 11 articles. The Scopus-indexed development map of green finance and sustainability finance topics for 2015–2021 is divided into 4 clusters.

Keywords: green finance, sustainability finance, publish or perish, VOSviewer

1 INTRODUCTION

In Indonesia, sustainable finance is described as the financial services industry’s total support for long-term growth as a consequence of aligning economic, social, and environmental goals (Jager 2020). The sustainable finance program in Indonesia aims to improve the financial services industry’s resilience and competitiveness, provide the community with the resources it requires in terms of financing, and contribute to the national commitment to climate change challenges through corporate operations that involve climate change prevention/mitigation as well as adaptation to a competitive low-carbon economy (Luo 2011).

One of the funding sources planned to support the objectives of the sustainable finance program is funding with a green finance scheme, where this funding scheme motivates entrepreneurs to apply green industry indicators in their businesses, namely meeting the reduce, reuse, and recycle indicators (Fu 2020). Green finance is a financing scheme or lending to environmentally friendly business actors (Cui 2020). When conducting credit analysis, the bank as a lending institution must take into account how the carrying capacity of the business is to the environment and how to minimize the impact of its business on environmental damage. Based on government regulations to be able to receive financing with the concept of green financing, borrowers or business actors in carrying out their business activities must try to minimize energy use and must meet 3R requirements (Taghizadeh-Hesary 2021).

Research on the topic of green finance and sustainability finance is growing. Thus, researchers are interested in conducting bibliometric-based research (Lee 2020). Bibliometric analysis is a quantitative method for analyzing data from bibliographies in articles/journals

(Xin 2021). This technique is commonly used to look into references to scientific publications referenced in a journal, map the magazine's scientific field, and classify scientific articles by research area. This method can be used in the fields of sociology, humanities, communication, marketing, and other social groups. The citation analysis strategy was used in the bibliometric analysis to locate one article cited by another article, and the co-citation analysis approach was utilized to find two or more articles cited by one article (Wang 2019).

The three elements of bibliometrics are as follows: a) bibliometrics for bibliometrics, which is the primary field of bibliometric study and has long been utilized as a research approach; b) Because researchers operate scientifically, their interest in their field of expertise is very strong, bibliometrics for scientific disciplines (scientific information) provides for a combined borderland with quantitative research in information retrieval; c) The realm of research evaluation in diverse research fields is bibliometrics for science policy and management (science policy) (Glenisson *et al.* 2005).

The concept of science contained in a document can be seen through the words (co-words) used. Co-word analysis is based on the co-occurrence analysis of words or keywords from two or more documents used to index documents (Zupic & Cater 2015). The use of non-standardized keywords can lead to non-uniform terms, and to standardize them it is necessary to use a thesaurus. A thesaurus is a glossary of terms that covers a specific field so that the terms used are more specific. Thesaurus is different from a list of subject headings which are usually general and cover all areas of knowledge. Indexing using descriptors is attempted to represent a single concept. Standardizing keywords with a thesaurus aims to ensure that the words used are consistent.

VOSviewer is software for building and visualizing bibliometric networks. Individual journals, scholars, and publications, for example, might be part of these networks, which are formed on citations, bibliographic aggregations, co-citing, and co-authoring links. VOSviewer also has text mining capabilities, which may be used to create and display co-occurring networks of significant phrases in scientific papers. VosViewer is a free computer program available to visualize and explore bibliometric knowledge maps (Shah *et al.* 2019).

VOS stands for visualization of similarities in VOSviewer. The algorithm used in this program is almost the same as multi-dimensional scaling (MDS). VOSviewer database files support four types of bibliographic database files: Web of Science files, Scopus files, Dimensions files, and PubMed files. VOSviewer has an edge over other analytical apps in that it employs a text-mining function to map out combinations of relevant noun phrases and an integrated clustering technique to investigate co-citation data and co-occurrence networks (Wong 2018). Although there are many programs for analyzing text units and similarity matrices, VOSviewer's strength lies in its visualization.

2 METHOD

From 2015 to 2021, Scopus-indexed international publication data on the topic of green finance and sustainable finance was collected from the Scopus database (www.scopus.com). Data collection through search tools, namely publish or perish with the keywords green finance, and sustainability finance, with the category title words and keywords in the period 2015–2021. Microsoft Excel was used to evaluate data in the form of a number of publications each year, and journals including articles, authors, and subjects. Meanwhile, the trend of international publication development was analyzed using VOSviewer software.

3 RESULT AND DISCUSSION

Scopus publication developments regarding growth development of publications on the topic of green finance and sustainability finance from 2015 to 2021 consisting of Scopus articles have

experienced a significant increase (You 2021). The highest growth of publications on the topic of green finance and sustainability finance indexed by Scopus occurred in 2021, reaching 84 publications (39.06%) (Zheng 2021). More details about the growth of international publications on the topic of green finance and sustainability finance can be seen in Figure 1.

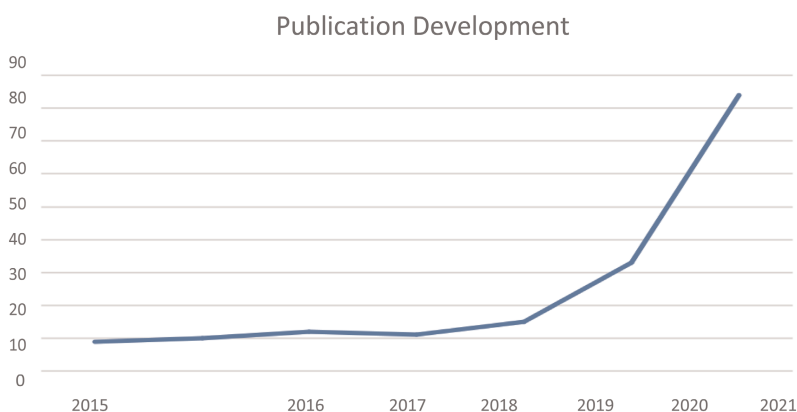


Figure 1. Scopus article publication developments.

3.1 Core journal for the topic of green finance and sustainability finance

Based on the search results with the keywords green finance and sustainability finance with the category title words and keywords in the period 2015–2021, Scopus obtained 215 publications. Of these, it is known that the most publications were in the journal Sustainability (Switzerland) with 21 articles, the Global Finance Journal with 11 articles, Transforming Climate Finance and Green Investment with Blockchains 10, followed by four other journals with eight, six and five published articles, respectively (Dong 2021). Table 1 shows research on the development of green finance and sustainability finance as many as at least 5 published articles from seven journals as shown in Table 1.

Table 1. Core journal of green finance and sustainability finance topics.

Journal name	Number of articles
Sustainability (Switzerland)	21
Global Finance Journal	11
Transforming Climate Finance and Green investment with Blockchains	10
Finance Research Letters	8
Journal of Sustainable Finance and Investment	6
Sustainability Accounting, Management and Policy Journal	6
Journal of Sustainable Finance and Investment	5

3.2 Publication development map based on keywords

Figure 2 shows that based on co-words, the development map of the Scopus-indexed areas of green finance and sustainability finance for 2015–2021 forms 4 clusters. Cluster 1 is purple and consists of the topics of green finance, green finance index, blockchain, blockchain technology, climate finance, green climate fund, green development, and green investment (Madaleno 2022). Cluster 2 is brown, consisting of topics of sustainability, green technology,

internet finance, digital finance, and green innovation (Poberezhna 2018). Cluster 3 is blue and consists of the topics of climate finance, financing, green finance policy, green bonds, green finance work, and sustainable finance (Sarea 2021). Cluster 4 is yellow and consists of finance, green financing, green accounting, green growth, and investment (Verdoliya 2022).

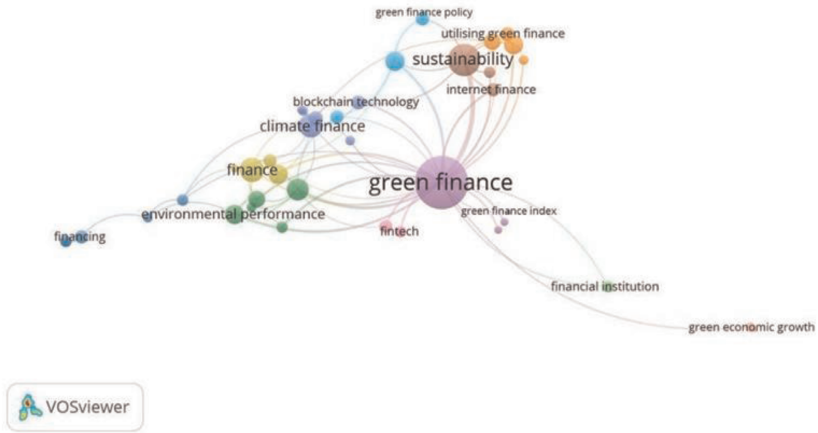


Figure 2. Network visualization topic green finance and sustainability finance visualization of the co-word density map.

The object (label) that is labeled same as the observable item is the cluster density view. Each object dot has a different color depending on the density of the item at the time. The amount of things associated with other items determines the hue of the dots on the map. This section is quite beneficial for getting a general sense of the bibliometric map's nature by focusing on which aspects of the items are considered relevant to research. We'll use this worksheet to decipher the most often-used words in a paper. Figure 3 shows a visualization of the co-word density map of research development in Green Finance and Sustainability



Figure 3. Visualization of the co-word density map.

Finance. Figure 3 displays a density map built by looking at all of the articles that are linked to Green Finance and Sustainability Finance both related and unrelated. Greener is uncommon, and yellow is denser. If the clusters are ordered by keyword, there will be 4 clusters in the figure, so this subject might be used as a starting point for future study.

The visualization describes the development of research in green finance and sustainability finance, which is more likely to be discussed on green finance, followed by sustainability, then environmental performance. This shows some other topics that have not been discussed much and can provide information regarding topics that should be discussed in the future. In this case, financial institutions and green economic growth and green finance policy can be further topics that can be discussed.

4 CONCLUSIONS

As a result of the findings and discussion, it can be concluded that the development of growth in the topic areas regarding Green Finance and Sustainability Finance in 2015–2021 with the highest Scopus index occurred in 2021 which reached 84 publications (39.06%). The majority of publications are released by the Sustainability Journal (Switzerland) with 21 articles and the global finance journal with 11 articles. The development map based on co-occurrence and keywords is grouped into 4 clusters. The mapping can refer to the conclusion that the topic of research on green finance and sustainability finance is still dominated by the topic of green finance. Novelty in this research, sustainability and blockchain are still the most researched topics, This can be a consideration for further researchers in deciding to use other topics that have not been widely discussed. The decision to use quantitative methodologies in conjunction with structural equation model (SEM) analytic tools, particularly partial least square (PLS), geographic research dominates in developing countries. Additional keywords, according to the authors, are needed for future studies so that more research findings are more accurate and complete.

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MOTHAFKA as a communication medium to raise sustainable eco-fashion

F.M. Gasa

Communication Science Department, Faculty of Economics and Communication, Bina Nusantara University, Jakarta, Indonesia

Y.A. Kusumawati & J.D. Nugroho

Visual Communication Design Department, School of Design, Bina Nusantara University, Jakarta, Indonesia

ABSTRACT: Textile waste is an issue and an environmental problem that cannot be avoided. Education is needed for the community on environmental cleanliness, especially among students who are the nation's next generation. Various efforts have been made to increase awareness of environmental cleanliness. This study aims to find out more about how to reduce the spread of textile waste that increased rapidly through thrifting system management. This research target is to find an efficient way to reduce textile waste through thrifting brands, besides just improving low-standard thrifting clothes to gain the interest of people. Based on the design thinking process, this research proposes a design that provides an environment campaign to gain user experience. This research is very important as a medium to increase public awareness of the sustainability of its special environment in the educational environment. *Technology Readiness Level (TRL)* expected in this research is TRL 3, which is achieved by proving important functions/characteristics analytically and experimentally.

Keywords: textile waste, thrifting, TRL

1 INTRODUCTION

Thrifting is done to give an attractive appearance as well as to steal the attention of people who see it at an affordable price and get an attractive appearance. Wearing new clothes costs a lot and comes in small quantities, so people who are trying to be more efficient in managing finances for other purposes encourage to look for alternative ways to achieve their satisfaction by Thrifting, so they will be satisfied with the large stock of clothes to mix and match that can be worn alternately.

However, nowadays, thrifted clothing has a quality that is not unique enough for some people because thrifting clothing actually has decent quality and has limitations in unique patterns. Moreover, thrifting places are very rarely found outside big cities, making thrifting clothes very difficult for people to reach. In retrospectively, thrifting has quite positive benefits; by consuming thrifting clothes, it can reduce textile waste in the world. New innovations in the world of thrifting are urgently needed in order to increase interest and purchasing power in the realm of selling textile waste which is rarely in demand by the general public. Humans always produce waste, both organic and non-organic. Every day humans produce so many kinds of waste, one of which is textile waste. According to the World Bank, the world's major cities produce 1.3 billion tons of waste annually.

The percentage of textile waste by 18 percent increased dramatically from 98 million tons in 2015. Textile waste can be formed as clothes, which means all clothes do not meet the

required quality standards or remain after being used in production. For example, accessories that generally will become textile industry waste are buttons on clothes, metal in zippers, nickel in buckles, chromium in leather accessories, neoprene-based adhesives, rubber in sponges, and hooks on clothes. Although textiles are beneficial for humans, they are also dangerous if it is not used carefully and make it a threat to the balance of nature in the long term. Using eco-sustainable concept methods might promote some aspects such as reuse, recycle, and restyle waste into new and useable goods. Adding elements of art and design to support the beauty of the product. Using technology in a product, such as product barcodes, e-thrifting is a form of solution to these problems of textile waste.

2 LITERATURE REVIEW

Based on preceding studies or journals, the researcher will provide an explanation for the nation of the artwork. The nation of the artwork is a preceding study that has ended up helping and critical cloth in e-lifestyle and sustainable eco-fashion through thrifting studies carried out by researchers. The nation of artwork supplied by the researcher will contain studies on three preceding journals in a shape of a table. It includes the three journals which might be associated with the studies evolved through the researcher, who discusses the subject of e-way of life and eco fashion and additionally includes trouble fixing its issues in the shape of positive output. The nation of the artwork in an effort to be supplied through the researcher will talk about the call of the researcher, the year and name of the studies, the technique used within the studies, the studies variations among those journals, and the studies at the improvement of e-way of life and eco fashion through the researcher, and the study's results. The nation of the artwork of this study is as follows:

Table 1. State of the art.

No	Researcher	Title and year of research	Methodology	Research differences	Result of research
1.	Nina Firdaus, Pongky Adhi Purnama, Ratih Candrastuti	Trend eco-fashion dengan kain Gedog Tuban dalam fashion fotografi Campaign (June, 2021).	Qualitative	This research target create a fashion campaign photo work. The strength photography itself is to be able to record image and communicate certain beauty and is expected to be able to promote eco-fashion trend to Public	The process of making this e co-fashion artwork start from creative thinking and mature concept of representing the eco-fashion appearance through camera lens and fashion event
2.	Prof Doutor Arnaldo Coelho, Prof. Doutor Castela Bairrada	Exploring eco-fashion and ethical fashion consumption. Comparing consumers from Brazil, Portugal and China.	Literature review	The main purpose of this study is to investigate the influence of different ideologies and sustainable fashion consumption as well as the relationship	The result indicates that factor have significant impact on ethical consumption and Attitudes toward eco-fashion include ecological consciousness, fashion

(continued)

Table 1. Continued

No	Researcher	Title and year of research	Methodology	Research differences	Result of research
				between other variables	consciousness, value consciousness, life satisfaction, and shopping frequency. Meanwhile understanding ethical consumption will not affect consumers paying more.
3.	Arasihan Kamis, Nornazira Suhairom, Rahimah Jamaluddin, Rodia Syamwil, Farah Najwa Ahmad Puad	Environmentally sustainable apparel: Recycling, repairing and reuse apparel (January, 2018).	Literature review	This article intend to present information and awareness to the society regarding issue related the importance of recycling textile and apparels.	Society need to be aware regarding the importance of recycling for the benefit of environmental sustainability. If not, recycling practice will be forgotten and only distraction will happen.

3 RESEARCH METHODS

Results of the questionnaire research have been distributed and filled out by as many as 56 respondents consisting of 24 men and 32 women in the adult age range or at the age of 3060 years. From 56 respondents, it is known that 2 respondents come from abroad and 54 others from within the country and are dominated by the City of Malang with 39 respondents. This method is explained with several steps.

3.1 *Empathize*

Empathy is at the heart of the human-centered design process. The main goal of this process is to understand humans, in context with design goals. In this process, we are invited to understand how humans do things and why they do them, what people's physical and emotional needs are, how they think about the world, and what it means to them. At the first step of the research is to determine the assessment of textile waste used in the design progress. In this design progress process, they will conceive of thought before entering the deepest search from Eco fashion, including selecting sources of textile waste that can be reprocessed, namely, thrifting shops and choosing expert designers and tailors who can realize the design important elements.

3.2 *Define*

After observing the empathy process, we obtained some important information needed to carry out the design process. At this stage, designers are invited to think and interpret what is happening. The main aim is for the designer to gain insight from this phenomenon and for

the designer to have a perspective on this issue. The second step is research the development of thrifting products in order to get new unique and original products with good quality. The thrifting products that we found will be directly processed by experts according to consumer orders, the product will be done if there is an order but of course, we also provide products ready to use and some of them are special designs.

3.3 *Ideate*

Ideate is a design process in which designers focus on developing a wide variety of ideas. This process becomes very important because at this stage various possible solutions to solve the problem will appear; designers must think “wild” and not be limited to getting various ideas to solve a problem. The third step is to research the branding of thrifting products that have been processed into new and original products. In addition, in this step, researchers also examine how the most efficient way to promote Eco Fashion products made from processed thrifting clothes, apart from the cheap price, the new style must be unique. and original. Researchers are also thinking about ways to disseminate information about this progress in the future in order to reduce the flow of textile waste which is increasing rapidly every year.

3.4 *Prototype*

Prototyping is the process by which acquired ideas are built into smaller-scale designs. the goal of this process is for users to directly image the design solution they will receive, as it will be easier for designers to explain their ideas with prototypes rather than words. According to the design thinking methodology, prototypes usually do not need to be detailed or working prototypes at an early stage of the process. In this process, researchers design environmentally eco-friendly fashion items combined with art and technology.

3.5 *Test*

In this process, the designer tries out the design and gets feedback from users and others who use it. The way to do this process is to invite users to use the design process and use it in everyday life. In this test, we got a good response and are interested in using our product.

4 RESULT AND DISCUSSION

This section is a process where a brand from MOTHAFKA is started. This chapter also describes the journey from used clothing waste materials into usable goods with changes in design and implementation. This section also contains several meanings of the MOTHAFKA brand elements. The results and discussion section are also a series of what makes this brand stand. Based on the consequences of studies that have been finished by the researchers, they will create a style emblem as a shape of over waste from the style industry. Researchers have conducted further research in the process of creating the prototypes. Therefore, the researcher has additionally decided the call this waste eco-style emblem, to be able to be defined on this bankruptcy too.

4.1 *Implementation of MOTHAFKA*

This brand is a name formed from a problem sentence about the textile waste that is just thrown away, which can also be seen from the name of this brand which uses natural elements. This brand was created by researchers with the philosophy of the proliferation of thrifting clothes. This brand is also a unique brand and is quite attractive because this brand is a product of recycled waste with some artistic touches and the help of technology to package it in social media promotions which are quite meaningful in this modern era.

Researchers want to show that the MOTHAFKA brand also participates in environmental care, especially in the recycling of textile waste as recently, terms such as eco-friendly and environmentally friendly have become a trend that many Indonesians talk about in advertisements, talk shows, and product packaging. Eco-friendly or environmentally friendly has been widely used for various types of products; the meaning of environmentally friendly is not harmful to the environment. This term often refers to products that contribute to a “green living” lifestyle or a lifestyle that saves energy and water. Organic and eco-fashion have become quite a big thing and are a real manifestation of the fashion community in developed countries.

Eco-fashion is a fashion product that is produced with an environmentally friendly process in the process. Eco-fashion products can use recycled old clothes or even use other recycled materials such as newsprint, soda cans, plastic bottles, pineapple fiber, suji fiber, and others. Eco-fashion is not always created with organic fibers. Organic fashion is clothing that is produced by minimizing the use of chemicals in every process and reducing the impact of damage to the environment. Eco-fashion can be interpreted as clothing that uses environmentally friendly materials and techniques; the materials used mostly use 100% environmentally friendly materials, but if this cannot be achieved, there are still efforts to achieve environmentally friendly materials. The goal of eco-fashion itself is to create products that are responsible for nature and friendly to the environment and its users. To create an eco-fashion trend, it is necessary to have a role and communication to create awareness or awareness to the public so that they can be more concerned, and open to environmentally friendly issues.

When viewed from the content of the brand name elements, MOTHAFKA is an unusual brand. Because MOTHAFKA before standing out, the researcher has been looking for references for the name. MOTHAFKA is a sentence that is created with a different uniqueness in each garment that will be created. This MOTHAFKA brand is the result of the implementation of researchers in pouring creative ideas into every textile waste cloth wrapping into a beautiful work of art wrapped in fashion. From all of this, based on the research result led by the researcher led by the researcher, the researcher created this request with the name of MOTHAFKA, the researcher created this mark with the name of MOTHAFKA based on patterns and specific purposes.

The image shows the logo for the brand MOTHAFKA. The word is written in a bold, black, brush-stroke font. The letters are thick and have a textured, hand-painted appearance with some white highlights and shadows, giving it a dynamic and artistic feel. The font is all-caps and has a slightly irregular, organic shape.

Figure 1. Logo design.

The word MOTHAFKA is taken from the word of mother of nature as MOTHA and unique, artistic, and trendy in fashion as FAKA. The reason the researcher gave me a name to the brand is that it was inspired by the problem of the environment being damaged due to textile waste being wasted and no one cares about pollution. This name has an element of concern for nature which becomes an implementation as if a mother cares for her child.

Therefore, MOTHA is a form of implementation of the word mother in English. And FAKA is an implementation of aesthetic, artistic, and unique fashion. In this section, the researcher gives a brand with the concept of a beautiful stroke from a brush that gives a beautiful and stylish effect on the name MOTHAFKA. Wrapped in black or white, it gives an elegant feel and looks like a contrast to the implementation of product photos and also the cloth tags that will be used. The problem of textile waste can be solved through several stages such as recycling into new goods by involving the process of pouring creative ideas, the process of making sketches, selecting materials, cutting, sewing, measuring, fitting, and pouring art and technology media. In this study, it is also an insight to overcome textile waste in the world of the fashion industry, which with time is getting more and more polluted

environment in vain due to human activities, especially textile waste from the fashion industry. Based on what the author has gone through during the process of making this final project, the writer can conclude that the process of making this work must start with creative thinking and mature concepts. From concept development to the creation of this work, writers and fashion designers go through a creative process to produce clothes with concepts that are suitable and in accordance with the theme.



Figure 2. Textile selection.

This brand also requires a special selection of materials. The selection of this material aims to select a waste that can still be used, is still suitable for use material that is not suitable for use, of course, and it should not be thrown away and is not needed. Waste materials that are not fit for use will be reused by researcher to be used as accessories and some elements in this product. In this section, the researcher explains how a selection of waste materials can be categorized as suitable waste. The explanations are as follows:

- 1) Waste can be said to be suitable for use if the basic material of the fabrics does not have small to large holes.
- 2) The state of the waste is still within the range of colors not fading.
- 3) The threads in textile waste are still intact, at least not broken.
- 4) The color of the waste cloth should not be affected by other waste.

In this explanation, the researcher explains the series in selecting a textile waste that must be considered. If this is not appropriate, the waste does not pass the selection and becomes a fashion accessory and equipment. This time, the researcher has the theme and concept of “wild and dare, born different”. In this concept, the researcher has the meaning that a monotonous life seems ordinary and boring. The researcher has a concept that is beyond reason and turns it into an idea. The ideas over overflowing in a unique, quirky, and different fashion artwork. Packed in a bandage against the rules of life. Violating the norms with the intention of men usually wearing clothes that look gentle and mature like men in general. Wearing eccentric clothes are evidence of the researcher’s implementation of this work.

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not harmful to the environment. This term often refers to products that contribute to a “green living” lifestyle or a lifestyle that saves energy and water. Organic and eco-fashion have become quite a big thing and are a real manifestation of the fashion community in developed countries. Eco-fashion is a fashion product that is produced with an environmentally friendly process in the process. Eco-fashion products can use recycled old clothes or even use other recycled materials such as newsprint, soda cans, plastic bottles, pineapple fiber, suji fiber, and others. Eco-Fashion is not always created with organic fibers. Organic Fashion is clothing that is produced by minimizing the use of chemicals in every process and reducing the impact of damage to the environment. Eco-fashion can be interpreted as clothing that uses environmentally friendly materials and techniques, the materials mostly used 100% environmentally friendly materials, but if this cannot be achieved, there are still efforts to achieve environmentally friendly materials. The goal of eco-fashion itself is to create products that are responsible for nature and friendly to the environment and its users. To create an eco-fashion trend, it is necessary to have a role and communication to create awareness or awareness to the public so that they can be more concerned, and open to environmentally friendly issues.



Figure 3. Design, measuring, and sewing steps.

In this section, the researcher explains that the next step is to make a pattern. Creating a pattern is needed to match the wishes of the creativity of the researcher. It is also useful for determining the size of the clothes to be worn. At this stage, the researcher makes a pattern so that the results will be following the ideas and concepts that have been made. In the next stage, the researchers sewed parts of the fabric from the textile waste. This stage is also called sewing patterns according to the pictures on paper. Researchers carried out this sewing activity according to the concept, where the stitches contained several unique patterns. This is a way to find out if a product is suitable for your body shape or not. In this fitting process, it can be done directly or worn by humans, and you can use the mannequin method by attaching and applying it to properties that are like humans.

In Figure 4, it can be seen that the researcher created a top suit which is an outer with an oversized size on the body. On the sleeves, it is made according to the over-medium size whereas in this size, the sleeves are a little loose and not too big. Researchers used cotton waste materials that were not used and combined it with the rest of the jeans waste that came from the jeans. In this outer concept, the researcher creates the same concept and theme from the subordinate's suit, but with the addition of the concept of euphoria art. Where on the back of this work, a touch of art is given in the form of quirky and eccentric paintings when viewed directly will look unique and also different.



Figure 4. Finished result.

Researchers used the brush coloring technique using special paints for textiles. Before painting on the cloth, researchers need ideas and also a rough picture, which can also be called a sketch. After going through the process of sketching and coloring, the researchers carried out a process whose name was drying. the purpose of this drying process is to dry the painting that is painted on the cloth and for the last process, it requires a spray-like gloss liquid. Researchers use this spray to polish the work of painting on the fabric. The problem of textile waste can be solved through several stages such as recycling into new goods by involving the process of pouring creative ideas, the process of making sketches, selecting materials, cutting, sewing, measuring, fitting, and pouring art and technology media. In this study, it is also an insight to overcome a textile waste in the world of the fashion industry, which with time is getting more and more polluted environment in vain due to human activities, especially textile waste from the fashion industry. Based on what the author has gone through during the process of making this final project, the writer can conclude that the process of making this work must start from creative thinking and mature concepts. From concept development to the creation of this work, writers and fashion designers go through a creative process to produce clothes with concepts that are suitable and in accordance with the theme.



Figure 5. Final design.

Figure 5 shows the top or outer which is produced from textile waste in the form of cotton cloth with a blend of textile waste from muted blue jeans. With a touch of euphoria art depicted on the back of the outer, it adds a unique and different artistic value. Researchers break down fashion by changing the stigma and old-fashioned thought of society that fashion knows no gender, everyone can feel fashion regardless of gender and whatever the reason is. The researchers are also very concerned about the environment by creating a MOTHAFKA craft with the theme of recycling textile waste into new works in the world of fashion that are unique, different, and quirky with a touch of art and technology. The touch of technology lies in helping social media in developing MOTHAFKA products so that the audience can know more about what MOTHAFKA is. The researcher also applies the theme “wild and dare born different” to this work.

The 14-day challenge feature was also introduced by the researcher so that users not only gain knowledge about textile waste but also raise the demand to create artwork. Researchers want to show that the MOTHAFKA brand also participates in environmental care, especially in the recycling of textile waste as recently, terms such as eco-friendly and environmentally friendly have become a trend that many Indonesians talk about in advertisements, talk shows, and product packaging. Eco-friendly or environmentally friendly has been widely used for various types of products; the meaning of environmentally friendly is not harmful to the environment. This term often refers to products that contribute to a “green living” lifestyle or a lifestyle that saves energy and water. Organic and eco-fashion have become quite a big thing and are a real manifestation of the fashion community in developed countries. Eco-fashion is a fashion product that is produced with an environmentally friendly process in the process. Eco-fashion products can use recycled old clothes or even use other recycled materials such as newsprint, soda cans, plastic bottles, pineapple fiber, suji fiber, and others. Eco-fashion is not always created with organic fibers.

Organic fashion is clothing that is produced by minimizing the use of chemicals in every process and reducing the impact of damage to the environment. Eco-fashion can be interpreted as clothing that uses environmentally friendly materials and techniques, the materials used mostly use 100% environmentally friendly materials, but if this cannot be achieved, there are still efforts to achieve environmentally friendly materials. The goal of eco-fashion itself is to create products that are responsible for nature and friendly to the environment and its users. To create an eco-fashion trend, it is necessary to have a role and communication to create awareness or awareness to the public so that they can be more concerned, and open to environmentally friendly issues.

4.2 *Mothafaka as a communication medium*

Over time, people’s perspectives on fashion have changed especially because of the green movement. The ‘green movement’ in fashion is just one aspect of the fundamental shift towards more conscious consumption in many fast-growing and diverse product and service markets around the world (Holgar *et al.* 2009). There is a connection between fashion, sustainability, and communication. Fashion can be seen as a medium of communication to share any campaigns about sustainability. Most obviously, then, fashion and clothing are forms of nonverbal communication in that they do not use spoken or written words. The question immediately arises as to whether, given that they are nonverbal forms of communication, fashion, and clothing may be treated as being in some way analogous to spoken or written language (Barnard 2002).

Barthes (1983) in Karunarante (2018) tried to develop a theory that attempted to consider clothes as a kind of language. He distinguishes between three forms of clothing; the real garment, the represented garment, and the used garment. These are three forms of existence applied to the garment on its path through the fashion system. The real garment is the actual physical garment that is produced, the represented garment is that which is displayed in fashion magazines and advertising, and the used garment is what is bought and worn.

MOTHAFKA is a sign that stands for the idea which it supports this green movement by using thrifted clothes. As Gottdiener (1995) said in Karunarante (2018) that “a sign stands for something to the idea which it produces or modifies; or it is a vehicle conveying into the mind something from without. That for which it stands is called its object; that for which it conveys its meaning and the idea to which it gives rise, its interpretant.”

5 CONCLUSION

On the basis of the results of the research on the developments of this brand and a study of its literature, it can be concluded this problem of textile waste can be solved through several stages such as recycling into new goods by involving the process of pouring creative ideas, the process of making sketches, selecting materials, cutting, sewing, measuring, fitting, and pouring art and technology media. In this study, it is also an insight to overcome textile waste in the world of the fashion industry, which with time is getting more and more polluted environment in vain due to human activities, especially textile waste from the fashion industry. Based on what the author has gone through during the process of making this final project, the research can conclude that the process of making this work must start with creative thinking and mature concepts. From concept development in the creation of this artwork, researchers and fashion designers go through a creative process to produce clothes with concepts that are suitable and in accordance with the theme. This is supplied on the premise of studies improvement that has been achieved with the aid of using researchers, and it is able to assist to make contributions the growth of self-consciousness of the risks from fabric waste. MOTHAFKA logo could make it simpler for customers to deal with the risky of fabric waste. Based on the general studies results, this study on the improvement of fabric waste has met the expectancies of researchers. MOTHAFKA logo may be designed in step with the rerespondents' solutions or expectations. Therefore, researchers wish that this study may be beneficial for society.

ACKNOWLEDGMENTS

This work is supported by Bina Nusantara University as a part of research entitled "MOTHAFKA: As a communication medium to raise sustainable eco-fashion".

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Jempol paten: A technology-based public service innovation

Iraddhad Taqwa Sihidi, Holifah, Salahudin & Ali Roziqin

Department of Government Studies, Faculty of Social and Political Sciences, Universitas Muhammadiyah Malang

ABSTRACT: Public Service Innovation Pick up the Sub-District Integrated Administration Service (JEMPOL PATEN), an innovation from the Sub-District Integrated Administrative Service focuses on managing e-KTP by visiting people in need, such as the disabled, the elderly, and the underprivileged. This paper aims to identify JEMPOL Patents' innovativeness level in Sumbermalang Sub-District, Situbondo Regency, and their obstacles. The analytical theory used refers to the level of innovation model according to Rogers (1983), namely, knowledge, persuasion, decision, implementation, and confirmation. The research method used is the descriptive qualitative method, with interviews as the primary data collection technique in addition to observation and documentation. The results of the study indicate that the existence of the Jempol Paten Public Service Innovation can facilitate the public in managing e-KTP. Several obstacles do not reduce the innovation level of JEMPOL PATEN because there are also supporting factors that make the Jempol Paten Innovation still implemented today.

Keywords: innovation, public service, JEMPOL PATEN

1 INTRODUCTION

The sub-district government is one of the authority units of the provincial government, which has an essential position because it can be in direct contact with the local area. Regulation of Law Number 23 2014 Local Government, (2014) has ordered that “local governments, which regulate and manage their government affairs according to the principles of autonomy and assistance tasks, are directed to accelerate the realization of community welfare through improving services, empowerment, and community participation, as well as increasing competitiveness by taking into account the principles of democracy, equity, justice, privileges and specificity of a region in the system of the Unitary State of the Republic of Indonesia”. Improved services provided by the government to the community in the form of public services. Public services are facilities provided by the government to solve problems needed by the community (Arundel *et al.* 2019; Eliasson 2017; Liu 2021; Uyarra *et al.* 2019; Vento 2020). Based on the decision of State Apparatus Empowerment Ministry (MENPAN) No. 63/KEP/M. PAN/7/2003 and Law No. 25 of 2009 concerning Public Services, there are three public services: administrative services, goods, and services (Setijaningrum 2017:25). The problem of offering this type of assistance is still not ideal, although it is suitable to offer the type of assistance that is not difficult to access, as indicated by the needs of the residents, and is carried out in a participatory manner and relies on relevant standards (Firlena *et al.* 2016).

It was based on Situbondo Regency Government Regulation Number 35 of (2018) concerning “delegation of part of the authority for implementing licensing and non-licensing in sub-districts within the government of Situbondo Regency”. Based on implementation by Ministry of Home Affairs Number 4 of 2010 guidelines for integrated sub-district administration services, “all guidelines for integrated administrative services, as regulations that

require every sub-district in Indonesia to implement (Integrated Administrative Services/PATEN). To improve services to the community and shorten the service process to provide fast, cheap, easy, and transparent services to realize the community's welfare. The Sumbermalang District office is one of the government offices that implement Integrated Administrative Services (PATEN) in Situbondo Regency by providing public services to the community according to the Integrated Administrative Services (PATEN) policy. PATEN in Sumbermalang sub-district, whose function is as a public service provider for the community of the Sumbermalang sub-district, especially those whose administrative steps from the application to the archive publishing stage are completed in one place or one service door. As a community service center and is expected to be able to provide good service quality. The PATEN motto of the Sumbermalang sub-district is HEBAT (i.e., harmonious, effective and efficient, quality, accountable, timely, and Transparent).

Table 1. Types of services and forms of affairs at the Sumbermalang sub-district office.

Kind of service	Form of affairs
Non-permission	Cover letter for moving residents statement, cover letter for moving in, Legalizing proposals submitted by the community, e-KTP recording, cover letter for research survey recommendations, cover letter for crowd permits, cover letter for NTCR statement (marriage, divorce, divorce, reconciliation), cover letter SKCK, print e-KTP (for beginners), print family cards, print birth certificates.
Permissions	Dispensation for marriage, permit to establish a business (IMB), micro business license (IUM), certificate of business license, certificate of incapacity, certificate of self-cleaning, certificate of heirs.

Source: Sumbermalang sub-district office 2021.

Table 1 shows the types and forms of integrated administrative services provided by Sumbermalang D sub-district. One of the population administrations, especially e-KTP, has become a program implemented by the Government for all citizens in Indonesia. Wahyudi *et al.* (2019) emphasized that “e-KTP or electronic KTP is a population archive that contains a security/control framework in terms of regulations and data that depends on a collection of community population data. Residents can only have 1 (one) KTP containing a Population Identification Number (NIK). NIK is the main number for each resident and is substantial forever. The NIK number on the e-KTP will later be used for making visas, driving licenses (SIM), taxpayer identification numbers (NPWP), protection strategies, wills for land rights, and the issuance of other personalities” archives.

Based on Sumbermalang sub-district's reports, there were several problems in previous years, especially in recording e-KTPs and community complaints, including the elderly, poor, illiterate, disabled groups, ethnic minorities, and even teenagers regarding services for making e-KTP. Many people in Sumbermalang sub-district do not yet have an e-KTP and have not recorded an e-KTP. Thus, with the Integrated Administrative Service, this must be overcome. In 2018, the Sumbermalang Sub-District Integrated Administration Service made an innovation for the Integrated Administration Service (JEMPOL PATEN) pick-up to solve problems in recording e-KTP management in the Sumbermalang sub-district. Innovation means a renewal of the services provided previously (Brock 2020; Sibelet *et al.* 2021), if, before the innovation of the community, it was still difficult to get services with the innovation of the community. It will be easier to get public services from the sub-district of Sumbermalang. JEMPOL PATEN is an innovation that can provide convenience to the public in e-KTP management services. This innovation was implemented in nine villages throughout the Sumbermalang District, especially in villages with remote access, such as Taman Kursi, Sumberargo, Alastengah, Taman, and other villages in Sumbermalang district.

Table 2. The composition of the JEMPOL PATEN innovation team in Sumbermalang subdistrict.

No.	Job description
1.	Person responsible
2.	Chairman
3.	Member
4.	JEMPOL PATEN's up team

Data source: Sumbermalang sub-district office 2021.

If seen after the existence of the Jempol Paten program has helped reduce the number of mandatory e-KTP's to have e-KTPs and helped residents who have entered old age and people with disabilities who are no longer able to come directly to the Sumbermalang Sub-District office to make arrangements for their e-KTP. Because as we know that elderly and disabled people need special attention, and getting good quality public services is not discriminatory to their limitations.

Table 3. e-KTP population data and population data not yet E-KTP Sumbermalang sub-district.

Year	Resident e-KTP	Not yet e-KTP	Total population
2016	10,081	16,349	26,430
2017	12,471	13,937	26,408
2018	15,003	11,464	26,467
2019	18,443	7,915	26,358
2020	25,768	2,882	28,648

Source: Sumbermalang sub-district office 2021.

It is often heard that progress cannot be separated from something new and is identified with all parts of life, which is one of the variables that play an important role in dealing with and overcoming various problems, both those involving humans, networks, associations, and the state. The progress of a country is an important watchword if it has the undeniable results of a strategy that can meet the global community's needs (Sururi 2019). Public service innovation is a necessity for the central government and the environment to implement decentralization to build community welfare, success, and freedom for the regions (Yanuar *et al.* 2019). Public service innovation is a real practice of new governance (Brock 2020; McGann *et al.* 2018; Leckel *et al.* 2020; Lee 2017) proven to produce optimal public services (Mahboob *et al.* 2019; Pólvara & Nascimento 2021; Poveda & Jimenez 2019).

It can be proven from Table 3 above that the existence of the JEMPOL PATEN innovation reduced the number of people who do not have an e-KTP from 2018 to the present. This happened because many already had e-KTPs and received the JEMPOL PATEN public service innovation that the integrated administrative service office had given Sumbermalang sub-district. The e-KTP recording data above includes the overall recording that goes through the JEMPOL PATEN or those who come directly to the Sumbermalang sub-district office to record the e-KTP. Departing from the description above, the researcher intends to look in detail at the JEMPOL PATEN public service innovation program, especially in the public service of recording e-KTP management in the Sumbermalang sub-district.

2 METHOD

This research was conducted to understand better the innovativeness of the Public Service Innovation of Jempol Paten in Sumbemalang sub-district, Situbondo Regency, which was analyzed based on Rogers' theory (1983): Knowledge, persuasion, decision, implementation, and confirmation. Moreover, see what kind of inhibiting and supporting factors occur during the implementation of the JEMPOL PATEN public service innovation. The research method uses a descriptive approach. A descriptive research model that can help analyze data in writing is using qualitative. Moeleong & Lexy (2002:112) in Dewantara & E-mail, (2011) defines qualitative methodology as a research procedure that produces descriptive data in the form of written or spoken words or from the structure of policy actions.

As indicated by Creswell, using qualitative research strategies dissects problems starting with social problems (Creswell 2016). As indicated by Creswell, subjective examination strategies dissect problems starting from social problems (Creswell 2016). Qualitative research can clarify issues in detail from the issues raised and have the option to investigate facts, models, and evidence directly by introducing data information. Raising reality by contemplating and understanding the current case or issue enables one to focus on the problems which can be obtained by providing questions and collecting data from resource persons who have become the objects of research, particularly or in detail related to the Jempol Paten Public Service Innovation in Sumbermalang Sub-District, Situbondo Regency.

Data were collected through interviews, observation, and documentation techniques. The research subjects selected through the purposive sampling technique were the sub-district head of Sumbermalang as the person in charge of JEMPOL PATEN innovation, the JEMPOL PATEN implementation Team as the executor of the Jempol Paten Innovation field trip, and the community as the recipient of the JEMPOL PATEN innovation. Finally, the data were analyzed by data collection techniques, display, and conclusion.

3 RESULTS AND DISCUSSION

Based on the initial observations found in research on the application of JEMPOL PATEN innovations in the Sumbermalang sub-district, more human resources are needed to support the implementation. This is because, from the information, it was found that only 3 people were directly involved in the JEMPOL PATEN program as a field team, as described in Table 2. If, for example, there were about 6 people, it might be more optimal because innovation is social and often interact with individual communities, it is necessary to pay attention to the residents' experiences before having an e-KTP and opinions about this innovation and after the innovation as well as the opinion of the population after getting an e-KTP in the application of this innovation. Therefore, its function is to increase the Human Resources (HR) of the implementing team so that they are not too overwhelmed because the process from recording to printing the e-KTP takes quite a long time.

Public service innovations in the e-KTP program through the ball pick-up innovation in Sumbermalang sub-district are described using the sequence according to the operational definition. The order of analysis and discussion of interview results is the development of Rogers' specific theory, as shown below.

(a) Knowledge stage

At this stage, the information obtained by the public is regarding the Jempol Paten Innovation. Some people, especially those far from the Sumbermalang sub-district office, do not yet have information about the Jempol Paten innovation. Such as Alastengah Village and Taman Village, which are located far from the Sumbermalang sub-district office, about \pm 20 km. Therefore, information about the JEMPOL PATEN innovation must be conveyed through various existing communications, including brochures and interpersonal

communication between the community and village officials. So it can be said that it is in line with Rogers' theory that the knowledge stage where this stage is useful for providing information to the target community that innovation in the form of a JEMPOL PATEN is expected to have more advantages and value compared to the previous e-KTP service.

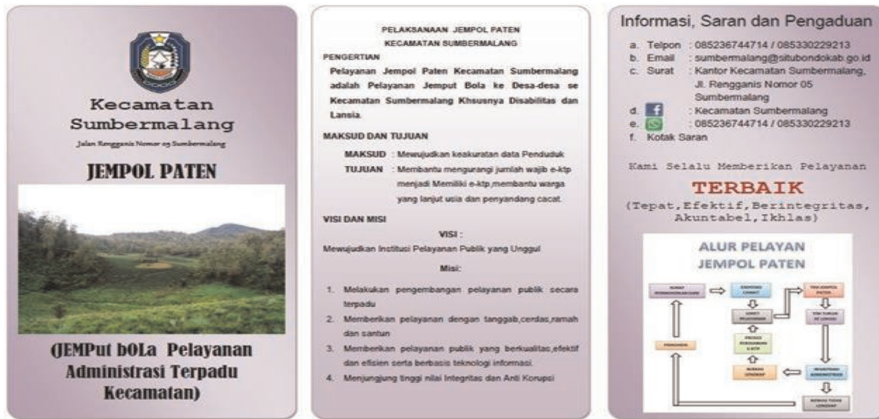


Figure 1. JEMPOL PATEN brochure.
Data source: Sumbermalang district office documentation 2021.

(b) Persuasion stage

Based on the interview results, it is known that the JEMPOL PATEN innovation planning process is a stage of persuasion in the process of persuading decision-making to form an innovation, which in this process must be planned according to the circumstances and needs of the community. Because at this stage, it is an inducement to the community to accept the innovation. Where the role of the government, especially the Sumbermalang Sub-District in the interview, it was also known that before the formation of the Jempol Paten innovation program, the Sumbermalang District also carried out several plans so that innovation could run well and on target, Suprpto described this as the Thumb Patent implementing team in the following interview answers:

Looking at the community's needs, the factors why people are lazy to apply for an ID card to the office because of remote access and you can say many remote villages, lack of information about the importance of e-ID card, village people feel that e-ID card is not too important because they will take care if only if they are needed, so if they are not needed they will not take care of the e-KTP especially if they think about it, especially since they are old, they think that e-TP is not too important, they also don't know that eKTP is free. So with this factor, the sub-district office took the initiative to make an innovation to pick up the ball directly from the community, who can't take care of e-ID cards directly. Innovation is made part of the sub-district service. They were entering into innovation in the field of integrated sub-district administration services. The plan was approved by the CAMAT SK because pure innovation was born from the innovativeness of sub-district employees looking at the problems. For the budget for *JEMPOL PATEN* innovation, it is included in the budget for integrated administration services, there is no special budget for this innovation (Interview results on Monday, March 22, 2021).

Even the planning stage was carried out starting at the end of December 2017 after undergoing a planning process and carefully considering the community's constraints. So the

The second socialization was held on January 4, 2018, one day after the first socialization, where it was done in this socialization to collect the village head and village officials whose village was not far from the sub-district, namely the Tlogosari village apparatus, the Baderan village apparatus, the Plalangan village apparatus, the Tamansari village apparatus, the Taman Kursi village apparatus, and the Sumberargo village apparatus. The distance between the village and the sub-district is approximately 2–10 km and collected in the office hall of the Sumbermalang sub-district. This is obtained from the results of interviews with Suprpto as the Jempol Paten implementation team in the following interview answers:

The socialization was carried out to the village head and all village officials to convey to the community that there was an innovation in the *JEMPOL PATEN* service, so that after the team of officers came down, the community immediately accepted it and was not surprised because the village apparatus had been informed. So the socialization was carried out by collecting data from several village officials on the people who needed to be picked up by the ball. The minus is that this innovation is only socialized to the village head and officials, not directly to the community. After the socialization to the village apparatus, the patent implementing team then asked for data from the community who had the criteria for picking up the ball (Interview Results on Monday March 22, 2021).

In the socialization process, of course, there are several considerations from village officials because village officials are more familiar with the community so learning related to *JEMPOL PATEN* is not only felt by the community as service recipients but also by service providers. Therefore, it can be said that in line with Roger's theory at the decision, stage carried out through village officials to be conveyed to the community, it can be said that innovations can facilitate the service process to the community, especially in making e-KTP. Facilitate the adaptation process and decision-making process by the community with assistance from the government in the form of socialization related to the procedures for obtaining e-KTP through Jempol Patens, and the functions and uses of e-KTP.

(d) Implementation phase

At this stage, it is the implementation of the *JEMPOL PATEN* Innovation, determining whether to continue the use or reject the innovation because, in its implementation as a trial implementation, it also has criteria to make the innovation have initial evaluation results. Rogers argues that although attitudes toward innovation have been formed, a level of uncertainty still exists within individuals when using innovations. Therefore, the results of this implementation phase will determine whether the adopter will decide to use the Jempol Paten innovation or switch not to use it. From the previous stage, it was shown that several people decided to accept the *JEMPOL PATEN* innovation, which can be seen in Table 4, e-KTP recording data. The implementation of the *JEMPOL PATEN* started in 2018 after the sub-district head's Decree issuance until now.

Table 4. Data on number of recordings of e-KTP and number of recordings of *JEMPOL PATEN* innovations 2018–2020.

No.	Year	e-KTP recording	<i>JEMPOL PATEN</i> 's e-KTP recording
1.	2018	3,277 people	332 people
2.	2019	2,534 people	280 people
3.	2020	622 people	64 people

Source: Sumbermalang sub-district office 2021.

It can be seen from the data on the number of recordings in the table above, it shows that the community has started to take care of the e-KTP, and it can reduce the data on the people of the Sumbermalang sub-district who do not have an e-KTP. The Jempol Paten innovation is carried out by using cars and motorbikes in villages by the JEMPOL PATEN innovation team officers. To build access and bring services from the sub-district center to rural communities constrained by access to services, access information, and transportation in the Sumbermalang sub-district as a form of constraint from complaints on services for managing or making e-KTPs.

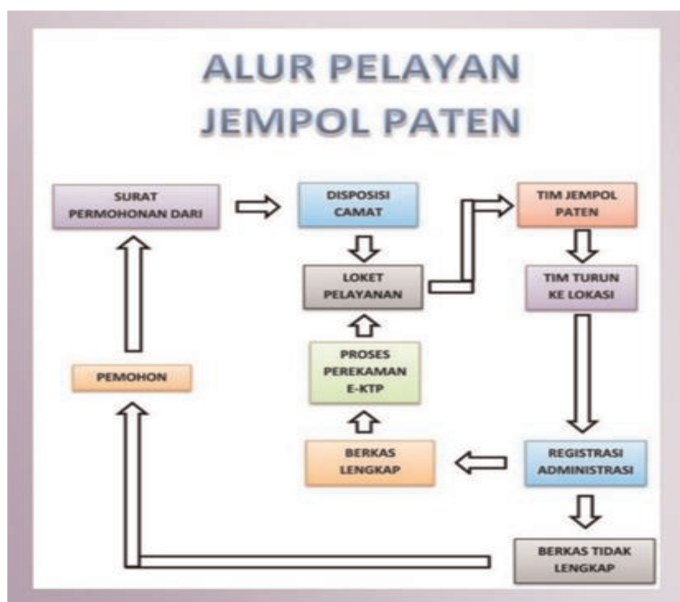


Figure 3. JEMPOL PATEN service flow.
Source: Sumbermalang Sub-District Office 2021.

The flow procedure used in 2019 makes it easier for the community because the community can report directly to the village that it has the pick-up ball criteria, there is no need to wait for data collection as in 2018. Furthermore, this makes it easier for the implementing team to collect data because there is already a submission from the community. The flow used in Figure 3 is delivered by Suprpto as the implementation team of JEMPOL PATEN.

The applicant comes to the village to request a letter of application from the village after checking that it meets the criteria, the applicant’s letter is submitted to the sub-district office by the village apparatus. If the sub-district approves it by getting a disposition from the district head, then head to the service counter of the sub-district office. After that, the service counter submitted it to the Jempol Paten team for network verification, time, and place. After verification, the JEMPOL PATEN team descends to the administrative registration location of the filing applicant to record the e-KTP. If the file is incomplete, it is asked to complete the file first.

In 2020, the implementation of the JEMPOL PATEN will still be carried out despite the pandemic because even with the pandemic conditions, the community must still get the needed services so that the community can feel satisfied with the services the Sumbermalang sub-district provides. The implementation is still carried out using health protocols. Avoid many face-to-face meetings with the public so that in 2020, only a few get the thumb patent

service compared to the previous year. The implementation was carried out in 9 (nine) villages in the sub-district of Sumbermalang. The easier it is for an innovation to be understood and understood by innovation users, the faster it can be used. JEMPOL PATEN's innovations offer a newer and better way of deployment. With this, the rediscovery of the JEMPOL PATEN innovation to obtain an e-KTP is generally no longer a problem in society. The purpose of innovation which is a form of solution to overcome problems in the organization, requires development so that community welfare is maintained, in the public sector innovation planning is needed to increase efficiency and reduce community costs (Suwandy *et al.* 2019).

In the innovation of the JEMPOL PATEN public service, there are only three implementing teams who go out in the field, according to the researcher, if there are only three people, it is not optimal, especially considering the condition of the Sumbermalang sub-district, which has nine villages. In the research on public service innovation, the Krian Sidoarjo sub-district explained that maximum service and closeness from the sub-district apparatus with the community were needed in order to be able to increase community satisfaction in receiving services (Fahmi Bima Nugraha & Fanida 2021). Therefore, public service innovation is a form of service that facilitates the community. Along with JEMPOL PATEN innovations, seen from previous research on Public Service Innovations, it also mentions that Jebol Anduk public service innovations Dispendukcapil Malang Regency facilitate and speeds up the administrative management process carried out by the community (Lokabora & Fithriana 2018).

(e) Confirmation stage

Once a decision is made, a person will seek to justify it. After seeing the implementation, of course, monitoring and evaluation will appear. Someone can change a previously rejected decision later, to accept the innovation after an evaluation, or vice versa. The one who had previously accepted it would reject it after being tested for its implementation. The analysis results show that the Sumbermalang sub-district conducts monitoring and evaluation as a comparison and reinforcement of innovation to continue to be carried out sustainably. This innovation also monitors and evaluates when its implementation begins at the confirmation stage. As the results of an interview with Mr. Hariyus, the Head of the Sumbermalang sub-district as the person in charge of the following:

Monitoring and Evaluation (Money) carried out by the sub-district is at the beginning of the year checking what the shortcomings are each year to be updated for the better. In the first year, because it was felt that it could run as desired, in 2019, a service flow was made to make it easier. And every year, the sub-district sends a letter to the village about checking community data that meets the ball pick-up criteria. The sub-district head's monitoring every time he picks up the ball must be at the disposition of the sub-district head so that even if the sub-district head does not come directly, the sub-district head knows where to pick the ball up. And the evaluation was carried out by the sub-district head in the form of the sub-district head asking for a report on whether it was true that the ball pick-up had been carried out in the village. (Interview results on March 24, 2021).

Through monitoring and evaluation (money) activities, the success, impact, and constraints of implementing a program can be known. In terms of implementation, money requires the skills of officers. The officer is a skilled evaluator to collect various data according to the purpose of monitoring and evaluation. One of the efforts to improve and improve the quality of public services is to conduct an evaluation to assess service performance from the evaluation of the community in the form of the results of the Community Satisfaction Index (IKM). JEMPOL PATEN Innovations must pass the confirmation stage.

This is done by monitoring and evaluation (money) to determine the suitability and accuracy of the innovations implemented with the plans that have been prepared previously.

The sub-district integrated administration service JEMPOL PATEN pick-up innovation is valuable for service changes and current population satisfaction. It is said to be successful because it uses values such as facilitating the population in the data collection process and monitoring population data collection more accurately. Based on the results of the JEMPOL PATEN innovation research, it was found that the Community Satisfaction Index (IKM) data from 2018 to 2020 was a form of community control over services. Based on the questionnaire given to the community who received the service to be responded to. After processing and analysis, the Community Satisfaction Index (IKM) in the service unit was 80.33 in 2018, 81.42 in 2019, and 82.54 in 2020. The results of these figures show the average IKM sub-district through the questionnaire given by the Sumbermalang Sub-District Office to the community. Therefore, it can be concluded that being in the interval of 76.61 to 88.30 belongs to the “good” service category. The quality of service in the service unit is included in the “B” category.

The results of the IKM above consist of seven scopes or elements, namely, requirements, procedures, service time, implementing competencies, implementing behavior, handling complaints, suggestions or input, and Infrastructure. The average results of the JEMPOL PATEN SMI assessment from 2018 to 2020 show the order of each indicator's average scores from the lowest to the highest average. Factors that affect the low value of the public toward the JEMPOL PATEN are servers at the Dispenduk are often disturbed, electricity is often out, an Internet connection is often interrupted, and NIK is not active. This condition indicates that the average community hopes that facilities and infrastructure, especially for the innovation of JEMPOL PATEN for e-KTP recording, need attention so that in the future, there will be no disruption in services to the community. Failure to get services will lead to disappointment in the community, if this continues, it will impact the lack of public trust in the services in the sub-district.

These obstacles certainly greatly affect the level of success. However, apart from this, the community considers this program very beneficial for them. at the confirmation stage in the innovation decision-making process, which states that the innovation decision has been made, the agent of change in the Sub-District of Sumbermalang will seek reinforcement for the decision to carry out the sustainability of this innovation from the results of the implementation evaluation. After passing the confirmation stage, where each person or party has the opportunity to test the quality of the Jempol Paten innovation.

(f) JEMPOL PATEN locks and constraints

In practice, this program has to support and inhibit factors. This is based on exposure to the results of interviews and previous analysis, according to Suprpto as the JEMPOL PATEN implementation team as follows:

During the implementation, of course, there will be obstacles, especially in the Sumbermalang sub-district, which is far from the city, what always happens is the server or network, inactive NIK, limited budget, civil apparatus HR on duty such as village officials. But from some of these obstacles there are also supporting factors such as the participation of the community, the completeness of the infrastructure provided by the Sumbermalang sub-district, the behavior of the implementing team who is friendly and protects the community, as well as the tangible results of the existence of a Jempol Paten (Results of the interview on Monday, March 22, 2021).

Based on the interview results above, it can be analyzed that there are supporting and hindering factors for the JEMPOL PATEN. From the support aspect, first, this innovation factor is supported by public participation regarding notifications and reports from the public that there are still people who do not have an e-KTP and have the criteria for a JEMPOL PATEN, so the pick-up ball innovation is still being continued to this day and

responsive government (Vanesia & Rochmah 2020). Second, the completeness of the infrastructure owned by the sub-district to bring recording equipment directly to the village or to people's homes with the criteria for a thumbs-up patent. Sujatmiko in Arma & Hamka (2020) states that facilities and infrastructure must be considered to achieve an activity or work program. If the facilities are provided properly, activity will likely be carried out well. So, proper facilities can also be a supporting factor for the existence of a public service innovation program that makes it easier to record e-KTP on the spot. Third, the behavior of the implementing team is also a supporting factor for the Jempol Paten innovation implemented to date. Because the implementation team, when carrying out their duties, is amicable and provides good service to the community. So that people feel comfortable getting Jempol Paten services. Fourth, the JEMPOL PATEN innovation provides tangible results because, since the implementation of the JEMPOL PATEN innovation, many people in Sumbermalang sub-district have e-KTP, so this kind of innovation is very good to be carried out continuously because it provides tangible results for the community.

Based on the explanation above, it is an advantage or a supporting factor so that the JEMPOL PATEN innovation has been implemented and continues to this day. Because if there are no supporting factors, it will not run in the long term and may just be used as an experimental program. In line with the definition of innovation (Ancok 2012) that innovation is a matter of using learning outcomes, namely the use of basic competition to find new ways of doing things that improve the quality and efficiency of the services provided.

From the aspect of inhibition; First, servers or networks often have errors and are limited because if the network is good it will encourage the speed of the service process in making e-KTP and provide satisfaction to the community. But events in the field that often occur when the server is experiencing disruptions make the service not on time, so people often wait. An inadequate internet network makes it very difficult to access recordings directly and quickly. Second, the NIK is not active because some people do not immediately collect new data with the old ID card, but people are more indifferent to leaving their old ID card duplicate and not updating it to e-ID KTP so that the NIK becomes inactive. Third, is the Limited Budget because there is no special budget for JEMPOL PATEN innovation. After all, the budget is in line with the sub-district Integrated Administrative Services budget, even though the officers' team requires transportation and internet network costs. Fourth, human resources or state civil apparatus who are less competent on duty. The human resources in question are from village officials who are asked to cooperate with the sub-district. Village officials were very slow in providing data on people who met the criteria to be given a ball pick-up service, making it difficult for the team of officers to obtain data. In addition, village officials are less responsive to delivering the applicant's letter to the sub-district, resulting in delays. Communication of village officials to the community is also very minimal. Hence, people are still afraid to communicate by asking for a letter of application that they want to get a JEMPOL PATEN service.

4 CONCLUSION

The innovation of the JEMPOL PATEN service as a forum for managing e-KTP's has been quite successful, as evidenced by the increase in the number of e-KTP recordings. In addition, it can also be seen based on the five indicators of Roger's theory which prove that the innovation of the JEMPOL PATEN e-KTP service is beneficial for the community, especially the disabled, the elderly, and the wealthy with remote access. Because starting from the information provided to the community through brochures and information from the village directly, the planning can be said to be quite mature from the SK head of sub-district, the facilities, and infrastructure used until there was socialization carried out for the village officials to convey information to the public about JEMPOL PATEN. Then at the implementation stage, which is carried out according to the community's needs. As well as monitoring and evaluating errors or deficiencies during the implementation of the Jempol Paten.

So that the evaluation can provide a reference to the sub-district Office to continue to provide good quality service to the community.

Some of the obstacles that occur are a minimal server or network, an inactive NIK because it has not been updated, a limited budget because there is no separate budget for patent JEMPOL PATEN duty are incompetent because they are slow to provide information. These obstacles do not reduce the level of innovativeness of the JEMPOL PATEN innovation because there are also several supporting factors, namely the participation of the community, the completeness of facilities and infrastructure for the JEMPOL PATEN service, the friendly behavior of the implementing team, and providing good service, as well as the tangible results of the JEMPOL PATEN public service innovation can reduce the number of people who do not have an e-KTP to have an e-KTP. So with this statement, the JEMPOL PATEN innovation can continue to be carried out until now because it provides benefits and can facilitate the community in managing e-KTP.

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Antecedent factors operations strategy and impact on performance: Indonesian construction case

Fien Zulfikarijah, Baroya Mila Shanty & Tsabita Khwarazmita
Universitas Muhammadiyah Malang

ABSTRACT: This study aims to determine the variables that affect or the antecedent variables of operations strategy and their impact on company performance. The variables to be tested are the influence of operations strategy, supply chain management, information technology (IT), and human resources (HR). The study was conducted on construction companies in Indonesia with a population of 540 and 50 samples taken with the consideration that these numbers were representative of each region. The analysis tool uses smart PLS. The results of the study show that supply chain management and HR have an effect on operations strategy, IT has no effect on operations strategy and operation strategy has an effect on company performance.

Keywords: supply chain management, information technology, human resource, operation strategy and performance

1 INTRODUCTION

In the current turbulent business environment as a result of the continuous and fundamental changes in technology and markets, better performance in innovation is needed to make firms more adaptable (Kumar *et al.* 2020). Each company tries to maximize its performance through various standards that have been set. This standard refers to the literature and research results that are generally widely applied in companies, namely the balance scorecard, environment performance, and sustainability performance. The balance scorecard describes the measurement based on financial and non-financial. Environmental performance relates to the creation of environmentally friendly and sustainable performance based on social, financial, and environmental benefits. The company's performance which describes the company's condition and the achievement of the goals that have been set becomes an important step in determining the next step. Performance as the end result of the company is a reflection of the strategy set and implemented by the company. In general, in management, there are 4 important strategies, namely marketing, financial, human resources (HR), and operations, but in practice these 4 often merge with each other by placing operations as an independent part. Over the past few decades, operations strategy and its development have received a lot of attention in the literature. Operations strategy can be viewed as the effective use of operations capability and technology for achieving business and corporate goals. Most organizations in other countries, worldwide, have also adopted similar or customized business excellence assessment models to demonstrate and achieve quality and business performance achievement (Kumar *et al.* 2018).

The highly competitive global market is placing increasing emphasis on operations and strategies (Alkhatib & Migdadi 2019). Operations strategy as a strategy oriented to the management of inputs, processes, and outputs effectively and efficiently has become a fairly popular study since it was introduced by Skinner. Operations strategy has a major contribution to company performance, so it is often referred to as a weapon in achieving competitive advantage. Competitive

advantage is defined by placing the company's minimum position on par and maximally surpassing competitors. All firms have an operations strategy, but it is not always explicit. The operations strategies of construction firms are poorly described as they receive less attention than those of project management, although operations strategies (and operations management) are important actions and processes on the permanent firm level (Lidelöw & Simu 2015). An operations strategy must serve multiple concurrent projects, while operations and operational management can focus on a single construction project (Lidelöw & Simu 2015). Operations strategy is an effort to maintain the existence and viability of the company, (Shou *et al.* 2019) which is especially vital in the early lifecycle stages of these firms. Operational strategy as a manifestation of the company's vision can be realized through cost, quality, delivery, and flexibility (Lidelöw & Simu 2015), (Shou *et al.* 2019), (Jagoda *et al.* 2016). Operational strategy achievement can be influenced by variables such as supply chain management, IT, and HR.

Most companies spend funds for operational costs on inventory activities, such as raw material inventory, work in process, and finished goods. These activities involve long-term supplier, company, and consumer relationships. This activity is called supply chain management (SCM) which emphasizes the integration and improvement of the management of the three relationships through backward and forward strategies. The backward strategy is to establish good relationships with suppliers in providing supplies in the right quantity, place, quality, and price. The forward strategy is to establish good relations with consumers/customers in producing goods that are in accordance with what is desired which will have an impact on consumer/customer satisfaction. There are 3 components in supply chain management, namely supplier relationships, information sharing, and customer relationships.

The development of IT makes competition more competitive caused by the wide openness of information, anyone can access it easily and quickly anywhere and anytime. IT through the Internet network is growing from time to time and Indonesia is ranked as the 4th largest user in the world after China, India, and Japan (www.katadata.co.id). IT in companies is needed today because many activities are related to IT. In general, IT is facilitated by software and hardware that are useful in creating, storing, communicating, and disseminating information both inside and outside the company. The use of IT can save operational costs such as reducing paper usage, communication costs, shipping costs, and administrative costs.

The role of HR in the company is one of the drivers and implementers of company policies which are detailed through company SOPs. In addition, placing HR in place is an effort to increase work productivity, reduce errors at work and avoid unwanted product quality. HR who are reliable and have involvement in decision-making can increase a high sense of belonging and loyalty to the company. This means that they do not only work to meet financial or psychological needs, more than that they try to actualize themselves by contributing their best. Thus the resources become human capital for the company in continuing its survival. It is initially recommended that construction contractors should plan their operations strategies with a focus on organization, quality, HR, and planning (Lidelöw & Simu 2015).

2 LITERATUR REVIEW

2.1 *Performance*

Firms' performance has six factors: profitability, growth, customer satisfaction, employee satisfaction, social performance, and environmental performance. A second-order financial performance construct, influencing growth and profitability, correlated with the first-order inter-correlated, non-financial dimensions (Santos & Brito 2012). As such, the strategic management field clearly needs a clearer conceptualization of firm performance, discussions about its dimensions, and better measurement efforts. To contribute to these issues, we propose and test a multidimensional measurement model of firm performance in this paper. The way in which an organization secures, deploys, and utilizes its resources determines the extent to which it can successfully pursue specific performance objectives (Wandiga *et al.* 2017).

The final scales of incorporated performance are customer service, cost management, quality, productivity, and asset management performance metrics (Wang & Wang 2012). They calculated ROS as net income divided by sales and ROA as net income divided by assets. Both ROS and ROA are truncated at the top and bottom 0.5% percentiles to reduce the effect of outliers (Liu *et al.* 2014), finding almost the same result with respect to the accounting measures (Yang *et al.* 2019). Performance can be measured by financial, quality, customer performance, human resource, marketplace performance, and operational performance (Kumar *et al.* 2018). Performance at the firm level is measured in many different ways. Such ways include accounting measures of profitability, the Lerner index, sales per input, and total factor productivity (De Loecker & Goldberg 2014).

2.2 Operations strategy

Operations strategy is an inheriting extension of superior strategies, accompanied by complementary strategies (Warszawska 2018). Different equivalents have been used within the literature for explaining the concept of operations strategy (Wambua Boniface 2014). According to Heineke (2006), strategy means making the activities of an organization fit each other. In other words, activities must cooperate and support and strengthen each other. Accordingly, there are three types of fitness: fitness between each of the general activities and strategies of the organization, fitness between activities that support one another, and fitness through the optimization of activities. From the Strategic Planning point of view, Operations Strategy is a functional strategy and, thus, must support competitive strategy (Maia *et al.* 2010). Operations strategies are a significant part of any operations management process. Operations managers try to formulate and align operations strategies in a way to ensure smooth operations processes and supports other organizational functional areas such as marketing and finance (Alkhatib & Migdadi 2019).

Yu & Ramanathan (2011) mention 4 indicators of operations strategy, namely low cost, quality, flexibility and delivery performance, (Jagoda *et al.* 2016) cost, quality, delivery, and flexibility. The mature company has made efforts to increase quality and flexibility, while the newcomer has prioritized cost reduction and quality enhancements, besides taking action to increase its product nationalization (Maia *et al.* 2010). Cost, quality, speed, and dependability (Wambua Boniface 2014). Companies located in a high-cost environment tend to emphasize a broad set of capabilities related to quality, cost, time, flexibility, and innovation rather than only cost-related capabilities (Sansone *et al.* 2020). The relevancy of competitive strategy to operations strategy shows that operations strategy has a few characteristics based on competitive strategy (business), they are (1) the strong pressure to the strategy of leading charge, so the characteristic of operations strategy is the strong pressure in decreasing and controlling the cost, highly technic skill, the strong pressure in losing supplies, high production standard, material way, and highly machine; (2) the strong pressure in differentiation (Senaji & Andrew 2011). Strategy content is typically more explicit compared to the strategy process. The fierce business competition stimulates enterprises to adjust their strategies for deep and quick development. However, how to improve the competitiveness of the enterprises becomes the focus of attention (Liu & Takala 2012). Operational strategies are defined in the short term for dispatch the next day with feedback from the weekly schedule (Arias Cazco & Espinosa 2017). Four dimensions of low cost, quality, flexibility, and delivery performance characterized operations strategy (Badri *et al.* 2000). Operations strategy is the total pattern of decisions that shape the long-term capabilities of any type of operations and their contribution to the overall corporate strategy, through the reconciliation of market requirements with operations resources (Senaji & Andrew 2011). The flexibility strategy, however, focuses on fast response to individual customer needs through agile production (Shen *et al.* 2020). Operations strategy consisting of cost, quality, delivery, flexibility and innovation is not a trade-off, but all are used in companies in the Caribbean (N. Russell & H. Millar 2014). IT flexibility is an increasingly important factor in today's dynamic business environment (Han *et al.* 2017).

2.3 *Supply chain management*

SCM represents a strategic view of collaboration and integration, demonstrating their benefits in terms of individual business performance. Positive performance of SCM members is crucial to companies in competitive business environments, and both academicians and firm managers seek consensus related to SC network relationships (Michalski *et al.* 2018). An SCM emphasis is laid on inter-organizational coordination and close collaboration between the partners of the supply chain, value creation for the customer, communication, and synchronization of flows, and the establishment of a long-term relationship (Okongwu *et al.* 2015). Such supply chain practices include strategic supplier relationships, information sharing and information quality, inventory management, and purchase management (Sharma & Modgil 2019). Considering SCM decision-making, we make an empirical contribution to value generation from big data (Wilkin *et al.* 2020); SCM and IS practices in these two key emerging country settings with both similarities and differences can offer some unique insights into SCM and IS practices and their role in EC SME performance (Tatoglu *et al.* 2016). The critical practices for SCM are customer responsiveness, supplier partnership, IT, material management, integration, and corporate culture (Kaur *et al.* 2019).

The inefficiencies are targeted by Supply Chain Management, which involves the anticipation of customer demand, the use of resources in an optimal way, and effective management of information, materials, and finance (Jermsittiparsert & Rungsisawat 2019). SCM becomes increasingly important as firms started to recognize that SCM is the main factor to create a sustainable competitive advantage for their business in an increasingly crowded and fierce environment especially in the digital era nowadays (Kitchot *et al.* 2020). Successful implementation of SCM can play a significant role in meeting these challenges and SMEs should have an effective supply chain strategy (Kumar *et al.* 2015).

2.4 *Information technology*

Recent corporate collapses have brought the attention of academics and practitioners to IT and its impact on business value (Ferguson *et al.* 2013). IS/IT has been recognized over the last decade as being an important factor in the achievement of the objectives of access, efficiency, effectiveness, and transparency (Gomes *et al.* 2016). Confronted by demanding customer requirements, continuous shifts in the competitive landscape, and constant pressure to control costs, business organizations increasingly rely on information technology (IT) to support their operations (Masini *et al.* 2015). IT steering committee, centralization of IT decision-making control, involvement of senior management in IT and position of the IT function within the organization.

IT is driving modern employment creation with networking sites enabling people to interact through innovation (Chege *et al.* 2020). The definition of success in a project comes from the Standish Group. Successfully completed IT projects must be completed at a cost equal to the allocated budget, within the deadline, and with complete delivery of the required functionalities (Alami 2016). IT implementation is a major organizational change event that substantially disrupts an employee's work environment (Bala & Venkatesh 2016). IT has not always delivered business value, and a key reason is the lack of synergy between a firm's business strategy and IT strategy (Chao & Chandra 2012).

2.5 *Human resources*

Human resource management (HRM) is considered an important issue in operations strategy (OS) (Vivares-Vergara *et al.* 2016), human resource dapat digali melalui manajemen talent, sebagaimana menurut (BenitezAmado *et al.* 2013) bahwa talent manajemen dalam human resource dapat mempengaruhi strategi operasi dan kinerja perusahaan. More accurately, the literature strongly suggested that HRM practices were associated especially with innovations (Inkinen 2016). Analisis human resource seringkali menggunakan pendekatan RBV (resource base view) (Gerhart & Feng 2021).

The studies have identified a number of variables that appear to be particularly relevant for labor-intensive, service-focused settings. As such, context-specific factors should be considered in efforts to advance our understanding of the ways in which hospitality systems may impact a wide array of individual and organizational outcomes (Tracey 2014). The decision-making vertices of companies should consider that management and control systems relating to HR can be important factors of success with respect to the environment. Companies must seek the right harmony between profit objectives and environmental protection. The key to success cannot be separated from the responsibility of workgroups and investing in qualified resources to facilitate effective environmental management (Di Vaio *et al.* 2020).

Human resources (HR) can be viewed as the core process of the project management of information systems (e Silva & Costa 2013). Human resource, as a key element within the enterprise, contributes to the continuous improvement which has to be sustained for the competitive enterprise (Izvercian *et al.* 2014). HR practices are going to play two additional functions, as: the bar – barrier prevents the appearance of strong work stressors and the buffer, to give employees protection from the negative results of acceleration and softens the feeling of overload (Maqsood Ahmad Sandhu & Ahm Shamsuzzoha 2018). Human resources as one of the fundamental needs of organizations shows that to achieve the organization's goals, empowerment of human resources is inevitable and without empowerment, neither managers nor the organizations can be successful in the long run (Tohidi & Jabbari 2012).

2.6 *Effect of supply chain management on operations strategy*

The traditional approach to operations strategy uses a unilateral perspective: it solely focuses on a business or a company point of view; but supply chains provide evidence of shared and collaborative strategies (Warszawska 2018). Operations strategy (cost, quality, flexibility and delivery) has a positive and significant impact on supply chain integration (Kumar *et al.* 2020).

Hypothesis 1: Supply chain affects strategic operation

2.7 *Effect of information technology on operations strategy*

Research Natumanya (2015) states that IT has a major role in operations strategy, and Masini *et al.* (2015) state that IT affects operations strategy and company performance. Meanwhile Benitez-Amado *et al.* (2013) obtained research results that IT has an effect on operations strategy through HR.

Hypothesis 2: Information technology affects operations strategy

2.8 *Effect of human resources on operations strategy*

Operations strategy (OS) and HRM have received much attention in business and academic areas in recent years; both topics are recognized as an important source of competitive advantage for companies. HRM impact on OS (Vivares Vergara *et al.* 2016). The results of the study (Natumanya 2015), (Benitez-Amado *et al.* 2013) stated that HR had an effect on operations strategy, while (Vivares Vergara *et al.* 2016) stated that HR had no significant effect on operations strategy.

Hypothesis 3: HR affect operations strategy

2.9 *Effect of operations strategy on performance*

Based on the results of research (Yu & Ramanathan 2012), (Benitez Amado *et al.* 2013), (Vivares-Vergara *et al.* 2016) and (Masini *et al.* 2015) operations strategy has an effect on company performance. Operational strategies have an effect on business performance (Wambua Boniface 2014), and harmonized operations strategies are expected to have a significant effect on the firm's overall performance and service quality levels (Alkhatib & Migdadi 2019). the

operations strategy addresses very vital questions about how major resources should be acquired and configured to achieve the desired corporate performance objectives (Wandiga *et al.* 2017).

The analysis demonstrates that a combination of innovative organizational culture and flexibility-oriented operations strategy has the strongest influence on a firm's innovation process thereby improving its innovative organizational outcomes (Wu *et al.* 2019). a direct relationship between operations strategy and performance (Hossain *et al.* 2012), operations strategy must be consistent with competitive strategy in improving the performance of the company (Subroto & Alhabsji 2014). Operations strategy is more accurate for performance (Miller & Meggers 2017), and there is a positive and significant relationship between cost leadership, differentiation and market segmentation strategies, and competitiveness of media houses in Kenya (Mokeira 2014). Operations strategy can enhance the performance of project-based organizations (Koch *et al.* 2015).

Hypothesis 4: Operations strategy affect performance

3 METHOD

This research belongs to the type of explanatory research which is included in the quantitative method because it is used to examine certain populations or samples, data collection uses research instruments, and statistical data analysis with the aim of testing predetermined hypotheses (Sugiyono 2018). Considerations in choosing the partial least square structural equation modeling (PLSSEM) method, based on Ghozali & Hengky (Ghozali & Hengky 2015), it is stated that the PLS analysis method is a strong measurement method because it does not have to assume data with a certain scale measurement and the number of samples used can use small sample. In addition, the use of PLS is able to test complex relationships and influences. This study uses the PLS-SEM method to determine the effect of variables in influencing performance.

Respondents in this study were owners or managers of construction in Indonesia. According to Sugiyono (2018), the population is the entire general area consisting of objects and subjects that have certain qualities and characteristics that have been determined by the researcher to be studied and then drawn conclusions. The population in this study is the owner and manager of real estate as many as 540 people are registered in REI (Real Estate Indonesia). Sekaran & Bougie (2017) states that the sample is part of the population which consists of several members in the population. Based on Suharsimi (2013), if the population is less than 100 people, then the total number of samples is taken. If the population is greater than 100 people, the sampling is 10–15%. In this study, a sample of 10% of the total population was taken 54, and 50 respondents were obtained.

The results of the questionnaire were in the form of numbers from a Likert scale and analyzed using statistical methods. The use of Smart-PLS 3.0 software helps process data descriptively in testing the validity and reliability with the measurement sub-model (outer model), as well as evaluating the influence between variables with the structural sub-model (inner model). In this study, we measured the indicators of each research variable using a questionnaire through Google form media. Questionnaire questions are prepared based on the indicators of each variable specified in the conceptual model. Measurement of the questionnaire consists of five kinds of answer choices, then the intensity of the answers is given a score from the lowest value of 1 (Strongly disagree), 2 (Disagree), 3 (Quite Agree), 4 (Agree), and the highest 5 (Strongly agree).

4 CONCEPTUAL MODEL

A framework is prepared as a description of the research plan on the research results. The conceptual model is used to map the author's frame of mind so that it is easy for readers to understand (as shown in Figure 1). This model was developed based on the theory by previous researchers in the literature of previous journals.

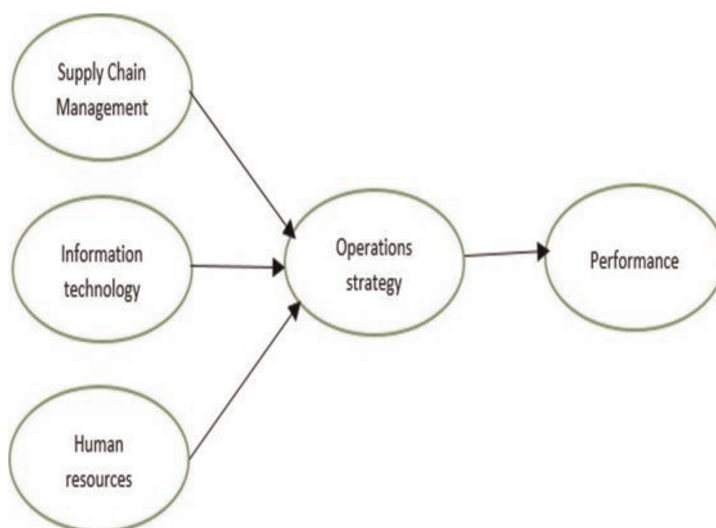


Figure 1. Conceptual model.

Source: (Kumar *et al.* 2020), (Benitez-Amado *et al.* 2013), (Natumanya 2015), (Benitez-Amado *et al.* 2013), (Miller & Meggers 2017).

In this study, there are five latent variables supply chain management, IT, human resource, operations strategy, and performance. In the framework of this research, it can be explained in detail that there are several influences, namely the influence between SCM variables with operations strategy, IT with operations strategy, HR with operations strategy, and operations strategy with performance. Based on the results of the research above, it can be summarized as follows: Operations strategy (cost, quality, flexibility, and delivery) has a positive and significant impact on supply chain integration (Kumar *et al.* 2020), (Benitez-Amado *et al.* 2013) obtain research results that IT has an effect on operations strategy through HR. (Natumanya 2015), (Benitez-Amado *et al.* 2013) stated that HR affects operations strategy, and operations strategy is more accurate for performance (Miller & Meggers 2017). Based on the conceptual model, the four hypotheses will be shown in Table 1.

Table 1. Hypothesis.

Hypothesis	Effect Description
H1	SCM affects operations strategy
H2	Information technology affects operations strategy
H3	Human resource affect operations strategy
H4	Operations strategy affect performance

5 OPERATIONAL VARIABLE DEFINITION

The operational definition of a variable is a concept that can be measured by determining the dimensions and characteristics of Pujihastuti (2010). The research variables are based on previous research. Operational variables and research indicators in this study are based on organizations (Koch *et al.* 2015) described in Table 2.

Table 2. Operational variable definition.

Operational variable	Indicator	Sub indicator
SCM is the integration of companies, suppliers, and consumers	Supplier relationship	Carry out planning, problem-solving, strategy and shared responsibility
	Information sharing	Tactics, general market conditions, and customer information.
	Customer relationship	Manage complaints, build long-term relationships and improve customer Satisfaction
IT is a variety of facilities to support and improve the quality of information for users	Hardware	Logistic, integrity, and material flow
	Software	Monitor, speaker, CPU, RAM
	Internet	MS Word, MS Excel, construction, financial report
HR are all workers who are actively involved in company activities	Authentication	Modem, networking, and WIFI
	Responsible	Telephone operator dan telephone system
	Team working	Work and finishing
	Attitude	Participation and tolerance
Operations strategy is how companies achieve competitive advantage	Skill	Disciplined, honest, creative
	Cost	Hard skill and soft skill
	Quality	Reduce overhead costs; reduce inventory level; increase equipment utilization
		Provide appropriate specification of goods for customers; improve goods performance and reliability; make extremely strict goods quality control procedures; increase private brands (PBs) sales
	Delivery	Decrease waiting time in line; meet delivery promises; improve after-sales service.
Flexibility	Change the variety of goods/services in a given time; respond quickly to shift in demand, to increase/decrease operational capacity; change planned delivery dates to meet emergent requirements	
Performance is the company's achievements qualitatively and quantitatively	Market share	
	Sales growth	
	Profits growth	
	return on investment	

6 RESULTS AND DISCUSSION

6.1 Respondent demographic information

With the accidental sampling technique, respondents who happen to be available somewhere in accordance with the context of Sugiyono's research (2018). A total of 50 respondents as a sample (of the 54 initial respondents who were counted). Questionnaire data was obtained from 50 respondents with an age range of 20 to 60 years. Respondents consist of 18% women and 82% men from several regions in Indonesia. Through screening, it was found that 100% of respondents had worked on construction projects with less than 5 units (2%), 5–10 units (18%), eleven to 22 units (22%), and more than 15 units (58%).

In this test, information from the manager or owner was obtained from 50 respondents who had been directly involved in working on construction projects for less than five years (50%), five to ten years (46%), eleven to fifteen years (2%) and more than fifteen years (2%) to

understand the managerial situation in the field. With a business period of fewer than five years (36%), five to ten years (62%), and more than fifteen years (2%) so they understand the real situation in dealing with real estate. The results of the questionnaire can be seen in Table 3.

Table 3. Result of demographic.

Profile	Frequency	Percentage (%)
Status		
Owner	15	30
Manager	35	70
Gender		
Female	9	18
Male	41	82
Age		
20–30	2	4
31–40	18	36
41–50	26	52
51–60	4	8
Education Level		
Bachelor	48	96
Master	1	2
Doctor	1	2
Length of Work		
< 5 years	25	50

6.2 Measurement model evaluation

Before evaluating the measurement model, in this study two sub-models were used, namely the outer model and the inner model. The outer model is used to determine the value of the validity and reliability of the model by measuring the influence between each statement and its latent variables. The outer model is divided into three categories, namely convergent validity, discriminant validity, and reliability tests.

Convergent validity test by looking at the value of the outer loadings/loading factor which aims to measure the relationship between the construct and its latent variables. In this study, the value of the outer loadings/loading factor $> 0,5$ and average score variance extracted (AVE) $\geq 0,5$ that the variable has been considered valid (2015). Meanwhile, the discriminant validity test aims to compare the relationship between the indicator and the latent variable and the relationship with other latent variables so that two constructs do not test the same thing.

Table 4. Analysis result of convergent validity.

Variable	Indicator	Outer loading	AVE	Evidence
SCM			0.654	Valid
	SCM1	0.901		Valid
	SCM2	0.900		Valid
	SCM3	0.819		Valid
	SCM4	0.571		Valid
IT			0.764	Valid
	IT1	0.883		Valid
	IT2	0.888		Valid
	IT3	0.907		Valid
	IT4	0.815		Valid

(continued)

Table 4. Continued

<i>Variable</i>	<i>Indicator</i>	<i>Outer loading</i>	<i>AVE</i>	<i>Evidence</i>
<i>HR</i>			0.662	Valid
	HR1	0.739		Valid
	HR	0.791		Valid
	HR	0.861		Valid
<i>OS</i>	HR	0.856		Valid
			0.620	Valid
	OS1	0.884		Valid
	OS2	0.571		Valid
<i>Perf</i>	OS3	0.884		Valid
	OS4	0.771		Valid
			0.714	Valid
	P1	0.775		Valid
	P2	0.427		Not valid
	P3	0.857		Valid
	P4	0.884		Valid

Ghozali (2017) suggests that if the cross-loading and Fornell Larcker values on the latent variable have the highest value compared to all the cross-loading values of other latent variables, then the discriminant validity value is considered valid. Recommendations by Ghozali (2017) state that composite reliability serves to measure the reliability of a variable, it can be done by looking at Cronbach's alpha dan composite reliability $> 0,6$ then declared reliable. The test results for the outer model will be shown in Table 4, one of indicator is non-validity, it is P2, so we delete it from the model.

Based on the results of the outer loadings values in Table 4, each variable has shown a value of $> 0,5$. Ghozali & Hengky (2015) indicated that each construct/item statement/indicator is valid so that it meets the requirements of convergent validity. Next, see the value AVE each latent variable shown in Table 4 has a value of $AVE \geq 0,5$ (Ghozali & Hengky 2015) with the smallest value (0.620) on the operations strategy variable (OS) and the biggest (0.764) on IT. This means that each indicator has been able to represent the latent variable well.

Table 5. Analysis result of reliability.

	Cronbach's Alpha	RHO_A	Composite Reliability	AVE	Evidence
SCM	0.811	0.837	0.88	0.654	Reliable
IT	0.898	0.914	0.928	0.764	Reliable
HR	0.831	0.854	0.886	0.662	Reliable
OS	0.791	0.848	0.864	0.620	Reliable
PER	0.798	0.796	0.882	0.714	Reliable

The outer model is carried out not only by assessing convergent validity and discriminant validity but also by looking at the reliability of the construct or latent variable as measured by the value of Cronbach's alpha and composite reliability having a value > 0.6 then it is declared reliable by Ghozali (2017). The results of Cronbach's alpha and composite reliability in this study show that all latent variables have values > 0.6 . Thus, all variables have good reliability in accordance with the specified conditions.

Structural Model Evaluation

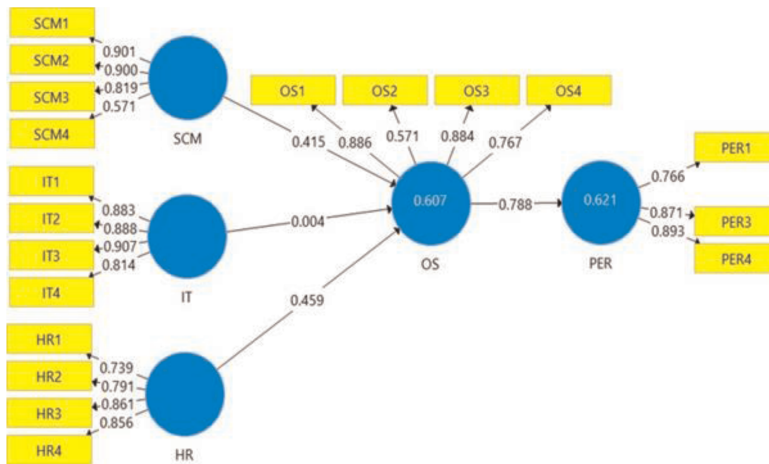


Figure 2. Structural model (bootstrapping result).

In testing the inner model, it can be evaluated by looking at the results of the R-square, T-statistical values, and P-values using the bootstrapping algorithm. Analysis of variant (R²) or determination test is carried out to determine the influence of the independent variables on the dependent variable in general in the structural model Ghozali (2017).

Table 6. Result of variant analysis (R²).

	R-square
OS	0.607
PER	0.621

Table 6 shows that the first performance (P) is influenced by operations management (OS) by 62.1% and the remaining 37.9% is explained by other variables outside this study. Second, operations strategy (OS) is influenced by SCM, IT, and HR by 60.7% and the remaining 39.3% is explained by other variables outside of those studied in this study.

To see the direction of influence and significance, it can be done by looking at the significance value between constructs, T-statistics, and p-values. In the bootstrapping method in this study, the t-statistical significance value is > 1.96, and the p-value is < 0,05 (Ghozali 2017). Evaluation using the bootstrap technique affects the acceptance of this research hypothesis. This will be explained further in Table 7.

Table 7. Recapitulation bootstrapping.

Hypothesis		Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T Statistic (IO/STDEVI)	P-values	Evidence
H1	SCM → OS	0.415	0.389	0.184	2.252	0.025	Significant
H2	IT → OS	0.004	0.012	0.196	0.018	0.985	Not Significant
H3	HR → OS	0.459	0.493	0.187	2.46	0.014	Significant
H4	OS → PER	0.788	0.790	0.069	11.428	0.000	Significant

H1: SCM affects operations strategy

Calculation of statistical values for the influence between SCM and performance obtained a t-statistic value of 2.252 and a p-value of 0.025. These results have met the acceptance criteria for hypothesis testing which can be concluded that SCM has a positive and significant effect on operations strategy. This can be interpreted that the better the implementation of supply chain management, the better the performance of the construction company. This result is supported by previous research operations strategy (cost, quality, flexibility, and delivery) has a positive and significant impact on supply chain integration (Kumar *et al.* 2020).

H2: Information technology affect operations strategy

Calculation of statistical values for the influence between IT and operations strategy obtained a t-statistic value of 0.018 and a p-value of 0.985. These results do not meet the criteria for acceptance of the hypothesis test which can be concluded that IT has no significant effect on operations strategy. This can be interpreted that the better the IT, the less operations strategy. The results of this study contradict the results of previous studies which state that IT has an effect on operations strategy (Masini *et al.* 2015) states that IT affects operations strategy and company performance. Meanwhile, Benitez-Amado *et al.* (2013) obtained research results that IT has an effect on operations strategy through HR. Its mean information technology affect indirect on operations strategy.

H3: HR affect operations strategy

Calculation of statistical values for the influence between HR and operations strategy obtained a t-statistic value of 2.46 and a p-value of 0.014. These results have met the criteria for acceptance of the hypothesis test which can be concluded that HR have a positive and significant effect on operations strategy. Rivetingly, this hypothesis shows the highest t-statistic value and the most significant p-value. This means that the higher the knowledge and skills of HR, the higher the operations strategy for construction companies.

The results of this study are supported by the results of previous studies. HRM impact on operations strategy (OS) (VivaresVergara *et al.* 2016). The results of the study (Natumanya 2015), (Benitez-Amado *et al.* 2013) stated that HR had an effect on operations strategy.

H4: Operations strategy effect on performance

Calculation of statistical values for the effect between operations strategy and performance obtained a t-statistic value of 11.428 and a p-value of 0.000. These results have met the criteria for acceptance of the hypothesis test which can be concluded that the operations strategy has a positive and significant effect on performance. This hypothesis has the highest significant value, meaning that the better the implementation of the operations strategy, the better the performance of the construction company.

The results of this study are the same as the results of previous studies. a direct relationship between operations strategi and performance (Hossain *et al.* 2012), operations strategy must be consistent by competitive strategy in improving the performance in the company (Subroto & Alhabsji 2014). Operations strategy being more accurate for performance (Miller & Meggers 2017), there is a positive and significant relationship among cost leadership, differentiation and market segmentation strategies, and competitiveness of media houses in Kenya (Mokeira 2014). Operations strategy can enhance the performance of project-based organizations (Koch *et al.* 2015).

7 CONCLUSION

Based on the results of the study, it shows that SCM and HR affect the operating strategy, meaning that the better the SCM and HR management, the more successful the operations strategy will be. Likewise, the implementation of an increasingly appropriate strategy will lead to better company performance. However, IT does not affect the operating strategy, this is due to the minimal use of IT in construction companies, especially in projects that have not been reached by Wi-Fi or internet networks.

8 MANAGERIAL IMPLICATIONS

The availability of technology is very important in companies including construction companies, however, the results of the study show that IT has no effect on operating strategy. Thus, the company needs to re-check the existing software that can support the completion of the work, besides that it is necessary to ensure the internet network in every construction project and training on the use of computer software is held and adjusted to the capabilities of its HR.

Suggestions for further research is to re-examine the antecedent variable because its value is 60.20% which indicates that other variables can be used as additional variables in future research.

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The impact of product packaging, consumer knowledge, and celebrity endorsement on purchase intention mediated by consumer perceived value in the millennial mom segment

R.T. Herman & Theresa Oeylianto

Management Department, BINUS Business School Undergraduate Program, Bina Nusantara University, Jakarta, Indonesia

ABSTRACT: A consumer's purchase intention towards a product is influenced by the information received and various other factors such as product packaging, consumer knowledge, endorser, and perceived value. The purpose of this study was to analyze the influence of various factors on the purchase intention of children's formula milk in the segment of millennial mothers. Samples were taken using a questionnaire to 232 mothers from the millennial circle and the technique for data analysis used was path analysis. Based on the results of hypothesis testing, there are two rejected hypotheses, namely consumer product knowledge's influence on purchase intentions and celebrity endorser's influence on perceived value. The factors that have the most influence on purchase intention are product packaging (0,195), celebrity endorsers (0,378), and perceived value (0,144).

Keywords: consumer, product

1 INTRODUCTION

Consumer shopping behavior has changed significantly during COVID-19 pandemic and is also influenced by the massive development of digital media. Technological advances have made it so easy for people to access and gain information quickly. Conditions before the pandemic showed increased access to various content through digital media as a result of high internet penetration both at home and at work. Research findings show that TV is still the main choice for accessing content (77%), video content on digital platforms, such as YouTube and Vimeo (51%) and online TV portals (44%). During the COVID-19 pandemic, media consumption increased in both electronic media, such as television and digital media, such as YouTube streaming and other social media. One of the important pieces of information sought by the audience is related to a healthy lifestyle and the need for vitamins and supplements. The impact is an increase in the number of advertisements shown on electronic media and digital media, global.nielsen.com.

Consumer's buying behavior will also change due to the massive exposure to various information and influenced by factors from internal to external factors for them to evaluate, choose, gain, and use the product and services they want. A Consumer's knowledge of a product affects a consumer's purchase intention of a product, because if a consumer has knowledge about the product and its features, this increases purchase intention (Sohail *et al.* 2015). Consumer knowledge about products is indispensable in purchasing decisions (Satish & Peter 2004). Another factor contributing to the massive spread of an information came from celebrities' role as endorsers through Instagram, Twitter, or Facebook. Celebcity's attractiveness, credibility, and product relevance influence someone's purchase intention (Khan *et al.* 2019). Consumers will have a perceived value of a product upon receiving

information, which could also affect purchase intention (Shafiq *et al.* 2011). The higher perceived value of a product leads to a higher purchase intention (Chi *et al.* 2011).

Consumers can also be compelled to buy a product because of their taste for the packaging of a product. Product packaging has an important role in creating attraction and influencing customer purchase intentions (Yeo *et al.* 2020), where it is proven that purchases can also occur spontaneously solely because of packaging design. In the highly competitive FMCG industry, companies pay attention to various factors that can affect prospective customers' purchase intention to remain competitive. PT Danone Indonesia is a global company with various kinds of baby formula products, such as Nutrilon, Bebelac, and SGM. Having a varied product line requires PT Danone Indonesia to have a clear picture of what factors will encourage the purchase intention of its consumers, especially for millennial mothers, because of the rapid increase in pregnant women, mainly in the millennial generation born between 1980 and 1995. According to the National Population and Family Planning Agency (BKKBN), Tuesday (19/5/2020), more than 400,000 unplanned pregnancies occurred during the pandemic. Through this figure, it is predicted that there will be 420,000 new births in early 2021, making this segment the most suitable segment to be a marketing target by PT Danone Indonesia.

From the background that has been described previously, the problem statements are:

1. Is there an influence between product packaging on purchase intention?
2. Is there an influence between consumer knowledge on purchase intention?
3. Is there an influence between celebrity endorsers on purchase intention?
4. Is there an influence between consumer product knowledge on purchase intention through perceived value?
5. Is there an influence between celebrity endorsers on purchase intention through perceived value?
6. Is there an influence between the perceived value on purchase intention?

The purpose of this study is to:

1. Identify the effect of product packaging on purchase intention.
2. Identify the effect of consumer product knowledge on purchase intention.
3. Identify the effect of celebrity endorsers on purchase intention.
4. Identify the effect of consumer product knowledge on purchase intention through perceived value.
5. Identify the effect of celebrity endorsers on purchase intention through perceived value.
6. Identify the effect of perceived value on purchase intention.

2 LITERATURE REVIEW

Product packaging design becomes the last advertising tool to inform, persuade, and convince consumers before final purchasing decisions (Wells *et al.* 2006). Report from previous research shows that two-third of purchases are made impulsively based on product design (Belch & Belch 1999). The color of the packaging, packaging materials, graphics on the packaging, and the shape and size of the packaging affect purchase intention (Yeo *et al.* 2020).

Product knowledge helps consumers evaluate products better (Bhakar *et al.* 2015). Consumer knowledge does not directly affect purchase intention but will affect the perceived value, and the final purchase decision is based on that perception (Bian & Moutinho 2011). Consumer knowledge is significantly related to purchase intention and dimensions of consumer knowledge; consumer experience, consumer expertise, and product familiarity have a positive relationship with purchase intention (Ateke & James 2018).

Celebrity endorsers themselves produce a unique impact and enhance the communication effect when conveying information to consumers (Sherman 1985) and help build brand awareness (Seno & Lukas 2007). Celebrities who are known worldwide can also give

products the same status to be recognized in the international market (Silvera & Austad 2004). The physical attractiveness of the celebrity spokesperson has a positive impact on purchase intention (Till & Busler 1998) and the product becomes more preferred (perceived value) when the attractiveness of the celebrity endorser increases (Kamins 1990).

The more the perceived benefits exceed the perceived costs, the higher the Perceived Value perceived by consumers. Products are also said to have high value if they are in accordance with customer needs, wants, and demands (Kotler & Keller 2015). Perceived value is a very influential factor in purchase intentions where if the perceived value perceived by consumers is higher, their purchase intention will also be higher (Chaudhuri 2002). Swait & Sweeney (2000) analyzed the effect of consumer's perceived value on consumer's purchase intention and found that differences in perceived value also resulted in different purchase intentions. Celebrity endorsers can also cause consumers to create Perceived Value (Chi *et al.* 2011). Perceived value has been shown to have a positive effect on Purchase Intention Madahi & Sukati 2012; Saleem *et al.* 2015; Yaseen & Tahira 2011) so it can be concluded that the intention to buy someone is also influenced by the assessment of the benefits that will be felt compared to the costs or energy spent.

Purchase Intention is a behavior where a consumer wants to choose and/or buy a product based on experience in using and consuming a product (Kotler & Keller 2015) or is a process where consumers analyze their knowledge of the product, and compare the product with other products and decide on the product to be purchased (Raza *et al.* 2014). Purchase intention is the preference of a consumer to buy a product or services (Sohail *et al.* 2015). Consumers will purchase the product or services after they search the information and evaluate the attributes.

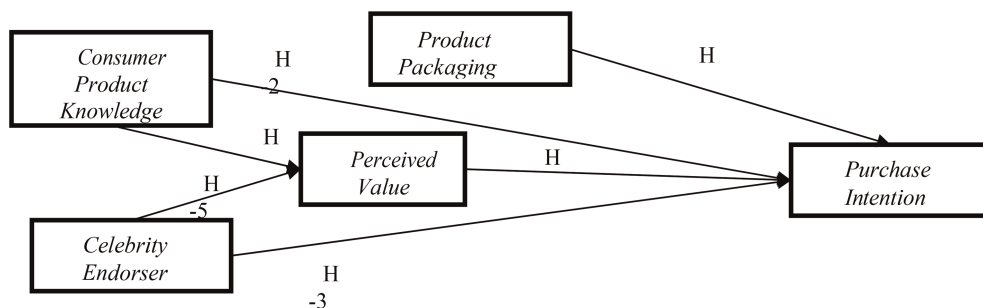


Figure 1. Hypothetical model.

Table 1. Variable operationalization.

Variable	Variable concept	Sub-variable	Indicator
Product Packaging (Yeo <i>et al.</i> 2020)	The container of a product to inform, persuade, and convince consumers before the final purchase decision through the design and physical form of the packaging.	Packaging design	Packaging color Packaging graphics
		The physical form of packaging	Packaging form Packing size Packaging material
Consumer product knowledge (Kotler & Keller 2009)	Information obtained by consumers from both internal and external sources to solve the problem.	Internal	Personal source Source of experience
		External	Commercial source Public source

(continued)

Table 1. Continued

Variable	Variable concept	Sub-variable	Indicator
Celebrity endorser (Shimp 2010)	The use of a celebrity to influence consumer attitudes and behavior towards products.	Personal Competency	Trustworthiness Respect Similarity Expertise Attractiveness
Perceived value (Chi <i>et al.</i> 2011)	The value consumers get from the correlation between the benefits they get from the product and the costs and energy they expend.	core benefits	Fulfilling a need Fulfilling a desire Meeting demand Have post-sales Service
Purchase intention (Sohail <i>et al.</i> 2015)	Purchase intention is the preference of a consumer to buy a product or service.		Willingness to Buy Preference of the Product Seeking information

3 METHOD

This study uses a causal associative method was used which aims to determine the relationship between two or more variables. The associative method is a method that intends to explain the causal relationship and influence between variables through hypothesis testing where a causal relationship is when one variable (independent) affects the other variable (dependent), in this case, the independent variables are product packaging, consumer product knowledge, celebrity endorser, perceived value, and the dependent variable is purchase intention. The data type used is quantitative data on an interval scale using a Likert scale. The data collection technique used in this study is to provide questionnaires to respondents with pre-determined criteria via Google Forms. The sampling technique used is probability sampling technique and maximum likelihood estimation to determine the sample. Referring to the rule of SEM, determining the number of samples in this study refers to the number of existing indicators of all dimensions measured in each variable. This study has three independent variables, one mediating variable, and one dependent variable. The number of indicators of all variables is 21 indicators. Researchers set 10 samples for each indicator so that the number of samples in this study is a minimum of 210 samples. The data collected were analyzed with SPSS 20 using path analysis.

4 DATA ANALYSIS AND INTERPRETATION

4.1 *Validity and reliability*

A validity test is a measure used to indicate the level of reliability or validity of a measuring instrument. Questionnaires conducted in research can be said to be good if the questionnaire can measure the research framework. From the same source, a reliability test is a tool to measure a questionnaire, which indicates a variable or construct. A questionnaire can be reliable if therespondents' answers to questions are considered consistent or stable from time to time. Validity and reliability test was applied to product packaging, consumer product knowledge, celebrity endorsement, perceived value, and purchase intention questionnaires, and the results are as follows:

Table 2. Validity and reliability test.

Variable	Question	Rcount	Sign	Rtable	Description	Cronbach's alpha
Product packaging (X1)	1	0.825	>	0.181	Valid	0.822
	2	0.858	>	0.181	Valid	
	3	0.847	>	0.181	Valid	
	4	0.640	>	0.181	Valid	
	5	0.640	>	0.181	Valid	
Consumer product Knowledge (X2)	1	0.622	>	0.181	Valid	0.921
	2	0.678	>	0.181	Valid	
	3	0.795	>	0.181	Valid	
	4	0.775	>	0.181	Valid	
	5	0.387	>	0.181	Valid	
	6	0.730	>	0.181	Valid	
	7	0.538	>	0.181	Valid	
	8	0.575	>	0.181	Valid	
	9	0.757	>	0.181	Valid	
	10	0.799	>	0.181	Valid	
	11	0.848	>	0.181	Valid	
	12	0.774	>	0.181	Valid	
	13	0.679	>	0.181	Valid	
	14	0.750	>	0.181	Valid	
	15	0.519	>	0.181	Valid	
Celebrity endorser (X3)	1	0.895	>	0.181	Valid	0.977
	2	0.928	>	0.181	Valid	
	3	0.935	>	0.181	Valid	
	4	0.906	>	0.181	Valid	
	5	0.924	>	0.181	Valid	
	6	0.925	>	0.181	Valid	
	7	0.867	>	0.181	Valid	
	8	0.898	>	0.181	Valid	
	9	0.917	>	0.181	Valid	
	10	0.914	>	0.181	Valid	
Perceived value (Y)	1	0.806	>	0.181	Valid	0.950
	2	0.914	>	0.181	Valid	
	3	0.876	>	0.181	Valid	
	4	0.937	>	0.181	Valid	
	5	0.924	>	0.181	Valid	
	6	0.926	>	0.181	Valid	
	7	0.759	>	0.181	Valid	
Purchase intention (Z)	1	0.806	>	0.181	Valid	0.913
	2	0.914	>	0.181	Valid	
	3	0.876	>	0.181	Valid	
	4	0.937	>	0.181	Valid	
	5	0.924	>	0.181	Valid	
	6	0.926	>	0.181	Valid	
	7	0.759	>	0.181	Valid	
	1	0.779	>	0.181	Valid	
	2	0.496	>	0.181	Valid	
	3	0.807	>	0.181	Valid	
	4	0.680	>	0.181	Valid	
	5	0.819	>	0.181	Valid	
6	0.497	>	0.181	Valid		
7	0.803	>	0.181	Valid		
8	0.703	>	0.181	Valid		
9	0.768	>	0.181	Valid		
10	0.590	>	0.181	Valid		
11	0.794	>	0.181	Valid		
12	0.747	>	0.181	Valid		

All the question is redeemed as valid, and all variables' reliability is valued at more than 0.5, which is considered good. The table indicates that the reliability value of Cronbach's alpha was higher than standard value for all study variables. Therefore, we can say that the celebrity endorsement, product packaging, customer knowledge, perceived value, and purchase intention questionnaires were reliable for the study.

4.2 Normality test

A normality test is conducted to determine whether the population of data used is normally distributed or not. The normality test in this study used the Kolmogorov-Smirnov test kit. Normality test was applied to product packaging, consumer product knowledge, celebrity endorsement, perceived value, and purchase intention questionnaires, and the results are as follows:

Table 3. Normality test.

Variable	Sig.	Sign	Alpha	Description
X1	1.121	>	0.1	Valid
X2	0.934	>	0.1	Valid
X3	1.193	>	0.1	Valid
Y	2.974	>	0.1	Valid
Z	0.994	>	0.1	Valid

From the data above, it can be concluded that the overall variables of product packaging, consumer product knowledge, celebrity endorser, perceived value, and purchase intention are normally distributed.

4.3 Correlation test

Correlation analysis aims to determine the strength and weakness of the relationship between the related variables. The causal effect of the variable product packaging, consumer product knowledge, and celebrity endorser on perceived value and its impact on purchase intention as a whole can be seen in the following table:

Table 4. Correlation test.

Variable	Correlation	Descriptive
X2 and Y	0.474	Strong enough, unidirectional and significant
X3 and Y	0.404	Strong enough, unidirectional and significant
X1 and Z	0.614	Strong, unidirectional, and significant
X2 and Z	0.678	Strong, unidirectional, and significant
X3 and Z	0.770	Strong, unidirectional, and significant
Y and Z	0.646	Strong, unidirectional, and significant

From the data shown above, most of the variables have a significant correlation.

4.4 Path analysis

The path analysis model is used to analyze the pattern of relationships between variables to know the direct effect of a set of independent variables (exogenous) on the dependent

variable (endogenous). Path analysis is the method used to explore the influence between the independent variable and the dependent variable, in this case, product packaging, consumer knowledge, and celebrity endorser as independent variables, to purchase intention as the dependent variable, through perceived value as an intervening variable.

Table 5. Path analysis summary.

Variable	Standard coefficients	Causal influence		
		Direct	Non-direct through Y	Total
X1 -> Z	0.195	0.195	–	0.195
X2 -> Y	0.474	0.474	–	0.474
X2 -> Z	–	–	0,047	0.047
X3 -> Z	0.504	0.504	–	0.504
Y -> Z	0.378	0.378	–	0.378
ϵ_1	0.974	0.974	–	0.974
ϵ_2	0.660	0.660	–	0.660

According to the results of the path analysis, it can be concluded that there is an influence between the variables of product packaging, consumer product knowledge, celebrity endorser, and perceived value on purchase intention. Where the consumer product knowledge variable directly influences perceived value, the magnitude of the effect is 0.474. This variable will have an impact on purchase intention of 0.047. While the celebrity endorser variable has no effect on perceived value but directly affects purchase intention. The magnitude of the effect of celebrity endorsers on purchase intention is 0.504. Product packaging has a direct influence on purchase intention of 0.195.

5 CONCLUSION

The conclusions that can be drawn from this research are:

1. The product packaging variable has a significant effect on the purchase intention variable.
2. The consumer product knowledge variable has no significant effect on the purchase intention variable.
3. The celebrity endorser variable has a significant effect on the purchase intention variable.
4. The consumer product knowledge variable is proven to have a significant effect on the perceived value variable.
5. The celebrity endorser variable does not significantly affect the perceived value variable
6. The perceived value variable has a significant effect on the purchase intention variable.

The following are the implications of quantitative research results for 232 millennial mothers which are the basis for answering the identification of research problems:

T-1: Knowing the effect of Product Packaging (X1) on Purchase Intention (Z).

From the research results, it is known that the product packaging variable has a significant effect on the purchase intention variable. The implications for the results of this study are:

- a) This is in accordance with the theory described in Chapter 2 that product packaging is one of the advantages to increase purchase intention and can even be a factor for impulse buying.
- b) Companies can show this type of packaging in their CRM content so that consumers are more interested and know the various types of sizes and packages that formula milk brands have.

c) Develop packaging quality to make it more attractive by improving the design.

T-2: Knowing the effect of consumer knowledge on purchase intention.

The consumer product knowledge variable has no significant effect on the purchase intention variable. The implications for the results of this study are:

- a) This is in accordance with the theory by Bian & Moutinho (2011) where information about the product will not have a direct effect on purchase intention but will increase consumer perceptions of the value of the product.
- b) Information about the product must be in accordance with what consumers are looking for, before building a purchase intention the company can build a perception of the product first.

T-3: Knowing the effect of celebrity endorser on purchase intention.

The celebrity endorser variable has a significant effect on the purchase intention variable. The implications for the results of this study are:

- a) This is in accordance with the theory of Till *et al.* (1998) where celebrity endorsers have an effect on purchase intention.
- b) Companies do not need to use celebrity endorsers when conveying product superiority, but companies can prioritize placing celebrity endorsers at the touch point of purchase.

T-4: Knowing the effect of consumer product knowledge on purchase intention through perceived value

The Consumer Product Knowledge variable is proven to have a significant effect on the Perceived Value variable. The implications for the results of this study are:

- a) This is in accordance with the theory by Bian & Moutinho (2011) where information about the product will not have a direct effect on purchase intention but will increase consumer perceptions of product value.
- b) Companies need to provide more education about their products or disseminate information about product superiority or product superiority to consumers.

T-5: Knowing the effect of celebrity endorsers on purchase intention through perceived value the celebrity endorser variable has no significant effect on the perceived value variable.

The implications for the results of this study are companies do not need to use celebrity endorsers when conveying product superiority because it will not add value to the formula milk significantly.

T-6: Knowing the effect of Perceived Value on Purchase Intention.

The perceived value variable has a significant effect on the purchase intention (z) variable. The implications for the results of this study are:

- a) This is in accordance with the theory that Perceived Value has a positive effect on Purchase Intention (Adahi & Sukati 2012; Ariffin *et al.* 2016; Saleem *et al.* 2015; Yaseen & Tahira 2011)
- b) Companies need to keep the value of the product high in the eyes by:
 - Highlight the advantages of the product compared to other competitors.
 - Make products easy to get at all touch points for purchases.
 - Provide after-purchase service to consumers.

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EQO: Designing eco-friendly packaging using bagasse and rice husk waste

Y.A. Kusumawati & J.C. Wijaya

Visual Communication Design Department, School of Design, Bina Nusantara University, Jakarta, Indonesia

ABSTRACT: Packaging plays a major role in food products' protection and shelf life. Every day, tons of packaging ends up in the world's landfills, most of which is harmful to the environment. The world is looking for alternative raw materials and finds bagasse and rice husks as basic paper-making materials. Bagasse has fiber properties almost the same as broadleaf wood, namely long and strong, while rice husk has short and flexible fiber properties. This underlies the selection of bagasse and rice husks as alternative materials for making paper as environmentally friendly packaging. This research aims to make environmentally friendly paper packaging with bagasse and rice husks as the basic ingredients, in the manufacture of packaging paper with the organosolv method, carried out by previous researchers with three stages of work, namely the stage of making bagasse with the delignification process, the stage of making paper pulp, and the stage of sheet printing. The results showed that packaging paper with the addition of cooking solution produced stronger and softer wood fibers that were easier to form into paper.

Keywords: packaging, rice husk

1 INTRODUCTION

Packaging plays a major role in food products' protection and shelf life. Plastic packaging has been around for a long time and is widely used by many companies worldwide. Every day tons of packaging ends up in landfills in the world, and most of it is harmful to the environment. However, these materials are made from expensive petroleum derivatives that take a long time to decompose. Plastic-based products also cause pollution and environmental pollution.

Because plastic is difficult to decompose, the world is considering new things to overcome this difficult plastic burden by finding new materials to replace it. The world had known paper long before they invented plastic. Now the world is starting to use paper again as packaging, such as paper bags, paper wrap, and so on. This paper packaging is an encouragement and enthusiasm to carry the environmentally friendly theme. Where the world has been damaged enough because of human activities that often pollute it.

By using paper instead of plastic in packaging, the world has efficiently reduced soil pollution. However, along with the development of the paper industry and the manufacturing industry that uses wood as raw material, the availability of wood is increasingly limited, and the price is increasingly expensive. Therefore, to reduce dependence on wood raw materials in the paper industry, alternative raw materials for paper making are needed, such as biomass waste. Alternative materials that can be used include rice husk waste, water hyacinth, and bagasse (Anonymous 2004).

So far, bagasse is only used as fuel for sugarcane processing or only burned and produced ash. The ash from the burning of these dregs can cause pollution, so it is necessary to think about alternative uses that are more efficient and without causing environmental pollution (Antaresti 2003). This is what underlies the selection of bagasse as an alternative material for paper making.

Wibisono *et al.* (2011) researched the manufacture of pulp from reeds. Mardhiah and Jannah (2016) researched the manufacture of kraft paper from bagasse. This study focuses more on the combination of raw materials, namely bagasse containing long fiber and rice husk containing short fiber, and using it as environmentally friendly packaging. Because based on literature studies, it has been explained that the combination of long and short fiber will produce better paper quality.

By conducting this research, it is hoped that the environmental problems will be overcome. This is because using environmentally friendly packaging can provide several advantages, including leaving no waste that cannot be decomposed by the soil, utilizing biomass waste that is considered useless, and influencing people to protect their environment by using our products. This research aims to manufacture environmentally friendly paper packaging with bagasse and rice husks as the basic ingredients.

2 LITERATURE REVIEW

The situation presented by the researcher will include research from three journals from previous researchers which will be presented in tabular form. Contains three research-related journals developed by researchers that discuss the topic of making packaging from alternative materials and also contains research results in the form of papers that are suitable for use and have the potential to be developed. The circumstances that the researcher will present will discuss the name of the researcher, the year and title of the research, the methodology used in the research, the differences in research journals, and research journal development. The status of this research is as follows:

Table 1. State of the art.

No	Researcher	Title and Year of Research	Methodology	Research differences	Result of Research
1.	Yuli Ristianingsih, Nelli Angreani, Annisa Fitriani	Proses pembuatan kertas dari kombinasi limbah sekam padi dengan proses soda (September, 2013)	Experimental and document study	This study focuses on the process of making environmentally friendly paper with alternative materials from rice husks and bagasse by paying attention to the characteristics of the paper produced.	The results obtained in this study indicate that environmentally friendly paper made from alternative materials such as rice husks and bagasse has the characteristics of being strong, somewhat rough but flexible.
2.	Yuli Ristianingsih, Nelli Angreani, Annisa Fitriani	Pengaruh komposisi sekam padi dan ampas tebu terhadap karakteristik kertas dengan proses soda	Document study and experimental	This study focuses more on the variation of the percentage of al-alternative raw materials between rice husk and bagasse in the process of making environmentally friendly paper made	The results obtained during the study indicates that the manufacture of environmentally friendly paper made from alternative materials can be carried out using the soda process at an operating condition

(continued)

Table 1. Continued

No	Researcher	Title and Year of Research	Methodology	Research differences	Result of Research
				from alternative materials, this study also looks for variations in the concentration of NaOH that are most suitable as a solvent in paper solutions during the Autoclave process.	of 5% NaOH concentration, with a temperature during the process of 120°C, room pressure of 1 atm, and the process is carried out for 60 minutes. After doing the research, the best variation results are the 1:1 composition for bagasse and rice husks as much as 42.28% of the total material used, with a density of 4.26 g/cm ³
3.	Ainun Mardhiah, Misbahul Jannah	Making kraft paper from sugarcane bagasse (<i>Saccharum officinarum</i>) using the organosolv method	Experimental	This research focuses more on the process of making environmentally friendly kraft paper from alternative materials such as bagasse and using the organosolv working method.	The results showed that environmentally friendly kraft paper made from bagasse has the characteristics of being easy to shape and quite dense. This research uses a delignification process or uses alcohol as a cooking solution.

Based on the state-of-the-art journal, it shows similarities with research conducted by researchers, namely developing ways of making paper from biomass waste materials. These journals show relevance and support in solving solutions related to eco-friendly packaging design using paper as raw material.

Research conducted by Yuli Ristianingsih, Nelli Angreani, and Annisa Fitriani in 2013 explained the process of making paper with bagasse and rice husks as raw materials. This paper was created because it was inspired by the accumulation of paper waste, which causes tree felling. They were also inspired to look for raw materials for making paper other than tree wood because they saw the large amount of rice husk waste obtained from rice mills in the Ratu Elok area of Banjarbaru, South Kalimantan, and bagasse from sugarcane ice from a factory in South Kalimantan. They take the initiative to reduce the cutting of trees in the forest and utilize waste considered useless. This environmentally friendly paper is the result of technology that can help the world become cleaner and make people aware of the problem of waste in the environment.

Yuli Ristianingsih, Nelli Angreani, and Annisa Fitriani conducted research experiments in the laboratory in September 2013 and 2016, discussing how to make paper from bagasse

and rice husks as their main focus. They use the delignification process as the main process of making paper and are supported by using NaOH as a solvent and oxalic acid (C₂H₂O₄). First, they collect waste materials first, then they experiment with the delignification process using the autoclave process. This study also looks for variations in the percentage of raw materials for bagasse and rice husks, with approximate ratios of 3:1, 2:1, 1:1, 1:2, 1:3. This process also looks for variations in the concentration of NaOH as a solvent. After the delignification process and cooling for 30 minutes, paper with various characteristics was obtained according to the composition and ratio between raw materials.

After conducting research experiments, the results obtained are the most suitable paper for use, with various compositions. The composition that best suits the needs of packaging is the choice of composition variation between rice husks and bagasse by 1:1 with a total of 42.28% each with a density of 4.26 g/cm³, then added 15.44% NaOH with a concentration of 5%. Then the delignification process was carried out at a temperature of 120°C, a pressure of 1 atm, and for 60 minutes. With this variation of raw materials, paper is obtained, which is flexible and maintains its flexural characteristics.

After conducting research and journal studies, researchers want to develop products from previous studies into environmentally friendly packaging. Research conducted by researchers provides a final solution in the form of environmentally friendly packaging that uses waste materials as raw materials. Researchers want to make attractive packaging to attract public interest to use and buy products that use environmentally friendly packaging. By using environmentally friendly packaging designed by researchers, people can increase their self-awareness to care about the environment. Therefore, researchers present EQO's environmentally friendly packaging as a solution to the problem of packaging waste.

3 METHODS

Based on the results of the questionnaire research that has been distributed and filled out, as many as 56 respondents consisting of 24 men and 32 women in the adult age range or at the age of 30–60 years. Of 56 respondents, it is known that two respondents come from abroad and 54 others from within the country and dominated by the City of Malang with 39 respondents. This method is explained with several steps.

3.1 *Empathize*

Empathy is at the heart of the human-centered design process. The main goal of this process is to understand humans in context with design goals. In this process, we are invited to understand how humans do things and why they do them, what people's physical and emotional needs are, how they think about the world, and what it means to them. In the context of this study, researchers conducted interviews by distributing questionnaires containing 15 questions to 56 adults. Using this method, the researchers concluded that they like buying food outside the packaging.

3.2 *Define*

After observing the empathy process, we obtained some important information needed for the design process. Designers are invited to think and interpret what is happening at this stage. The main aim is for the designer to gain insight from this phenomenon and to have a perspective on this issue. Based on the data obtained from the questionnaire, the researchers got answers about the existence of packaging waste that accumulates due to regular food purchases, and this waste causes an unpleasant odor because decomposing bacteria cannot decompose it.

3.3 *Ideate*

Ideate is a design process in which designers focus on developing various ideas. This process becomes very important because, at this stage, various possible solutions to solve the problem will appear. Designers must think “wild” and not be limited to getting various ideas to solve a problem. After seeing the data we found and the obstacles faced by the respondents, the researcher decided to form a solution to the problem. The idea is environmentally friendly packaging from waste such as bagasse and rice husks. Our products will be made through our EQO brand, which is taken from the word environmentally friendly. This packaging uses materials that are considered trash and are reused to preserve the environment. This EQO brand will produce environmentally friendly packaging with a good design to attract customers. This brand will also cooperate with packaged food manufacturers.

3.4 *Prototype*

Prototyping is the process by which acquired ideas are built into smaller-scale designs. The goal of this process is for users to directly image the design solution they will receive, as it will be easier for designers to explain their ideas with prototypes rather than words. According to the Design Thinking methodology, prototypes usually do not need to be detailed or working prototypes at an early stage. In this process, researchers design environmentally friendly packaging so that it can be formed into several forms of packaging. Examples of packaging prototypes that researchers made are paper bags, coffee cups, and paper wraps.

3.5 *Test*

In this process, the designer tries out the design and gets feedback from users and others who use it. The way to do this process is to invite users to use the design process and use it in everyday life. We got a good response in this test and are interested in using our product.

4 RESULT AND DISCUSSION

The results of this study in accordance with the Design Thinking method used above, will be applied to EQO brand products on environmentally friendly packaging products designed from materials to packaging design. In this discussion, the author will discuss the visual concept of environmentally friendly packaging that the author will produce. The author gives several examples of media that will become the product of the brand EQO itself.



Figure 1. Paper bag for bread packaging & coffee cup.

EQO presents environmentally friendly packaging to answer the plastic packaging problem that cannot be decomposed by bacteria in the soil. The word EQO itself is taken from the word “eco-friendly” which means environmentally friendly, which makes EQO products always related to environmentally friendly. The author chose the name EQO because it was taken from the word eco-friendly and the letter Q has two things that interest the author, namely the similarities in reading the letters C and Q, and the second is the Q shape which looks like an idea outside the O-shaped shell box of the EQO itself.

In forming environmentally friendly packaging, the authors also pay attention to the criteria for good packaging so that they can create environmentally friendly packaging while maintaining aesthetics and ergonomics. The criteria for good packaging are: non-toxic, the shape and size of the packaging are easy to carry, the price is affordable, can reflect the quality of the product, attractive design, and ergonomics. To meet these criteria, EQO conducted research to obtain the basic ingredients of this packaging. We use bagasse and rice husks in a 1:1 ratio using 5% NaOH solvent in the autoclave and organosolv processes and produce kraft paper with a slightly rough texture but can maintain its strength. Then after getting the paper material and carrying out the paper formation process, the author designs the paper into various kinds of ready-to-use packaging such as paper bags, paper wraps, paper boxes, paper coffee cups, and others.



Figure 2. Paper box for cookie packaging.

The design of packaging can affect the sale of a product (Wirya 1999). In making packaging, an attractive design is needed so that the products offered can be sold. Good design consists of many things, such as typography, illustrations, color palette, layout, and more. The typography that the author uses for the EQO brand name is obtained from the “Trakya Rounded Alt 500 Regular” font, which is modified into a custom font that has a long shape but circular edges so that it gives a firm but friendly impression the theme we always adopt, which is friendly and friendly to the environment. This font was created for typography on the EQO logo, which can complement the logogram illustration of the EQO Logo, which has a unique shape inspired by the brand name. Circular line 3 depicts the letter E, then the letter O is depicted with a round or circular shape, and the letter Q is depicted with a black line that crosses obliquely.

An illustration results from visualization of a piece of writing using drawing, painting, photography, or other art techniques that emphasize the relationship between the subject

and the writing in question rather than form. The purpose of illustration is to explain or decorate a story, writing, poem, or other written information. It is hoped that with the help of visuals, the writing will be easier to digest. Illustrations can describe various things in the world, from good to bad. Illustrations on a package are useful for describing, explaining, and beautifying an item that will be offered to potential consumers. In the EQO packaging, the author designed an illustration in the form of a cup and bread shape on a paper bag for bread packaging, which illustrates that coffee and bread are suitable to be served together. Then on the paper box packaging for the cake packaging, the illustration is also a clear and friendly looking cookie. By providing attractive illustrations, it is hoped that it will attract buying interest from potential consumers because, with an attractive illustration, the attention of potential customers can be focused on the item.



Figure 3. EQO logo design.



Figure 4. Logo color palette.

In a design, color is important in spoiling the eyes of the audience who enjoys visual design. Color combinations or color schemes are a design consideration in presenting quality work. Color is one of the elements that fulfill the completeness of a design. If there is no color, a work is like death. Therefore, the choice of color for the design must be a concern. A design that uses the right color selection is claimed to be able to represent a real illustration. Generally, there are only three colors used in a design because the more colors used, the more difficult the level of difficulty to combine them becomes.

In good design, color palettes that match each other are needed. Color can give a different impression and atmosphere for each color, such as red, which symbolizes being strong and bold, yellow, which feels cheerful, and black & white, which gives the impression of elegance and luxury. The color palette I use is colors that have a natural impression but also elegant colors. I used Lincoln Green, Avocado, Yellow-Green, and Russet. The green color symbolizes serenity, and the black color gives an elegant impression to our products.

By releasing environmentally friendly packaging products from the EQO brand, the authors hope that environmentally friendly products from EQO can have a big good influence on cleanliness and environmental sustainability around the community. The author hopes that the EQO brand can run well and smoothly to become a well-known brand and a

pioneer and role model for other environmentally friendly packaging brands. After we released EQO eco-friendly packaging products, we got some feedback and feedback from users. Bread buyers who use our packaging say that our packaging design makes it attractive for the product being sold and exceeds the criteria for good packaging. From the seller's point of view, the response is quite good because our environmentally friendly packaging can attract customers because of its good design and looks elegant.

5 CONCLUSIONS

In this journal, the design and thinking of making EQO packaging is proposed to reduce plastic packaging waste that can pollute the environment and increase public awareness about the cleanliness of the surrounding environment. EQO is a model of environmentally friendly packaging made from rice husks and bagasse, which are unused waste. EQO will work with many companies and restaurants that require packaging. This model can be a recommendation for companies to improve the quality of their packaging. Hopefully, this model can be implemented as a medium to support environmental cleanliness.

ACKNOWLEDGMENTS

This work is supported by Bina Nusantara University as a part of research entitled "EQO: Designing Eco-friendly Packaging Made Using Bagasse and Rice Husk Waste".

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Public sector innovation of local government to mitigate violence against women and children in Pasuruan Regency

Ali Roziqin*, Yusrin, Rahmawati, Asep Nurjaman & Yana S. Hijri
Department of Government Studies, Universitas Muhammadiyah Malang

ABSTRACT: The violence against women and children in Indonesia continues to increase. In 2019, there were 431,471 cases reported. This number is iceberg phenomenal. In addition, innovation in the public sector, especially local government needed to solve problems in the community. In the case study in Pasuruan Regency, the local government made an innovation named Sakera Jempol (Be aware of the violence of women and children by picking up the ball). This article aims to examine how Sakera Jempol reduces the number of violence against women and children in the Pasuruan Regency. The researchers use the literature study to discuss the article's focus and social phenomenon that is appointed in this article. The result is integrated programs in Sakera Jempol and a proactive community that has successfully reduced violence against women and children in Pasuruan Regency. Many activities were developed by the regency government, for instance, Fans Page Plus Molin; Hotline Jempol; Four Past; and Ada Jempol. The program is created to form a simple system ranging from primitive, preventive, and rehabilitative. However, in the future, it is necessary to utilize advanced information technology to improve Sakera Jempol's innovation services. Another side, there is a need for more intensive socialization to reach the entire community.

Keywords: public sector innovation, public services, local government, women and children

1 INTRODUCTION

Recently, scholars' and practitioners' interest in public sector innovation has been a phenomenon (Borins 2014). The study of innovation in the public sector has been high on the agenda by public managers, politics, and public organizations, particularly the bureaucracy (Bekkers & Tummers 2018). The public bureaucracy known to be rigid and complex (Mubin & Roziqin 2018) is now gradually improving with the presence of innovation. Public sector innovation can be described as a novel idea or practice implemented by a particular organization, especially public organization (Demircioglu 2019). Innovation typically occurs through gradual modifications to existing operating procedures to increase the quality and effectiveness of service delivery (Janssen *et al.* 2017; Mergel 2015). The main focus of innovation is individual and organizational analysis by assessing why and how innovation must be applied (Demircioglu 2019). Another side, public sector innovation aims to improve the efficiency of apparatus resources, the quality of public services, and various social challenges (Arundel *et al.* 2019; Torfing & Ansell 2017).

The increasingly complex challenges and changes in society require public organizations at any level to innovate (Arundel *et al.* 2019), including the local government. Innovation in policy and government management is crucial, especially in facing advanced development of information technology (Pradiansyah *et al.* 2020; Rozikin *et al.* 2020). If the government doesn't innovate, the government will wait for time and become the target of criticism by

*Corresponding Author

society (Farazmand 2004). Moreover, innovation in the government system aims to increase the capacity of the government itself and the relationship between the government and society (Janssen *et al.* 2017).

Based on Law Number 23 of 2014 concerning local government, space for innovation in the regions has been regulated as in Articles 386-389 [12] and Government Regulation Number 38 of 2017 concerning local innovation (Pratama 2019). While the characteristics of innovation in Indonesia are related to technology (Demircioglu 2019; Pratama 2019) and e-government (Rozikin *et al.* 2020). It is strengthened in the study by Bullock that describes that technological developments such as Artificial Intelligence (AI) can help improve quality and discretion (Bullock 2019), also public sector data analysis (Loukis *et al.* 2020). That's evidence that the subject of policy-innovation engagement can be investigated from the technology and innovation policies ecosystem (Ma *et al.* 2019).

Innovation within the government has also spread in several policy areas. One of them is in health and social services (Borins 2014). Through innovations initiated by the State or the government, it is hoped that it can be implemented effectively (Diercks *et al.* 2019; Grillitsch *et al.* 2019; Osborne 2009) and equally (Borins 2014). While in the case of Pasuruan Regency, a social problem considered is violence against women and children. This fact is part of the increasing number of violence against women and children in Indonesia, where in 2019, it reached 431,471 cases.

The problem of violence against women and children in Pasuruan Regency is a serious problem that needs to be resolved. Based on data from the PPT-PPA Team (Integrated Service Centre for the Protection of Women and Children), In 2015, there were 25 Cases of Violence against Women and Children; 58 Cases of Domestic Violence (Arifin 2017). Based on these problems, that is the reason why the Pasuruan Regency Government made an innovation called *Sakera Jempol*. It is a combination of AI-based innovation and community participation in reducing cases of violence against women and children. Also has instruments such as prevention, early detection, and countermeasures (Emil 2019).

Previous studies about the innovation of *Sakera Jempol* have been carried out, such as in Na'mah's study entitled the Implementation of the *Sakera Jempol* Program from a juridical perspective (Na'mah 2018). Furthermore, a study conducted by Valentino discusses the implementation of *Sakera Jempol* from the perspective of content and policy context (Valentino 2019). Meanwhile, the innovation aspect has been researched by Istiqomah 2018) with several items such as the approach of strategies, services standard, and services quality. This study focuses more on the perspective of public sector innovation. Finally, the questions in this article are how the innovations carried out by the Pasuruan Regency Government in the perspective of public sector innovation, and how these innovations reduce violence against women and young children in Pasuruan Regency.

2 METHOD

Using a descriptive analysis approach, this research is based on literature studies or comes from secondary data. This application is designed to find literature that fits the research topic being written while finding the impact of the research. The first step in finding literature is the keyword innovation and/or public sector innovation. Further, researchers got the documents or official reports from government agencies and online media relevant to *Sakera Jempol* and violence against women and children. The third is to analyze data and arguments; researchers used the perspective of public sector innovation within the framework of the local bureaucracy. Then, the researcher used VOSViewer software to examine the result with the secondary data. There are 34 journal articles cited from journals indexed by Scopus. The rest are journal articles indexed by SINTA (Indonesian Index) and other relevant documents. Therefore, the limitations in this study are limited to local government innovations in dealing with violence against women and children.

3 RESULTS AND DISCUSSION

3.1 *Sakera jempol as a local government innovation*

Although the study of innovation originated in the private sector, which was first put forward by Schumpeter to show something new such as technology, materials, and methods in economic progress and industrialization (Pratama 2019), however, since the new public management paradigm has developed, innovation studies have emerged in public organizations (Demircioglu 2019; Borins 2018). According to Pratama, public sector innovation emphasizes more on public values. It means that innovation in government is encouraged to support improved governance and service performance (Febrian 2018; Pratama 2019). In line with the principles of decentralization and regional autonomy in Indonesia.

Innovation in the context of local government is needed as a supporting capacity for solving social problems, especially with the development of information technology. A note issued by the Ministry of Administrative and Bureaucratic Reform explained that in the 2014–2016 period, public sector innovation in Indonesia was dominated by local governments (Pratama 2019). Recently, local government innovation capacity largely determines how social problems can be resolved (Osborne 1998). Moreover, local governments' most widely used innovation is to address health and education problems. However, in this case, the local government, the Regency Government of Pasuruan creates an innovation to manage violence against women and children. The innovation by Regency Government of Pasuruan is *Sakera Jempol* (Be aware of the violence of women and children by picking up the ball). Implementation of the *Sakera Jempol* innovation refers to the Decree of the Regent of Pasuruan Number 260/560/HK/424.013/2014 about the Establishment of the Integrated Service Centre for the Protection of Women and Children (PPT-PPA), which has the task of tackling violence against women and children. This innovation is managed by the Agency of KB and PP (Agency of Family Planning and Women Empowerment) Office. *Sakera Jempol* is a form of public service innovation in the local government as an effort to prevent violence against women and children in Pasuruan Regency. Although it has been around since 2014, *Sakera Jempol* innovation program became effective in 2016 due to an increase in domestic violence in 2015 (Na'mah 2018). Innovation is needed because innovation plays an important role in regional development.

Various breakthroughs and fresh ideas in the bureaucratic system will encourage an area to be more advanced and developed (Nurdin 2018).

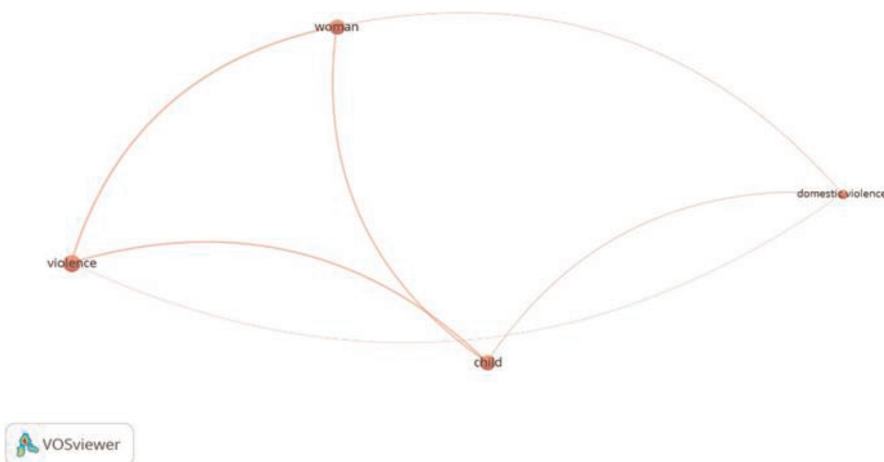


Figure 1. Tex data based on the title word.

The results of the map analysis are based on text data (keywords) Vos Viewer from 87 google scholar documents in the 2018–2020 range with keywords titled violence against women. Then there are four words connected, as seen in Figure 1. Particularly, what needs attention is domestic violence. This is reinforced by the fact that violence against women and children in Pasuruan is more in the domestic scope. Furthermore, of the 87 articles, none of the authors had a relationship with other authors in discussing violence against women and children (Figure 2). This proves that the characteristics and approaches of an article are different from one another, and there is minimal collaboration.

Sakera jempol innovation has three main objectives. First, reducing the number of violence against women and children. Second, increase the speed of handling victims of violence against women and children. Third, assist victims of violence against women and children completely. This is done because so far, victims of violence have not received adequate assistance legally, psychologically, and socially. This initiative offers another way: continuous assistance until the victim can readapt to his environment [22].



Figure 2. Title word “violence against women and children based on authors”.

Sakera Jempol’s innovation has programs including anti violence campaign *Fanspage Plus Molin* (car to protect women and children), and *Torlin* (motorbike to protect women and children). Antiviolence campaigns are also carried out through social media such as Instagram, Facebook, and WhatsApp. ICT and AI are the key to a smart public service (Velsberg *et al.* 2020); (Wirtz & Müller 2019). This is proof that innovation is related to technology and something new (Torfing & Ansell 2017); (Pratama 2019); (Ma *et al.* 2019); (Velsberg *et al.* 2020). Online media is highly effective in everyday life (Wirtz & Müller 2019). In addition, there are *Hotline Jempol* (Hotline by picking up the ball), *Four Past* (fast to detect, report, handle, and rehabilitate). Further, *ada jempol* (Advocacy of Picking a Ball) is an effort to assist victims of violence against women and children. Public administration practitioners hope AI can solve the performance problems of public organizations (Wirtz & Müller 2019). The hierarchical, bureaucratic structure can be simplified through AI-guided processes in public organizations, especially in the decision-making process, which is still very limited (Henman 2020).

Most public sector innovation in Indonesia refers more to using ICT/e-government and the administrative innovation dimension. *Sakera Jempol* can be categorized as an

administrative innovation. *Sakera Jempol* also has been recognized by The Ministry of Administrative and Bureaucracy Reform as the National Best Public Innovation and has received an award. This award is because this innovation has a specific purpose, namely to handle cases of violence against women and children. Moreover, it is a chance to participate in participants United Nation Public Service Awards (UNPSA) 2019 with the category of promoting gender-responsive public service to achieve the SDGs (Emil 2019). The *Sakera Jempol* is said to be a simple, unique, comprehensive, and applicable innovation. Starting from promotive, preventive, to rehabilitative, victims of violence against women and children who can answer problems and reduce the number of violence against women and children.

The emergence of *Sakera Jempol* can be considered inclusive innovation (Schwittay 2019), particularly to gender equality (Roziqin *et al.* 2019) and women's protection. This innovation, specifically aimed at women and children, is an effort to protect the rights of certain groups. Moreover, on women's issues, this innovative effort is expected to be able to create a safe area for women through changes in structural design (Schwittay 2019). These measures reduce inequality as the mainstream of marginalization and inequality (Schwittay 2019); (Foster & Heeks 2013). Victims of violence are rarely afraid to report. They don't know where to go to report the violence they have experienced. As a result, this case was never resolved and caused recurring events. Especially in a patriarchal social structure, women are placed on the subordinate level. This is what happens to the ongoing violence against women.

As a local government innovation, implementing the thumbs-up requires collaboration (Bekkers & Tummers 2018) and participation. An example is gender analysis efforts in the collaborative governance framework (Johnston 2017). Meanwhile, participatory efforts can be made by cooperating with all elements of society. In the context of public sector innovation, the success of innovation requires large participation from society (Hjelmar 2019). Not only that, in the institutional framework but *Sakera Jempol's* innovation also is said to be a strategic activity (Hjelmar 2019). It means that innovation is defined as an activity to understand constitutive elements. Besides, the government, in this context, is the core of the innovation process.

3.2 Reducing violence against women and children

According to WHO (World Health Organization), violence is an action that uses physical strength and power, threats or actions against oneself, individuals, groups of people or society that are likely to result in bruising/trauma, death, psychological harm, developmental disorders or deprivation of rights. The high number of violence against women and children in Indonesia requires systematic and innovative efforts to reduce this number. one of the innovative frameworks can be implemented in local organizations, for example, *sakera jempol* in Pasuruan Regency.

Every innovation made by public organizations has definite goals that are achieved. As previously mentioned, *Sakera Jempol* has three main objectives, but this section focuses more on analyzing the first objective. Because when the first goal is achieved, the second and third goals will follow. Further, can *Sakera Jempol's* innovation in Pasuruan Regency reduce the rate of violence against women and children? With the innovation of *Sakera Jempol* in Pasuruan district, the rate of violence against women and children has been minimized. Data in 2016, the number of violence decreased drastically, namely 16 cases, whereas in the previous year, the number of violence in Pasuruan Regency reached 58 cases (Supaat 2017). After that, the researchers try to summarize cases from 2016 to 2019.

Even though the number has decreased, it is believed that only reported. At the same time, this innovation has 365 cadres stationed in 365 villages, 68 extension workers, and 24 coordinators in 24 districts. These cadres receive information from the public through communication channels such as hotlines or WhatsApp. Then distributed to the *Sakera*

Jempol server. This method is considered the most appropriate way to overcome the victims' fear so that victims do not individually report to the authorities. On the other hand, a confirmed number of case reports has indicated that awareness of the importance of reporting cases of violence is better and does not require huge costs but the impact is much greater (Lintartika 2019).

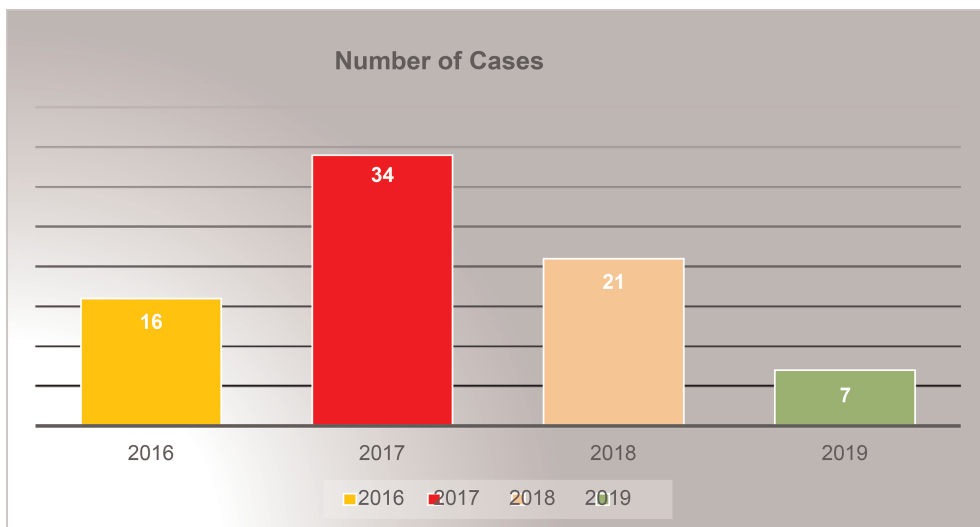


Figure 3. The accumulation of cases of violence against women and children in Pasuruan Regency. Source: Adopted from various resources.

The violence against women and children in Pasuruan Regency is still a scourge that needs attention. It is proven that there are still cases of child murder (Emil 2020). The existence of *Sakera Jempol's* innovation still requires a comprehensive evaluation for the main objectives can be achieved. Preventive efforts such as intensifying campaigns, and providing understanding to the community, especially families. Then from resources such as increasing the budget allocation and the number of cadres. Meanwhile, the sustainability of this innovation must be guaranteed by collaborating with various stakeholders, periodic evaluations, and determining the right indicators. This is explained by Borins in his study that there are 3 aspects that often hinder government innovation: persuasion, accommodation, and persistence (Borins 2014).

Furthermore, there are other things that we can learn from innovations and several cases in Pasuruan Regency. The violence mostly comes from the closest people, be it parents, relatives, or married couples (Figure 1). Hence, it is appropriate if the key informant for reporting cases to the authorities is an independent outsider with high empathy. The conclusion is that efforts to prevent violence against women and children are much influenced by the dynamics of relationships and norms that apply in society (Kyegombe *et al.* 2014). It means that the active contribution of the community has an important role in reducing violence. As has been proven by the role of society in reducing violence against women in Uganda (Kyegombe *et al.* 2014).

4 CONCLUSION

Innovation through AI and ICT can help government social problems effectively. The case of *Sakera Jempol's* innovation in Pasuruan Regency, the government is trying to suppress and control the rate of violence against women and children through various activities. Even though

it has received awards and can be said to have succeeded in reducing the number of cases, violence against women is like an iceberg phenomenon. It means that the numbers recorded are those who have been reported, and there could be more cases because many people do not report violence. In addition, violence against women and children tends that the perpetrators of violence come from those closest to them. The suggestion for this innovation is how to provide understanding and knowledge to the community, especially at the family level, to avoid things that have the potential for violence. Consequently, the next interesting study focused on the phenomenon of violence against women and children is from the sociological approach to why the closest people have the potential to commit violence, as well as efforts to minimize it.

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E-Siap as a public service innovation: An evaluation of efficiency and effectiveness

Lailatul Fajriyah, Krishno Hadi, Iradhat Taqwa Sihidi* & Ali Roziqin
Department of Government Studies, Universitas Muhammadiyah Malang

ABSTRACT: Public service innovation is an effort made by a government agency to make public services efficient and effective. This study aims to determine the efficiency and effectiveness of the Registration Application Information System (E-SIAP) carried out by the population and civil registry office of Blitar Regency. This research uses a descriptive quantitative method, and data collection is done through interviews, questionnaires, and documentation. The data obtained were analyzed in the initial stages by making data reduction, then continued with the presentation of the data, and ended with concluding. The results show that this program has been running efficiently and effectively, although it still has some obstacles. For example, applications can make it easier for people to take care of population documents, especially those who live far away, and it's also free. On the other hand, the server network and the lack of socialization hinder this program.

Keywords: public service, innovation, e-government, civil registration

1 INTRODUCTION

Public services are closely related to improving the welfare of the community, one of which is through the improvement and distribution of public services. This condition shows that the development of public facilities must be accompanied by an increase in the quality and effectiveness of the service itself, so that it can maximally encourage an increase in the welfare of the people in the area (Cagigas *et al.* 2021; Lee *et al.* 2020; Lim & Lee 2021; Sari *et al.* 2020; Zhu & Peyrache 2017). Public service is an effort made by an agency or bureaucrat to assist the community in achieving certain goals under the community's needs. The good quality of public services from government officials is made in the Decree of the Minister of Empowerment of State Apparatus No. 63/KEP/M.PAN/7/2003 concerning general guidelines for the implementation of public services. This policy helps improve the quality of public services. With the condition that public services are not good in an area, the government as a servant can provide services according to the roles or tasks they obey. The implementation of Law Number 25 the Year 2009 Article 7, paragraph (4) letter c, regarding public services (Elkesaki *et al.* 2021).

In short, innovation is changes made within the organization that include creativity in creating new products, services, ideas, or processes that already exist within the organization or develop from outside the organization (Aziz *et al.* 2021; Jenhaug 2020; Mahboob *et al.* 2019; Williams & Yecaló-Teclé 2020). Innovation has the attribute of innovation in its implementation, namely relative advantage. Compared to previous innovations, innovations must have advantages and more value. There is always a value of novelty in innovation, which is a characteristic that distinguishes it from others, compatibility or suitability.

*Corresponding Author

Innovation also has the opposite nature of being compatible or conforming to the innovation being replaced. The goal is not only to discard old innovations, which are less costly, but also to take advantage of old innovations as part of transitioning to innovations. In addition, it can encourage the process of adaptation and innovative learning in a faster, more complex way. Compared to previous innovations, innovations are new and higher complex (Ardelia & Pradana 2022).

The government's commitment to implementing E-government for each region is stated in Presidential Instruction No. 3 of 2003, which contains national policies and strategies for the development of E-government and is supported by the commitment of the central government through Government Regulation No. 38 of 2017 concerning the development of innovation in each region includes policies on changing the dimensions of governance, opening the barrier with the private sector and being able to manage, distribute and provide information to the public in a precise, effective, efficient, and easy-to-understand manner related to programs government (Aziz *et al.* 2021). Furthermore, the good quality of public services from government officials is made in the Decree of the Minister of Empowerment of State Apparatus No. 63/KEP/M.PAN/7/2003 concerning general guidelines for the implementation of public services. This policy helps improve the quality of public services. With the condition that public services are not good in an area, the government as a servant can provide services according to the roles or tasks they obey. As the implementation of Law Number 25 the Year 2009 Article 7 paragraph (4) letter c, regarding public services, 2014 is set as the year of public service innovation to focus on policies and implement targeted policies (Elkesaki *et al.* 2021).

Improving the quality of public services is the most critical issue because many people demand maximum service quality. Meanwhile, implementing public services did not experience significant changes (Yayat 2017). People always demand quality public services, namely easy, cheap, and fast (Triningsih *et al.* 2018). According to Gaspers, public services need to pay attention to meeting the needs of its citizens. The fulfillment of community needs can be measured by six indicators of good public services, namely "certainty of service time, the accuracy of service, courtesy and friendliness, responsibility, completeness, and ease of obtaining public services". If the public service meets these criteria, it can be said that the need has been fulfilled to provide community satisfaction (Chen *et al.* 2020; Thompson & Christensen 2018; Williams & Yecaló-Teclé 2020; Zhanuzakova *et al.* 2018). But in reality, what happens in the community's implementation of public services still reveals several problems related to public services. These problems include public services that are not yet effective and efficient, and the quality of human resources is inadequate (Mahsyar 2011). This can also be seen from the number of public or public complaints, either directly or indirectly, such as through the mass media demanding an increase in the quality of public services. While the practice of service providers did not change significantly. The community always demands quality public services, even though it is often not under the expectations of public services that have occurred so far are still convoluted, unclear, or less transparent and slow (Rakhmah 2016). Therefore, innovation is necessary to improve a government agency's service quality. As a public service provider that the community needs, the government must be responsible and strive to provide the best service in the context of improving public services.

Public services at the Department of Population and civil registration of Blitar Regency have the urgency of the problem that becomes an obstacle in providing services in the population sector, which is caused by regional or natural conditions in Blitar Regency, which consists of various kinds of people with various occupations, regional conditions, and ages. Then in terms of the number of service providers and service recipients not balanced, the provision of services manually by not utilizing technology is not effective and efficient. The last one is due to the low level of public awareness in managing population data. So far, people think that managing population documents is always convoluted and people avoid it (Triningsih *et al.* 2018). Problems that occur in the Department of Population and Civil

Registration of Blitar Regency in providing public services and various problems from complaints from the public so that the government makes several innovations and improves service quality by considering the community's needs. The local government is required to improve the quality of population document management services. Therefore, the local government implements an information and communication system that can facilitate the community. Still, qualified human resources are needed in carrying out these activities and can be used properly and optimally. If service providers and the community cannot use and utilize technology properly, the innovation will not run optimally (Triningsih *et al.* 2018).

In line with the enactment of national policies and strategies related to the development of e-government, which functions to organize a better government and realize an effective and efficient improvement of public services, it is necessary to have e-government development policies and strategies. The Department of Population and Civil Registration of Blitar Regency, through technology that has developed to innovate public services so that it can be used as a supporting tool for providing services to the community that can be adapted to the times, the Department of Population and Civil Registration of Blitar Regency creates a service innovation that aims to simplify and accelerate services, namely the Electronic Innovation of the Online Registration Application System (E-SIAP Online). This innovation is intended as an effort by the Department of Population and Civil Registration of Blitar Regency to break down the many queues to manage the population documents of the people of Blitar Regency. The Electronic Innovation of the Online Registration Application System (E-SIAP Online) was launched or created to meet the demands of following the developments of this advanced era. Therefore, researchers are interested in examining the efficiency and effectiveness of the E-SIAP innovation.

2 METHOD

This study uses a quantitative descriptive method. This research means a method that aims to objectively create an image or description of a situation using numbers, starting from data collection, interpretation of the data, appearance, and results. The data obtained were analyzed with the initial stages of formulating the problem, determining the type of information/data, determining the data collection procedure, and performing data processing and decision-making based on the results of data analysis.

The research was directed at the Population and Civil Registry Office of Blitar Regency, which focused on the E-SIAP application program. The research targets and data collection needed also led to the community in Blitar Regency as users of this E-SIAP application.

3 RESULTS AND DISCUSSION

Public sector organizations are bodies that have the task of carrying out their activities to implement public services. Public services include goods or services intended for the community to meet their needs. To improve the quality of public services in the community, the central and local governments are responsible for ensuring that the public services provided can serve and meet the community's needs (Carmia Diahloka & Achmad Bardjan Shaleh 2013). According to Law Number 25 of 2009 concerning Public Services. Stating that implementing public services must successfully realize justice and legal certainty for all Indonesian people. The government must provide the best service to the community, including population data management. Public services in the field of population data management are one of the tasks that local governments must carry out. In population administration, several things. Important things that need to be done are coordinating organizers, technical arrangement of organizers, guidance, socialization of implementation, implementation of community service activities, and presentation of population data

(Elkesaki *et al.* 2021). Public services in the population data management include issuing E-KTP, birth certificates, family cards, death certificates, and recording of population movements (mutations). To improve service quality, various agencies have issued many innovations. But with so many innovations, it must be able to provide benefits in its use ((Ardelia & Pradana 2022; Paschoal & Wegrich 2019).

As with the Population and Civil Registry Office of Blitar Regency, in meeting the demands of the times, especially in the field of public services by implementing e-government, the Department of Population and Civil Registry of Blitar Regency developed an application called E-SIAP which serves to facilitate the community in managing population administration through online service. The E-SIAP program is one of the breakthroughs made by the Population and Civil Registry Office of Blitar Regency to implement bureaucratic reform. Bureaucratic reform is an effort by the government to reform towards a better direction than before, especially in the implementation or administration of government. With the reform of the bureaucracy.

Based on this, efforts to realize bureaucratic reform are carried out by the Population and Civil Registry Office of Blitar Regency by launching the E-SIAP application to maximize population document services in Blitar Regency. This application can be accessed online by people in Blitar Regency. In accessing this application, it can be said that its use is fairly easy and not too difficult. The applicant or the public at the first time accessing this application must register first. What is meant by registration in this application is an account registration which can then be used to enter the E-SIAP application. Without an account, one cannot enter this E-SIAP application. In registering an account, it is necessary to confirm data from the registrant, which will be received by the Population and Civil Registry Office and confirmed. So that after receiving confirmation from the Population and Civil Registry Office of Blitar Regency, the registrant will receive a verification code which must then be entered into the account registration stage in the E-SIAP application. Only after the account is verified correctly can the public access and use the services in the E-SIAP application. This application is beneficial in terms of efficiency and effectiveness of its use because people do not need to come directly to the Population and Civil Registry Office of Blitar Regency to perform administrative services. So this application is very helpful for people who have houses with locations quite far from the Population and Civil Registry Office of Blitar Regency. With this E-SIAP application, people also don't need to queue when delivering what services are needed. People choose what services are needed and proceed to the next process.

The application was launched in 2019 and began to be used effectively in 2020, where every day, at least 1000 accounts are visited or accessed in one day. Because it is undeniable that the Department of Population and Civil Registry of Blitar Regency is always crowded with people who apply for services daily, in this E-SIAP application, there are several services that the public can access. Among other things are a birth certificate, death certificate, child identity card (KIA), and correction of family cards. So that by using this application, people need to see the requirements to apply for the services needed, then will enter the form menu and fill in the necessary data to complete the service submission requirements. Suppose this E-SIAP application has several requirements, such as other documents that must be attached. In that case, a column is already available for attaching photos of files or documents that must be attached to complement the requirements.

This E-SIAP application is very helpful for the community when the location of their house is far from the Population and Civil Registry Office, or even if they only have a little time but need the services of the Population and Civil Registry Office of Blitar Regency. After all the required requirements have been completed and are deemed correct, the applicant presses the send button on the application so that the data that has been submitted will automatically enter the Population and Civil Registry Office of Blitar Regency. After the file is entered, it's just a matter of how the file will be verified by the employee who handles it. If the file still contains errors, then the Department of Population and Civil

Registration of Blitar Regency will notify the E-SIAP application earlier that there are still files that are either incorrect or incomplete. The parts that the service applicant must replace will be marked and explained. So that it will make it easier for service applicants to find out and immediately update the data that will be sent back to the Population and Civil Registry Office of Blitar Regency. After the data is verified and declared correct, there will be a notification when the document is completed, so the applicant has to wait at home until further notification. Documents that have been finished will no longer need to be taken to the Population and Civil Registry Office but will be sent via email to the applicant, and later will receive a code to open the document via SMS. After that, all you have to do is print the document yourself with the recommended paper conditions.

Table 1. Statistics of the population of Blitar Regency in 2020.

Number of Population by Gender	Total
Man	616,511
Woman	607,234
Total	1,223,745

Source: BPS Regency Blitar year 2020.

Based on these data, it can be said that the population in Blitar Regency is very large, so in dealing with community needs related to the administration or the need for population documents, there are also quite a lot of people every day. However, suppose all services are still carried out manually or directly. In that case, it can be done that the capacity of human resources and time needed to provide services is deemed not optimal enough to cope with the many services required by the community. So that the existence of service innovations through the E-SIAP application should help overcome the problems experienced by the Population and Civil Registry Office of Blitar Regency related to the effectiveness and efficiency of the bureaucracy.

Table 2. E-SIAP application questionnaire data.

Description	Yes	Not
Do you know the E-SIAP application?	76.9%	23.1%
Have you ever used the E-SIAP application?	46.2%	53.8%
Is the E-SIAP application easy to access and use?	61.5%	38.5%
Do you feel helped by this application?	53.8%	46.2%
If you have to take care of more residence documents, choose online or in-person	69.2% Online	30.8% Live
Is this application effective and efficient?	53.8% already	46.2% not yet

Source: Questionnaire data on communities in Blitar Regency.

According to the data collected from the questionnaires to the community in Blitar Regency, the number of respondents was 50, stating that as many as 76.9% of people already knew about this E-SIAP application. Then it can be said that the E-SIAP application within the community of Blitar Regency has not yet spread optimally, so it is felt that there are still quite a lot of people in Blitar Regency who do not know about this application, so the target for dissemination of this innovation must be further developed. By the Department of Population and Civil Registry of Blitar Regency. But if you look at it, on the other hand, it is also quite good, and quite a percentage of people already know about this innovation which has only been launched in the last few years.

Then the next thing is that quite a lot of people already know about the innovation of the E-SIAP application, but most people still have never used the application. According to the respondents, the E-SIAP application is said to be relatively easy to use because it has features or uses that are not too complicated so that people new to using the application can immediately understand the procedures for using it quickly. Most respondents said that the E-SIAP application helped them, but the percentage of respondents who felt less helped was also quite a lot. This shows that some things still need to be paid more attention to and further developed in helping to facilitate the services provided. From the data that has been collected, more people choose online services because they are more effective and efficient.

The innovation of managing population documents through the E-SIAP application is the duty and responsibility of the Blitar Regency Population Service in realizing effective and efficient services, which are then adapted to the times and are based on the Population Administration Law. The existence of this online service for the E-SIAP application, residents or residents of Blitar Regency welcomes it because the community hopes to access public services easily, quickly, and free of charge. In addition, by utilizing this innovation, it is possible to break down the queues that have exploded at the Population Service of Blitar Regency (Ardelia & Pradana 2022).

Launching the E-SIAP application should speed up services even more, and there is no charge for the administration of population documents. Therefore, this E-SIAP application positively impacts managing population documents for the people of Blitar Regency. The success of the E-SIAP innovation can be seen in the many people who have used and understood the E-SIAP application. The E-SIAP application is beneficial for people who have long distances, don't have an Android cellphone, technological stutterers, and people who are elderly, especially since this E-SIAP application has continuity with the Salam Sak Jangkah program. Salam Sak Jangkah is a population document management program that can be carried out at the respective Village Offices. This program still has continuity with E-SIAP (Ardelia & Pradana 2022).

However, despite the effectiveness and efficiency offered by this application, there are still some obstacles to it. Among other things is the system in the application itself, which sometimes occurs when many people access the E-SIAP application simultaneously. So that when logging into the application can take a long time. Then there are several other problems in the database at the time of taking the NIK; there are still many that the system fails to read. Then some data has been uploaded in full on the application but is still rejected because the document is still incomplete. Next is a fairly common problem where there is still a lack of socialization that has not been evenly distributed, so many people still do not know about this E-SIAP application.

The Department of Population and Civil Registration of Blitar Regency has provided public services through technological innovations in managing population documents that employees and the people of Blitar can feel. This application not only makes it easier for the community but also for employees at the Population and Civil Registry Office of Blitar Regency to provide services to the community and solve various problems that become obstacles in managing population documents in Blitar Regency because the service using this technological innovation helps employees in inputting data and shortens the time and energy of employees and the community in Blitar Regency.

Public service innovation through the E-SIAP application has been going well, and the community's impact has been felt by the community's enthusiasm and employees who make their work easier. The effectiveness and efficiency of this application have been felt enough. However, some things still need to be improved by the Population and Civil Registry Office of Blitar Regency. The Population and Civil Registry Office of Blitar Regency must maximize and enhance the server network or application so that the public can access it more quickly and easily because, in the use of the E-SIAP application, system problems often occur.

The existence of a grand design of bureaucratic reform is one of the main factors in the emergence of this application. With this application, the government and the community

also get convenience in providing and getting services. However, the implementation of this application still has to be monitored regularly. So that when new problems are found in this application, improvements can be made immediately. And it is hoped that the longer this application will be even better with the latest innovations that can be integrated and applied to it. It is also expected that the government will pay more attention to how many people know and understand the function of this E-SIAP application, so there is still a need for periodic socialization regarding this E-SIAP application.

4 CONCLUSION

From the results of the research above, the authors can conclude that public services at the Department of Population and civil registration of Blitar Regency have the urgency of the problem that becomes an obstacle in providing services in the population sector, which is caused by regional or natural conditions in Blitar Regency which consists of various kinds of people with various occupations, regional conditions, and ages. Therefore, in improving public services to realize the community's welfare, the Population and Civil Registration Office of Blitar Regency creates a service innovation that aims to simplify and accelerate services, namely the Electronic Innovation of the Online Registration Application System (E-SIAP Online). This innovation is intended as an effort by the Department of Population and Civil Registration of Blitar Regency to break down the many queues to manage the population documents of the people of Blitar Regency. The Electronic Innovation of the Online Registration Application System (E-SIAP Online) was launched or created to meet the demands of following the developments of this advanced era. The E-SIAP application launched by the Population and Civil Registry Office of Blitar Regency is a form of simplifying bureaucracy, and regulating and facilitating the management of population documents in Blitar Regency. Public service innovation through the E-SIAP application has been going well, and the impact has been felt by the community, which can be seen from the enthusiasm of the community and employees who make their work easier. The effectiveness and efficiency of this application have been felt enough. However, there are still some things that need to be improved by the population and civil registry office of Blitar Regency.

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Consumer's behavior intention in using green skincare products

Ardik Praharjo* & Rahmad Wijaya

Universitas Muhammadiyah Malang, Malang, Indonesia

ABSTRACT: Increasing environmental awareness among the public motivates consumers to use green cosmetic products. Green skin care products are the fastest growing sector in the worldwide market compared to other green cosmetic products. However, compared to general cosmetic products, the market share of green cosmetic products in Indonesia is relatively low. The purpose of this study is to investigate consumer purchase intentions for green skin care products in Indonesia. Therefore, this study uses a sample of 200 respondents. The sample in this study was determined by the non-probability sampling method because the total population is not known with certainty. The sampling technique used was purposive sampling with criteria: (1) > 17 years old; (2) had bought the brand. The data analysis technique in this study used is multiple regression analysis. The results of this study indicate that there is a significant influence of independent variables, including environmental awareness, past experience, and social influence on purchase intention.

Keywords: Green Skincare, Environmental Awareness, Past Experience, Social Influence

1 INTRODUCTION

Environmental issues have increasingly become a part of public attention over the last few years. For decades, companies have motivated consumers to buy green products (Delafrooz *et al.* 2014). The increasing awareness among consumers to buy green products has led to increased attention focused on caring for the environment (Kong *et al.* 2014). According to a worldwide survey conducted by Nielsen Company in 2015, the Asia-Pacific region has the largest number of consumers the second highest who wants an increase in the availability of green products in the market (Nielsen 2015). As a result, the green strategy has become an important aspect of supporting business sustainability. Green companies are becoming more important in modern manufacturing. However, only a few companies are able to implement green strategies in their organizations. Many companies apply the concept of green as cut food because it is not clear and varied. the definition of “green” which has led to differing interpretations among practitioners (Kluczek 2017). The term “green” is defined as “the environment needs to be part of the consideration for products or services that will not pollute the earth or deplore natural resources” (Paul *et al.* 2106). Considerable effort is required for a truly green company. Companies should implement eco-friendly initiatives into their activities to embrace opportunities. The term “environmentally friendly” originates from social discourse and is based on values, attitudes, perceptions, knowledge, and behaviors related to the environment. Companies that implement environmentally friendly initiatives are able to increase consumer purchase intentions for green products and support global trends to protect the environment (Hsu *et al.* 2017).

According to Cheong *et al.* (2016), Indonesia will be one of the top five cosmetic markets for the next 10–15 years as a result of its position as the largest economy in Southeast Asia. Indonesia has a gross domestic product (GDP) of US\$888.5 billion, a population of 250 million, and an increase in income. By 2025, Indonesia's GDP growth rate is expected to increase by 7%. Moreover, the demand for budget consumer products among the Indonesian middle class has been increasing.

*Corresponding Author

This has led to rapid and consistent growth in demand for cosmetics and personal care products. Skincare is one of the two largest categories of product sales, accounting for 20% of the cosmetic market. The trend of green initiatives among companies worldwide has led to the creation and production of green cosmetic products to attract consumers. Skincare products are being transformed into green skin care products. There is a highlighted demand for green skin care products as consumers are becoming increasingly concerned about buying eco-friendly products.

Green skincare products reach the market with the fastest growth compared to other green cosmetic products (Pudaruth *et al.* 2015). As in many other countries, green cosmetics in Indonesia contribute to a growing market share. According to a survey conducted by Euromonitor International in 2015, the share of the green cosmetic market in Indonesia is increasing (Basumbul 2016). However, compared to general cosmetic products, the market share of green cosmetic products in Indonesia is relatively low. Green cosmetics are more expensive, which causes fewer customers to intend to buy environmentally friendly cosmetics (Basumbul 2016). In addition, there are fewer green cosmetics available in Indonesia compared to cosmetic products in general. Thus, there is a background of green consumer research in Indonesia with the aim of increasing Indonesian consumers' intention to buy green cosmetic products, and in particular green skin care products.

The huge market potential for cosmetic products in Indonesia provides more space for green cosmetics, especially eco-friendly skin care products, to attract more consumers and support the need to protect the environment. Several studies have addressed the topic of green cosmetics. Pudarut *et al.* (2015) investigated the purchasing patterns of consumers of green cosmetics. They used multiple regression and found that several factors, such as belief in ethical claims in green messages, brand image, usage experience, sales rep, and social influence, influence green cosmetic purchasing patterns.

2 LITERATURE REVIEW

2.1 *Green products*

A “green product” is typically referred to as an eco-product or a product that is beneficial to the environment. Because they need less packaging, less use of harmful materials, and recycling or recycled content, green products do not affect the environment or natural resources (Chen & Chai 2010). Krause (1993) noted that consumers are paying more attention to their daily routines and how they affect the environment. Green marketing is used by businesses that sell eco-friendly products to promote their value proposition. For businesses producing green products, there are various benefits. First, among the significant costs for businesses are those related to water and electricity. If businesses prioritize enhancing their energy innovation and water-saving practices, might save energy and related expenditures for the business. These advancements frequently affect the yearly savings from long-term cost cuts (Lagas 2015). Second, the company's revenues have increased as a result of new customers being interested in green items. Green and sustainable business strategies can increase a company's marketability. Making green products can help the company's reputation because consumers are becoming more environmentally conscious. Highlighting a company's contributions to society, whether it be an original equipment manufacturer or a supplier, will help it attract a whole new consumer base, which will help it grow its sales (Nastun 2007).

2.2 *Green cosmetic*

The production of cosmetics utilizing organic, non-toxic materials like aloe Vera, avocados, and other naturally occurring substances is known as “green cosmetics” (Sahota 2014). Because they are taken from living things like plants and animals, the elements employed are bio-friendly. Agricultural plants, microorganisms, and natural oils are a few of the raw materials used in the production of green cosmetics. The cosmetic is regarded as “green” because it is packaged in recyclable and eco-friendly materials on both the main and

secondary levels. Plastic and plasticized papers, which are currently the most used materials, can be used less when packaging materials like glass, aluminum, and bamboo are used.

The need to reduce the negative impacts of artificially produced cosmetics technology has prompted an increase in the usage of green cosmetic goods. The majority of the materials utilized in the production of fake goods came from dangerous sources, which had serious negative effects on people's daily lives. The usage of manufactured cosmetics contributed to the rise of deadly diseases including cancer and burning sensations in the body. There is a need to develop more effective items because certain fake products did not have the desired results as many people would anticipate (Chaudhri & Jain 2014).

Green cosmetics are designed to be affordable, environmentally friendly, and to produce positive consequences for the body. Given that consumers are more focused on purchasing eco-friendly items that ensure user safety, cosmetics producers are now embracing the need to go natural with their products. According to Sahota's (2014) perspective, if a manufacturer does not adopt the new green production measures, the business may be on the verge of collapse as a result of people switching to new lifestyles in an effort to produce high-quality products and save the environment (Chaudhri & Jain 2014).

2.3 *Eco-awareness*

The well-known word "eco-awareness" recognizes the environment's fragility and the importance of its preservation. Additionally, its pertinent issues and understanding of the challenges that affect the environment in some way. For instance, expertise in handling such a problem and reasons to address environmental issues (McBride *et al.* 2013). When buying an environmentally friendly product, the majority of buyers want to learn more (Akter & Islam 2020). Their understanding of environmental challenges and the topics at stake is used to create their own viewpoints or attitudes in order to make decisions based on their intended purchases the choice (Cheah & Phau 2011). Given that businesses are socio-economic entities, they cannot anticipate that "eco-awareness" won't have an impact on consumer behavior (Boztepe 2016).

Eco-awareness has a favorable relationship with people's behavioral intention and motivation and encourages pro-environmental behavior, according to research by Ar and Ylmaz (2017). For instance, marketing managers might interact with environmentally conscious and concerned customers. A new perspective of businesses as establishments that are conscious of the environment has replaced the outdated notion that they are facilities with no goals other than to make a profit. Furthermore, comprehension of environmental integration into corporate culture is necessary for generating ecologically friendly products and selecting environmentally friendly markets (Boztepe 2012).

Numerous studies from diverse cultures have examined the connection between customer attitudes and behavioral intents to purchase green or environmentally friendly products (Kim & Chung 2011; Tarkiainen & Sundqvist 2005). One of the affirmative indicators on an environmental friendliness behavior scale is choosing to buy green goods (Liobiki *et al.* 2017). Because of the item's green credits, someone who is environmentally conscious and actively involved in environmental issues is more likely to demonstrate clear intentions to purchase a green product (Norazah 2016). For instance, if a person believes in recycling in their daily life and is aware of the threat the earth faces, they will likely to purchase more ecologically friendly goods.

Individuals' opinions are significantly influenced by environmental knowledge and information. They influence people's day-to-day environmental decisions. Because it tackles issues and methods and helps to mold intents through the belief system, people's knowledge of the environment has a significant impact on how they behave (Cheah & Phau 2011). The ability of a consumer to perceive climate-related images, thoughts, and behaviors that are linked to attitudes toward the environment is measured by eco-awareness (Cheanh & Phau 2011).

First Hypothesis: H1: Eco-awareness has a positive impact toward purchase intention

2.4 Social influence

Modern decades saw a noticeable change in consumer behavior as health and environmental consciousness gained prominence. Young consumers are significantly influenced by their family and friends while making purchases (Rehman *et al.* 2017). Since businesses have discovered that younger generations are more responsible in their behaviors and have a greater understanding of environmental protection, marketing strategies should target youthful consumers. The younger generation has also demonstrated a strong capacity for influencing the shopping decisions of friends and families (Joshi & Rahman 2016). Additionally, the younger generation has acquired skills in ecoawareness from the media, which has expanded their knowledge of green products and influenced their purchasing power. They have also passed this information along to their friends and family, which has influenced their decision to buy green products. A sizable portion of people's social lives is spent with their families and friends. The emotional norms of human behavior, according to Azjen (2005), are created by social pressure. Individuals who are close to an individual, such as guardians, family members, friends, lovers, and teachers, may put social pressure on that person to act in a certain way.

Second Hypothesis: H2: Social influence has a positive impact toward purchase intention

2.5 Past experience

Companies are forced to alter their products and move toward environmentally friendly items as a result of consumers' increased understanding (Schuhwerk & Hagius-Lefkoff 1995). People became more conscious of environmental issues and created green or environmentally friendly marketing strategies that focused on the environment of consumers (Paco & Raposo 2009). Businesses have struggled to switch to the marketing and manufacture of green products due to consumers' growing environmental awareness and desire for ecologically friendly items (Jain & Kaur 2004). Experience is one of the many aspects that influence a consumer's intention to buy Teng *et al.* (2011). The decision to purchase green goods rests on the preferences of the consumer. Experienced consumers and those who have previously purchased green items are more likely to do so in the future (Young *et al.* 2010). A crucial source of information for making future decisions is past experience. The nature of a client's experience has become a fundamental concept in buyer purchasing behavior (Chen & Chai 2010). Delgado-Ballester and Munuera-Aleman (2005) established that the choice to make a future purchase is influenced by the confidence in prior experience.

Third Hypothesis: H3: Past experience has a positive impact toward purchase intention

2.6 Model hypothesis

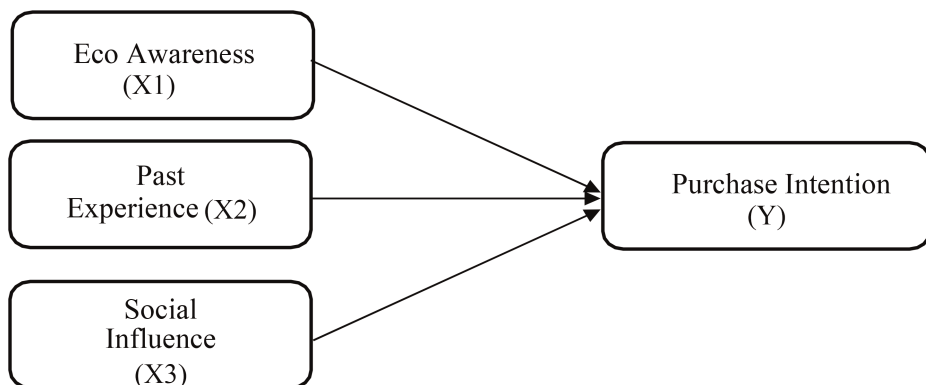


Figure 1. Model hypothesis.

3 RESEARCH METHOD

This research is an explanatory research with a quantitative approach. A survey using a questionnaire (both online and offline) was conducted to collect primary data in this study. The population in this study are consumers of The Body Shop. The brand is categorized as a green skincare brand because the products and campaigns carried out are mostly green products and are among the most well-known brands in Indonesia. The number of samples in this study uses an estimation technique, which in the maximum likelihood estimation (MLE). Hair *et al.* (2014) recommends a minimum sample size of 200 to provide a solid basis for estimation. Therefore, this study used a sample of 200 respondents. The sample in this study was determined by the non-probability sampling method because the total population is not known with certainty. The sampling technique used was purposive sampling with criteria: (1) > 17 years old; (2) had bought the brand. The data analysis technique used in this study is multiple regression analysis.

4 RESULT AND DISCUSSIONS

4.1 *Result of multiple linear regression*

Table 1. Result of multiple linear regression.

Model	Unstandardized Coefficients		t-stat.	Sig.
1 (<i>Constant</i>)	.530	1.41	.360	.719
X1	.146	.182	2.203	.029
X2	.222	.194	2.321	.022
X3	.329	.155	2.166	.032

Source: Data Processed by SPSS Version 21.

Based on Table 1, it can be explained that buying interest will increase by 0.146 units for each additional unit of X1 (eco-awareness). So if eco-awareness increases by 1 unit, then buying interest will increase by 0.146 units assuming the other variables are held constant. Purchase interest will also increase by 0.222 units for every additional unit of X2 (past experience). So if the past experience has increased by 1 unit, then buying interest will increase by 0.222 units assuming the other variables are held constant. Buying interest will increase by 0.329 units for each additional unit of X3 (social influence). Thus, if social influence increases by 1 unit, then buying interest will increase by 0.329 units assuming the other variables are held constant.

4.2 *Coefficient of determination (R²)*

To find out the contribution of the independent variable, eco-awareness (X1), past experience (X2), and social influence (X3) to the dependent variable purchase intention (X), the value of R² is used, as shown in Table 2.

Table 2. Koefisien korelasi dan determinasi.

Model	R	RSquare	Adjusted R Square
1	.721	.520	.503

Source: Data Processed by SPSS Version 21.

The coefficient of determination is used to calculate the magnitude of the influence or contribution of the independent variable to the dependent variable. From the analysis in Table 2 the result of R (coefficient of determination) is 0.721. This means that 72.1% of the purchase intention variables will be influenced by the independent variables, namely, eco-awareness (X1), past experience (X2), social influence (X3) and others that are not discussed in this study.

4.3 *Discussions*

As shown earlier, all hypotheses were tested along with correlation analysis to test the statistical significance between variables. However, statistical significance in favor of testing hypothesis 1 is accepted. Starting from the first hypothesis, the researcher tries to prove that there is a positive relationship between eco-awareness and purchase intention. It shows that there is a relationship between environmental awareness and purchase attention in which consumers' attitudes toward the environment influence their purchasing choices and their changes and behavior habits of consumers. Moreover, in the findings obtained regarding environmental awareness, it can be clearly observed that the majority of the respondents examined the idea of protecting the environment agreed with the proven hypothesis.

Regarding the second hypothesis, it aims to test and prove that consumers' past buying experiences can influence their future purchase choices to buy similar products. After testing the hypothesis, it shows there is a statistical significance between the two variables where past purchasing experience affects future purchases. "Past experience" shows where it was found that the majority of consumers should be positively responded to the impact of past purchases. The findings show that consumers agree that they tend to buy eco-friendly products because they are used to it.

The last hypothesis aims to test whether there is a positive relationship between the social influence of the community and family on consumer intentions to buy environmentally friendly products. Looking at the S3 test hypothesis, it was found that the results of testing this hypothesis provide sufficient evidence for H0 which proves the relationship between the two variables, and therefore H1 is accepted. Family or social environment can influence consumer choices. However, it is important to understand that the surrounding community is not the only influence on consumers' purchase intentions but their perceptions and knowledge have a role in that intention as well. Therefore, statistical tests show that this effect exists, but it is not necessary that all consumers are affected by this effect. The sample was asked about the role of their family and friends in motivating them to buy green. However, it could be that their surrounding community does not contribute highly to their purchasing decisions but at the same time influences their behavior. Therefore, disagreeing with this effect cannot be ascertained because consumers' purchase intentions combine several factors such as their own knowledge and perceptions.

5 CONCLUSION

The goal of this study is confirmed in light of the findings and discussions regarding how people's attitudes toward green cosmetics are influenced. Currently, individuals all over the world use cosmetics on a daily basis. Today, there has been a shift in the trend, and different people prefer using organic cosmetics rather than synthetic cosmetics, which are likely to harm one's skin. The study related to consumer behavior is crucial as long as the marketing of different services is concerned. As far as remaining sustainable and able to suit a variety of customer needs, green cosmetics goods are quite significant. In addition, prospective elements like social influences, product availability, and pricing had an impact on consumer behavior and changed how people thought about and behaved when making purchases. People who care about their looks typically turn to cosmetics to enhance the images they

portray in society. Additionally, to keep their looks in society, green shoppers frequently search for green cosmetics. Consumers' increased awareness of the risks posed by synthetic chemicals has increased demand for naturally produced organic cosmetics, which is the main driving force behind this trend. At the moment, businesses are more concerned with preserving the environment, and they are implementing green technology in their manufacturing procedures.

The correlation analysis was used to examine the statistical significance of the various variables, and the study tested all hypotheses. The study's tested hypotheses are supported by statistical significance when compared to H0. The notion that there is a favorable correlation between one's buying intention and eco-awareness is one of the ideas that have been supported. Different customers' perspectives on the environment impacted their shopping decisions and altered their patterns of behavior. Additional research could include a variety of other subjects, including the purchasing power of consumers, supplemental items catered to client demands, and advantages realized after using green products. Additionally, as the goal of these green products is to protect and save the customer's health from toxins, future studies might also focus on raising customer awareness of the environmental consequences as well as stopping those effects by applying them on their skin. Green goods are made from natural materials or plants created by nature, while synthetic cosmetics are generated from chemicals. By purchasing green items, consumers can avoid or lessen environmental damage.

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Green diplomacy as an effort by the Indonesian government in Realizing Net Zero Emission (NZE) in the year 2060

Haryo Prasodjo

Universitas Muhammadiyah Malang, Malang, Indonesia

ABSTRACT: This paper discusses Indonesia's efforts as a country with the largest energy consumption in ASEAN, to realize net zero emission (NZE) in 2060 through green diplomacy. Using qualitative descriptive methods and a literature study, the results of this paper are two efforts made by Indonesia, namely external and internal. External efforts are carried out by establishing cooperative relationships with several countries as international partners, to obtain funding for investment and transfer of environmentally friendly technology for industry. Meanwhile, internal policies are in the form of cross-actor policies to support the implementation of the NZE 2060 policy. Indonesia cannot realize the NZE without international support and harmonization of existing policies within the country.

Keywords: Green diplomacy, Government, Net Zero Emission

1 INTRODUCTION

Fossil energy becomes obsolete energy, where the energy cannot be recycled, and can only be used once. The excessive use of fossil energy and the limited availability of energy sources have brought countries in the world to the threat of a global energy crisis. In addition, the issue of energy has become a sensitive issue that is closely related to political economy. The availability of a country's energy sources causes a pattern of dependence on other countries and on certain technologies as energy providers. In fact, energy can be used as a force to control a country, both economically and politically. Excessive use of fossil fuels also has an impact on climate change, where climate change is not just a political and environmental issue, but is a real threat to countries in the world. For example, the melting of polar ice caps has an impact on sea level rise, poses problems in global food production, and leads to threats to human survival.

Therefore, the issue of climate change becomes a routine agenda at the UN Climate Change Conference of the Parties (COP). That is a High-Level Conference (KTT), which aims to encourage countries in the world to be able to find new path maps related to consumption styles and new energy sources, as well as encourages changes in international trends, where countries in the world agree to gradually abandon fossil fuels, and switches to renewable energy that is more environmentally friendly. The Paris Agreement in 2015 became a starting point for countries in the world to focus more on tackling climate change. A total of 196 countries agreed to maintain the increase in the earth's temperature, in the range of 1.5 to 2 degrees Celsius. Furthermore, at COP26 to be held in Glasgow in 2021, Indonesia became one of the countries that signed a joint document on the transition to clean and environmentally friendly energy (Direktorat Jendral Pengendalian Perubahan Iklim 2021).

Indonesia is a country with the largest geographic area and the most populous population in Southeast Asia. This has an impact on the high level of energy consumption in Indonesia compared to other Southeast Asian countries. Indonesia is the highest energy consumer in

ASEAN, with 40% of the total energy consumption in the region. Until 2021, energy sources in Indonesia are still dominated by energy produced from fossil fuels. In addition, at COP26, as the largest economic power in Southeast Asia, Indonesia became one of 40 countries that committed and signed the Global Coal to Clean Power Transition declaration, not to mention, in a virtual meeting, in March 2021, between the Government of Indonesia and the British Government as the host for COP26. President of Designate UN Climate Change COP26, Alok Sharma, said that Indonesia is a superpower country in terms of climate change mitigation. These conditions, of course, provide an external impetus for the Indonesian government to be strongly committed to addressing climate change, one of which is through net zero emissions (NZE) in 2060 (Dinas Lingkungan Hidup dan Kehutanan 2021).

Through green diplomacy, the Government of Indonesia is trying to make an energy transition, by bridging the interests between developed countries and developing countries in the aspect of an inclusive energy transition. The Indonesian government views that Indonesia needs new and renewable energy resources for industrial energy needs in Indonesia. This is done with the aim of fulfilling energy that is abundant, cheap, and environmentally friendly. Therefore, the Indonesian government continues to seek solutions and progress in the new energy sector. It is important for Indonesia to be able to master not only natural resources as a provider of raw materials but also mastery of technology to create new energy that is green and more friendly to the environment.

Therefore, it is important to know the efforts made by the Government of Indonesia in realizing NZE in 2060, where the green diplomacy program was developed and used by the Government of Indonesia with the spirit of partnership, equality, and mutual benefit in the issue of the energy transition. Diplomacy that is proactive, confident, and prioritizes real action. Encouraging global partnerships, with the spirit of equality as an effort to recover a stronger economy. Indonesia is trying to take a role as part of the world's solutions and progress in the energy sector. Indonesia is trying to avoid the one-size fit all, which is commonly used by developed countries. This is a form of commitment and steps by the Indonesian government in fighting for national and global interests. Green diplomacy is part of a foreign policy instrument that is increasingly central to Indonesian diplomacy.

2 METHOD

This research uses a descriptive qualitative approach, where data sources are obtained through literature study by collecting primary and secondary sources through journals, books, news articles, and the internet. The data is then processed to answer questions regarding the efforts of the Indonesian government to realize NZC in 2060 through green diplomacy.

3 RESULT AND DISCUSSION

3.1 *External efforts of the Indonesian government to realize NZE at 2060*

In an effort to realize the NZE in 2060, Indonesia cannot be separated from the role and support of the international community. Therefore, the Government of Indonesia is trying in various ways to attract international partners and to cooperate with Indonesia in realizing the NZE. Here, with international assistance, the government is committed to reducing greenhouse gas emissions by 41% by 2030. To strengthen Indonesia's economic diplomacy on Foreign Direct Investment (FDI), the Ministry of Investment (BKPM) and the Ministry of Foreign Affairs signed a Memorandum of Understanding (MoU). Both ministries, committed to targeting green investment opportunities in the health sector, attract FDI in green and environmentally friendly industries to obtain strategic partners within the framework of

the Sovereign Wealth Fund (SWF). In foreign investment, Indonesia focuses on the green economy sector, where foreign investors must meet a number of requirements such as being environmentally friendly, increasing local human resources, transferring technology, and providing added value in the processing of mineral resources in Indonesia.

The first is the cooperation between Indonesia and Sweden in the Sweden–Indonesia Sustainability Partnership (SISP) series of events held from 23 to 27 November 2020, and attended by academics, businessmen, and governments of both countries. Indonesia and Sweden want to focus on green economy cooperation, as an effort to build a sustainable green economy, by encouraging investment in the green industry, implementing green technology, and increasing collaboration between the two countries' human resources. This is one of the agendas of the bilateral cooperation between the two countries, in pursuing a clean energy transition (Kemenlu 2020).

The Indonesian government cooperates with the British government in controlling climate change through the Indonesia–UK partnership, cooperation in climate change mitigation, and climate change adaptation. Through the Forest Law Enforcement, Governance, and Trade (FLEGT) framework, Indonesia and the UK are also collaborating in developing the Timber Legality Verification System (SVLK). The UK is also interested in investing in the Investment in Nature and Forests (INAFOR) program through a nature-based solutions framework. This is part of the UK's support for the Indonesian government's efforts to reduce emissions from deforestation and peatlands in Indonesia. Collaboration with the UK on shared leadership through the Forestry, Agriculture, and Commodity Trade (FACT) dialogue framework (Kementerian Lingkungan Hidup dan Kehutanan 2021).

The Indonesian government is also working with Australia in promoting the development of a green economy, through the potential of renewable energy. With the capital owned by Indonesia and Australia, the two countries can collaborate, becoming major players in renewable energy, green and environmentally friendly industries in the region. One of the companies that the Government of Indonesia is partnering with is Fortescue Metals Group (FMG) in developing zero carbon technology and building upstream to downstream industries in Indonesia. The process of producing renewable energy includes the resources owned by Indonesia such as water landmarks with a potential of 60 gigawatts and geothermal sources of 20 gigawatts (Biro Komunikasi Kementerian Koordinasi Bidang Kemaritiman dan Investasi 2020).

Indonesia continues to communicate with the United Nations Framework on Climate Change Conference (UNFCCC) by continuing to provide reports in the form of documents related to adaptation and financing, as well as regular agendas of national meetings between ministries and non-government agencies. Through subsidy long-term strategy (LTS) and nationally determined Contribution (NDC), Indonesia seeks to reduce emissions by 29%. Indonesia's strong commitment to the low carbon is compatible with Paris Agreement (LCCP). In the energy sector, the government is trying to implement new renewable energy and bioenergy through Carbon Captured Storage or Carbon Capture Utilization Storage (CCS/CCUS). However, the implementation requires support and encouragement from the international community (Ditjen PPI Kementerian Lingkungan Hidup 2021).

In November 2021, in the middle of the COP26 agenda, the Government of Indonesia signed a cooperation and partnership agreement with the International Renewable Energy Agency (IRENA). The objective of this collaboration is that IRENA will assist Indonesia in identifying the implementation of a decarbonization roadmap in accordance with national targets by preparing a comprehensive energy transition roadmap. In addition, IRENA will also facilitate Indonesia to gain access to finance related to climate change mitigation, and investment in renewable energy (Humas EBTKE 2021).

The Indonesian government is also collaborating with a private company called Asia Pacific Resources International Limited (APRIL) Group. A company that produces the largest, most technologically advanced, and most efficient pulp and paper in the world. Here, APRIL Group uses 80% of new energy in its operations which will be increased to

90% by 2030. The company also operates electric buses made by PT Mobil Anak Bangsa for company employees. By 2025, APRIL Group targets the use of solar panels for 20 megawatts (Media Digital 2021).

On January 10, 2022, Indonesia, represented by the Minister of Energy and Mineral Resources (ESDM), signed a Memorandum of Cooperation with Japan, represented by the Minister of Economic, Trade, and Industry (METI), regarding cooperation in the Realization of Energy Transitions. The purpose of this MoC is to facilitate energy cooperation between Indonesia and Japan, and to provide a form of support from international partners, toward Indonesia's commitments. It is hoped that Indonesia–Japan, by utilizing natural resources in Indonesia, can jointly develop Carbon, Captura, Utilization, and Storage (CCUS) technology (Kencana 2022).

In addition, Indonesia also received support from the International Energy Agency (IEA) Clean Energy Transition Program which was funded directly by Australia. IEA itself targets that Indonesia can obtain an investment of 2 billion dollars per year until 2030, and open up as many as 900 new jobs. Through a strategic partnership, the Indonesia–Australia Comprehensive Economic Partnership Agreement (IA-CEPA), Australia will continue to help to mobilize and unlock more investment opportunities in greener technology and energy, and drive the transformation of productivity, innovation, employment, and economic growth in Indonesia (Isma 2022).

3.2 *Indonesian government internal efforts to realize NZC 2060*

Internally, to facilitate investment in the green industry sector, the Indonesian government continues to prepare the regulatory framework, policies, and fiscal incentives. The government formulates a number of policies in the energy sector by providing support for the energy transition in the optimal use of new and renewable energy. The aim is to create a conducive investment climate. The carbon tax policy package does not stand alone, aiming to stimulate a sustainable green economy transition. One of the measures taken by the Indonesian government is to ratify a regulatory framework in the form of the General Plan for the Provision of Electricity (RUPTL) of PT Perusahaan Listrik Negara for 2021–2030, with the share of NRE exceeding the portion of fossil energy by 51.6%, which is equivalent to 20.9 Giga Watt. The government will also maximize the use of geothermal energy up to 75%, and optimize the use of hydro generators to small islands throughout Indonesia. Overall, the addition of electricity-generating capacity from NRE will begin in 2035 (Kementerian Energi dan Sumber Daya Mineral 2021).

Indonesia needs high-quality technology transfer to increase the added value of raw products into export products. Investors should also provide training for local workers. Several programs prepared by the Government of Indonesia are biodiesel and green fuel diesel vehicles, electric vehicles, EBT power plants, private involvement in carbon credit projects, application of appropriate technology, increasing supply reliability and efficiency, integration of EBT (New Renewable Energy) in the form of smart grids, smart meters, pumped storage, and battery energy storage system (BESS). Based on the calculation of the Ministry of Energy, the use of PLTU will end in 2056, with an NRE capacity of 587 GW. An investment of 1,042 billion dollars is required until 2060. According to the Minister of Finance Sri Mulyani, at least Indonesia needs a capital of 3,461 trillion rupiahs to reduce emissions by 2030, where the energy and transportation sectors have the largest portion compared to the forestry and land, industrialization, waste sectors, as well as agriculture. Therefore, the carbon tax is used by the government for development capital, green technology investment, and support for the community (Natalia 2022).

In 2021, Indonesia will hold a discussion forum with the theme Indonesia Green Summit 2021, with the topic of Green National Policy Towards Indonesia NZE 2060. Through the Ministry of Energy and Mineral Resources, the Government of Indonesia formulates a road map toward carbon neutrality in 2060, in the long-term strategy for low carbon and climate

resilience (LTS-LCCR). The Indonesian government will gradually stop the use of coal and increase renewable energy in 2030. The Indonesian government will also regulate PLTS regulations for people who use PV mini-grid, carbon tax policies, control the increase in greenhouse gas emissions, and change the behavior of economic activities. The carbon tax itself will be applied on a limited basis on April 1, 2022. The government targets the NRE market to be 23%, with a tariff of IDR 30,000/tCO_{2e} (Rahma 2021).

The government is committed not to increase the capacity of the existing PLTU, and continue to develop electric vehicles. The carbon tax policy gives a signal to investors to switch to using cleaner energy technologies and commit to government policies related to climate change. (Kurniawan 2021). Some targets from the Indonesian government are as follows: in 2031, the government will stop the use of diesel and steam power plants in the first phase; from 2036 to 2040, the government will increase the use of EBT in the form of bioenergy, hydro, and solar power by up to 66% and stop PLTU along with subcritical, critical, and some supercritical stages of the second phase. Furthermore, from 2041 to 2045, the utilization of NRE is estimated to increase by 93%, and increasing power generation using large-scale ocean currents and the first nuclear plant is expected to enter the Commercial Operation Date (COD). The government will also reduce the sales of conventional cars. Finally, from 2051 to 2060, NRE is projected to dominate and PLTU will stop operating. The government is committed to reducing greenhouse gas emissions by 29% by 2030 (Dahono 2021).

As a form of support for the development of sustainable investment in Indonesia, in 2019, the Indonesia Stock Exchange (IDX) joined the Sustainable Stock Exchange (SSE). On June 15, 2021, IDX also supported the Task Force on Climate-related Financial Disclosures. In addition, IDX also provides green investment products in the form of mutual funds, green sukuk, and green bonds. The Ministry of Finance initiated Climate Budget Tagging (CBT), as an instrument in national financing, expanded to the sub-national level in 2020. The Government of Indonesia through the Law on the Harmonization of Tax Regulations sets a standard instrument on carbon pricing consisting of carbon taxes and carbon trading. The government is also preparing a draft Government Regulation on the Economic Value of Carbon, as a mechanism for carbon trading (Kementerian Investasi 2021).

In addition, in the vision of Indonesia's National Long-Term Development, the Government has an implementation strategy for the management and maintenance of marine areas, mangrove areas, peatlands, and residential areas. The implementation is carried out by rehabilitating 600 hectares of mangrove planting in the period of 2021–2024. Through the Coordinating Ministry for Maritime Affairs and Investment (Kemenco Marves), the Indonesian government seeks to increase the new renewable energy mix together with the private sector. This was implemented in the Joint Statement of Intent on April 22, 2021, between the Coordinating Ministry for Maritime Affairs, the Ministry of PUPR, the Ministry of Energy and Mineral Resources, the Ministry of ATR/BPN, the Ministry of LHK, and the Ministry of Investment/BKPM with the North Kalimantan Provincial Government and the Papua Provincial Government with two private companies PT Adaro Energy Tbk, and Fortescue Future Industries Pty Ltd (FFI) as investors from Australia. In this, PT Adaro is the largest coal exporter in Indonesia and PT FFI is the largest renewable energy investor in Indonesia, PT FFI is also a subsidiary of Fortescue Metals Group Ltd (Fortescue) in developing a green economy (Biro Komunikasi Kementerian Koordinator Bidang Kemaritiman dan Investasi 2021).

In 2021, Indonesia will prepare the NDC Mitigation and NDC Adaptation Roadmap along with its operational plan, which contains eleven main activities such as sustainable forest management and peatland restoration. The three main strategies carried out by the Government of Indonesia are the development of renewable energy, acceleration of electric vehicles, and reducing dependence on steam power plants. In 2021, the use of NRE will generate 11,152 megawatts and is targeted to reach 11,791 megawatts by 2022 (Rahedian 2022).

The government itself continues to seek cross-sectoral cooperation and requires energy infrastructure, technology, and financing. In addressing the gap in NRE resources, the Government will develop a Super Grid in 2025. Cross-sectoral efforts made by the Government of Indonesia in realizing NZE, in five sectors, namely, energy, industry, sustainable land, waste, and marine. In the energy sector, there is the development of renewable energy, energy efficiency, and conservation, as well as the use of biofuels. The three industrial sectors are energy conservation and auditing, green technology modification, and waste management. Fourth, the sustainable land sector, namely peat restoration and forest rehabilitation helps in reducing deforestation and sustainable agriculture. Fifth, the waste sector includes household waste management and liquid waste management. Sixth, the marine sector involves ecosystem inventory and rehabilitation of coastal and marine ecosystems (Yoshio 2021).

The commitment of Indonesia's leadership in the G20, which promotes inclusive, people-centered, environmentally friendly, and sustainable growth, and has encouraged Indonesia to become a model country in the ASEAN region. However, the target of the NZE cannot be overcome by Indonesia without international assistance. Therefore, through green diplomacy, the Indonesian government needs support both at national and international levels, in realizing its national interest to achieve NZE by 2060. This support is expected to be provided through the involvement of multiple sectors and actors, both national and international partners as well as national and international organizations and international non-governmental organizations.

However, the target of Net Zero Emission will depend on population growth, economic level, energy consumption, and the principle of consideration from the Government of Indonesia. The implementation of carbon tax is being undertaken with a view to developing the world carbon market, the achievement of the NDC target, the readiness of the sector, as well as the condition of the national economy. Efforts to control climate change are carried out by considering national circumstances (including state conditions and capacities) and state sovereignty. Indonesia's commitment and contribution to reducing greenhouse gas emissions is carried out voluntarily, full of responsibility, and in accordance with the capabilities of each country.

However, the Indonesian government is still encountering major challenges in terms of green economy investment and low-carbon development, where the value of an investment in technology transfer, innovation, and ecosystem preparation to welcome a green economy is quite large and equipped with large risks. Carbon tax policies vary from country to country. Carbon taxes are an effective mechanism and policy for changing business behavior in energy use. In addition to national support, Indonesia still needs many cooperation schemes and support from the international community.

4 CONCLUSION

Indonesia's efforts toward NZE in 2060 have regional and global impacts and become a smart solution in opening up opportunities in new, environmentally friendly energy economies. Despite Indonesia's efforts to face many challenges and great risks related to capital and new technology investment, Indonesia will benefit greatly from a large amount of support from the international community. So, Indonesia can take this momentum, in addition to achieving its national interests, in realizing the NZE in 2060, and Indonesia will get technology transfer from developed countries.

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The application of deep learning to predict Indonesian green banking stock

Widhiyo Sudiyono

Universitas Muhammadiyah Malang, Malang, Indonesia

ABSTRACT: The world is turning green, from waste recycling to wind and solar power generation, underscoring the significance of green investments. Everyone is aware of the negative effects of climate change, and the majority of people are very interested in finding solutions. In other words, making green investments may be a good strategy to lessen the environmental burden that humans have caused. In order to address the aforementioned issues, this project will create a hybrid machine learning system for the Green Banking Stock which is included in the SRI-KEHATI index, an Indonesian green index, using the long short-term memory (LSTM) method in order to predict the index movement using Python programming language. The study's findings demonstrate that the software's predictions have a tolerable error rate. median absolute error, mean absolute percentage error, and median absolute percentage error are the three different error metrics that are utilized.

Keywords: Artificial Intelligence, Deep Learning, Green Investment, SRI-KEHATI, LSTM, Python

1 INTRODUCTION

The globe is turning green, from wind and solar power generation to waste recycling, which supports the significance of green investments. People are aware of the negative effects of climate change and are very interested in finding solutions. In other words, making green investments may be a good strategy to lessen the environmental burden that humans have caused.

As a result, it is made clear that businesses are accountable for both growing their bottom line and fostering social and economic development that is compatible with the environment. As a result, ethical and religious groups have inspired socially conscious investments to be undertaken in the markets.

Green investments started to appear as a result of social investments that were efficient and responsible. Sustainable development is the long-term goal of green investments. The need to discover the elements that improve green investments, which have multiple advantages for the economy, the environment, and implicitly for private enterprises, served as the impetus for adopting this theme. Consequently, this study investigates and evaluates the effects of green investments and the resulting organizational changes. The perception that customers have of businesses that make green investments is also highlighted in this article, as is the tendency of stakeholders to favor "green" businesses over conventional ones. Subsequently, the study analyzes the key factors that affect decision-making in green investment (Chijimiea *et al.* 2021).

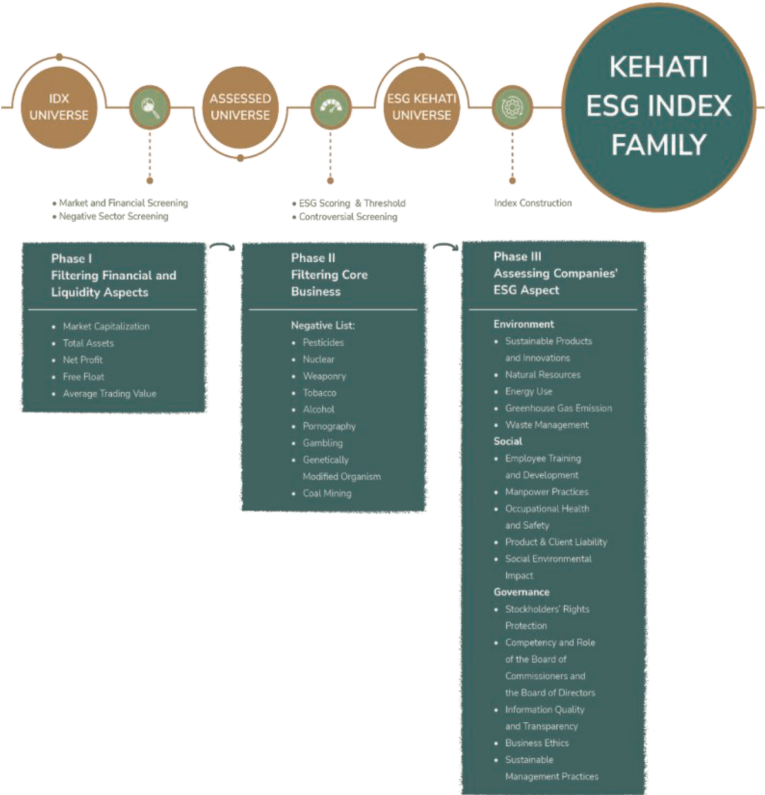
Environmental, social, and governance (ESG), socially or sustainably responsible (SRI), and responsible investing (RI) are additional terms for green investments (Inderst *et al.* 2013). The idea describes the investing activity of businesses that work to preserve natural

resources, lessen pollution, cut carbon emissions, employ alternative energy sources, and protect the environment. In Indonesia, the most widely used green index is the SRI-KEHATI index. The SRI-KEHATI Stock Index, which was released by the KEHATI Foundation in conjunction with the Indonesia Stock Exchange (IDX) on June 8, 2009, is a green index that refers to the United Nations' Principles for Responsible Investment (PRI). The SRI-KEHATI Index is currently the only source for investing guidelines that prioritize ESG issues in the Indonesian capital market, with business selection rules that use the SRI and ESG principles. KEHATI aims to foster mutualism between the business sector and the conservation community through the SRI-KEHATI index.

KEHATI Foundation conducted the selection of Indonesian public companies using three phases as shown in Figure 1. The first phase filters financial and liquidity aspects. The second phase is done by filtering how these companies conduct their core business practices. And the last phase is assessing companies' ESG aspects.

The SRI-KEHATI index's current composition, which is reviewed and updated twice a year in May and November, comprises 25 shares of publicly traded firms that are listed on the IDX. Since its inception, this index has historically outperformed a number of important indices, including the Jakarta Composite Index (JCI), LQ45, JII, and others. In the period from December 2021 to May 2022, 25 companies are included in the SRI-KEHATI index as shown in Table 1.

This research will focus on the banking companies included in the SRI-KEHATI index. There are five banks included: Bank Central Asia Tbk (BBCA), Bank Negara Indonesia Tbk (BBNI), Bank Rakyat Indonesia (BBRI), Bank Tabungan Negara Tbk (BBTN), and Bank Mandiri Tbk (BMRI).



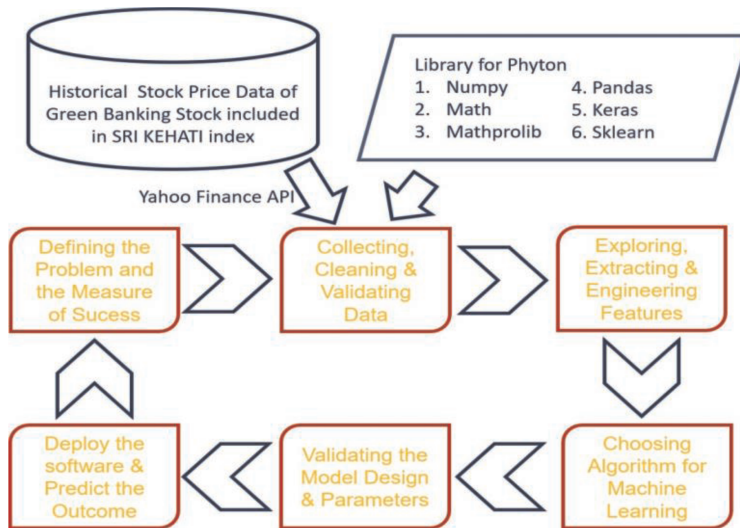


Figure 1. The method of analyzing and processing data.

Table 1. List of 25 companies included in SRI-KEHATI index in the period from November 2021 to May 2022.

Stock Code	Company Name	Description
AKRA	AKR Corporindo Tbk.	New Member
ASII	Astra International Tbk.	Remain a member
ASSA	Adi Sarana Armada Tbk.	New Member
BBCA	Bank Central Asia Tbk.	Remain a member
BBNI	Bank Negara Indonesia (Persero) Tbk.	Remain a member
BBRI	Bank Rakyat Indonesia (Persero) Tbk.	Remain a member
BBTN	Bank Tabungan Negara (Persero) Tbk.	Remain a member
BMRI	Bank Mandiri (Persero) Tbk.	Remain a member
BSDE	Bumi Serpong Damai Tbk.	Remain a member
DSNG	Dharma Satya Nusantara Tbk.	Remain a member
INCO	Vale Indonesia Tbk.	Remain a member
INDF	Indofood Sukses Makmur Tbk.	Remain a member
INTP	Indocement Tunggal Prakarsa Tbk.	New Member
JSMR	Jasa Marga (Persero) Tbk.	Remain a member
KLBF	Kalbe Farma Tbk.	Remain a member
LSIP	PP London Sumatra Indonesia Tbk.	Remain a member
PGAS	Perusahaan Gas Negara Tbk.	Remain a member
POWR	Cikarang Listrindo Tbk.	Remain a member
PTPP	PP (Persero) Tbk.	Remain a member
SIDO	Industri Jamu dan Farmasi Sido Muncul Tbk.	Remain a member
SMGR	Semen Indonesia (Persero) Tbk.	Remain a member
TLKM	Telkom Indonesia (Persero) Tbk.	Remain a member
UNTR	United Tractors Tbk.	Remain a member
UNVR	Unilever Indonesia Tbk.	Remain a member
WIKA	Wijaya Karya (Persero) Tbk.	Remain a member

Besides the raising issue of green investment, investment in the stock market has witnessed tremendous and ongoing growth over the previous few decades as a result of technological advancements, a competitive economic environment, and rigorous rivalry. Some of the rapid and continuous key development are:

1. Changes in financial microstructures, such as the spread of electronic trading and the blending of markets across asset classes and countries, are among the important trends that are occurring quickly and continuously.
2. The development of investment strategies that consider the exposure to risk variables rather than asset classes.
3. The expansion of processing power, the generation and management of data, and analytic techniques.
4. The emerging trend of algorithmic traders outperforming human, discretionary investors in terms of investment performance (Jansen & Stefan 2017)

These four crucial characteristics have encouraged hedge funds and investment firms to further develop algorithmic trading techniques in order to generate more consistent and predictable profits over time. As a result, the research will talk more about how well algorithmic trading techniques can forecast stock market behavior.

1.1 *Problem formulation*

Based on the background above, the problem formulations in this research are:

1. How to implement machine learning method to make investment recommendations in the stock market using Python programming language.
2. How effective is the machine learning method in recommending investment decisions?
3. How to optimize portfolio based on the machine learning recommendation?
4. How to execute trades in the real stock market?

1.2 *Research objectives*

The objectives of this research are:

1. To build a machine learning using Python programming language to help investors for making investment decisions.
2. To examine the effectiveness of machine learning to predict the Indonesian green banking stock included in the SRI-KEHATI index

1.3 *Research benefits*

This research is expected to provide benefits for researchers and potential investors. For potential stock traders, the machine learning built of this study can be used as a basis for decision-making for investing. Additionally, for further research, this research recommends developing a modified machine learning method to refine the machine learning built in this research.

1.4 *Limitation of problems*

Limitation problems in this research are:

1. The historical stock data used is Indonesia green index namely SRI-KEHATI. The index data will be retrieved using yahoo finance API from yahoo finance.
2. The duration of observation in this research is 10 years, starting in January 2011 to December 2021.

2 METHOD

This study employs a quantitative methodology that uses numbers or qualitative data that has been transformed into numbers. For the period of January 2011 to December 2021, the study used data in the form of a daily closing Green Banking Stock included in the SRI-KEHATI index price. A statistical formula will be used to process the data, and the findings will be examined in order to draw a conclusion. The research methodology describes the layout of the activities, the range of the objects, the primary tools and materials, the settings, the data collection strategies, the operational definitions of the research variables, and the analytic strategies.

2.1 *Data population and sample*

The data population in this research are daily closing Green Banking Stocks of SRI-KEHATI index price from 1 January 2011 to 31 December 2021.

2.2 *Source and type of data*

The SRI-KEHATI Index price data is retrieved from yahoo finance using the yahoo finance Application Programming Interface. The python programming language will retrieve data and library from:

1. Yahoo Finance that provides stock market data that can be accessed directly from the Python programming language
2. Numpy Library that supports Python for processing scientific calculation
3. Math library that supports Python for processing mathematical functions
4. Mathplotlib library that supports Python for data visualization and formatting
5. Pandas library that supports Python with flexible, fast, and expressive data structures
6. Keras library that supports Python for building Deep Learning and Neural Network
7. Sklearn library that supports Python for measuring model and performance and errors

2.3 *The method of analyzing and processing data*

The effort needed at various phases will vary depending on the project since the aforementioned processes are carried out iteratively throughout the sequence, however, this process should generally comprise the following steps:

1. Frame the problem, identify a target metric, and define the measure of success
2. Gather, clean, and validate the data
3. Understand your data and generate informative features
4. Choose machine learning algorithms suitable for your data
5. Train, test, and tune your models
6. Use the model to solve the original problem

The long short-term memory (LSTM) Algorithm, part of the Recurrent Neural Network, will be used for the above process. The algorithm will be built using the Python programming language.

2.4 *Long short-term memory*

The aforementioned LSTM structure is the same as that found in Graves (2014), Olah (2015), and Chollet (2016). Additionally, Karpathy (2015) provides several key introductions to the LSTM approach with transparent, step-by-step illustrations (Britz, 2015).

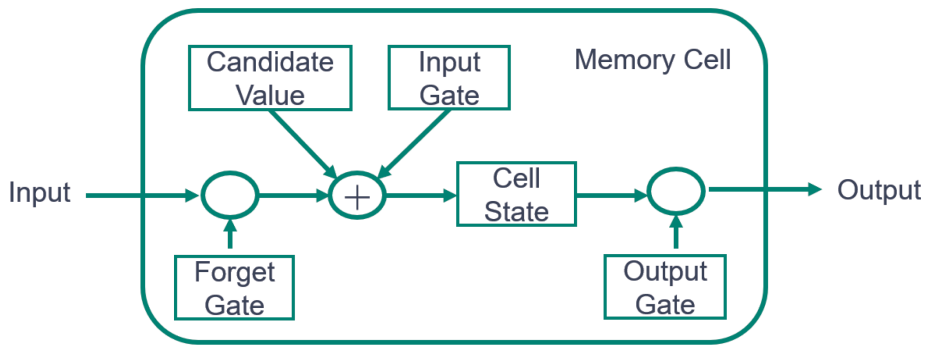


Figure 2. LSTM structure.

The LSTM technique falls within the category of recurrent neural networks (RNN). The purpose of the LSTM network is to improve the ability to learn long-term dependencies and to overcome the inherent issues that RNN previously encountered, such as expanding gradient (Sak *et al.* 2014). An input layer, an output layer, and one or more hidden layers are the three layers that make up an LSTM. The memory cell refers to the hidden layer. In Figure 2, the structure of a memory cell is depicted (Sudiyono 2022). The memory contains three crucial gates.

1. The forget gate determines which data should be removed from the memory cell.
2. The memory cell's input gate decides which data to add.
3. The output gate selects the data to be output.

3 RESULTS AND DISCUSSION

The research produced calculations and stock market predictions using the LSTM method, an artificial RNN architecture. In order to ensure that the training process is correct, this research breaks the calculation up into 16 steps. To make sure the data processed is correctly retrieved, the software will first display data starting on January 1, 2011, up to the most recent data that is currently available in the market. Figure 3 depicts the software's initial display.

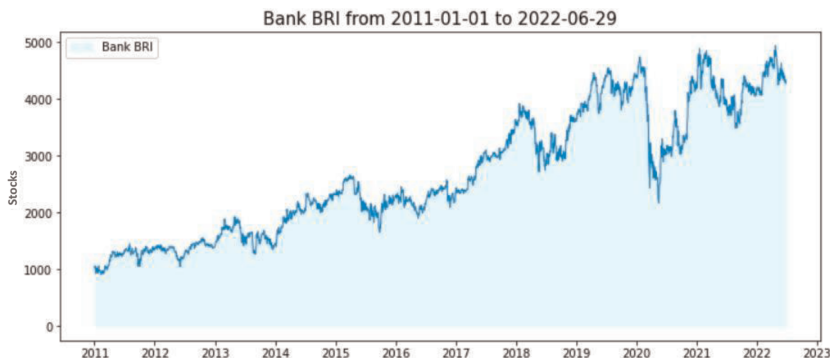


Figure 3. The initial display of the software.


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Median Absolute Error (MAE) = 122.7
Mean Absolute Percentage Error (MAPE) = 3.29 %
Median Absolute Percentage Error (MDAPE) = 2.09 %
This software is developed by Widhiyo Sudiyono

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Figure 4. The calculation of absolute errors.



Figure 5. Prediction result.

The software will then compute the mean absolute error (MAE), mean absolute percentage error, and median absolute percentage error, among other absolute errors. The goal of this procedure is to guarantee that the system’s inaccuracy is not too large. Figure 4 shows these three absolute mistakes.

The software also compares the test prediction to the actual stock price after displaying the data used for training. Additionally, the software displays a % estimate of whether the price would rise or fall, as shown in Figure 5.

The software displays the historical data as a light blue line and a black line, as shown in Figure 5. The historical data used to train the LSTM network are represented by the light grey line. To contrast the actual price with the software’s prediction, the grey and black lines are displayed. As can be seen, the forecast was made with a tolerable degree of accuracy, and the various absolute error calculations support this.

4 CONCLUSION

RNNs have been upgraded to create LSTM. LSTM can maintain and manage the memory of each input by using memory cells and gate units, in contrast to RNN, which is unable to learn the linked information since the old memory saved will be erased or replaced with new memory. The software created has demonstrated a notable success rate in producing green banking stock price predictions that are included in the SRI-KEHATI index. Further research should focus on modified LSTM layers, such as introducing additional dropout and adjusting the number of epochs, and using different oscillation datasets to test how satisfactory the prediction results are. Further research should attempt to use sentiment analysis combined with the LSTM method to see the impact of the uncertainty in the value of bitcoin, based on the results of the study. tweak the number of epochs, and employ different

instability datasets to test how good the prediction results are, or try to use sentiment analysis combined with the LSTM method to see the impact of the uncertainty in the stock market, based on the findings of this study.

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Occupation of palm plantation population to *Rombong Suku Rimba* in Dharmasraya, *Sumatra Barat*: domain analysis of rural settlements from transmigrant program

Ahmad Arrozy*, Ali Roziqin & Siti Muhibah
Universitas Muhammadiyah Malang, Malang, Indonesia

ABSTRACT: Using participant-observation and interview data, the contestation arena of palm oil plantations covering an area of 3,391 hectares (2022) in Dharmasraya and crude palm oil companies practiced by smallholders, peasants groups, and corporations has resulted in the impact of natural forest habitat losses for the *Suku Rimba*. With an environmental crisis for the *Suku Rimba* community, there is a practice of mutual relations between a fragment of the *Suku Rimba*, namely *Rombong Marni* and transmigrants in *Kampung Sitiung*. Domain analysis shows that mutual relations consist of the practice of exchanging commodities from forest products along with voluntary actions from transmigrants to support the health of the *Suku Rimba*. However, the consumption and domestication of banded pigs have an impact on the strict relationship between the *Suku Rimba* community and the *Kerapatan Adat Nagari Minangkabau-Malay* customary tradition.

Keywords: customary, relation, transmigrant

1 INTRODUCTION

Dharmasraya is one of the arenas of competition for palm oil plantations during the production process with surplus palm oil commodities. The economic growth agenda concerns the population of the population centralized on the island of Java. The product of the New Order policy is to implement a transmigration program with the cultural term “bedol desa”. The plantation and agricultural sectors of palm oil and rubber trees became the vanguard for the Soeharto administration and technocratically occurred in the mid-1980s, then formulated policies aimed at encouraging savings and providing domestic financial resources necessary for economic growth.

Suharto succeeded in promoting economic development and developing a strong economic foundation in Indonesia by promoting the industrial sector, where industries that support agricultural development are important for economic growth (Mollet 2018). Suharto’s policy developmentalism program in agriculture was a surplus of rice production in the mid-1980s. In the financial sector, Suharto formulated policies aimed at encouraging savings and providing domestic financial resources necessary for growth. The policy, named the “October Package of 1988”, eased the requirements for establishing banks and increased competition in the banking system (Bennett 1999). During that time, the bank grew significantly in Indonesia, with the Suharto family also setting up businesses in the banking sector.

Initially, the plantation sector developed as an oil palm plantation that was estimated to start in the 1970s. Rubber was a commodity in high demand at that time. The average farmer

*Corresponding Author

household has rubber plantations in addition to other agricultural businesses, while in transmigrant villages, rubber crops are also an easy commodity to sell. Moreover, the rubber plant has been determined to be one of the products of the government's extension program aimed at supporting the household economy of transmigrant farmers in the future, so that in 2019–2020, transmigrant farmer households on average experienced changes in plantation business (small-scale shareholders), namely from rubber plants and then switched to oil palm.

Local peasants expanded starting in the 2010s through local farming households, according to observations made by Elvawati (2019), namely, at the household level of transmigrant peasants, the expansion carried out was only small-scale by converting rubber land to oil palm head commodities. Limited land and seeds cause transmigrant farming households not to expand aggressively in contrast to farmer households that have natural resources in the form of land and capital financial stability.

2 LITERATURE REVIEW

The factor that drives the expansion in the field of palm oil commodities is that the price of fresh fruit bunches (FFB) is stable still above Rp 1,000.00/kg in addition, the working time used by household units of oil palm farmers is relatively small compared to rubber. The beneficial impact is that the yield does not depend on weather conditions, which in practice allow the palm harvest season to be carried out at a period of two times a month or once in 20 days. For marketing distribution, the *taukeh* group (the palm oil collectors who will be sold to the processing plant) comes directly to the smallholder plantation so that sometimes the owner of the oil palm plantation does not need to spend the cost of transporting FFB. On the basis of the *door-to-door* system that *taukeh* can come to oil palm farmers, the oil palm plantation business is considered more profitable and efficient than rubber crops.

This is because transmigrant farming households are still trying to cultivate rubber plants because rubber plants are the main crop of the government's program for transmigrant areas. Meanwhile, judging from the diversity of living structures in agricultural sources (cultivation), local farmer households are more diverse than transmigrant farmer households (Elvawati *et al.* 2019). How does the practice of replanting oil palm every 32 years, cause environmental pollution that affects the ethnic relations between the Javanese and the Suku Rimba?

Previous studies conducted by Tania Murray Li and Pujo Semedi looked at the structure and regulation of oil palm plantations in the Indonesian archipelago by supplying 50% of the global palm oil demand. Both anthropologists describe the exploitative nature of plantations recorded from the degradation of the welfare of local communities in the name of "economic growth policies". Meanwhile, the dark side of plantation operations often faces the problem of environmental damage, work accidents, and several cases of the uprooting of landowners from survival.

Small-scale individual peasants are only able to produce palm oil with a lower level of socio-environmental damage. Li and Semedi offer the concept of "corporate occupation" to suppress how forms of mass production under capitalistic control have had a replicative impact on "colonial relations" that superficialize the citizenship rights of rural communities. In *Plantation Life*, Li and Semedi question the assumption that corporate practices are necessary for the development of village settlements and offer a different view that plantation dominance is rooted in a political system that is more oriented toward corporatist (corporate) interests.

3 METHODS

Cultural domain analysis (CDA) consists of a set of methods for collecting and analyzing data about lists of things in a cultural domain. The goal is to understand differences in how people in different cultures (or subcultures) view a set of things in a cultural domain. CDA

comes from anthropology and is used in research in that field, but it has wide application in marketing, public health, education, environmental science, and other fields.

Primary data consists of observations, interviews, and surveys. Observations were made such as observing the activities, interactions, and environment of oil palm farmer households and housing settlement (*kapling*) of transmigrant employees from Javanese communities. Data collection uses snowball sampling in determining informants accompanied by a guide who translates the language of indigenous peoples. The sampling location is a transmigration village, which is a residential area for transmigrant residents. Collecting sample information of 4 palm peasants and 4 employees from palm oil plantation companies, according to Spradley (1986), three criteria of informants have been divided, namely, key informants, main informants, and supporting informants. Fieldwork was conducted in West Sumatra Province using the observation-participant method in *Kabupaten Dharmasraya* Regency, *Kampung Sitiung* Village. This study came from qualitative data using the participant-observation method. The data sources in this study are field notes, documents, and interview transcripts.

3.1 *Cultural domain analysis procedure*

CDA consists of a series of methods for collecting and analyzing data on patterns of residential communities within the cultural domain. The goal is to find out the layers of differences between community groups in different cultures (or subcultures) looking at a single mapping within the cultural domain. The application of cultural analysis requires cultural identification tools in the form of community conversational language and cross-community in the form of emic and etic (Spradley 1986). The probability conceptual difference between competence and performance that linguistic people are engaged in can provide one way out of this dilemma (Chomsky 2004). Linguistic competence is a model of one's own knowledge of language acquired by a person in conversing and hearing in Chomsky's theory of linguistic concepts of the mid-1960s, this main concept is in the competence of a talker who knows his own language perfectly.

Cultural domains are categories of cultural meaning that include other, smaller categories. We consider the typology of actors appearing in the occupational arena. Domains, as cultural categories, consist of three basic elements: closing terms, included terms, and semantic relationships. The terms included are names for all the smaller categories within the domain, such as "personal enemies", "ritual friends," and "opponents" in counter cultures (*budaya tanding*). Semantic relationship identification is an operational note by isolating a single semantic relationship by declaring a "rivalry" relationship and a "patron-client" domain. The third element in all cultural domains is a single semantic relationship, which connects two categories. As we noted, semantic relationships are essential to discover cultural domains. We can isolate one semantic relationship by declaring the relationship "rivalry" (*saingan*) and the domain "supplier" (*pemasok*).

3.2 *Framework*

Cultural mapping is a systematic approach to recording and displaying information that describes the cultural character of a place in an integrated manner cultural mapping has been declared by UNESCO as a tool and a crucial way of maintaining or preserving world culture, both awake and unattended. Culture is seen as a system of social practice that belongs together, which varies between individuals on specific matters is not all things that individuals know, think, and view about their social life. The concept of defining pre-determined areas or settlements in the research area observes the practice of indigenous communities as a marginalizing effect, causing inequality in the discourse of state power in the name of "development" (Li & Semedi 2021). Anthropological studies conducted by Tania Li and Pujo Semedi focused on the reconfiguration of margins and minorities as part of the dynamics of the modern state system based on the concept of Corrigan (1994) which

conceptualized the accumulation of how regulation between indigenous communities and corporations can be achieved.

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Data collection through live-in, namely researchers staying at the residence of one of the supporting informants, Roni, who belongs to tilapia farming farmers and NGO partnership administrators in Gunung Medan. Data collection is from June 12 to June 18, 2019. The research team asked Roni to be a guide to translate the language and route for making observations, but because Roni maintained his pond, he told his employee named Gawi to be a guide in field observation.

Participatory mapping techniques are commonly used by cultural anthropologists and development professionals, community activists and others to form alternatives that reinforce strong discourse and spatially marginalize those who are marginalized in other ways as well, participatory mapping provides a way to give agency to local residents in the planning process and to put maps in conversations with each other.

No.	Names	Age	Recording Time	Type of Informant	Occupation	Type of files	Size
1	Adilla	34	16/6/2019	Key Informant	Peasant	M4A Audio	964,7KB
2	Tony K	44	16/6/2019	Main Informant	Security staff plantation	M4A Audio	602,6KB
3	Zelna Jiantika	28	16/6/2019	Main Informant	Nurse	M4A Audio	850,6KB
4	Gawi	39	16/6/2019	Key Informant	Fish farm employee	M4A Audio	656,6KB
5	Roni (Guide)	39	16/6/2019	Supporting Informant	NGO Facilitator	M4A Audio	13,7KB
6	Pakde Soyo	54	17/6/2019	Supporting Informant	Cultivator	M4A Audio	71,2KB
7	Ope	38	18/6/2019	Supporting Informant	Palm farmer	M4A Audio	16,6KB

Source: fieldwork document (2019).

4 RESULT AND DISCUSSION

Researchers stayed (live in) at the residence of Roni, a tilapia farming peasant and NGO partnership administrator in Gunung Medan. We begged Roni to be a guide, but because Roni took care of the pond, we were escorted by Gawi. Gawi, a pond coolie (*tambak budidaya ikan*) from Gunung Medan, is an employee of Roni from the Pandong Partnership and a funding agency that commissioned the research team.

Bulangan jungle and *Batang Sipotar* river near *Bonjol Kerapatan Adat Nagari* (Minangkabau customary tradition) which are the habitat of indigenous communities and are converted into oil palm plantation areas and the processing process is 40 km from the Sumatran causeway in Gunung Medan District.

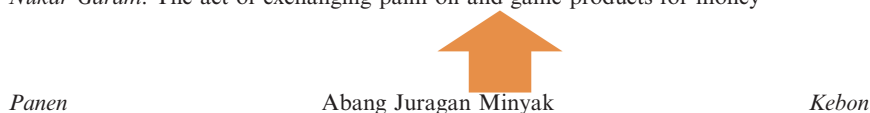
The forest conversion area into an industrial plantation forest was acquired by P.T. Inhutani in 2012 and PT. Andalas Wahana Berjaya (AWB). The research team traced the

route with clues by Roni, and we met Ope, a group of palm farmers who have individual plantations. With the support of palm oil workers, Ope harvested and transported his palm raw material through his Landcruiser truck. Ope told us that he was so exhausted (stuttered) to harvest in the rainy season that the transport line was full of mud which was quite difficult to cross and caused the body to get tired quickly (25 June 2019). Ope and his employee are trying to transport 3 tons of palm oil harvest to a broker (taukeh) who owns a palm oil processing plant.

4.1 *Inventory semantic relationship*

Spatial Domain “Loding Minyak Kelapa”

Nukar Garam: The act of exchanging palm oil and game products for money



Gawi, a Malay, led us and became a guide to be introduced to the Javanese settlement in Sitiung. Gawi introduced us to Adilla who was nicknamed the crocodile conqueror who was in his village, this is because Adilla once conquered a giant Sumatran crocodile in the village and Nagari. The conquest of Sumatran crocodiles was considered sacred, moreover, the conquerors were able to take pieces of the tail end which were used as sacred items including the contested Sitiung residents including the father of Adilla. Adilla, Roni, and Gawi are the relationships of tilapia pond business units and fish livestock distributed to the *Pulau Punjung* traditional market, Umega Hotel, and Muara Bungo traditional market. In this case, we need to seek testimony from friends of the Suku Rimba, so we met a nurse who had checked the health condition of pregnant women of Rimba’s children. With the existence of the palm oil group company, adding factories for processing palm oil commodities in the form of crude palm oil (CPO), processing from palm oil raw materials to CPO on a large scale produces hot air for the environment of Bulangan and Bonjol Village (Nagari). CPO is a reddish-colored raw palm oil obtained from the results of abstraction or the process of pressing the flesh of the palm fruit. After processing, it is sent through Fuso tank trucks for various industries.

The opinion of local residents stated that the Suku Rimba received a rental ration for the distribution of wild boar meat sales managed by a broker (taukeh) of the Ampalu camp with the Javanese settlement camp managed by Pakde Soyo. The management of palm oil managed by the Hartomi Group’s farmer merchants, namely in Nagari Bonjol with the practice of replanting oil palm commodities every 32 years, is an arena of competition in an effort to harvest the fruits of each large income for Nagari, namely Walkasri as the head of Bonjol village.



Figure 1. Palm plantation arena.

On the way using a bike to find members of the Suku Rimba from *Rombong Marni* in the Bulangan plantation, we crossed the oil palm arena. I noted that the oil palm plantation area experienced “deforestation” and I told Roni “Why is it bare”. Roni told me that at that time there was replanting of oil palm crops carried out by corporations and individuals every 32 years.

4.2 *Emic story from sitiung as transmigrant settlement*

Likewise, with transmigrant farming households, 70% of the source of income is from oil palm, the contribution of the plantation sector specifically for oil palm crops in general encourages an increase in the income of smallholder households so that welfare is increasing. The increase in income supports the improvement of human resources through educational institutions. The average farming household is able to send their children to continue their education to a higher level. Live in settlements that amount to urban kampongs (villages), maintaining rural customs. Transmigrants are the dominating agricultural sector but not in local (narrow) farmer households. Meanwhile, based on crop commodities, local and transmigrant farmer households are dominated by palm oil and rubber (Elvawati *et al.* 2019).

Adilla is a transmigrant and citizen who lives in *Kampong Sitiung Satu*, her father named Nurzwan is from Solok while her mother is from Java. Adilla has a family and a wife from a Javanese settlement. An interesting story from Adilla is that he was nicknamed “the conqueror of the Sumatra River Crocodile” called *Buaya Kumbangjanti* and *Buaya Samberlilin* by the villagers in Dharmasraya. Gawi even showed us a YouTube video of Adilla conquering wildlife crocodiles and surrounded by village security staff and the officer (the cops).

Adilla is considered by Nurzwan to have a talisman (*kodam*) from the tail of a crocodile that he cut so that it was used as a sacred item by the locals. However, we consider that Adilla has an achievement in the eyes of the residents of Sitiung village, namely by conquering river crocodiles. The capture of crocodiles became a moment of honor for Adilla so that the crocodile tail he got could be used as a symbol for the social relations of the residents of Sitiung village and the head of the *Kerapatan Adat Nagari* customary tradition for Malay-Minangkabau (Asrinaldi 2017).

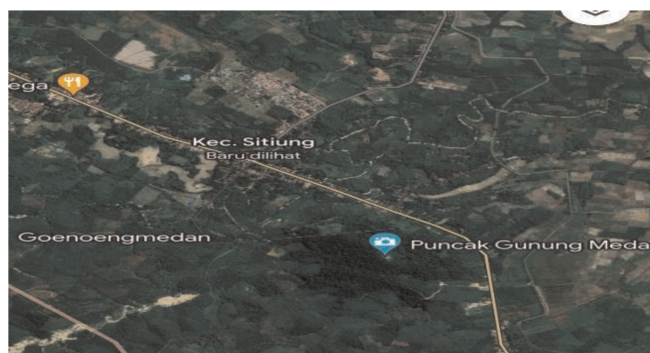


Figure 2. Sitiung settlement.

4.3 *Mutual relation between sitiung transmigrant and Suku Rimba community*

The story from Adilla that Rombong Marni had been in close contact with Pakde Soyo, a taukeh (distributor) of pork from a Javanese settlement, namely *Sitiung Empat*, we tried to track down his village Pakde Soyo but his wife said he was sick so we took shelter for a while

at the health facility (Puskesmas) of *Sitiung Empat* village. At that time, we met a medical personnel who was of Javanese descent named Zelna Jiantika. The villagers called him Zeeze, a nurse in the rural institution.

Inventory semantic relationship (Spradley 1986:156)

Neighborhood Domain “Menuju Taukeh”

Taukeh Manalu: It is the central distribution of a banded pig for gathering from Nias and Batak traditional livestock



Gobok Rombong The substitution male “babi hutan” to rewarding from taukeh Manalu

We, as researchers, are concerned about the news that mothers and children of the *Suku Rimba* who have been affected by malaria fever asked Zeeze “has the Rimba Tribe ever treated health workers in Sitiung Village?”. Zeeze replied that in the past, mothers of *Rombong Marni* gave birth to their daughters at the *Puskesmas* of this village.

Adilla and Zelna are residents who have been in close contact with *Rombong Marni* from a fragment of the *Rimba* customary tradition. The *Suku Rimba* is considered homeless by the locals because they are *terlunta-lunta* in *Bahasa* or marginalized from their natural habitat space, namely the Bulangan plantation and the Sipotar forest bordering the *Sungai Dareh* (river).

Inventory semantic relationship

Strict Domain “Babi celeng charcuterie”



Babi Hutan: The hunting banded pig as practical reason

Forbidden consumption and domestica- Opponent Kera- The Rules of Penghulu Nagari for Min-
tion of livestock from Nias tradition patan Adat Nagari angkabau- Malay Rural Community

Nurzwan, Adilla’s father, had told us that in the 1980s there was a Minangkabau resident who was considered desperate to marry the *Suku Rimba* in the border area of the *Sungai Dareh* (River) but was not approved by the Nagari traditional head and had experienced intimidation in a certain period until the arrival of *Rombong Muarabungo* around 50 *Rimba* customary tradition at *Hutan Adat* (customary forest).

There are stories of *Suku Minangkabau* members who married members of the *Suku Rimba*, the traditional ritual of marriage with *selusuh* wood which is carried out on the trunk of a large tree floating in the river. This big tree is a *Gadhi* wood that has myths to protect the family relations of indigenous communities. The testimonial of historical witnesses from Nurzwan and Roni that in the past, the Bulangan Forest became Bulangan Plantation and Sipotar Forest in the 1960s era were followed migration routes and *rombong* settlements. The forest area is also a cruising area for the *Suku Rimba* along with the *Melangun* tradition. *Gadhi*’s trees (*Pohon Gadhi*) and wood became a sacred space for the *Suku Rimba* customary tradition. *Rombong Marni*’s point of view has considered that the Dharmasraya and Jambi areas are a unit of the Central Sumatra Forest so for the *Suku Rimba* there are no administrative restrictions such as the Jambi province or West Sumatra province.

In our observation, we looked for members from *Rombong Marni* who crossed the plantation area of the Kerinci limited liability company and PT. SMP and rain fell so heavily that it took shelter at the plantation security guarded by Tony who lived in the settlement area of PT SMP employees. Tony told us that toward the 1970s there began to be an impact of ecological changes from the palm oil plantation captive supply market by Kerinci limited liability company owned by the Cendana Group.

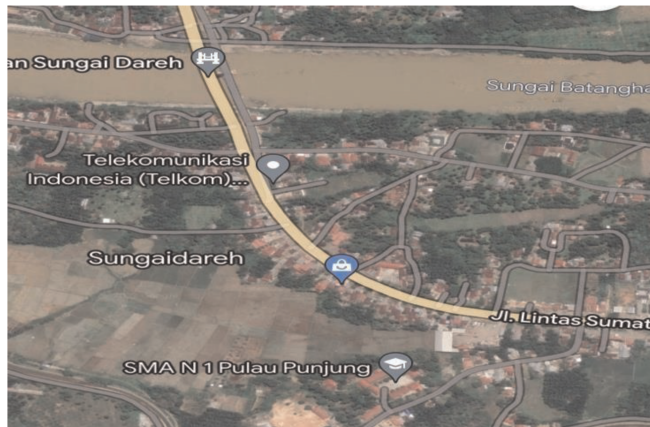


Figure 3. Melangun Suku Rimba route map.

The growing practice is the surplus of rubber and oil palm plantation production, resulting in the establishment of plantation areas between oil palm and rubber commodities (Polanyi, 2001). The problem expressed is that the practice of collusion is found in the actions of the cronies of the New Order ruling dynasty network. At that time, it was dominated by the former retired national military and a group of new order ruling soldiers who formed a palm oil enterprise with corporatist capital adjacent to the circle of power. The next problem is the environmental impacts that lack supervision of pollution and the integrity of the plurality of the people of West Sumatra. There is a model competition for economic growth between Indonesia and Malaysia regarding agricultural plantations with the demand for palm oil and rubber commodities, it absorbs 'as is' the skilled labor from the Java Island area, namely with the transmigrant program.

Tony's testimony as to the security staff of the PT. SMP has witnessed 50 men and women of the Suku Rimba whose habitat in the *Bulangan* Jungle has been converted into a plantation arena so that the route of the *Melangun* tradition is limited because it is hampered by the regulation of plantation concessions. The *Rimba* community began to lose the wild boar population which became a hunting animal for each *rombong*, and became the subject of discussion by residents of *Nagari* village and transmigrant settlements that the *Sungai Dareh* river basin began to be affected by the cultivation of palm oil and waste from processing palm fruit into crude palm oil.

5 CONCLUSION

The growth of oil palm plantations covering an area of 3,391 hectares (2022) in Dharmasraya and crude palm oil companies practiced by smallholders and corporations has resulted in the impact of natural forest habitat losses for the *Suku Rimba*. With an environmental crisis for the *Suku Rimba* community there is a practice of mutual relations between a fragment of the *Suku Rimba*, namely Rombong Marni and transmigrants in Kampong Sitiung. Domain analysis shows that mutual relations consist of the practice of exchanging commodities from forest products along with voluntary actions from transmigrants to maintain the medical support for Suku Rimba. However, the consumption and domestication of banded pig have an impact on the strict relationship between the Suku Rimba community and the *Kerapatan Adat Nagari* Minangkabau-Malay customary tradition.

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The effect of spiritual leadership on organizational commitment through workplace spirituality and intrinsic motivation

Mukrimah, Tri Wulida Afrianty & Arik Prasetya
University of Brawijaya, Malang, Indonesia

ABSTRACT: This study examines and analyzes the influence of spiritual leadership on organizational commitment through workplace spirituality and intrinsic spirituality as mediation for employees. This quantitative research is conducted at the Sekolah Islam Terpadu Insan Permata, Malang City. The population studied were employees who worked at the Sekolah Islam Terpadu Insan Permata, Malang City. The sample used is 110 respondents. The technique of collecting data is through a survey using a questionnaire. The data analysis technique in this study used a validity test, reliable test, linear test, diagram test, PLS, and hypothesis testing. This study shows that the variable of Islamic spiritual leadership cannot influence the variable of organizational commitment. Meanwhile, Islamic spiritual leadership can affect the variables of workplace spirituality and intrinsic motivation. The variable of workplace spirituality affects the organizational commitment variable, while the intrinsic motivation variable does not affect the organizational commitment variable. The work spirituality variable can mediate the influence of the Islamic spiritual leadership variable on the organizational commitment variable. Meanwhile, the intrinsic motivation variable was not able to mediate the influence of the Islamic spiritual leadership variable on the organizational commitment variable.

Keywords: Islamic Spiritual Leadership, Workplace Spirituality, Intrinsic Motivation, Organizational Commitment

1 INTRODUCTION

Various large companies place spirituality in organizational systems including in improving the quality of organizational members. As stated by Sapta *et al.* (2021) that there is a shift in organizational focus from purely economic and social activities to spiritual development and this phenomenon places spirituality as part of developing holistic human resources in achieving organizational goals. Examples of successful world-class organizations that have created programs to promote spirituality or worship/rituality activities in the workplace and have shown positive results include Hewlett-Packard, Tom's of Maine, Ford Motor Company (Burack 1999), World Bank (Laabs 1995), AT&T, Chase Manhattan Bank, DuPont, and Apple Computer (Cavanagh 1999). Meanwhile, companies or organizations in Indonesia that have successfully implemented a spiritual system in the company or organizational activities and achieved satisfactory results are Waroeng Group (Hapsari 2019) and PT. Artha Mas Graha Andalan (Haorrahman 2016).

The organization is forum for various individuals to carry out the process of various activities planned to achieve goals. The process of moving the wheels of the organization is contributed by the high commitment of all members in it. An organization is closely related to the motivation of all members in it to achieve good organizational work productivity. Several things are important in maintaining and maximizing the commitment of organizational members such as work

environment, education and training, motivation, and leadership. Therefore, researchers need to conduct in-depth research on organizational employee commitment.

Individuals who become members of an organization, in essence, have multiple roles, namely being servants of the creator and becoming social beings. These two roles go hand in hand with the individual's life and are interrelated with each other. Matters related to the servitude and belief of religion in a human being give a certain influence in acting in activity and social interaction, especially in the community and organizational environment. In general, individuals who apply their beliefs well have good performance projections and have a good impact on the surrounding environment. This is explained in the research of Hariyadi & Mahmudi (2020) which states that a Muslim who has obedience and a high level of religiosity without realizing it, his behavior, attitude, and habits will get better and is the reason that religiosity has a good impact on employee performance.

JSIT (i.e., Network of Integrated Islamic Schools) Indonesia is one of the organizations engaged in education and applying spiritual values to individuals within the organization. JSIT Indonesia is non-profit, independent, open, and ready to cooperate with any party as long as it brings benefits to members and is in line with its vision and mission. One of the organizations incorporated in the field of Education in the JSIT Network is the Insan Permata Malang City Foundation. The Insan Permata Malang Foundation is a well-known educational foundation in the city of Malang, which has three units of academic educational institutions which are directly supervised by the JSIT.

At the SIT Insan Permata organization, Malang City researchers found a phenomenon in the form of a lack of motivation of employees working in the organization because of a mismatch of salary or income on the employee's workload. This is based on the opinion of Herzberg in Tantawii (2016) which says that one of the motivational factors is salary and working conditions. In addition, there is a problem of employee uncertainty in determining organizational commitment from several individuals in the object of research similar to the opinion of Meyer & Allen (1991). The measures of organizational commitment is the desire possessed by individuals to stay in the organization in normative commitment. Some employees also do not have a decision to commit to a foundation because they feel that the incentives/salaries they receive are not by the performance provided. This is similar to the opinion of Meyer & Allen (1991), namely commitment to sustainability this commitment is based on the perception of individuals within the organization about the losses that will be obtained if they leave the organization. As is known, the sustainability of an organization cannot be separated from the commitment of its members. Organizational commitment is a commitment that manifests itself not only in the form of passive loyalty but implies an active relationship between individuals and organizations that aim to contribute to organizational success (Porter in Sopiah 2008:157).

To grow organizational commitment, it is necessary to have motivation from within the members which are called intrinsic motivation. Sutikno (2007) explains intrinsic motivation as motivation that arises from within the individual without coercion from others but based on his desire. Workplace spirituality was also found to be supportive in increasing positivity within the organization Whs *et al.* (2014) including in the performance of members of the organization, increasing the commitment of members in the organization. Fry (2003) stated that spiritual leaders can make members happy with their work. This study found that high leadership spirituality is needed because it encourages member productivity and organizational commitment, which are important for the continuity of business performance. It is better for organization based on Islam to apply the values of spiritual management, namely placing the values of universality in performance.

Based on the phenomenon in the object of research and the urgency of the research described above, it is deemed necessary to conduct an in-depth study of the phenomenon. Through this study, it will be known the influence of Islamic spiritual leadership on organizational commitment mediated by intrinsic motivation and workplace spirituality in organizations engaged in education. In addition, it is hoped that it can be used as a basis for

decision-making for stakeholders of the Insan Permata Kota Malang Integrated Islamic School, to increase the commitment of members or employees and provide new scientific insights for future studies.

2 LITERATURE REVIEW

2.1 *Islamic spiritual leadership, workplace spirituality, intrinsic motivation, organizational commitment*

In this study a synthesis of the Islamic leadership variable was carried out by Antonio (2013) and Nuruddin (2011) and the spiritual leadership variable by Fry (2003). A synthesis pattern is built for each indicator of Islamic leadership and spiritual leadership which is then analyzed for the similarity of the essence of each of these indicators. From the theory of spiritual leadership by Fry (vision, altruistic love, hope, and faith) and Islamic leadership by Antonio (*shiddiq*, *Amanah*, *fathanah*, and the *tabligh*) and Nuruddin (moral, piety, and quality), a synthesis of each indicator is formed. Wijayanti & Wajdi (2012) showed that Islamic leadership affects member performance. Based on this research, it can be concluded that both spiritual leadership and Islamic leadership affect organizational commitment. The results of this study become a reference for examining the influence of Islamic spiritual leadership on organizational commitment. If the Islamic spiritual leadership variable is lowered, it will affect the decrease in organizational commitment.

Hollenbecks *et al.* (1989) mentioned that an antecedent of organizational commitment is a situational factor (which includes atmosphere, organizational environment, and so on). Sani *et al.* (2016) showed that spiritual leadership has a direct impact on workplace spirituality. Leaders must have a visionary vision, genuine emotions, and values that include strong character, strong hopes and beliefs that will enable them to develop and mobilize all resources to achieve organizational goals. Similar to Hakim (2015) spiritual leadership influences workplace spirituality through vision, hope/trust, and love for others, employees feel life is meaningful, work makes them happy, creates joy and communication, and does not neglect work. The results of the study by Afsar *et al.* (2016) showed the results that spiritual leadership has a significant positive effect on workplace spirituality, intrinsic motivation, and environmental passion. Likewise, research by Gheitani *et al.* (2019) explained that Islamic work ethics as the basis for Islamic leadership has a significant influence on organizational commitment mediated by intrinsic motivation.

Sidik *et al.* (2021) suggested that simultaneously there is a positive influence of workplace spirituality on organizational commitment to lecturers at the Islamic University of Bandung. Similar studies by Prakoso *et al.* (2018) and Pobri & Aprilia (2020) confirmed the effect of workplace spirituality on organizational commitment. Steers in Sari & Afnan (2016) explained organizational commitment as a sense of identification (belief in organizational value), involvement, and loyalty, which is expressed by an employee toward his organization. It is described as a condition in which members like a particular organization and are willing to put forth a high level of effort for the benefit and achievement of organizational goals. Imran *et al.* (2017) showed that teacher turnover intentions can be reduced by the right combination of motivation and commitment, then intrinsic motivation has a positive effect on affective commitment and normative commitment. In addition, the results of research by Gheitani *et al.* (2019) showed that intrinsic motivation has a partial and simultaneous mediating role in the relationship between Islamic work ethics variables and organizational commitment. Based on the findings of Some of the researchers above, the hypothesis can be formulated as follows:

- H1: Islamic spiritual leadership has a significant effect on organizational commitment
- H2: Islamic spiritual leadership has a significant effect on Workplace Spirituality
- H3: Islamic spiritual leadership has a significant effect on intrinsic motivation

- H4: Workplace spirituality has a significant effect on organizational commitment
 H5: Intrinsic motivation has a significant effect on organizational commitment

2.2 Workplace spirituality and intrinsic motivation as mediation

Sapta *et al.* (2021) proved that workplace spirituality mediates the spiritual relationship between spiritual leadership and organizational commitment. The success of the workplace spiritual variable as a mediating variable indicates that the work environment plays an important role in facilitating leadership style. Meanwhile, Astuti & Haryani (2021) found that workplace spirituality is a variable that can mediate the influence of spiritual leadership on commitment. Afsar *et al.* (2016) showed that spiritual leadership has a significant positive effect on workplace spirituality, intrinsic motivation and environmental passion. Likewise, research by Gheitani *et al.* (2019) explained that Islamic work ethic as the basis for Islamic leadership (Islamic leadership) has a significant influence on organizational commitment mediated by intrinsic motivation. Based on the findings of the researchers above, the hypothesis can be formulated as follows:

H6: Workplace Spirituality mediates the influence of Islamic spiritual leadership on organizational commitment

H7: Intrinsic motivation mediates the influence of Islamic spiritual leadership on organizational commitment

3 METHODS

This study uses a quantitative approach and explanatory research. Singarimbun & Effendi (2011:4) explanatory research is a research that explains the causal relationship between the variables studied through hypothesis testing that has been formulated so that it is known the amount of contribution of the independent variable to the dependent variable, as well as the magnitude of the path of the relationship that occurs. The population in this study were all teachers and staff at the Insan Permata Integrated Islamic School in Malang. The sample of this study amounted to 110 employees. The data collection method used in this study is a questionnaire.

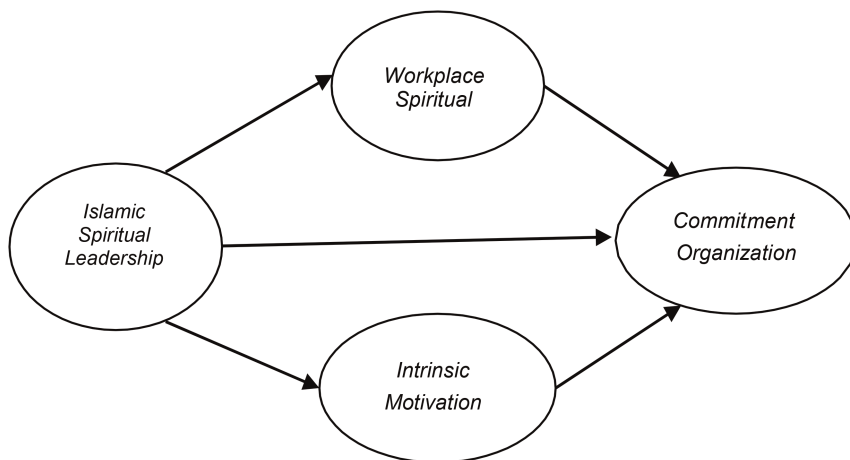


Figure 1. Research model.

4 RESULTS

4.1 Validity and reliability

Based on the results of the convergent validity test in Figure 2, it is known that from the 40 items in each variable, 2 items are invalid because the loading factor value is below 0.5 which means it is considered invalid, while the 2 items include item X.8 on the Islamic spiritual variable. leadership and item Y.4 on the Organizational Commitment variable. Meanwhile, all items in the workplace spirituality and intrinsic motivation variables were declared valid because the loading factor value was above 0.5. The two items or those that have a loading factor value below 0.5 and are considered invalid are removed from the variables in the model, then the model is recalculated to produce a new outer loading value. All variables studied in this study had Cronbach's alpha values above 0.7 and composite reliability above 0.7. Cronbach's alpha value of each variable includes Islamic Spiritual Leadership at 0.927, Workplace Spirituality at 0.895, intrinsic motivation at 0.841, and organizational commitment at 0.856 which indicates that all instruments on these variables are reliable.

4.2 Path analysis and hypothesis testing

The results of the path analysis will be used to see the influence between variables by looking at the level of significance between variables and the relationship between variables.

Based on Table 1, it is known that directly Islamic spiritual leadership does not increase organizational commitment. Islamic spiritual leadership can increase workplace spirituality and intrinsic motivation. At the same time, workplace spirituality can increase organizational commitment. Meanwhile, intrinsic motivation cannot increase organizational commitment. The role of workplace spirituality indirectly has a fully mediating role. The role of intrinsic motivation indirectly is that there is no mediation.

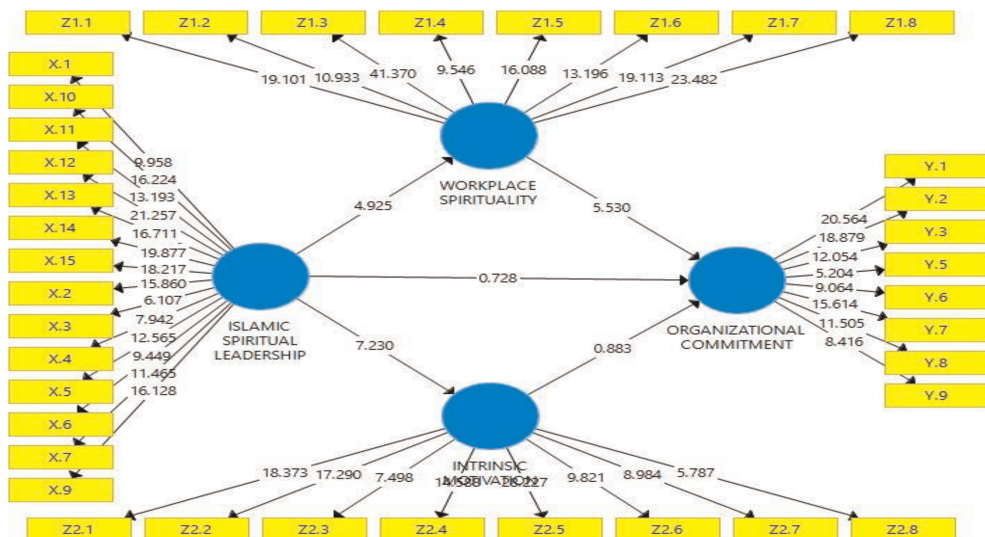


Figure 2. Model construct.

Source: processed from primary data

Table 1. Variable relationship results.

Path	Variable Relationship	T-Statistics	P-Value	Results
1	Islamic Spiritual Leadership => Organizational Commitment	0,728	0,467	Not Significant
2	Islamic Spiritual Leadership => Workplace Spirituality	4,925	0,000	Significant
3	Islamic Spiritual Leadership => Intrinsic Motivation	7,230	0,000	Significant
4	Workplace Spirituality => Organizational	5,530	0,000	Significant
5	Commitment Intrinsic Motivation => Organizational Commitment Indirect	0,883	0,378	Not Significant
6	Islamic Spiritual Leadership => Workplace Spirituality => Organizational Commitment	3,525	0,000	Full Mediation
7	Islamic Spiritual Leadership => Workplace Spirituality => Organizational Commitment	0,800	0,424	No Mediation

Source: processed from primary data

5 DISCUSSION

5.1 *Islamic spirituality on organizational commitment*

According to Table 1, it is known that directly Islamic spiritual leadership does not increase organizational commitment. Islamic spiritual leadership can increase workplace spirituality and intrinsic motivation. At the same time, workplace spirituality can increase organizational commitment. Meanwhile, intrinsic motivation cannot increase organizational commitment. The role of workplace spirituality indirectly has a fully med Islamic Spiritual Leadership is believed to be a good concept applied by leaders in organizations because it reflects the quality of actions that are based on good values in Islam and has a good influence on the performance output of members or employees in the organization and the concept of synthesis was born. Islamic leadership variable (Antonio 2013; Fry 2003; Nuruddin 2011) makes leaders in organizations to have a high awareness of self-improvement. This is described in several characteristics, one of which is *Iltizam/lida'* or commitment (Nuruddin 2011). Febrianto (2019) describes Islamic spiritual leadership as having an increasing effect on organizational commitment which shows that there is a change in the value of the Islamic spiritual leadership variable through five things, namely *tabligh*, *altruistic*, *hope* and *belief*, *piety*, and *fathanah*.

Theoretically, it is explained that Islamic spiritual leadership is needed in humans to bring out the desires and motivations of oneself and others to fulfill spiritual needs and carry out Islamic obedience and values. Thus, employees will feel more meaning in life and feel more understood and appreciated (Fry & Matherly 2006). Employees will feel that they have a place in the group, so they take themselves to be involved in an organizational climate that is spiritual, as well as the integrated Islamic school of Insan Permata Malang City as an Islamic Education Institution. The most important thing is that employees become more committed and work productivity increases because of the support from spiritual leadership conditions (Djafri & Noordin 2017).

From the test results in this study, it is known that Islamic spiritual leadership does not have a direct influence on the organizational commitment of employees of an integrated Islamic school, Insan Permata, Malang City. The rejected hypothesis indicates that the concept of Islamic spiritual leadership applied by the leadership of the integrated Islamic school Insan Permata Malang has not been able to influence employee organizational commitment. Organizational commitment to employees is believed not only influenced by the good condition of the leadership. Employees as human beings with complex thoughts

have various factors that cause them not to be influenced only by the condition of a good leader by applying Islamic spiritual leadership.

These results also indicate and interpret the similarities between individual employee goals and organizational goals. Employees consider the delegated work an obligation or responsibility that must be done internally, not by someone else. As a result, leadership involvement does not affect employee loyalty or commitment to the organization, because employees personally experience psychological ownership of their work (Haldorai *et al.* 2020). Therefore, spiritual leadership cannot fail to increase employee commitment to the organization. Alternatively, employees may perceive Islamic spiritual leadership as a separate part of the job and the organization. On this basis, the presence of an Islamic spiritual leader will not affect employees' commitment to the organization. Thus, these results do not support previous findings which revealed that spiritual leadership affects organizational commitment, productivity, and job satisfaction (Bodla *et al.* 2013). The same thing refutes the findings of Jireh & Kodrat (2018), which reveal that spiritual leadership can help develop spiritual conditions that will lead to positive human values and organizational commitment.

5.2 *Islamic spiritual leadership on workplace spirituality*

The concept of Islamic Spiritual Leadership explains the conditions in which leadership applies positive Islamic values to have a positive impact on all aspects of the organization. The intended positive impact is the implementation of Islamic Spiritual Leadership in the Integrated Islamic School of Insan Permata Malang City, it can provide conditions in which the leader provides vision, hope/belief, examples, awards, truth values, a pleasant atmosphere and so on that are in the indicators. that form this concept. With these things in the leader, it is believed that it will have an impact on the quality of a good spiritual work environment where individual employees, groups, and organizations can create a pleasant work environment, help each other, and build a performance that supports each other.

In the results of hypothesis testing, it was found that Islamic Spiritual Leadership has a direct influence on workplace spirituality which shows that there is a change in the value of the Islamic Spiritual Leadership variable through five indicators, namely tabligh, altruistic, hope and belief, piety, and *fathanah*, have an impact on the workplace spirituality of employees or HR in The Integrated Islamic School of Insan Permata Malang City. The results of this study are in line with the research proposed by Sani *et al.* (2016), Hakim (2015), and Afsar *et al.* (2016), which explains that workplace spirituality can be improved with the right Islamic Spiritual Leadership by the leadership.

From the results of the data analysis conducted, the assessment of the Islamic Spiritual Leadership variable indicator is higher than the indicator of the workplace spirituality variable. This indicates that employees feel that the leadership's efforts to implement Islamic Spiritual Leadership are higher than their workplace spirituality in the organization. Islamic Spiritual Leadership is classified as good in improving workplace spirituality, it is marked by the strong belief of the leadership of the integrated Islamic school, the people of Permata Malang, so employees try to help the work of other employees to help the organization run. This is confirmed by the findings of Sani *et al.* (2016) which revealed that when leading an organization, applying spiritual leadership using various methods, such as actions, decisions, or every word that is based on mature thinking, can create spiritual changes needed to create a climate to influence others, communicate vision and mission to people in the organization. Thus, workplace spirituality plays an important role in facilitating leadership styles (Astuti & Haryani 2021).

5.3 *Islamic spirituality on intrinsic motivation*

Islamic Spiritual Leadership in the organization is applied to have a good influence on the quality of members or human resources. HR or employees as humans have a strong drive in determining the desire to act. Islamic Spiritual Leadership has a concept that presents several

points that are closely related to the concept of intrinsic motivation. Some of these points include caring, attention, appreciation, good attitudes and behavior, and professionalism. This can be in line with the factors that exist in the intrinsic motivation needed by humans as individuals as in indicators of the desire to develop in which there is an increase in professionalism, on the indicator of being happy at work in which there is a feeling happy and comfortable.

The results of the hypothesis analysis show that Islamic Spiritual Leadership has a direct influence on intrinsic motivation which explains that the four indicators in Islamic Spiritual Leadership, namely *tabligh*, altruistic, hope and belief, piety, and *fathanah*, have an impact on intrinsic motivation through the four indicators, namely an interest in work, desire to thrive, enjoy work, and enjoy work. In the analysis, it can be seen that the indicator of Islamic Spiritual Leadership, namely the strongest belief, is applied very well in the integrated Islamic school of the Man of Jewels in Malang City and is directly proportional to the indicator of intrinsic motivation, namely employees feel very interested in their work. It is natural to happen when a leader gives confidence to subordinates well by strengthening a clear vision and mission, employees will find their work interesting to be very well occupied. It can be concluded similarly to the findings of Febrianto (2019) that increasing the value of Islamic Spiritual Leadership, it is known that it will increase the intrinsic motivation of the organization's employees.

5.4 *Workplace spirituality on organizational commitment*

Workplace spirituality shapes individual self-esteem and happiness in organizations. As a result, the individual will always work diligently and see work as more than just a discourse and see it as an obligation that must be fulfilled. This behavior forms the attachment between individuals and organizations, which in turn affects the increase in individual commitment to the organization. Astuti & Haryani (2021) mention that no matter how great the leadership style is, if a conducive work environment is not supportive, a great leadership style is not effective in increasing employee organizational commitment.

The statistical results show that Workplace spirituality at the Insan Permata Integrated Islamic School in Malang City has a direct influence on employee organizational commitment. This means that workplace spirituality through meaningful work indicators, a sense of community, and alignment with organizational values affects organizational commitment through affective commitment, sustainability commitment, and normative commitment. In the results of the analysis, it was also found that the indicator value of workplace spirituality was compared to the indicator of organizational commitment. This explains that one of the indicators of workplace spirituality, namely the sense of togetherness such as helping each other with the work of other employees in the work environment at the Insan Permata Integrated Islamic School in Malang City will have an impact on the willingness of employees to help the organization achieve the Foundation's goals which are included in affective commitment.

The explanation above concludes that there is evidence of social exchange theory where positive action from an employee's action will give a positive reaction reciprocally, this occurs between workplace spirituality relationships that affect organizational commitment. This is similar to the findings of Sidik *et al.* (2021) suggested that simultaneously there was a positive influence of workplace spirituality on organizational commitment. The same thing in the research of Prakoso *et al.* (2018) and Pabri & Aprilia (2020) who confirmed that increasing employee organizational commitment can be done with well-done workplace spirituality efforts.

5.5 *Intrinsic motivation on organizational commitment*

Intrinsic motivation is the motive to be active or to function without requiring external stimulation because within each individual there is an urge to do something. The concept of motivation explains how to direct the power and potential of subordinates so that they want to work together productively and succeed in achieving predetermined goals which means

motivation is a desire that arises from within that causes people to take action; therefore, it becomes a driving factor in working in organizations. Intrinsic motivation causes employees to whole-heartedly dedicate their time and energy beyond what is paid to them, it can be argued that the intrinsic motivation of employees can increase the employee's organizational commitment. Meanwhile, intrinsic motivation is believed to have a direct influence on organizational commitment as found by Jireh & Kodrat (2018) and Emiyanti *et al.* (2020).

However, the results of the analysis of hypothesis testing show that intrinsic motivation does not have a direct influence on organizational commitment. This means that intrinsic motivation through its four indicators, namely interest in work, desire to develop, enjoy work, and enjoy work has not been able to support the organizational commitment of the employees of the Foundation at the Insan Permata Integrated Islamic School in Malang City. The findings of this study contradict the research conducted by Jireh & Kodrat (2018) and Emiyanti *et al.* (2020) which shows that intrinsic motivation has a positive and significant effect on organizational commitment. Thus, it shows that the intrinsic motivation of every employee at the Sekolah Islam Terpadu Insan Permata Kota Malang has not succeeded in increasing their organizational commitment.

5.6 *The role of workplace spirituality in mediating the effect of Islamic spiritual leadership on organizational commitment*

Steers in Sari & Afnan (2016) define organizational commitment as a sense of identification (belief in organizational values), involvement, and loyalty, which is expressed by an individual toward his organization. Organizational commitment is a condition where members like a particular organization and are willing to put forth a high level of effort for the interests and achievement of organizational goals. Therefore, organizational commitment includes elements of loyalty to the organization, involvement in work, and identification of the values and goals of the organization. Employees who have high commitment tend to show high involvement which is manifested in the form of attitudes and behavior. Besides that, they are likely to remain in the company is also higher than employees who do not commit.

Based on the results of hypothesis testing, it was found that workplace spirituality mediates the influence of Islamic spiritual leadership on organizational commitment. These results describe that the influence of Islamic spiritual leadership on employee organizational commitment can be influenced by workplace spirituality that takes place at the Integrated Islamic School of Insan Permata Malang City. Based on the direct effect test conducted in this study, it is known that the Islamic spiritual leadership variable has no significant effect on the organizational commitment of employees, while the indirect effect (indirect effect) of Islamic spiritual leadership on employee organizational commitment is mediated by workplace spirituality has an effect on significant. Based on the causal step approach by Baron and Kenny (1986), it is concluded that intrinsic motivation can fully mediate (full mediation) Islamic spiritual leadership on the organizational commitment of the integrated human SIT employees in Malang City. If the variable of Islamic spiritual leadership increases and workplace spirituality in the organization also increases, their organizational commitment to stay in the foundation will increase. However, if the application of Islamic spiritual leadership increases but workplace spirituality decreases, then organizational commitment does not increase.

These results are in line with the research proposed by Sapta *et al.* (2021) that workplace spirituality mediates the spiritual relationship between spiritual leadership and organizational commitment. The success of the workplace spiritual variable as a mediating variable indicates that the work environment plays an important role in facilitating leadership style. The employee's work environment determines the success of a leader in managing human resources. As great as any leadership style, if a conducive work environment is not supportive, this leadership style is not effective in increasing employee organizational commitment. Meanwhile, Astuti & Haryani (2021) found that workplace spirituality is a variable that can mediate the influence of spiritual leadership on commitment.

Based on the explanation above, it can be explained that employees at the Foundation acquire an Islamic leadership style by well-obtaining da'wah, Islamic values such as leadership piety, and leadership examples in carrying out their duties for the sustainability of the Foundation, making employees feel that they will continue to be part of the Insan Permata Integrated Islamic School. Malang city. This is supported by the existence of a good spiritual work environment, starting from feeling supportive of each other, and nurturing other employees to the feeling of giving the best contribution to the organization.

5.7 *The role of intrinsic motivation in mediating the effect of Islamic spiritual leadership on organizational commitment*

Luthans (2006:131) explains that organizational commitment has positive consequences such as high performance, low turnover, and low absenteeism. In addition, member involvement is associated with other outcomes such as a good organizational climate such as recognition of a warm and supportive organization. Someone who has a high commitment will have an identity with his organization and participate in defining the values, rules, and goals of the organization. Thus, someone who has a high commitment will have his own identity with the organization, take membership seriously, and will have loyalty and positive sentiment toward the organization.

In the results of the analysis of hypothesis testing, intrinsic motivation is not able to mediate employees at the Insan Permata Integrated Islamic School in Malang City. Based on direct testing conducted in this study, it is known that the Islamic spiritual leadership variable has no effect on the organizational commitment of the employees of the Insan Permata Integrated Islamic School in Malang City, and the indirect influence of Islamic spiritual leadership on organizational commitment mediated by intrinsic motivation also has no significant effect. Based on the causal step approach by Baron and Kenny (1986), it is concluded that intrinsic motivation is not able to mediate (no mediation) the influence of Islamic spiritual leadership on the organizational commitment of the employees of the integrated Islamic school, Insan Permata, Malang City. If the Islamic spiritual leadership variable increases and the employees' intrinsic motivation also increases, their organizational commitment to survive in the Insan Permata Integrated Islamic School in Malang will not increase. This result contradicts the findings of Gheitani *et al.* (2019) who explain that Islamic work ethics as the basis for Islamic leadership (Islamic leadership) has a significant influence on organizational commitment mediated by intrinsic motivation. If the intrinsic motivation variable is lowered, it will affect the decrease in the influence of Islamic spiritual leadership on organizational commitment.

Islamic spiritual leadership is known to not affect organizational commitment, it is explained that employees of the integrated Islamic school Insan Permata Malang City perceive that commitment comes from within themselves, and is difficult to be influenced by the leadership as an external influence on employees. Similarly, the intrinsic motivation of employees is sourced from within the employees of the integrated Islamic school in the city of Malang, the intrinsic motivation that comes from within the employees has not been able to influence their commitment. However, it is undeniable that other external influences have the same effect, as previously explained, the seventh hypothesis found that conditions of a greater external influence such as a better spiritual work environment were able to influence the commitment of employees of the integrated Islamic school Insan Permata Malang City to stay longer at the Foundation.

6 CONCLUSION

The results of the research and discussion have answered the overall hypothesis about the influence of Islamic spiritual leadership on organizational commitment mediated by workplace spirituality and intrinsic motivation. First, Islamic spiritual leadership is not able to increase organizational commitment. Second, Islamic spiritual leadership can increase

workplace spirituality. Third, Islamic spiritual leadership can increase intrinsic motivation. Fourth, workplace spirituality can increase organizational commitment. Fifth, intrinsic motivation is not able to increase organizational commitment. Sixth, workplace spirituality can mediate the influence of Islamic spiritual leadership on organizational commitment. Seventh, intrinsic motivation is not able to mediate the influence of Islamic spiritual leadership on organizational commitment.

Based on the conclusions that have been described, there are several suggestions given from this study for potential future research. First, organizational commitment becomes an important issue in this study because it has the lowest value compared to other variables. The need for encouragement of other variables is needed to increase employee organizational commitment in the educational organization of SIT Insan Permata Malang. Second, further research can examine the follow-up variables of commitment, namely satisfaction, performance, and individual values, both on profit and non-profit objects. Third, employees of the Integrated Islamic School Insan Permata Malang assess that leaders still need to increase their efforts to keep promises in their work and organizational activities, so that in the future leaders need to be trustworthy in making certain promises in their work to subordinates. Fourth, employees of the Integrated Islamic School Insan Permata Malang feel that a work environment that always supports each other still needs to be improved, so in the future, it is necessary to have a work environment that encourages employee solidarity and supports each other in their work. Fifth, employees of the Integrated Islamic School Insan Permata Malang still feel the need for material compensation for the work done, so in the future, the organization needs to increase salaries or intensively improve employee performance. Sixth, employees of the Integrated Islamic School Insan Permata Malang still lack the desire to lose seniority for promotions or benefits if they leave the organization. Seventh, the Foundation or the Leadership of the Integrated Islamic School of Insan Permata Malang in increasing employee commitment need to pay attention to the welfare of their employees which increases employee motivation to continue to survive.

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Carbon emission disclosure and cost of capital in Indonesian

Andanrani, Dwi Irawan*, Ahmad Juanda & Sri Wibawani Wahyuning Astuti
Faculty of Economics and Business, Universitas Muhammadiyah Malang, Malang, Indonesia

ABSTRACT: This study aims to provide empirical evidence about the effect of carbon emission disclosure on the cost of capital. The population in this study were manufacturing companies listed on the Indonesia Stock Exchange in 2020, the sample in this study was 117 companies selected based on purposive sampling. This type of research is associative, and the data used are secondary data. The data for this study are from the Carbon Disclosure Project (CDP) survey index. This study uses a simple linear regression method with Stata15. The results of this study indicate that Carbon Emission Disclosure has an effect on the cost of capital. Empirically, this study provides evidence that the better the Carbon Emission Disclosure carried out by the company, the higher the cost of capital.

Keywords: Carbon Disclosure Index, Carbon Emission Disclosure, Cost of Capital, Manufacturing Company

1 INTRODUCTION

The issue of climate change has developed over the past few decades, and the issue of climate change has become the subject of debate for not only environmentalists but also economists. Its scale is evidenced by significant losses arising from natural disasters. Reporting from *BBC News Indonesia* that the losses reported during the decade between 2010 and 2019 were around US\$ 383 million (Rp5.4 trillion) per day, seven times the US\$ 49 million (Rp697 billion) per day in the period 1970–1979. Concerns about climate change have prompted governments to implement regulations and policies aimed at reducing and controlling carbon emissions. This relates to the cost of corporate capital, where carbon risk is a potential loss in the future or currently due to increasingly stringent regulations on greenhouse gas (GHG) emissions around the world that can charge more costs that will increase the risk cost of debt. The existence of global warming in various worlds causes climate change so the increase in atmospheric temperature causes an increase and changes in rainfall, wind, and storms. The increase in global average temperatures is most likely due to the increasing concentration of GHGs due to human activities (Lee 2007). Controlling carbon emissions can be a fundamental aspect to ensure business sustainability, companies tend to develop organizational structures that can control carbon emissions.

Indonesia ratified the Kyoto Protocol through Law No. 17 of 2004 in order to implement sustainable development and participate in efforts to reduce global GHG emissions, by 26% in 2020, which is around 0.67 Gt. (Indonesia 2014). Indonesia's commitment to reducing carbon emissions can also be seen in Presidential Regulation No. 61 of 2011 related to the National Action Plan for Reducing GHG Emissions and Presidential Regulation Number 71 of 2011 concerning the implementation of the national GHG inventory. In Article 4 of Presidential Regulation No. 61 of 2011, it is stated that business actors contribute to efforts to reduce GHG

*Corresponding Author

emissions (Indonesia 2011). Efforts to reduce GHG emissions (including carbon emissions) by the company as a business actor can be known from *the Carbon Emissions Disclosure (CED)*.

Reporting from *cnnindonesia.com*, the reduction in carbon emissions reduces the company's climate impact, and that the earth's temperature has warmed up by about 1.1°C since the industrial revolution. However, it is currently at the threshold of 1.5°C which has very good implications for the trend of global warming. In reducing carbon emissions, Indonesia needs A fund of US\$ 266 Billion or equivalent to Rp.3,830.4 Trillion by 2030, by means of which the government starts building a green energy industry to help reduce carbon emissions (Indonesia 2021). According to Agrawal, Nepstad, and Chhatre (2011) data on REDD (*Reduction Emissions from Deforestation and Forest Degradation*) cooperation, Indonesia contributed GHG emissions of 2.05 giga tons in 2005, and Indonesia's GHG emissions were predicted at 3 Giga tons in 2020. So the rule of law regarding GHGs is getting stricter. According to Sudibyo (2018), an effective tool to combat climate change is carbon pricing, which translates carbon pollution into prices that can be taken into account by governments, businesses or companies, and customers in reinvestment decisions.

CED is part of accounting with the *triple bottom line* pioneered by Elkington (1998) in the book *Cannibals With Forks* that *Triple Bottom Line Accounting (TBLA)* is embodied in 3P, namely aligning the achievement of profit performance (profit) with social performance (people) and environmental performance (planet) on an ongoing basis. This is able to minimize the environmental problems it faces and *CED* is part of efforts to protect the earth (planet). The concept of *TBLA* implies that companies must prioritize the interests of *stakeholders* over *shareholders*. However, *CED* in Indonesia is still *voluntary disclosure* and this practice is still rarely carried out by business entities. According to Burritt (2012), the relationship between 3P (people, planet, profit) in uniting a small group of professional accountants, environmental consultants, and the government as an initial solution to environmental problems with the level of capital costs of debt to be incurred.

Theoretically, the relationship between *CED* and the cost of debt capital can be explained from several stakeholder-first perspectives. Stakeholder theory is the main thing that supports disclosure based on the company's response to perceived external pressures and shows a positive relationship between voluntary carbon disclosure and the company's carbon risk with *stakeholders* (Hahn *et al.* 2015). According to Li *et al.* (2014), the cost of capital, including the cost of debt and the cost of equity, would increase if the company was responsible for carbon emissions. The results show that the cost of debt is positively correlated with the intensity of the company's emissions. However, little evidence supports that emission intensity affects the cost of equity. According to Lemma *et al.* (2019), voluntary carbon disclosure is negatively related to the company's overall cost of capital (debt and equity).

This research refers to environmental accounting, especially *carbon emissions disclosure* as a solution to overcome environmental problems. Based on the phenomenon in Indonesia, especially in manufacturing companies, the high problem of environmental pollution due to uncontrolled company waste causes unrest in the surrounding community. This can lead to a decrease in fresh air conditions and unstable climate change. In *disclosing carbon emissions*, it also requires high costs, but if the GHG reduction is clear and there is a lot of application of green technology, it can suppress external financial institutions, namely creditors, to help the cost of environmental problems. Where a company that is able to emit a significant amount of CO₂ can increase the bias of debt capital. Therefore, this research is important for *CED* to improve environmental problems and make the company's image better in the future.

The development of the *stakeholder* concept includes a model of corporate planning, business policy, and *corporate social responsibility (CSR)* that is able to care for the environment (Roberts 1992). *Stakeholder* support is the survival of the company, hence the disclosure of information by the company as a management tool to manage the information needs needed by various groups (stakeholders) (Gray *et al.* 1995). In *carbon emissions* research using indices that have been developed by (Choi *et al.* 2013) namely the information request sheet provided by the *carbon disclosure project (CDP)*. CDP is an independent

non-profit that holds the largest database of climate change information and carbon emissions companies (Choi *et al.* 2013).

Table 1. Carbon emission disclosure index.

Category	Item
<i>Climate Change: Risks and Opportunities</i>	CC-1: Assessment/description of risks (rules or regulations both specific and general) and actions are taken to manage those risks. CC-2: Current (and future) assessments/descriptions of the financial, business, and opportunity implications of climate change.
<i>Green House Accounting</i>	GHG-1: Description of the methodology used to calculate GHG emissions (e.g., GHG <i>Protocol</i> or ISO). GHG-2: The existence of external verification of the quantity of GHG emissions by whom and on what basis. GHG-3: Total GHG emissions (metric tons co2-e) produced. GHG-4: Disclosure of <i>scope</i> 1 and 2 or <i>scope</i> 3 of direct GHG emissions. GHG-5: Disclosure of GHG emissions by origin and source. (e.g., coal, electricity, etc.). GHG-6: Disclosure of GHG emissions by facility or segment. GHG-7: Comparison of GHG emissions with previous years.
<i>Energy Consumption Accounting</i>	EC-1: The amount of energy consumed (e.g., terajoule, PETA-joule). EC-2: Quantification of energy used from renewable resources. EC-3: Disclosure by type, facility, and segment
<i>GHG Reduction and Cost</i>	RC-1: Details of a plan or strategy to reduce GHG emissions. RC-2: Specifications of the target level/level and year of GHG emission reduction. RC-3: The reduction in emissions and <i>cost or savings</i> achieved today as a result of carbon emission reduction plans. RC-4: Calculated future emission costs
<i>Carbon Emission Accountability</i>	AEC-1: Indications by which the committee (or other executive body) has responsibility for actions related to climate change. AEC-2: A description of the mechanism by which the board (or other executive body) reviews the company's progress on climate change.

Source: (Choi *et al.* 2013).

In environmental accounting, it has to do with *Carbon Emission Disclosure*. Environmental disclosure, especially *Carbon Emission Disclosure*, is certainly not low-cost and requires considerable costs. In this case, investments in environmental accounting require not a small amount of capital costs. The cost of capital is an important issue in the finances and general operating decisions of the enterprise (Dhaliwal *et al.* 2011).

The relationship between the influence of CED and the cost of capital is expected to vary with the overall performance of the company's environment. Companies with good environmental management practices and a stable *CED* strategy are expected to respond better to threats from various types of carbon risks (regulatory, physical, litigation, reputational, production, and competition risks) than companies with poor management systems and strategies. One piece of evidence to demonstrate a good carbon management system could be the publication of sustainability (or environmental) reports in which companies voluntarily disclose shortand long-term information on GHG emissions.

In accordance with *the stakeholder* theory that the concept of *CSR* and *CED* is able to be a management tool to manage the information needs needed by various *stakeholder* groups. Dhaliwal *et al.* (2011) state that voluntary disclosure in *CSR* activities leads to a reduction in the cost of equity capital. companies with high costs of equity capital in the previous year are likely to initiate *CSR* activities in the current year and companies that initiate superior *CSR* performance can enjoy a further reduction in the cost of equity capital.

H1: Carbon emissions disclosure affects the cost of capital

In accordance with *the theory of stakeholders*, which is able to show the sustainability of the company related to reducing CED (caring for the environment) supported by stakeholders (creditors). Li *et al.* (2014) revealed that rising carbon emissions that are higher can reduce the economic resources available to repay debt, so the cost of debt is positively correlated with the intensity of the company's emissions. In general, the increasing costs of litigation and remediation associated with higher carbon emissions can reduce the economic resources available to repay debt. In line with research by Kleimeier dan Viehs (2018), higher carbon emissions have a positive and significant influence on the cost of debt.

H1a: Carbon emissions disclosure affects the cost of debt

In accordance with *the theory of stakeholders*, which can show the sustainability of the company related to CED Reduction (environmental care) supported by stakeholders (investors). In line with research by Li *et al.* (2014), the results show a positively correlated relationship between *carbon emission disclosure* and the cost of equity, however, little evidence supports that emission intensity affects the cost of equity. *Carbon emission disclosure* involves a dimension of information risk that is important to investors and equity owners. Increased carbon emission regulatory risk exposure for carbon-dense companies suggests a positive relationship between the cost of equity and carbon emissions. In line with research by Kim *et al.* (2015), the results show that carbon intensity is positively correlated with the cost of equity capital.

H1b: Carbon emissions disclosure affects the cost of equity

2 METHOD

The type of research used is associative research, aiming to analyze the influence of independent variables on dependent variables with the objects of Manufacturing Companies listed on the IDX in 2020. The selection method uses *a purposive sampling* technique with criteria including manufacturing companies listed on the Indonesia Stock Exchange (IDX) in 2020, companies that issue *Sustainability Reports* and or environmental performance reports in 2020, and companies that disclose carbon emissions and have complete data needed in this study. The source of data in this study was obtained through the www.idx.co.id website.

Capital Asset Pricing Model (CAPM) is the most widely used model for determining the cost of equity. Asset pricing theory suggests that carbon emissions involve an informational risk dimension that is important to investors and equity owners when they perform equity cost calculations. The calculation of the cost of equity shows the estimated future income and the current share price. According to Easton (2004), PEG is the price-earnings-growth ratio (PEG ratio), which can be calculated by the following equation:

$$\sqrt{\frac{1}{(PEG \times 100)}}$$
$$PEG = (PER / \text{Annual EPS Growth})$$
$$PER = \frac{\text{Current Stock Price}}{\text{Earning per Share}}$$
$$\text{Annual EPS Growth} = \frac{\text{EPS this year} - \text{EPS previous year}}{\text{EPS previous year}}$$

Information:

PEG: Price Earning Growth

PER: Price Earning Ratio

EPS: Earning Per Share

The cost of debt is the interest rate that must be paid by the company when making a loan. The standard variable used in the study cost of debt is the degree of maturity of effective results. In the initial period or planning stage, the financial manager must know exactly the type and amount of long-term debt that will be used to fund the project in capital budgeting. The type of debt will be largely determined by the assets to be funded as well as the conditions of the capital market in one period. By doing the following calculations:

$$\text{Cost of Debt} = \frac{\text{Total Interest Expense}}{\text{Total Long Term Debt}}$$

CED is the disclosure of carbon emissions carried out by companies. Choi *et al.* (2013) measured using a *checklist* with 18 indices of 1. Then, the maximum total score obtained by the company in this measurement is 18. The score is calculated according to the following formula:

$$\text{CED} = \frac{\text{Total Disclosure}}{\text{Total Indeks CED}}$$

The *Return on Equity (ROE)* control variable is a *profitability ratio* to measure the rate of return in obtaining profits to which the owner of personal capital is entitled. According to Alarussi and Alhaderi (2018), ROE generally measures the investment of a company's shareholders. The higher the ROE value, the better the company's condition in the eyes of investors and experience an increase in stock price. The company can be said to be in good condition if the ROE value is higher than that of competitors.

$$\text{ROE} = \frac{\text{Earning After Tax}}{\text{Total Equity}} \times 100\%$$

The data used is secondary data obtained from third parties or other parties that are sampled in the study. The data used are *data sustainability reports* or environmental performance report, and *annual report data of manufacturing companies* that have been listed on the IDX in 2020. The source of data in this study was obtained through the www.idx.co.id website. Conducting classical assumption tests, namely normality tests, multicollinearity tests, and heteroskedasticity tests, as well as hypothesis tests with F-test (Simultaneous, t-test (Partial), and determination coefficient test (R^2)). *Principal Component Analysis (PCA)* aims to reduce the complexity of reciprocal relationships between a large number of observed variables to a relatively small number of their linear combinations, referred to as the main components.

$$\text{Model 1: COD} = \beta_0 + \beta_1 \text{ CED} + \varepsilon$$

$$\text{Model 2: COD} = \beta_0 + \beta_1 \text{ CED} + \beta_2 \text{ ROE} + \varepsilon$$

$$\text{Model 3: COE} = \beta_0 + \beta_1 \text{ CED} + \varepsilon$$

$$\text{Model 4: COE} = \beta_0 + \beta_1 \text{ CED} + \beta_2 \text{ ROE} + \varepsilon$$

$$\text{Model 5: COC} = \beta_0 + \beta_1 \text{ CED} + \varepsilon$$

$$\text{Model 6: COC} = \beta_0 + \beta_1 \text{ CED} + \beta_2 \text{ ROE} + \varepsilon$$

Information:

COD = Cost of Debt

CED = Carbon Emission Disclosure

ROE = Return on Investment

3 RESULT AND DISCUSSION

In general, this chapter describes how the process of processing data and analysis related to the results of the processed data. In this study, sample selection used a purposive sampling

technique. The population of this study is manufacturing companies listed on the IDX for the 2020 period. However, companies that deserve to be sampled as many as 117 due to several factors include companies that do not present a sustainability report or annual report, and some companies that do not disclose carbon emission items. The total sample issued was 63 companies. The following is a detailed table regarding purposive sampling criteria.

Table 2. Research sample selection.

No	Research Sample Criteria	Total
1	Manufacturing companies listed on the IDX for the period 2020	180
2	Manufacturing companies that do not present a sustainability report or annual report in 2020	(7)
3	Companies that do not disclose carbon emissions	(24)
4	Companies that do not have the necessary data for research	(32)
5	Number of Company Samples	117

Source: *Output STATA*

Table 3. Descriptive statistics.

Variable	Obs	Mean	Std.Dev	Min	Max
CED	117	0.4611966	0.2055445	0	0.94
Y_COD	117	6.168051	23.07625	0	185.14
Y_COE	117	0.0103373	0.0098866	0.0000269	0.0465167
Y_COC	117	-1.34e-08	1.019328	-7.332094	2.226966
ROE	117	0.1603345	1.340878	-8.41	8.2532

Source: *Output STATA*

Table 4. Normality test.

Skewness	1.1706
Probability	0.0571

Source: *Output STATA*

Based on the results of normality testing, it shows that *probability* $0.0571 > 0.05$ or 5%, which means that the residual data in this study is normally distributed.

Table 5. Multicollinearity test.

Variable	VIF	1/VIF
CED	1.00	0.999990
ROE	1.00	0.999990
Mean VIF	1.00	

Source: *Output STATA*

Based on the results of the Multicollinearity test that has been carried out, it shows that each independent variable has a VIF value of < 10 . Then, it can be concluded that there is no Multicollinearity between independent Variables in this regression model.

Table 6. Heteroscedasticity test.

<i>Prob > chi2</i>	0.5804
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Source: *Output STATA*

The results showed that *the probability chi-square* was worth 0.5804 where the value was greater than 0.05, which means that there was no heteroscedasticity in this study.

Based on Table 7, it shows that *Prob > F of Model 1 to Model 4* shows that the average is smaller than the α value of 0.05. This can be interpreted to mean that the CED variable has a significant effect on the cost of capital. Meanwhile, *Model 5 and Model 6* showed $\alpha > 0.05$, which means that *CED* has no significant effect on the cost of capital.

Table 8 shows *Model 1* the coefficient value of *Capital of Debt (COD)* or Cost of Debt of 28.53376 with a significant level of P-value of $0.006 < \alpha$, then the results are accepted which means carbon *emission disclosure* has a significant positive effect on cost of debt. *Model 2* has a COD coefficient value of 28.54122 with a significant P-value of $0.007 < \alpha$, so the results are accepted which means that *CED* has a significant positive effect on the cost of debt but ROE only has an effect of 0.855. *Model 3* cost of equity (*COE*) coefficient value or negative Cost of Equity of -0.0097938 with a significant level of P-value of $0.028 < \alpha$, then the results received which means CED has a significant negative effect on the cost of equity. *Model 4* has a coefficient value of -0.0097708 with a significant P-value of $0.027 < \alpha$, which means that *CED* has a significant negative effect on the Cost of Equity but roe only has an effect of 0.093.

PCA aims to simplify the variables to be tested. In this study, determining the cost of capital using PCA will produce an eigenvalue. An eigenvalue is used to express how much diversity or variation a principal component variable is capable of *explaining*. In this study, eigenvalue of the variable components of the cost of capital, namely the cost of debt and the

Table 7. Simultaneous significant test results (F).

<i>Model 1</i>	0.0064
<i>Model 2</i>	0.0241
<i>Model 3</i>	0.0277
<i>Model 4</i>	0.0217
<i>Model 5</i>	0.0570
<i>Model 6</i>	0.0901

Table 8. Partial significant test results (T).

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
CED	0.006*** (0.78)	0.007*** (2.77)	0.028** (-2.23)	0.027** (-2.24)	0.057* (-1.92)	0.057* (-1.92)
ROE	-	0.855 (0.18)	-	0.093 (1.69)	-	0.273 (1.10)
Adjusted R ²	0.0553	0.0472	0.0331	0.0486	0.0227	0.0245
F	0.0064	0.0241	0.0277	0.0217	0.0570	0.0901
N	117	117	117	117	117	117
KET	+	+	-	-	-	-
	Significant	Significant	Significant	Significant	Significant	Significant

Source: *Output STATA*

cost of equity is determined by taking one eigenvalue with a value greater than 1 and processing the data to predict the score of the cost of debt and cost of equity components. This is then correlated with the results of each component's predicted score, which is regressed to bound or non-free variables (Y) using a simple linear regression analysis. Here are the eigenvalue results.

Table 9. Principal Component Analysis (PCA) test.

Component	Eigenvalue
Comp1	1.03903
Comp2	0.96097
Principal Components (eigenvectors)	
Variable	Comp1
y-cod	-0.7071
y-coe	0.7071

Source: *Output STATA*

Based on the results of PCA test, eigenvalue > 1 is in Comp1 of 1.03903, an eigenvector is carried out, the result is a component of y-COD (Cost of Debt) of -0.7071 and y-COE (Cost of Equity) of 0.7071 . Here, the two components correlate with each other in reducing the complexity of the mutual relationship between the observed variables, so that the PCA results become a simple variable, namely the cost of capital.

Capital Cost PCA results are seen in the Model 5 regression test and Model 6 regression test. Here, *Model 5* has a negative coefficient value of -8.750941 with a significant P-value of $0.057 > \alpha$, which means that *CED* has a significant negative effect on the cost of capital with a significant level of 10%. While *Capital 6* has a coefficient value of -8.735322 with a significant P-value level of $0.057 > \alpha$, it means that *CED* has a significant negative effect on the cost of capital of a significant level of 10%, but ROE only has an effect of 0.273.

4 DISCUSSION

Testing H1 variable *CED* has an influence on the cost of capital with a *Model 5* coefficient value of -8.750941 and *P-value* level of 0.057 then *Model 6* coefficient value of -8.735322 and *P-value* level of 0.057 which is greater than 0.05. The results of this test prove H₁ is accepted which means that *CED* has an influence on the cost of capital in a negative direction at a rate of 10% between *Model 5* and *Model 6* regression. This supports research conducted by Lemma *et al.* (2019) that the results of voluntary carbon disclosure negatively led to a decrease in the company's overall cost of capital by a rate of 1.5%.

Carbon emissions are an important element in analyzing a company's risk profile. But this study shows a negative correlation between the cost of capital (debt and equity) and the disclosure of the company's carbon emissions. These findings support that *CED* is able to reduce the company's capital costs. In accordance with the *stakeholder* theory that the concepts of *CSR* and *CED* are able to be a management tool to manage the information needs needed by various *stakeholder* groups for business sustainability (Roberts 1992). With the increasing *CED*, the cost of capital is needed. The cost of capital required is very large because in overcoming environmental problems it is very expensive. In 2020, there was an economic crisis that caused a decline in company profits due to the COVID pandemic, so the results of the study showed that the composition of debt determines the disclosure of carbon emissions more than the amount of company equity. Although creditors and investors both need information on the disclosure of potential risks due to climate change, disclosure of carbon emissions is more shown to creditors because debt is carried out long-term. The

empirical results for the ROE control variable have *P-value* of 0.273 and a coefficient of 0.0768084, where the ROE only gives an influence of 27.3% which means it has no effect because the *P-value* is > 0.05 . Broadly speaking, the company reduces carbon emissions that have a debt value greater than the equity value in the company's capital composition, so low emissions indicate that the company has been supported by bank loans financially. The acquisition of financial support will maximize the long-term strength on the financial side and increase the company's certainty to continue its business.

Testing the H1a of the *CED* variable has a concern for the cost of debt with a *Model 1* coefficient value of 28.53376 and *P-value* level of 0.006 then *Model 2* coefficient value of 28.54122 and *P-value* level of 0.007 which is less than 0.05. The results of this test prove that H1a is accepted which means that *CED* has an influence on the cost of debt in a positive direction at a rate of 1% between *Model 1* regression and *Model 2*. This supports the research conducted by Li *et al.* (2014) that the cost of capital including the cost of debt will increase if the company is responsible for carbon emissions then the results show that the cost of debt is positively correlated with the intensity of the company's carbon emissions.

The results of this study are consistent with the theory of *stakeholders*, where in this theory it is stated that it is able to show the sustainability of the company related to the reduction of *CED* (caring for the environment) supported by stakeholders (creditors). These findings support the view that the cost of debt will increase with the intensity of carbon emissions. In other words, if a listed company emits a large amount of carbon every year, the company will have to pay more interest on its debt. These results suggest that, if the listed company is responsible for emissions and has to pay its emissions, the cost of the company's debt will increase. These empirical results imply that listed companies with high carbon emissions should reassess the company's borrowing capabilities because banks and other lenders may require higher interest rates due to uncertainty regarding the future impact of emissions.

The empirical results for the ROE control variable have *P-value* of 0.855 and coefficient of 0.2868224, where ROE only gives an influence of 85.5% which means it has no effect because the *P-value* > 0.05 . These results suggest that mandatory emission disclosure requirements may cause companies to reduce the cost of debt, but this will depend on other potential factors, such as the reaction of bankers and other lenders to such disclosures, or the reaction of creditors to disclosures. With a significant influence, the results of this study can be used as a basis for making generalizations related to the effect of *CED* on total interest expenses and total long-term debt as a measure cost of debt.

The H1b test of the *CED* variable has a deviation from the Cost of Equity with a *Model 3* coefficient value of -0.0097938 and *P-value* level of 0.028 then *Model 4* coefficient value of -0.0097708 and *P-value* level of 0.027 which is smaller than 0.05. The results of this test prove that H1b is accepted which means that *CED* has an influence on the Cost of Equity in a negative direction at a rate of 5% between *Model 3* regression and *Model 4*. This supports research by Gerged *et al.* (2021) that GHGs and mandatory disclosures of carbon emissions negatively affect the cost of capital (equity) to a certain degree, and then an increase in GHG and *CED* is likely to increase the cost of capital (equity).

The results of this study are consistent with the *theory of stakeholders*, where in this theory, it is stated that the sustainability of the company related to *CED* reduction (environmental care) is supported by stakeholders (investors) and the company will get a good image in the eyes of *stakeholders* by revealing good performance. This study shows that the cost of equity capital is negatively related to *CED* with carbon disclosure and weaker associations for companies with good carbon performance. The higher it reveals the *CED* costs that lower the growth of the company's profits and the profits distributed to the stock sheets will automatically decrease as well. This is because in 2020 there was a COVID pandemic that caused an economic crisis. In dealing with environmental problems, the company needs investors or investment funds for the long term, then something long-term will generate positive because this *CED* is a long-term process for the company. The cost of equity is measured using a *PEG* proxy with a 1-year or short-term timescale and an average *PEG*

yield of 0 and -1 , resulting in a negative correlation because, broadly speaking, the higher the *PEG* yield will increase the *COE* (Capital of Equity).

The empirical results for the ROE control variable have a *P-value* of 0.093 and a coefficient of 0.0011304 where ROE only gives an influence of 9.3% which means it has no effect because the *P-value* is > 0.05 . Therefore, in the sustainability of the company's business, meeting the cost of *CED* should require long-term investment funds from investors, because the costs incurred in overcoming environmental problems need to pay attention to the level of company profits to avoid bankruptcy.

5 CONCLUSION

Based on the analysis of data on the effect of *CED* on capital costs in manufacturing companies listed on the *IDX* in 2020, it can be concluded that companies listed on the *IDX* have different results according to the characteristics of each sector. This research also supports previous research (Li *et al.* 2014) which states that the cost of capital including the cost of debt and the cost of equity will increase if the company is responsible for carbon emissions. The results of this study indicate a significant positive correlation between *CED* and the cost of debt $H_{1.1}$ accepted, but little evidence supports that emission intensity affects the cost of equity hence $H_{1.2}$ Rejected. So the application of *PCA* to find out the results of capital costs, so that H_1 was rejected because in 2020 there was a *COVID* pandemic that caused an economic crisis or a decline in company profits, making it difficult to implement *CED*.

In this study, the *CED* variable was measured using the *CDP* score index developed by Choi. This will allow for differences in the assessment of carbon emission disclosures between one researcher and another due to the element of subjectivity. The period used is very short, so it is not aware of its annual contribution. The companies used in this study are only the manufacturing sector listed on the *IDX*. The control variables used are very minimal, so the results show that they have no effect and cannot control the relationship of free variables with bound variables.

Researchers can then develop more standardized or up-to-date *CED* measurements, so as to reduce the element of subjectivity in the *CED assessment*. Researchers can then reconsider the number of samples and expand it by adding several periods of years of data of manufacturing companies listed on the *IDX* to their research, in order to find out their respective contributions per year. Researchers can then add control variables such as size, age, leverage, *return on assets*, and so on, in order to strengthen the correlation of *CED* to the cost of capital and to prevent biased calculation results.

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What is the husband's role in supporting his working wife to be involved in social life?

Sowanya Ardi Prahara*, Triana Noor Edwina Dewayani Soeharto & Muhammad WahyuKuncoro

Universitas Mercu Buana Yogyakarta, Yogyakarta, Indonesia

ABSTRACT: In Indonesian culture, as in many other world countries, patriarchal culture is still very strong, various aspects and structures of community life, and creates gender imbalances. The inequalities between women's and men's roles make working women more affected by family-work conflicts. Work-family conflict relates to accepted social support. This study aims to develop a model of work-family conflict experienced by working mothers in terms of support of husbands to working wives (in Javanese families) based on an indigenous psychology approach. This research uses an indigenous psychology approach. The work-family conflict model of working wives is built on the understanding of humans in the Indigenous context so that the results obtained purely on the understanding of Indonesian human beings can be applied in the context of Indonesian culture, not merely the adoption of the theories developing in other countries. The study was conducted on Javanese families (couples who work full-time with children aged under 12 years) living in the Special Territory of Yogyakarta. The results of this study are based on data analysis with a quantitative approach found in the work-family conflict model on working mothers and social support of husbands on working wives. Work-family conflict acts as a mediator for the influence of husbands' support for work-family conflicts. Indigenous psychology approach can describe the relationship of social support and work-family conflict based on the existing social context.

Keywords: work-family conflict, working mother, indigenous psychology approach

1 INTRODUCTION

In Indonesian culture, as in many other third-world countries, patriarchal culture is still very strong. Patriarchy is a structure that legitimizes the male power structure dominating women (Koentjaraningrat 1974). The patriarchal system separates the main roles between men and women in Javanese families. The concept of the Javanese family is a bond that is established on the basis of marriage and blood relations consisting of husbands, wives, and children who live in one house, often called somah. The family is referred to as a household consisting of fathers, mothers, and children, who is commonly referred to as the batih family. For the Javanese, the dominant culture is Javanese culture, the culture is still very thick and coloring various aspects of community life and structure and creates gender imbalances. The inequalities between women's and men's roles make working women more affected by family-work conflicts.

Workers in the professional field are reported to have more work-family conflicts than non-managerial and non-professional workers. This is because workers who work in managerial and professional fields have longer working hours or work late into the night and make official travel (Ahmad 2005), making them spend much time in the office and rarely engaging in family activities (Hill *et al.* 2004).

*Corresponding Author

Several studies have shown that work–family conflicts experienced by workers will have a negative impact. The negative impact of work–family conflict on women workers is found to be distress (Noor 2001, 2002, 2004) and low job satisfaction (Erdwins *et al.* 2001; Kim & Ling 2001; Noor 2001, 2002, 2004). This female worker also experiences marital discontent and life dissatisfaction (Kim & Ling 2001).

Based on the explanation above, research on work–family conflicts experienced by working mothers needs to be done. A work–family conflict review was conducted so that these working women did not experience the negative impact of family–work conflict. In addition, research on family–work conflicts has been carried out but has not yet explored the work–family conflict constructs experienced by working mothers and the support of husbands with an indigenous psychology approach. In Indonesia, so far, no model of work–family conflict has been found in women working in Javanese families in terms of husband’s support.

Based on the description above, this research proposes the following problem formulation: (1) Is there any influence of husband support to work–family conflict experienced by a working mother (in Javanese family) based on an indigenous psychology approach? 2) Is there any effect of husbands’ support on family conflict-work experienced by working mothers (in Javanese families)?

1.1 *Work and family conflicts*

Work and family conflicts are defined by Hill *et al.* (2004) as a form of conflict between roles, the role demanded in work and family will affect each other. Fulfillment of roles in work can be difficult to fulfill family roles and vice versa (Greenhaus and Butell in Hill *et al.* 2004; Voydanoff 2004). According to Huang *et al.* (2004) and Noor (2004), work and family conflicts have two dimensions: work–family conflict and family–work conflict.

The results of research conducted by Soeharto & Kuncoro (2015) on working mothers found various sources of work–family conflicts namely workload, work demands, working hours, working distance, workplace conditions, relationships with leaders, and relationships with colleagues. While the source of the family–work conflict experienced by the working mother is a family event, there are problems with the husband, the age of the child, parenting, family time, family members being sick, problems with assistant, housework, community activities, and conflict with a big family. Relating to aspects that cause family–work conflict experienced by mothers who work in Javanese families is a community activity such as community service, mourning, invitations, and neighbors who hold a celebration. Another aspect that makes family–work conflicts is a conflict with big families (parents, in-laws, relatives, etc.).

1.2 *Husband support*

Social support in this study is to provide information, assistance or material obtained from social relationships that are familiar or the presence of others to make someone feel cared for and loved to help someone solve a success problem. From the results of research conducted by Soeharto & Kuncoro (2015) on working mothers, they obtained seven aspects of husband support namely: giving advice, helping with housework, encouragement, understanding, entertainment, inviting for chatting, and parenting.

1.3 *The work–family conflict model of working mothers in Javanese families is predicted from the support of the husband*

Soeharto & Kuncoro (2015) have explored the husband supports and work–family conflicts construct on working mothers (in Javanese families) based on the indigenous psychology approach, found work–family conflict constraints as follows workload, workplace distance,

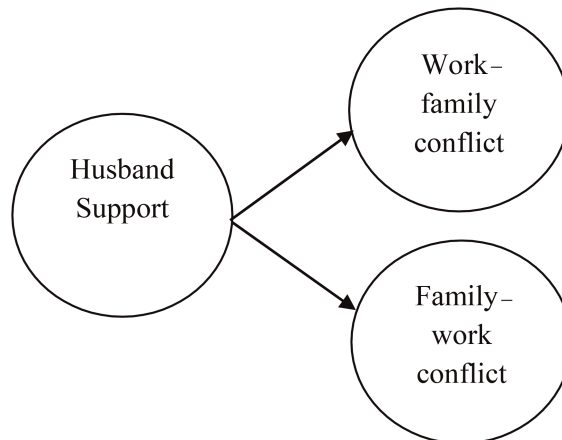


Figure 1. The theoretical model of work–family conflict of working women in Javanese families is viewed from the support of the husband.

workplace conditions, relationships with leaders, relationships with colleagues. While family–work conflict is experienced by working mothers as follows family events, there are problems with the husband, child care, time allocation for the family, the problem of housework, social activity, and problems with a big family (Soeharto & Kuncoro 2015).

The husband support construct when wives experience work–family conflicts such as giving advice, helping with housework, encouragement, understanding, entertaining, inviting for chatting, and parenting (Soeharto & Kuncoro 2015).

Based on the theoretical review above, we can illustrate the theoretical model shown in Figure 1.

2 OBJECTIVE

The purpose of this study is:

- (i) To find out the influence of husband support on work–family conflict experienced by working mothers (in Javanese families) based on an indigenous psychology approach;
- (ii) To find out the influence of husband support on family–work conflict experienced by working mothers (in Javanese families) based on an indigenous psychology approach.

3 METHOD

This research was conducted by survey method in Yogyakarta Special Region (DIY). DIY is one of the Javanese cultural centers. Characteristics of research subjects are: working wives who identify themselves as Javanese descendants and live together, have children under 12 years who live together, and wives who work as professionals. The number of respondents observed was 289 respondents.

Data collection of research using the scale of work–family conflicts experienced by working mothers, the writing of this scale refers to aspects of the findings of research with indigenous psychology approach to explore the work–family conflict and the scale of husband support to working wives, refers to aspects of the findings of research with indigenous psychology approach to explore the construct of husband support. The scaling model used in this study is the Likert scale model (sum added method); subjects are asked to choose from

one of the alternative answers that match the subject circumstances. The item consists of a favorable item that supports the object to be measured. On that scale, the answer choice consists of five alternatives: Very Disagree (STS), Not Appropriate (TS), Quite Appropriate (CS), Appropriate (S), and Very Appropriate (SS) (Azwar 2005). The values given in this favorable item are as follows: 1) Very Disagree (STS); 2) Not Appropriate (TS); 3) Quite Appropriate (CS); 4) Appropriate (S); 5) and Very Appropriate (SS).

Before it is used to obtain real data, the scale is tested first. Based on the trial results of the work–family conflict scale obtained 14 valid items out of 15 items tested, the coefficient of validity moved between 0.396 and 0.644 with an alpha reliability coefficient of 0.872. The result of family–work conflict scale test obtained 19 valid items from 21 items tested, the validity coefficient is moving between 0.325 and 0.563 with the alpha reliability coefficient of 0.855. The results of the husband support scale test obtained 21 valid items from 21 items tested, with a validity coefficient ranging from 0.407 to 0.613 and an alpha reliability coefficient of 0.900.

3.1 Data analysis

This study uses a quantitative approach. Data obtained from the scale will be analyzed statistically. Analysis of research data was confirmatory factor analysis (CFA) of measurement scale and path analysis of the husband’s support work conflict.

CFA is one of the multivariate analysis methods that can be used to confirm whether the measurement model is built according to the hypothesis. In the CFA, there are latent variables and indicator variables. Latent variables are variables that cannot be formed and built directly while the indicator variable is a variable that can be observed and measured directly.

3.2 Unidimensional and reliability

At this stage of analysis, each latent variable is confirmed to obtain clarity that the latent factor really corresponds to what it wants to explain. Modeling is intended to measure dimensions that make up a factor called a measurement model. The measurement model relates to a factor, i.e., whether the indicator variables have the same characteristics between one and the other (unidimensional) so that it can be used to confirm a factor.

The measurement model is performed on exogenous latent variables as well as endogenous latent variables. This research will perform CFA on each latent variable using AMOS program version 16.0.0 J. L Arbuckle.

After the model suitability test on each latent variable, the next step is to assess the magnitude of composite reliability and variance extracted from each construct. Reliability is a measure of the internal consistency of the indicators of a construct showing the degree to which each indicator indicates a latent construct. Composite reliability is obtained through the formula:

$$\text{Construct-Reliability} = \frac{(\sum \text{std loading})^2}{(\sum \text{std loading})^2 + \sum e_j}$$

- (a) Std loading is obtained directly from standardized loading for each indicator
- (b) e_j is the measurement error of each indicator

The high-reliability results provide confidence that these indicators are consistent with their measurements. The generally accepted level of reliability is 0.70. The assumptions that must be met in the data collection and processing procedures analyzed by SEM modeling are using the conformance test criteria that can be summarized in Table 1.

Table 1. Goodness-of-fit indices.

Goodness-of-Fit Index	Cut off Value
Chi-square (χ^2)	Expected small
Significant probability	$\geq 0,05$
RMSEA	$\leq 0,08$
GFI	$\geq 0,90$
CMIN/DF	$\leq 2,00$

4 RESULTS

The results achieved in this research process are

1. CFA work–family conflict variable Unidimensional

The work–family conflict variables are measured using a five-dimensional work–family conflict scale: 1) workload, 2) workplace distance, 3) workplace conditions, 4) relationships with leaders, and 5) peer relationships work. In the unidimensional test of the measurement scale of this family work conflict variable, the researcher determines only 2 best items used to measure in each aspect. The first step is to choose 2 items that have the largest factor load on each aspect. The results of election items can be seen in the following table.

The second step is to develop a measurement scale models of work–family conflict which is based on item-item selected by using CFA to test the unidimensionality of 5 indicators forming the construct of work–family conflict. In this model, each aspect is converted to a variable observed by counting the total number of items in the aspect. Table 2 shows the results of the first phase of a CFA goodness-of-fit test and modified results.

Based on the parameters of goodness-of-fit index value in the first test, in general, the goodness-of-fit parameters are classified as less good, so it can be said that CFA is not fit and has not formed unidimensional. Modification of index (MI) covariance between errors indicator was chosen as the largest MI among other modifications that must be done because the biggest MI expected to decrease the value of Chi-Square which is significant and increase the probability of error enough meaning also until the model fit.

Table 2. List of selected items of the work–family conflict scale.

No	Aspect	Number Item (Loading factor)	Number selected item
1	Workload	1 (0,605)	1, 5
		5 (0,877)	
		10 (0,438)	
2	Workplace distance	2 (0,490)	6, 11
		6 (0,653)	
		11 (0,682)	
3	Workplace conditions	7 (0,756)	7, 12
		12 (0,672)	
4	Relationships with leaders	3 (0,517)	8, 13
		8 (0,671)	
		13 (0,786)	
5	Peer relationships work	4 (0,626)	4, 14
		9 (0,616)	
		14 (0,710)	

After the modification of the parameter value (goodness-of-fit index) is quite good, so it can be said that the CFA is fit and formed unidimensionally. Likewise, the regression weight (load factor) test of the indicator variables shows significance as the dimension or indicator of the latent variable (work–family conflict), as listed in Figure 2 and Table 4.

Table 3. Goodness-of-fit index work–family conflict.

Goodness-of-Fit Index	Cut off Value	Result 1	Modify	Evaluation
Chi-square (χ^2)	Expected Small	77,470	0,037	
Probability	$\geq 0,05$	0,000	0,848	Good
GFI	$\geq 0,90$	0,952	1,000	Good
RMSEA	$\leq 0,08$	0,085	0,000	Good
CMIN/DF	$\leq 2,00$	3,099	0,037	Good

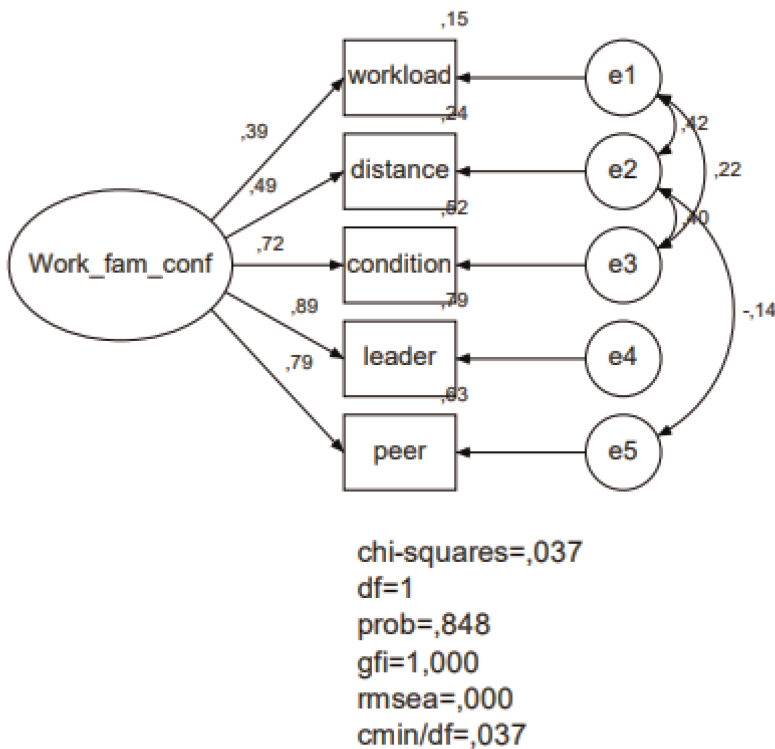


Figure 2. Measurement model of work–family conflict.

Table 4. Regression weights of work–family conflict.

Dimension	Error Standard	Standardized Estimate	P	Description
Workload		0,393	$\leq 0,001$	Significant
Distance	0,162	0,493	$\leq 0,001$	Significant
Conditions	0,220	0,724	$\leq 0,001$	Significant
Leader	0,268	0,890	$\leq 0,001$	Significant
Peer	0,285	0,792	$\leq 0,001$	Significant

4.1 Reliability test

After the fit model is evaluated and assumed unidimensional then the next step is to calculate the amount of construct-reliability. Based on the calculation with standard loading and measurement error, we obtained construct reliability work–family conflict value of 0,803.

(a) Variables of family–work conflict Unidimensionally

Variables of family–work conflict were measured using the scale of family–work conflict consisting of 7 dimensions, namely: 1) family event, 2) problems with the husband, 3) parenting, 4) allocation time for family, 5) housework, 6) community activities, and 7) problems with extended families. The first step is to choose 2 items that have the largest factor load on each aspect. The results of election items can be seen in the following table.

The second step is to model the work–family conflict scale measurement based on selected items using CFA to test the unidimensional of the 7 constructing indicators of family–work conflict. In this model, each aspect is converted to a variable observed by counting the total number of items in the aspect. The following table shows the results of the first phase of the CFA goodness-of-fit test and the modified results:

Based on the parameters of goodness-of-fit index value in the first test in general the goodness-of-fit parameters are classified as less good, so it can be said CFA is not fit and has not formed unidimensional. Index modification (MI) covariance among errors indicator is

Table 5. List of selected items-scale of work–family conflicts.

No	Aspect	Number Item (load factor)	Selected items
1	Family event	7 (0,634)	7, 14
		14 (0,593)	
2	Problems with the husband	1 (0,599)	8, 15
		8 (0,661)	
		15 (0,726)	
3	Parenting	2 (0,561)	9, 16
		9 (0,639)	
		16 (0,582)	
4	Allocation time for family	3 (0,447)	10, 17
		10 (0,644)	
		17 (0,706)	
5	Housework	4 (0,513)	11, 18
		11 (0,529)	
		18 (0,537)	
6	Community activities	5 (0,580)	5, 12
		12 (0,579)	
7	Problems with big families	6 (0,599)	6, 13
		13 (0,668)	
		19 (0,521)	

Table 6. Goodness-of-fit index of work–family conflict.

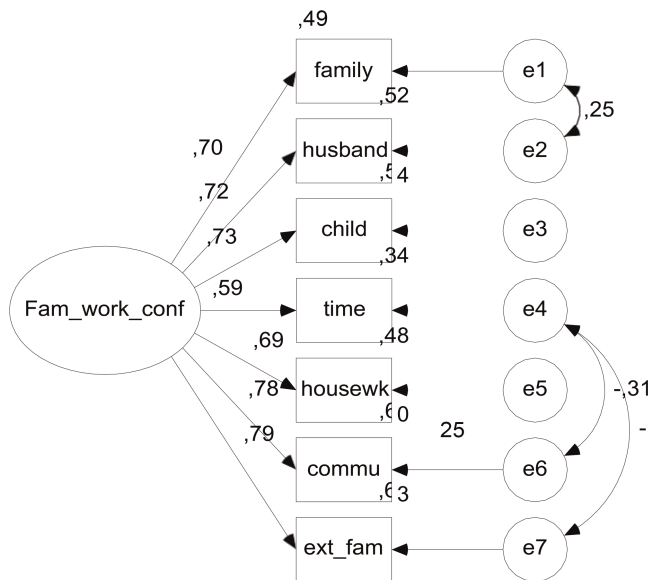
Goodness-of-fit Index	Cut off Value	Result 1	Modify	Evaluation
Chi-square (χ^2)	Expected small	48,912	18,210	
Probability	$\geq 0,05$	0,000	0,077	Good
GFI	$\geq 0,90$	0,956	0,983	Good
RMSEA	$\leq 0,08$	0,093	0,048	Good
CMIN/DF	$\leq 2,00$	3,494	1,655	Good

chosen as the largest MI among other modifications that must be done because the biggest MI is expected to decrease the value of Chi-square is quite significant and the increase of probability error is also meaningful until the model is fit.

After the modification, the goodness-of-fit index is good, so it can be said that the CFA is fit and unidimensionality. Similarly, the test of regression weight (load factor) of indicator variables shows a significant dimension of latent variable work–family conflict as listed in Table 7 and Figure 3.

Table 7. Regression weight of work–family conflict.

Dimension	Standard Error	Standardized Estimation	P	Evaluation
Family		0,700	≤ 0,001	Significant
Husband	0,076	0,721	≤ 0,001	Significant
Child	0,090	0,733	≤ 0,001	Significant
Time	0,122	0,586	≤ 0,001	Significant
Housework	0,092	0,689	≤ 0,001	Significant
Community	0,079	0,776	≤ 0,001	Significant
Ext_family	0,082	0,794	≤ 0,001	Significant



chi-squares=18,210
df=11
prob=,077
gfi=,983
rmsea=,048
cmin/df=1,655

Figure 3. The model of work–family conflict measurement.

4.2 Reliability test

After the fit model is evaluated and assumed unidimensional, the next step is to calculate the amount of construct-reliability. Based on calculations with standard loading and measurement errors, the value of the construct-reliability conflict of work–family is 0.880.

(a) The husband support variable unidimensionally

The husband support variables are measured using a husband support scale of 7 dimensions: 1) giving advice, 2) helping with housework, 3) encouraging, 4) understanding, 5) entertaining, 6) engaging in chatting, and 7) parenting. The first step is calculating the total item correlation and choosing 2 items that have the largest factor load on each aspect. The results of election items can be seen in Table 8.

The next step is CFA to test the unidimensional of the 7 constructing indicators. Table 9 shows the results of the goodness test of the first EFA fit and modified fit index:

Based on the parameters of goodness-of-fit index value in the first test in general the goodness-of-fit parameters are classified as less good, so it can be said that EFA is not fit and has not formed unidimensional. Modification of index (MI) covariance between errors indicator was chosen as the largest MI among other modifications that must be done because

Table 8. List of items scale.

No	Aspect	Factor loadings	Selected items
1	Giving advice	1 (0,645)	8, 15
		8 (0,728)	
		15 (0,731)	
2	Helping with housework	2 (0,719)	2, 16
		9 (0,687)	
		16 (0,837)	
3	Encouraging	3 (0,757)	3, 17
		10 (0,498)	
		17 (0,748)	
4	Understanding	4 (0,639)	4, 18
		11 (0,514)	
		18 (0,779)	
5	Entertaining	5 (0,675)	12, 19
		12 (0,772)	
		19 (0,736)	
6	Engaging in chatting	6 (0,646)	13, 20
		13 (0,669)	
		20 (0,729)	
7	Parenting	7 (0,627)	14, 21
		14 (0,679)	
		21 (0,756)	

Table 9. Goodness-of-fit index of work–family conflict.

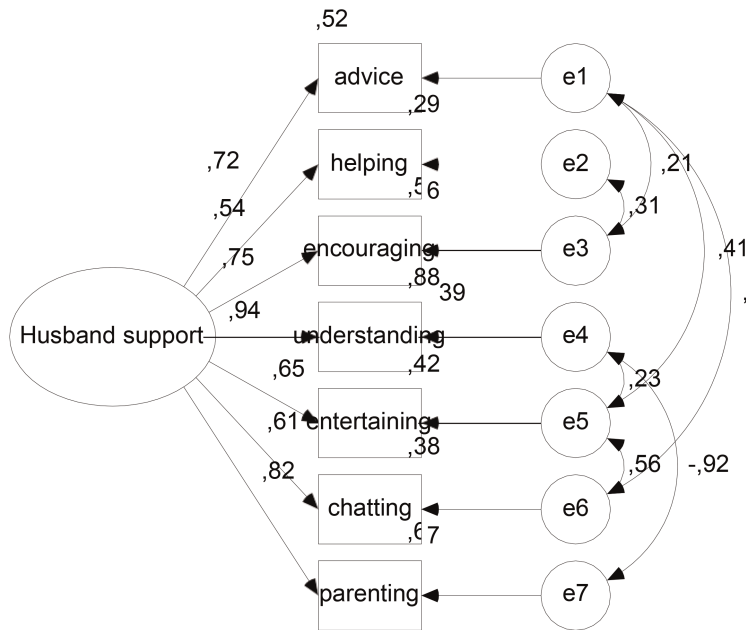
Goodness-of-fit Index	Cut off Value	Result 1	Modify	Evaluation
Chi-square (χ^2)	Expected small	157,408	11,457	
Probability	$\geq 0,05$	0,000	0,120	Good
GFI	$\geq 0,90$	0,842	0,989	Good
RMSEA	$\leq 0,08$	0,189	0,047	Good
CMIN/DF	$\leq 2,00$	11, 243	1,637	Good

the biggest MI is expected to decrease the value of Chi-square which is significant and increases the probability of error enough meaning also until the model fit.

After the modification, the parameter value (goodness-of-fit index) is good, so it can be said that CFA is fit and formed unidimensional. Similarly, the regression weight test of the indicating variables signifies significantly as the dimension or indicator of latent variables (husband support), as shown in Table 10 and Figure 4.

Table 10. Weight regression of husband support.

Dimension	Standard Error	Standardized Estimation	Prob	Evaluation
Advice		0,721	≤ 0,001	Significant
Helping	0,086	0,540	≤ 0,001	Significant
Encouraging	0,062	0,749	≤ 0,001	Significant
Understanding	0,096	0,939	≤ 0,001	Significant
Entertaining	0,069	0,648	≤ 0,001	Significant
Chatting	0,066	0,614	≤ 0,001	Significant
Parenting	0,098	0,817	≤ 0,001	Significant



chi-squares=11,457

df=7

prob=,120

gfi=,989

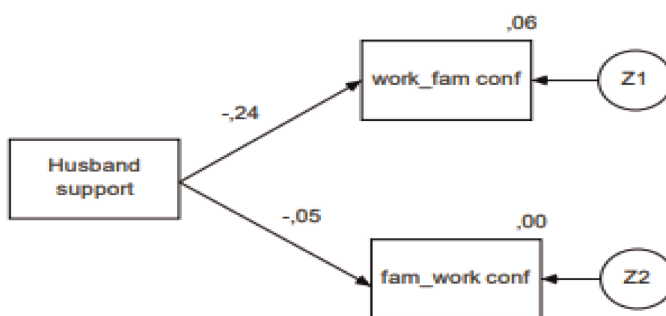
rmsea=,047

cmin/df=1,637

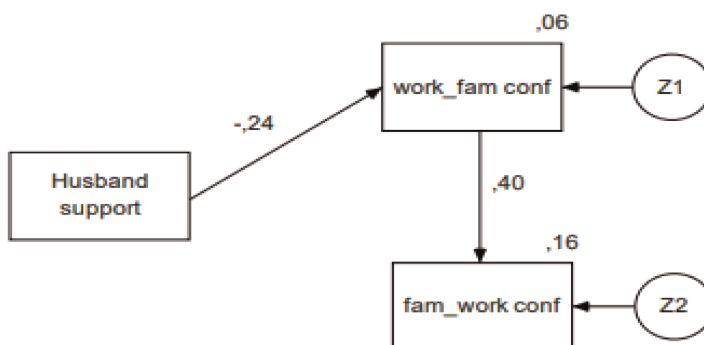
Figure 4. Measurement model of family-work conflict.

Table 11. Goodness-of-fit index model of husband support and work–family conflict.

Goodness-of-fit Index	Cut off Value	Result 1	Evaluation
Chi-square (χ^2)	Expected small	50,539	
Probability	$\geq 0,05$	0,000	Not good
GFI	$\geq 0,90$	0,903	Not good
RMSEA	$\leq 0,08$	0,415	Not good
CMIN/DF	$\leq 2,00$	50,539	Not good



chi-squares=50,539
 df=1
 prob=,000
 gfi=,903
 rmsea=,415
 cmin/df=50,539



chi-squares=,717
 df=1
 prob=,397
 gfi=,998
 rmsea=,000
 cmin/df=,717

Table 12. Goodness-of-fit index model for alternative husband support and work–family conflict.

Goodness-of-fit Index	Cut off Value	Result	Evaluation
Chi-square (χ^2)	Expected small	0,717	
Probability	$\geq 0,05$	0,397	Good
GFI	$\geq 0,90$	0,998	Good
RMSEA	$\leq 0,08$	0,000	Good
CMIN/DF	$\leq 2,00$	0,717	Good

Based on the Goodness-of-fit Index above, the proposed alternative model is fit.

4.3 Reliability test

After the fit model is evaluated and assumed unidimensional then the next step is to calculate the amount of construct-reliability. Based on calculations with standard loading and measurement error, then obtained construct reliability family–work conflict value of 0.885. The result of path analysis to test the hypothesized model is as follows:

Based on the results of the path analysis, the hypothesized model is not fit based on Goodness-of-fit Index. The next step is to propose an alternative model in accordance with field data, as shown below.

5 DISCUSSION

This study aims to develop a model of work–family conflict experienced by working mothers in terms of support of husbands to working wives (in Javanese families) based on an indigenous psychology approach. The compilation of this model is based on the collection of research data using psychological measurement instruments with work–family conflict constructs experienced by working mothers and husband support for working wives that have been found in Soeharto & Kuncoro (2015) research. The work–family conflict on working mothers is built on the understanding of humans in the local context (indigenous) so that the results obtained purely on the understanding of Indonesian human beings can be applied in the context of Indonesian culture, not merely the adoption of theories developing in other countries. Indigenous psychology approach is expected to create psychological measurement instruments with dimensions or aspects that are more contextual to capture a social phenomenon based on context.

The result of the exploration of work–family conflict construct found that there were seven aspects of workload: work demands, working hours, workplace distance, workplace conditions, relationships with leaders, and relationships with co-workers. The result of the exploration of family–work conflict found that there are eleven aspects as the compiler of work–family conflict: family events, problem with husband, child age, child care, family time, family member ill, problems with the household assistant, housework, community activities, and conflict with large families. Relating to the aspects that make the family–work conflict experienced by mothers working in Javanese families is a community activity in the form of community service, mourning, invitation, and neighbors who hold a celebration. Another aspect that makes family–work conflicts is a conflict with big families occurs when there is a problem with big families (parents, in-laws, relatives).

The result of categorization of husband support constructs when a wife experiences work–family conflicts finds seven aspects as composers of husband support such as giving advice, helping with housework, encouragement, understanding, entertaining, engaging in chatting, and parenting. In connection with the support of the husband when the wife has a job

conflict, the husband advises the wife, among others, more patient and to keep working with sincerity. When faced with work–family problems that potentially lead to role conflict, women are required to be patient and sincere. Forbearance means to have a long breath in the realization that in due time a good fate will arrive, sincere attitude contains a willingness to let go of individuality itself and fits into the universal harmony of the universe as it has been determined (Magnis-Suseno 1985). Viewed from the perspective of gender theory, this ability is supported by the feminine nature of women. The Javanese culture that emphasizes the feminine nature of women will increasingly find its strength. The feminine nature is seen in the figure of a flexible Javanese woman solving the problem. It is precisely with this flexibility that Javanese women can adapt and overcome all situations that squeeze them.

Based on the results of the analysis of direct effects show the support of husbands affects the work–family conflict. These results show that husband support factors have an effect (standardized regression weight of -0.24) on family–work conflicts. This suggests that working mothers need support from their husbands to reduce work–family conflicts. The results of indirect effect analyses show the support of husbands affects family–work conflicts through work–family conflicts. These results show that husband support factors have an effect (standardized regression weight of 0.16) on work–family conflicts through work–family conflicts. This suggests that working mothers need support from their husbands to lower employment–family conflicts but previously husband’s support is needed for mothers working to reduce family–work conflicts.

Based on the description of the results of direct and indirect effects analysis involving the husband support variables, work–family conflicts, and family–work conflicts described above, it can be concluded: work–family conflict acts as a mediator for the influence of husbands’ support for family–work. There is a direct effect of husband’s support to work–family conflict (standardized regression weight of -0.24). Support information from the husband helps the wife in solving the problem experienced. Information in the form of advice or advice to help the wife in understanding clearly the nature of the problem. Instrument support includes opportunities and opportunities. Giving these opportunities and opportunities will make the wife can do the role well.

Emotional support from the husband also has meaning for working wives. Husbands who give attention, love, and empathy to wives who have problems at work can increase harmony in their relationships. In addition, it can increase openness and mutual understanding between both of them. The energy and positive feelings given by the husband can provide support for the wife when carrying out her role at work.

6 IMPLICATION OF FINDING

Suggestions that can be given by researchers related to the results of the research obtained is for further researchers to explore other factors based on the indigenous psychology approach in addition to husband support.

7 CONCLUSION

Based on the results of the analysis and discussion on the research, it can be concluded found the model of work–family conflict viewed from the husband’s support based on the understanding of people in the local context (Indigenous), work–family conflict acts as a mediator for the influence of husband support to work–family conflict. The results of this study are a completely pure understanding of Indonesian people and can be applied in the context of Indonesian culture. Through the indigenous psychology approach, we can describe the relationship with dimension or aspects of social support and conflict of work–family more contextually so that can take a social phenomenon based on context.

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A systematic review of smart eco-industrial park development: Environment policy based on the industrial area in Indonesia

Tri Sulistyarningsih

Universitas Muhammadiyah Malang, Malang, Indonesia

Umi Kulsum

Universitas Muhammadiyah Yogyakarta, Yogyakarta, Indonesia

ABSTRACT: This study aims to analyze the implementation of smart eco-industries based on smart energy and water management in industrial areas in Indonesia. Smart Eco-Industrial Park (EIP) is a concept of regional development through digital transformation in the management of industrial estates that encourage the creation of green industrial areas through digital technology and innovation because the current environmental management of industrial areas is still partial and less sustainable. As a result, problems such as economic inequality, technology, environmental degradation, land conversion, social inequality, and ineffective environmental management institutions still occur. This study employs a qualitative research design in conjunction with a systematic review. The data sources come from various international and national journals taken from Scopus and Google Scholar, as well as several books related to the ontology of government science, which are then processed using VOSviewer and Nvivo 12 Plus software. The results of this paper indicate that industrial estates in Indonesia are currently in the process of implementing and developing the Smart EIP concept in 11 industrial parks, namely Batamindo IP, Bintan Inti, BSBcity, Gresik, Kabil IP, KIIC, Maspion, MM2100, Modern Cikande, Safe n Lock, and Suryacipta. Technology, Information, and Communication (ICT) aids in providing information and better quality control of maintenance, or what is called Smart Water Management (SWM). The concept of “Smart” in Smart Water Management (SWM) is intended to manage the use of natural resources effectively and efficiently, including providing water of good quality standards at a very minimal cost.

Keywords: Smart Eco-Industrial Park, Industrial Estate, Environmental Development

1 INTRODUCTION

Indonesia, as a developing country, is witnessing rapid industrial growth. One of the policies adopted is to build integrated industrial areas. At the beginning of the development of industrial estates in Indonesia, it was still a collection of industries that were arranged in an integrated manner but still separated from each other. The characteristics of industrial estates in developing countries, including Indonesia, are the availability of natural resources, which are still abundant and subsidized by the government. Industrial estates in Indonesia are still not well-systemized; this has led to several challenges, such as cheaper raw materials compared to the material recycling process and waste disposal or pollution is still not closely monitored. These challenges are also because of the lack of attention from the consumer community on the negative impacts of the production processes on the environment (Dinas Lingkungan Hidup dan Kehutanan Provinsi Banten 2020).

The current industrial estate environmental management is incomplete and less sustainable. Consequently, economic inequality, technology, environmental deterioration, land conversion, social inequality, and inefficient environmental management institutions continue to exist. Government Regulation No. 24 of 2009 was subsequently superseded by Government Regulation No. 142 of 2015, which mandates that the manufacturing industry facilities in Indonesia must be located in industrial zones, and has not been properly executed. Environmental management of industrial regions has not been able to be sustainable and harmonious (Wikaningrum 2016). Therefore, to promote the industry in Indonesia, a Smart Eco-Industry Parks program is required to synchronize sustainable industrial development with environmental development.

Smart Eco-Industrial Parks (EIPs) are a concept of regional development via digital transformation in managing industrial areas that stimulate the development of green industrial areas through digital technology and innovation (Rauf 2021). EIP is an industrial community established in a particular region whose members are dedicated to attaining enhanced environmental, economic, and social performance via cooperation in addressing environmental and natural resource concerns. The Smart EIP, which utilizes sustainable development ideas, such as decreasing carbon emissions, circular economy, green industry, and halal industry, will address the G20's pressing concerns.

The Ministry of Industry in Indonesia collaborates with the United Nations Industrial Development Organization (UNIDO) and the Swiss State Secretariat for Economic Affairs to establish the EIP (SECO). Globally, EIP and UNIDO are executing the Global Eco-Industrial Park Program (GEIPP) in Colombia, Egypt, Indonesia, Peru, South Africa, Ukraine, and Vietnam with financing assistance from SECO (Kencana 2022).

As of January 2022, 135 industrial estate firms are located across Java, Kalimantan, Maluku, Papua, Nusa Tenggara, Sulawesi, and Sumatra, with a total land area of 65,532 hectares. Industrial tenants have taken 46%, or 30,464 hectares, of the 135 industrial zones (Indonesia X-Post 2022). The Minister of Industry Regulation has enacted 28 Green Industry Standards (SIH). Currently, 37 industrial businesses have received help obtaining green industry certification by implementing these standards (Rauf 2021).

There are several aspects to implementing Smart EIP, namely by implementing smart energy and smart water management programs in industrial areas to be more efficient. This is certainly in line with environmentally friendly development and prioritizes sustainable aspects. Hence, this study analyzes the implementation of smart eco-industries based on smart energy and smart water management in industrial areas in Indonesia.

2 LITERATURE REVIEW

2.1 *Eco-industrial park*

Figure 1 shows the results of processing 190 journals with the keywords “eco-industrial park” and “technology” taken from Scopus and processed using VOSviewer. Figure 1 produces seven clusters, each marked with a node with a different color. The nodes are marked in red, dark green, moon green, purple, dark blue, light blue, and orange. The closer the distance between the nodes, the closer the connection between the concepts.

These results show that EIPs are closely related to industrial ecology, wastewater treatment, environmental management, industrial economics, energy efficiency, sustainability, pollution control, industrial management, water resources, industrial waste, and agro-industry.

The EIP combines the two fundamental themes, namely how to construct an industrial region that is environmentally conscious and can generate goods with a market advantage. Because of this, the EIP evolved into an industrial cluster using Michael Porter's strategies for gaining a competitive edge (1990). The EIP idea highlights the “waste-to-raw-material

3 RESEARCH METHODS

This study combines qualitative research with a comprehensive literature review (Creswell & Poht 2016). Whereas the systematic review approach provides a comprehensive overview of the research that has been conducted on a particular topic to demonstrate to the reader what is already known and what is unknown about the topic, as well as to seek rationale from the research that has been conducted, the narrative review approach provides a narrative summary of the research that has been conducted (Denney 2013). The data sources consist of various international and national journals retrieved from Scopus and Google Scholar, as well as many books on government science ontology, which are processed using the software VOSviewer and Nvivo 12 Plus. In addition, the review procedure for the work is shown in Figure 3:

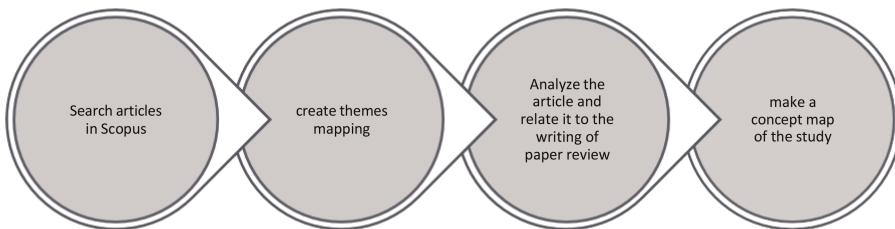


Figure 3. The paper review method process.
Source: (processed by the authors, 2022)

The paper review method comprises the following procedure: first, the author searched for articles related to EIP technology in Scopus and found 190 instances for mapping using VOSviewer and articles related to smart eco-industries; searched Indonesia in Scopus and found 30 related articles for mapping using Nvivo 12 Plus software. Second, the authors prepare the themes of mapping using the VOSviewer and Nvivo software. The research was carried out with the use of VOSviewer and NVivo 12 Plus software, qualitative data analysis programs that enable the gathering, categorization, mapping, analysis, and visualization of qualitative data, including that derived from documents (Bazely & Richarda 2013; Salahuddin *et al.* 2020). By using VOSviewer and Nvivo, you can identify keywords related to the ontology of government studies that have been studied and their authors. And there is a more accurate and systematic validation. Mapping using VOSviewer from 190 articles is grouped into seven clusters. Third, the authors analyze and correlate them to the smart EIP, which they review to describe the above mentioned questions. Finally, the authors attempt to make a concept map of the study.

4 FINDING AND DISCUSSION

4.1 *Application of the smart eco-industrial park concept in industrial estates in Indonesia*

The implementation of industrial ecological regions in Indonesia is still in its infancy, with just a handful of industrial areas using it. This is due to the industry's reluctance to share information on raw materials, manufacturing procedures, and waste products (Sulaiman 2021). The government and society must play the role of consumers to urge the industry to adopt industrial ecology. The government may play a role in developing regulatory regulations and providing incentives for companies that apply industrial ecology. The people, as customers, may stifle the sector by selecting ecologically sustainable items.

Governance is the backbone of the EIP, including bolstering community-based industrial growth, partnerships, local community awareness, infrastructure, and the management of environmental issues. Numerous businesses have attempted to establish new partnerships utilizing the Internet; however, they have mostly failed owing to the lack of drive and governance frameworks (Ulrich 2004). To build an environmentally friendly industrial estate and enhance its environmental performance, the following scenarios/steps and operational commitments must be prepared in an industrial area:

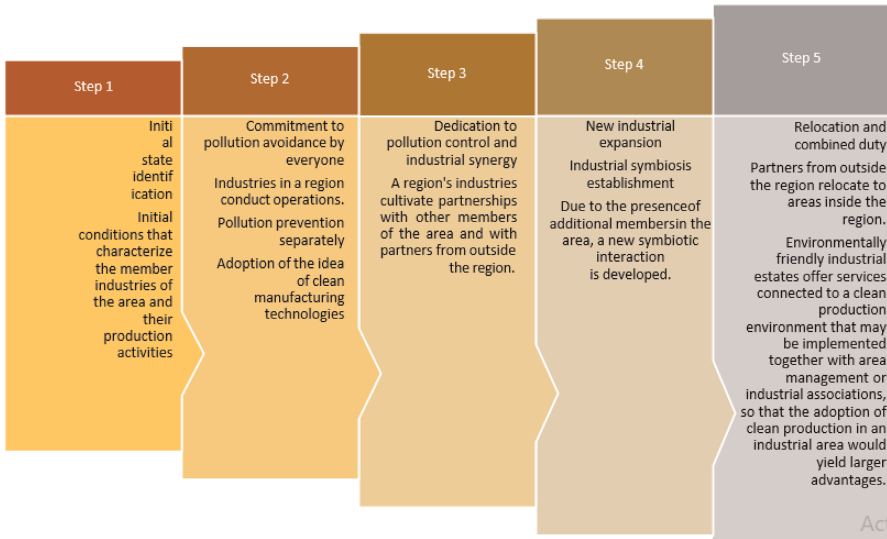


Figure 4. Steps in committing to implementing an environmentally friendly industrial estate.
Source: (Sulaiman 2021)



Figure 5. Word cloud of eco-industrial park.
Source: (Processed by Nvivo 12 Plus 2022)

Figure 5 shows that the notion of an EIP cannot be isolated from industrial responsibilities and activities, balanced sustainable development, and regulations that promote the implementation of an ecologically sound industry. To achieve this, six factors have a high influence and significance on the performance of the system under study, namely the development of industrial parks in industrial areas. These include (1) sanctions for industries that are not environmentally friendly; (2) provision of green open spaces; (3) provision of affordable housing by 30% in each area used by each industry; (4) strict enforcement of the rule of law; (5) maintenance of water catchment areas to ensure water availability for industry; (6) establishment of a special institution in the management of the area toward a green industrial park, and one factor that has a high influence despite its low dependence on system performance is the construction of an integrated sewage treatment plant (WWTP).

As seen in Figure 6, the execution of the EIP idea involves the engagement of several supporting players. To implement the EIP concept in Indonesia, at least six actors must be involved: (1) the government; (2) investors/capital owners; (3) company/industry management; (4) the community surrounding the industrial area; (5) the Higher Education Research and Development Agency; and (6) environmental NGOs.

As studied by Van Beers *et al.* (2020) in 11 industrial parks in Indonesia, including Batamindo IP, Bintan Inti, BSBcity, Gresik, Kabil IP, KIIC, Maspion, MM2100, Modern Cikande, Safe n Lock, and Suryacipta, the EIP concept is currently being implemented. Regarding the research, there is an evaluation of the EIP's implementation in the 11 industrial regions listed in Table 1.

According to research by Fatah Sulaiman (2016) and Sulaiman (2021), the government at least provides policy assistance for developing an area into an industrial region, such as in Cilegon City. This is bolstered by a Presidential Decree designating a region as an industrial development area, followed by the decrees of its subordinate institutions or agencies, such as the Minister of Industry and Trade and the Head of the National Land Agency. In addition to being connected to the ease of the product marketing process, location is one of the characteristics that must be met for a region to be designated as an industrial area since the region may promote the improvement of community welfare and environmental protection.

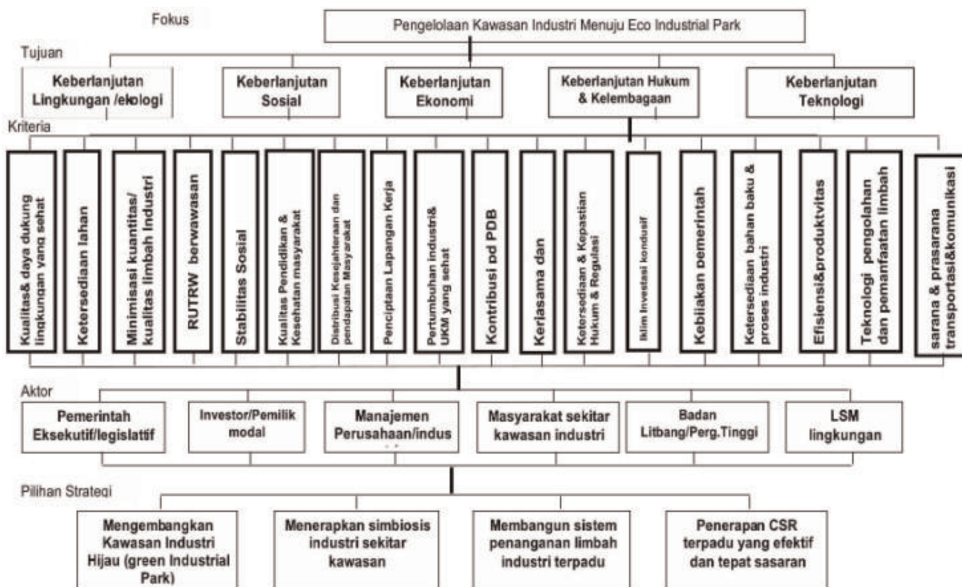


Figure 6. The concept of an eco-industrial park.
Source: (Sulaiman 2021)

Table 1. Basic characteristics and EIP scoring in Indonesia.

Industrial Parks Assessed	Basic Characteristics		EIP Scorings			
	Ownership	Total Area	% Land Occupied	Current Performance	Intended Performance	Improvement Potential
Park 1	Private sector	1400 ha	60%	71%	89%	18%
Park 2	Private sector	1400 ha	80%	69%	90%	21%
Park 3	Private sector	3500 ha	75%	61%	87%	26%
Park 4	Private sector	350 ha	90%	68%	82%	15%
Park 5	Private sector	540 ha	75%	70%	90%	21%
Park 6	Private sector	270 ha	60%	76%	91%	15%
Park 7	Private sector	140 ha	100%	53%	58%	5%
Park 8	Private sector	442 ha	90%	74%	84%	11%
Park 9	Private sector	307 ha	40%	56%	71%	15%
Park 10	Private sector	115 ha	50%	59%	78%	18%
Park 11	Private sector	805 ha	Up to 100%	86%	97%	11%

Source: (Van Beers *et al.* 2020)

Cooperation among local enterprises is also one of the elements that must be completed for the industry to qualify as an EIP. Cooperation between industries in the region is seen not only in terms of the use of mutually required goods but also in reducing harmful materials and the collaborative management of the toxic materials (waste) they generate. Similarly, in terms of providing infrastructure to promote regional growth, it is envisaged that all symbiotic industries would work well together. Existing businesses in the Cilegon industrial region have not cooperated well regarding product usage, except for a few industries that may use each other's goods and are confined to particular items. The majority of industrial goods cannot be used by other industries and must be sold outside the area. In terms of providing infrastructure, such as road repairs, particularly on residential roads, there has been good cooperation between the existing industries; however, the provision of infrastructure for the procurement of Waste Treatment Plants (IPAL) is still performed independently by each industry.

Four hurdles have been identified in Indonesia, including (1) developing public and private sector understanding of the need to establish a green industry. Lack of implementation of the realization of the green industry due to the necessity of allocating capital for environmental conservation; (2) technological limitations and lack of initiatives to develop the concept of environmentally friendly production activities; (3) the majority of companies in Indonesia are small and medium-sized enterprises, which have limited capital and are profit-driven; (4) the wide range and diversity of geographical conditions with varying climatic conditions; (5) the lack of a unified regulatory framework for the green industry in Indonesia; (6) the lack of a unified regulatory framework for green industry.

Table 2. GAP implementation of eco-industrial park in Indonesia.

EIP	Gap
Environmental conservation	High environmental physicochemical parameters cause environmental pollution.
Selection for industrial area development	The area has not been used optimally Development of new areas will increase the conversion of productive land Utilization of industrial area land is not in accordance with its designation
Industrial cooperation in area management areas, active participation of local communities in industrial areas.	There is no inter-industry collaboration in product utilization and integrated waste management People's aspirations are less accommodated and tend to lead to social actions Environmental quality degradation tends to increase
Efficient use of resources	Unfair competition between industries inside and outside the area in the use of economic waste tends to cause social impacts
Sustainable competitive advantage.	Access to global economic competition is limited due to low environmental management performance

Source: (Fatah Sulaiman 2016)

4.2 Implementation of smart eco-industrial park: In terms of smart energy and water management

Figure 7 shows that smart water and smart energy management are topics that are currently often discussed and studied. The results from the Nvivo 12 Plus (Figure 6) show that studies on smart energy management get 489 more references when compared to smart water management, which only gets 191 references. Smart energy management is discussed more because the energy requirements of chemical processes resulting from industrial activities must be recognized to consider environmental and economic impacts. Conventional chemical processes must be overhauled and made more energy efficient.

Frequently, the energy component of industrial waste allows for its conversion into usable fuels. Waste solvents from producing paints, varnishes, adhesives, inks, cleaning fluids, etc., may be transformed into liquid fuels for use in the cement industry. Shredded carpet, packaging trash, furniture, plastic, and paper, often disposed of in landfills, may also produce solid fuel.

Essentially, suppose two businesses have the potential to synergize. In that case, they must be prepared to create fundamental industrial procedures connected to their understanding of the chemical processes and their capacity to assess non-product outputs to assure the correct

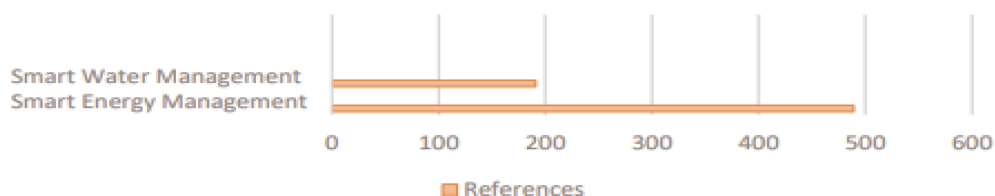


Figure 7. Text search of smart water management and smart energy management.

Source: (Processed by Nvivo 12 Plus 2022)

disposal of potentially polluting leftovers. Similarly, governance between the two inter-dependent sectors must be examined and negotiated from the outset (Sulaiman 2021).

The advancement of information technology has beneficial effects. One of them is the maintenance of natural resources that may be accomplished via the use of technology, information, and communication (ICT) to provide information and manage the quality of improved maintenance, or what is known as Smart Water Management (SWM). The notion of “Smart” in Smart Water Management (SWM) is designed to make the use of natural resources more effectively and efficiently managed, including the provision of water that meets high-quality requirements while incurring minimum costs (Djaksana *et al.* 2021).

Smart Water Management maximizes the use of ICT and may give real-time, automated data on the state and environment of natural resources, as well as natural resources managed using an integrated, integrated approach. Smart Water Management may be used to assist policy-making at a variety of control levels, water user groups, and in all areas, from the planning level to operational, technical, and everyday usage, as well as supporting regulation and policy-making (Fakhriyah *et al.* 2021).

Water management must include several dimensions: (1) community engagement that includes the need to expand clean water availability, perspectives on the advantages and improvement of clean water supply, a feeling of ownership and responsibility, culture, habits, and beliefs associated with clean water. (2) The technical aspects include, among other things, existing and future SDA demands, potable water treatment, technical standards, organizational processes, and water quality control. (3) Environmental aspects of natural resources, including standards of quality and quantity, raw water, and protection measures. (4) The financial components of the natural resource management process include analysis, cost-renew, capacity and desire to actively pay off payments, and the tariff structure. (5) The institutional component comprises the national policy and its legal foundation (Fakhriyah *et al.* 2021; Hidayati 2017).

Smart water management may be implemented by monitoring water levels in real-time, discovering leaks in the distributed water distribution system, and monitoring and preserving water quality. Moreover, all data and analysis findings are accessible through devices such as cell phones, depending on local knowledge. This implies that Smart Water Management utilizes the surrounding environment’s norms in accordance with the following five criteria: regional knowledge, regional culture, regional skills, regional resources, and regional associative social processes (Fakhriyah *et al.* 2021).

Management considerations have a crucial influence on the accomplishment of these objectives. Good clean water management works hand in hand with leadership, planning, execution, and oversight when community involvement is prioritized. Collectively manage natural resources to restrict water use to preserve water supplies and the environment sustainably. This is supported by the perspective (Buwono 2017) that sustainable water management delivers advantages, including maintaining present and future water supplies.

4 CONCLUSION

The implementation of the Smart EIP concept in Indonesian Industrial Estates is still in its infancy, with just a handful of industrial areas adopting it. To establish environmentally friendly industrial estates and enhance their environmental performance, it is required to develop scenarios and operational commitments for industrial estates. EIPs cannot be separated from the role and activities of industry, sustainable development, and regulations that promote the implementation of an ecologically sound industry. To achieve this, six factors have a high influence and significance on the performance of the system under study, namely the development of industrial parks in industrial areas. These include (1) sanctions for industries that are not environmentally friendly; (2) provision of green open spaces; (3) provision of affordable housing by 30% in each area used by each industry; (4) strict

enforcement of the rule of law, (5) maintenance of water catchment areas to ensure water availability for industry; (6) establishment of a special institution in the management of the area toward a green industrial park. One factor that has a high influence despite its low dependence on system performance is the construction of an integrated sewage treatment plant (WWTP).

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Global civil society vis-a-vis state and corporation: The challenges of Greenpeace in reducing deforestation in Brazil

Najamuddin Khairur Rijal* & Uswatun Hasanah
University of Muhammadiyah Malang, Malang, Indonesia

ABSTRACT: This study discusses the challenges of Greenpeace as a global civil society actor in suppressing the increase in deforestation in the Brazilian Amazon forest. The election of Jair Bolsonaro as president has caused an increase in deforestation rates compared to previous years. This is inseparable from Bolsonaro's vision of encouraging economic development through pro-deforestation policies. This study uses a descriptive-qualitative approach. The data source comes from secondary data collected from the internet, such as journal articles, books, research reports, news, and other library materials relevant to research needs. Data analysis involves collection, condensation, display, and conclusion drawing. This study found that Greenpeace was faced with two things. First, pro-deforestation government policies. Second, the company's business activities are pro-deforestation, facilitated by state policies. This coalition between states and corporations is a challenge for Greenpeace in its efforts to reduce deforestation in the Amazon. In other words, the struggle that Greenpeace is fighting vis-a-vis with the state and corporations.

1 INTRODUCTION

This paper discusses the challenges faced by Greenpeace as a global civil society actor in overcoming deforestation in the Amazon forest in Brazil. These challenges relate to state policies oriented towards development and the economy by perpetuating deforestation. In addition, the interests of corporations in coalition with the government are increasingly preserving the occurrence of deforestation. In this regard, Greenpeace is faced with the state's political power and corporation's economic interests.

Deforestation in the Amazon forest is important because, as the largest forest in the world, the Amazon is the lungs of the world, the richest and most diverse biological reservoir (Petruzzello 2019). It covers an area of 5.5 million square kilometers, of which 60 percent is located in Brazil, and the rest is divided into eight other countries, namely, Bolivia, Ecuador, Peru, Colombia, Venezuela, Suriname, Guyana, and French Guiana (Save The Amazon Rainforest 2017).

Deforestation in the Amazon forest began in the 1990s and continues. In 2019 along with the election of Jair Bolsonaro as the 38th President of Brazil, there was an increase in deforestation in the Amazon forest with a percentage increase of almost 104% compared to 2018. This increase in deforestation rates was marked by a threefold increase in the rate of fires; National Institute for Space Research (INPE) noted that around 9,762 square kilometers of Amazon forest were damaged (Shamil 2019).

Bolsonaro's policy of wanting to restore the country's economy by abusing the use of the environment has triggered an increase in the number of forest fires. Bolsonaro even said that the Amazon forest is a limiting factor for economic growth and therefore needs to be cleared for commercial exploitation. Unfortunately, foreign companies, as well as local companies, are also involved in financing environmental exploitation.

*Corresponding Author

Due to this fact, the international community, such as NGO actors and the environmentalist community have criticized Bolsonaro's policies because they are considered to support deforestation. The government only focuses on development rather than conservation. One of the actors vocally criticizes is Greenpeace, a global civil society actor that was established in 1970. Intending to make the earth green peacefully, Greenpeace adheres to basic values such as non-violence, independence, and having neither friends nor foes, trying to solve every problem (Greenpeace 2021). Regarding the Amazon forest, Greenpeace conducted an investigation into the Amazon forest in 1998 by collaborating with several communities in the Amazon. But along the way, efforts to suppress deforestation are faced with challenges.

This article aims to describe the challenges facing Greenpeace. The challenge in question is that Greenpeace has to deal with pro-deforestation state policies, which in turn preserves the involvement of various companies in environmental exploitation. The conceptual basis used is global civil society. Global civil society is a transnational actor who fights for the public interest universally (Scholte 1999). Therefore he is critical of various state policies that are not part of the government (the state). Therefore, it is critical of various state policies contrary to the public interest.

The discussion begins by describing the deforestation that occurs in the Amazon and Greenpeace's efforts to tackle deforestation. Next, two challenges from Greenpeace are presented: state policy and corporate involvement. These arguments are then discussed in the discussion section.

2 METHODS

This study uses a descriptive-qualitative approach. The data source comes from secondary data collected from the internet, such as journal articles, books, research reports, news, and other library materials relevant to research needs. Data analysis adopts what Miles, Huberman, and Saldana have stated data analysis involves four components, namely data collection, data condensation, data display, and conclusion drawing (Miles *et al.* 2014).

3 RESULTS AND DISCUSSION

3.1 *Progress of deforestation in the Amazon forest*

Deforestation is the clearing of forestland to turn it into agricultural land, animal development, using wood for fuel, manufacturing, and construction. Many factors can cause deforestation, both natural and human factors. Natural factors can be natural forest fires or diseases caused by parasites. However, human activities are a major factor in deforestation.

Population growth and migration in the Amazon forest indicate the beginning of deforestation around 1970–1996. Over time, deforestation is not only a matter of migration and population growth. Economic growth that is dynamic and dependent on primary industries with ever-increasing demand is an additional factor. The figure below shows fluctuations in deforestation from year to year.

During the reign of Lula da Silva (2003–2010), the deforestation rate showed a downward trend between 2009 and 2010. Conservation, sustainability, and population policies are at the core of the policies of this government. The election of Marina Silva and Carlos Minc as ministers of the environment builds a good image in society (de Castro 2014). President Lula also showed his seriousness and commitment to environmental policies that would allow a 36.1% reduction in greenhouse gas emissions and changes to agricultural systems by 38.9% and a reduction in deforestation in the Amazon forest by 80% (Comitelulalivre 2019).

However, during Dilma Rousseff's reign, deforestation in the Amazon forest increased after a decade of decline. This government policy prioritizes the development agenda over

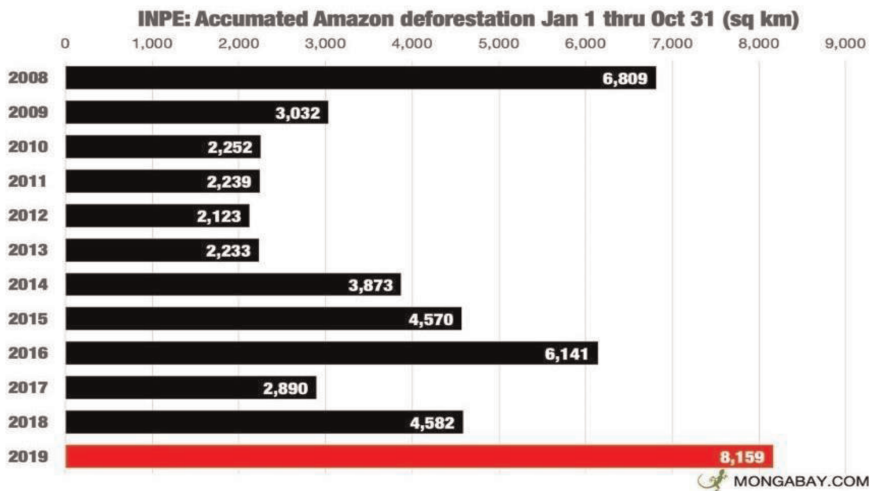


Figure 1. Deforestation from 2008–2019 (Butler 2020).

conservation, ultimately creating tension between civil society organizations and the state (de Castro & Motta 2015). The damage done by Dilma at the beginning of his tenure shows his lack of seriousness in addressing the deforestation problem in Brazil. Giving the “green light” for several controversial projects that damage the environment and people’s lives (Branford 2019).

Jair Bolsonaro was elected on January 1, 2019. During his reign, the increase in deforestation was even greater. In August 2019 and 2020, Amazon forest destruction jumped by 9.5%. Bolsonaro admitted that from the start, he wanted to turn the Amazon into industrial and plantation land (Deutsche Welle 2021). Bolsonaro appears to be strongly championing industries that want access to the Amazon forest by undermining indigenous peoples’ rights and reducing efforts to combat illegal burning because environmental regulations must be relaxed to build better economic growth (Simoes 2019).

3.2 Greenpeace’s efforts to tackle deforestation

Greenpeace’s efforts to tackle deforestation in Brazil during the reign of Jair Bolsonaro include petitions, campaigns, and multi actors’ cooperation. First, is the petition. The petition launched by Greenpeace is expected to have a great opportunity as a space for aspirations and to encourage the community to take an active role. Petition *Save Amazon-Stand with the Guardians of the Amazon*, for example, was aimed at a group of Indians in Brazil as a token of appreciation for risking their lives to save the Amazon. The second petition is *Petition Industrial Meat is Destroying our Forest*, the content of this petition is a form of voice for the Tesco company to stop buying products from the JBS company by replacing half the meat sold with plant foods.

The second, campaign, is *the Greenpeace Fires Europe Guilty Campaign*. Greenpeace calls for strong EU laws to ensure that no products that destroy forests or ecosystems are sold to Europe. In this campaign, Greenpeace also asked the European Union to reject the trade cooperation between the EU and Mercosur, which would accelerate deforestation in the Amazon forest (Perring 2020). Greenpeace also conducts campaigns through its official website and its various social media.

Greenpeace’s next effort is in the form of a campaign video with the title “Countdown to Destruction, do you know where the food you eat comes from”. The content of this video

campaign collaborates with Brazilian actress and producer Alice Braga to discuss the relationship between the food we eat every day and the climate crisis, which aims to discuss and explain the damaged food system and its impacts (Gorski 2020). Greenpeace also uses social media in carrying out its actions.

Third, the efforts made by Greenpeace are to cooperate with the European Union in protecting the Amazon forest. Greenpeace raised its voice by unfurling a giant poster at the European Commission headquarters in Brussels to draw EU attention to deforestation in the region. The European Union alone is responsible for 10% of global deforestation, finding that a fifth of soy and beef imported from Brazil comes from illegally deforested land.

Greenpeace also emphasized that the European Union carries strong laws to ensure that no products are sold in Europe that contribute to the destruction of ecosystems and that there are no human rights violations against the goods being traded (Frost 2020). Greenpeace also demands the government's commitment to funding the protection of nature and preserving natural resources, which means respect for the values of equal human rights (Greenpeace 2020).

In addition to collaborating with the European Union, Greenpeace also collaborates with indigenous peoples in the form of holding a tour entitled *Advocacy Tour Indigenous Blood: Not a Single Day More*. On this tour, ten indigenous leaders from five Brazilian regions took to Downing Street and demanded the British government support them in ending the bloodshed by suspending trade talks with Brazil. Greenpeace organizes advocacy tours to help indigenous leaders raise issues related to the Amazon through meetings with companies such as; Tesco, ASDA, Sainsbury's, Morrisons, Iceland and the British Retail Consortium, Nestlé, Unilever, and Mondelēz.

The efforts made by Greenpeace above show the seriousness of Greenpeace in dealing with the problem of deforestation. However, Greenpeace's efforts are faced with challenges because government policies have perpetuated environmental exploitation. At the same time, various companies are taking an important role in exploiting the natural resources of Amazon.

3.3 *The Greenpeace challenge: Pro-deforestation country policies*

Three government policies affect the sustainability of deforestation in the Amazon forest. First, policies related to cutting agency budgets in the environmental sector. The policies approved by Jair Bolsonaro affected several environmental institutions, so they could not carry out well-designed programs due to budget cuts.

Second, policies related to development and industry in the Amazon forest. Jair Bolsonaro supports industrialization and development. Bolsonaro redeveloped the Amazon project as the Baron of Rio Branco Project. This project has existed since the 1960s in the military regime. This project is the construction of a hydroelectric dam and the expansion of the highway to Suriname. It is estimated that the planned development of this project will cause greater deforestation and disturb the indigenous tribes there.

The third is the easing of supervision of foreign investors. In 2021 at the opening ceremony of the Brazilian Investment Forum hosted by Apex-Brazil, the government of Brazil is offering investors around the world to take a "unique opportunity" regarding the abundant resources that exist in the Amazon forest. Brazil will receive \$50 billion in investment to generate 22,000 jobs between 2021 and 2022 (Business Standard 2021).

Also, the Brazilian Congress voted for Bill 191/2020, which would legalize mining, fossil fuel extraction, construction of water dams, industrial agriculture, and animal husbandry in the Amazon indigenous territories. President Jair Bolsonaro signed this bill, but it did not explain environmental or social protection. Under this law, investors are even allowed to exploit industrial natural resources without having permission from indigenous peoples (Ferreira & Zimmerman 2020). This bill is said to directly violate the United Nations Declaration on the Rights of Indigenous Peoples signed by Brazil (Evtimov 2021). This has

also encouraged several investors such as Blackrock, Citigroup, JPMorgan Chase, Vanguard, Bank of America, and Dimensional Fund Advisors to continue investing in social and environmental rights violations with an investment of more than US\$18 billion (Amazon Watch, n.d.).

3.4 *Greenpeace challenge: Corporate engagement in deforestation*

Various companies are involved in the exploitation of nature that occurs in the Amazon forest. These companies are divided into several sectors. In the mining sector, such as Vale, Anglo American, Belo Sun, and Potássio Do Brasil. There are Cragil, JBS, Bunge, and Cosan/Raízen in the agribusiness sector. Meanwhile, Energisa Mato Grosso, Bomb Futuro Energia, Equatorial Energia Mranhão, and Eletronorte are in the Energy sector.

In the agribusiness sector, for example, Bunge, an American company, which is a grain import-export company, has exported soybeans from Brazilian agricultural plantations, including violence, illegality, and environmental damage. Bunge is believed to supply soybeans to international fast food brands such as McDonald's, KFC, and Burger King (Greenpeace International 2019).

In the mining sector, one of the companies involved is Anglo-American. Anglo-American and its two subsidiaries excavate gold and minerals found in indigenous areas of the Amazon forest. This prompted indigenous peoples to demand Anglo Americans move away from their lands to open up their territory to mining (Angelo 2021). In exploiting the mining sector, Anglo American also reaps profits from iron ore mining in the Minas-Rio region in Brazil.

The impact is a loss for the surrounding community. Local water for mining processes causes the community to lack water. In 2018, the 529-kilometer pipeline that Anglo American uses to transport its refined ore to the Port ruptured and spilled nearly 1,000 metric tons of iron ore into the surrounding river. This ultimately contaminates agricultural land, grasslands, and water sources (Hanbury 2021). Since taking office as President, Jair Bolsonaro has passed 57 laws that undermine environmental protection, including mining permits. In addition, BlackRock, for example, is a company from the United States, which invests its money in fossil fuels and the agribusiness industry. This company contributes more to climate change than any other company in the world (Action Network, n.d.). Not only BlackRock, but JP Morgan is also a financial holding company by provides financial and investment banking services. The company provides offers on several products and provides in-vestment banking services in all major capital markets. Not only provide services and offers but also advice, strategy, corporate structure, equity and debt market capital raising, risk management, and much more (Companies History, n.d.).

JP Morgan provides loans and underwriting to companies that produce and trade commodities that ultimately accelerate deforestation such as beef, palm oil, soybeans, and pulp/paper. Brazil paper giant Suzano is JP Morgan's biggest credit recipient with a total of USD 4.5 billion. JP Morgan also provided guarantees and loans to meat packers in Brazil for USD 451 million. Not only Brazil paper giant Suzano but clients JP Morgan Minerva and Marfrig are also involved in accelerating deforestation by creating land for pasture (Heineken 2020).

Another company that plays a role in sustainable deforestation in the Amazon is Citigroup, an American company that provides financial services. Citigroup is known as a major investor in coal mining and holds a 51% share of the global market. Citigroup also ranks third in funding for forest products and paper production. In 2001 Citigroup was also number one for oil drilling and new pipelines (Hogue 2002).

4 DISCUSSION

The explanation above shows that Greenpeace as a global civil society actor who is concerned with environmental issues, in this case, related to deforestation in Brazil, is faced with

two main challenges. First, the challenge concerns about government policies that are pro-deforestation rather than environmental sustainability. The justification is the vision of the country's economic development. Second, the challenge is related to the involvement of large companies whose business activities have implications for increasing deforestation. In other words, Greenpeace is dealing with a coalition between governments and corporations. The government owns political power in a coalition with the company as the owner of the power of capital. Even in some cases, corporations are more powerful than the state so that they can influence state policies (Prinanda 2019). It is this coalition of political and economic interests that, according to the researcher, often becomes an obstacle for global civil society actors in carrying out their mission for the wider public interest.

The above argument is in line with the position of the GCS actor referred to as the "third sector" (Anheier *et al.* 2001; Kowsar 2022; Wagner 2012). GCS is the third actor, between the state (public actor) and corporations (private actor). His position is a critical element of the state, corporation, or coalition between the two (Rijal & Anggraheni 2019; Rijal & Widiatmojo 2021). Because of that, GCS actors are referred to as non-profit, non-governmental, and independent (Anheier *et al.* 2001; Scholte 1999; Wagner 2012).

As a non-governmental actor, GCS is critical of the state (Barrow 2020). As a non-profit actor, GCS is critical of corporations. That's what Greenpeace is showing in its efforts to reduce deforestation in the Amazon. Greenpeace deals vis-a-vis with countries and corporations. Through petitions, campaigns, and multi-actor collaborations, Greenpeace seeks to encourage the government to stop pro-deforestation policies and pressure corporations not to carry out deforestation through their business activities.

The above cannot be separated from the fact that the environment is a universal interest that must be maintained for sustainability. Especially with the fact that the Amazon is the "lungs of the world", where one well-known motto of environmentalists is "Forest for people." Even more so, according to Usman, the environment is legal subjects, who have rights and can be empowered to be represented in the struggle to defend their rights before the law (Usman 2018).

However, Greenpeace's efforts are not easy. The state owns and controls all political resources. Meanwhile, corporations control material resources. However, according to Dryzek, GCS actors have one important advantage over states and companies: they have the freedom to act. So that no matter how disadvantaged they are in terms of material resources (compared to companies) and political influence (compared to the state), "civil society actors are privileged in terms of the freedom to act reflexively" (Dryzek 2012). In other words, even though the state and corporations are not on the side of Greenpeace's struggle, it still has the public support and global network to continue to contribute to the future of the environment, especially the problem of deforestation in Brazil.

5 CONCLUSIONS

Policies formed by the state, such as budget cuts, easing policies for foreign investors, and development and industrial policies in the Amazon forest, have implications for increasing deforestation. Therefore, as a GCS actor who is concerned with environmental issues, Greenpeace is involved in fighting for efforts to stop deforestation. However, in fighting its efforts to reduce deforestation rates, Greenpeace is faced with political power and capital power. In other words, Greenspace is faced with two challenges. First, Jair Bolsonaro's pro-deforestation policy in the name of economic development. Second, the company's business activities are pro-deforestation facilitated by state policies. These two things are a challenge for Greenpeace as a GCS actor, where the position of GCS as a critical element is between the two actors (government and corporations).

This research is then expected to be useful for international relations and social movement researchers. In addition, it contributes to the study of global civil society as one of the

important actors in contemporary international relations studies. These contributions are specifically related to the challenges faced by GCS in its efforts to advocate the public interest.

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Islamic corporate governance, profitability, corporate social responsibility, and sustainability report disclosure

Siti Zubaidah* & Pipit Diah Pratiwi
Universitas Muhammadiyah Malang

ABSTRACT: This study examines the effect of Islamic Corporate Governance, Profitability, and Corporate Social Responsibility on the Sustainability Report Disclosure. The sample in this study was companies registered in the Jakarta Islamic Index 70 from 2018 to 2020. The sampling technique used in this study was purposive sampling, with the number of samples used as many as 34 companies with an observation period of 3 years, while the data collection technique used the method documentation. Data analysis was used using a panel data regression test using the STATA 16 tool. The test results showed that Islamic corporate governance and corporate social responsibility had a positive effect on the sustainability report disclosure. In contrast, profitability did not affect the sustainability report disclosure.

Keywords: Corporate Social Responsibility, Islamic Corporate Governance, Profitability, Sustainability Report Disclosure

1 INTRODUCTION

The Sustainable Development Goals (SDGs) are developed to safeguard the well-being of the economy, social life, and environmental quality of the public through sustainability, as well as ensuring justice and the implementation of governance for the next generation. In achieving the SDG program, companies in Indonesia contribute through report issuance sustainability and corporate CSR disclosure. *Publication sustainability report* in Indonesia belongs to very few companies. Data from the Indonesia Stock Exchange (IDX) and the Global Reporting Initiative (GRI) show that of 629 new companies, 110 published sustainability reports as of April 2019.

In Indonesia, the issuance of sustainability reports is voluntary, which means that the issuance of sustainability reports can be voluntary because there are no formal regulations that require a company to publish a report on sustainability, such as the case with publishing report finance (Nasir *et al.* 2014). According to Triwacananingrum *et al.* (2020), draft report on sustainability in support of development was necessary due to high demands from public, because of the losses to the community through damage of environment and pollution because some companies do not care about the impact of their business on the environment.

With increasing development of sharia business, data by the Financial Services Authority from 2013 to 2020 shows that there was an increase of 139 sharia shares, which made IDX issue a new *sharia stock index*, namely the *Jakarta Islamic Index 70*. The purpose of the issuance of the *Jakarta Islamic Index 70* was to increase the investors' confidence and support investors in implementing sharia in business. With the development of sharia business (Kusumawati *et al.* 2021), the states that hold the interest need supervision in terms of social and economic environment through sustainability reports.

*Corresponding Author

Rinda (2021) in his research stated that *Islamic corporate governance* and *firm size* with a sustainability report have a positive and significant relationship, while the performance of *Islamic maqashid* and profitability have no effect on the sustainability report.

Kusumawati *et al.* (2021) conducted research on eight Islamic Commercial Banks (BUS), resulting in research that *Islamic corporate governance* and corporate social responsibility have no impact on the disclosure of sustainability reports. It is different with *firm size* having positive impact, which is significant to sustainability report disclosure at Indonesian Islamic Commercial Banks. This study was conducted to prove the influence of *Islamic corporate governance*, profitability, and corporate social responsibility on the disclosure of sustainability reports in companies listed on the *Jakarta Islamic Index 70 (JII70)* from 2018 to 2020.

2 HYPOTHESIS FORMULATING

Based on *Sharia Enterprise Theory (SET)*, a sharia business is not only responsible of the owner but also of the stakeholders (*stakeholders*) and Allah SWT, which can be implemented with improved implementation of the *Islamic corporate governance*. Implementation of *Islamic corporate governance* could be seen through adherence to sharia principles, namely operational activities and businesses, which are free from *gharar*, *maisir*, and usury, so it can run activities provided by investors.

When the governance of a company is carried out properly and in accordance with Islamic estimates, they (stakeholders) have the right to obtain safety from company. Preservation of nature and prevention of pollution are the form of corporate concerns. Information provided about the welfare received because good corporate governance is carried out through disclosure *sustainability report*, which is a medium of communication for management with *stakeholders*. Therefore, the better the Islamic corporate governance practices, the better is the disclosure *sustainability report* of a company (Handayani 2007). Research results Rinda (2021), Purwanti (2016), and Zanjabil & Adityawarman (2015) show that *Islamic corporate governance* have positive effects on the disclosure. The proposed hypothesis is based on the description above, which is:

H₁: *Islamic corporate governance affects sustainability report disclosure.*

According to theory *stakeholders*, a company in operational activities does not attach importance to self alone, but try to fulfill the needs of its *stakeholders*. The connection of *stakeholders* with profitability is the ability to perform as a financially stable company with high confidence to provide a report to holder stock, because company could show success in fulfilling the needs of *stakeholders*, especially creditors and investors. Information provided focuses on how company produces profit, so disclosure *sustainability report* as a means of communication for management and stakeholder interests (*stakeholders*). Research results Latifah *et al.* (2019), Diono & Prabowo (2017) and (Liana 2019) show that ratio profitability has an influence positive to the issuance of sustainability reports. The hypothesis proposed according to the description above is:

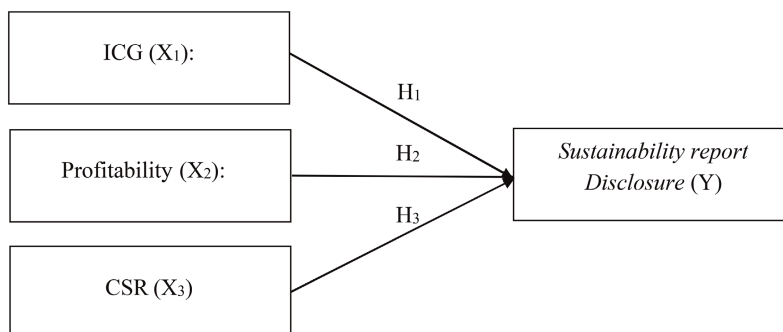
H₂: *Profitability affects the sustainability report disclosure*

According to legitimacy theory, a company continuously convinces the community that all activities are in accordance with the boundaries or procedures that take place in the community. According to Suaryana (2012), the interaction carried out by the company with the community and *stakeholders* is through the implementation of CSR. Where the *company's corporate social responsibility* practice shows a concern for the consequences caused by the company's activities. So, if the implementation of *corporate social responsibility* is getting better, it will be reported to the public through a sustainability report. Nutriastuti & Annisa (2020), Abdul (2019), and (Ernawan 2014) in their research show that *corporate social*

responsibility influence the disclosure of sustainability reports. The proposed hypothesis is based on the description above, which is:

H₃: *Corporate social responsibility affects sustainability report disclosure*

The framework that can be described based on the development of hypotheses is as follows:



3 METHOD

Quantitative associative research is a type of research that is used to analyze the connection of *Islamic corporate governance*, profitability, and *corporate social responsibility* with *sustainability report disclosure*. Companies in JII 70 years 2018–2020 became the sample of this study, with a total sample of 98 companies. The technique involved was *purposive sampling* to determine the samples, so that as many as 34 companies were selected as research sample.

Operational definitions:

3.1 Dependent variable

(a) *Sustainability report*

Sustainability report is a report that does not prioritize only one aspect or economic aspect, but also focuses on non-economic aspects. Calculation index disclosure of *sustainability report* is formulated as follows (Aziz 2014):

$$SRD = \frac{\sum \text{items used} \times 100\%}{91}$$

(b) *Islamic corporate governance*

Based on (Bhatti 2010) the definition, *Islamic corporate governance* is *corporate governance* based on the principles of Islamic law, which business activities and operations conducted based on right ethics and sharia values. In the implementation of GCG for sharia company or sharia business can be measured with *good governance*.

$$GGBS = \frac{\sum \text{items used} \times 100\%}{36}$$

(c) *Profitability*

Profitability is the ability to make profits. *Return on Assets (ROA)* is a measure of profitability, because ROA is the right tool for count efficiency as well as effectiveness performance of the company.

$$\text{ROA} = \frac{\text{Net Profit} \times 100\%}{\text{Total Assets}}$$

(d) *Corporate social responsibility*

Oktarina (2016) explains that social responsibility is a form of concern for the social environment that is carried out volunteer by the company in activities and interactions with stakeholders. In this study, *corporate social responsibility* measured by how much the company costs.

$$\text{CSR} = \text{The Logarithm Of The Total Cost } \text{CSR}_{\text{Years } t}$$

3.2 *Analysis statistics descriptive*

Statistics descriptive is interpreting data that has been collected with results of the analysis in the form of data presentation, such as calculation of mean, mode, median, calculation of percentile, decile, standard deviation, graph, pie chart, table, and pictogram (Sugiyono 2016).

3.3 *Determination of the estimation model*

Before choosing a suitable estimation model, a researcher must compare three tests (Maulana & Muchtar 2018). These are: *the Chow test, the Hausman test, and the Lagrange multiplier test.*

3.4 *Classic assumption test*

Classic assumption test may include autocorrelation test, heteroscedasticity test, multicollinearity test, and normality test.

3.5 *Hypothesis testing*

The hypothesis test can include simultaneous test, coefficient of determination test, and partial test.

4 RESULTS AND DISCUSSION

4.1 *Descriptive statistics*

Table 1. Statistical test results descriptive.

Variable	Obs	Mean	Std. Dev.	Min	Max
Sustainability Report	102	41.61819	9.241632	26.37363	68.13187
Profitability	102	6.038972	14.08355	-45.08583	109.1769
Corporate Social Responsibility	102	24.13605	1.369544	20.80912	26.6259
Islamic Corporate Governance	102	55.06536	8.268096	41.66667	75

Source: Stata Results.

4.2 Regression model determination test

(a) Chow test

Table 2. Chow test results.

Prob > F	0.0845
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Source: Stata Results.

Table 2 test results produce prob value > F of 0.0845. Because prob value > F, the value of i is 0.05 so H 0: *pooled least square* is accepted and H1: *fixed effect* is rejected, therefore the model used is *pooled least square*.

(b) Hausman test

Table 3. Hausman test results.

Prob > chi2	0.0982
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Source: Stata Results.

Table 3 test results, produce score *Prob>chi2* of 0.0982. Because value *Prob>chi2* exceed the value, i is now 0.05 so H 0: *random effect* is accepted and H1: *fixed effect* is rejected, therefore *random effect* test is used.

(c) Lagrange multiplier test

Table 4. Lagrange multiplier test results.

Prob > chibar2	0.0735
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Source: Stata Results.

Table 4 test results, obtained score *Prob>chibar2* of 0.0735. Because value *Prob>chibar2* is higher, the value of i is 0.05 so H 0: *pooled least square* is accepted and H1: *random effect* is rejected, therefore the model used is *pooled least square*.

(d) Classic assumption test

(a) Normality test

Table 5. Normality test results.

Variable	Obs	Pr (Skewness)	Pr (Kurtosis)	Adj chi2 (2)	Prob>chi
EROR	102	0.4696	0.0371	4.87	0.0878

Source: Stata Result.

The testing results normality produce a score where *Prob>chi2* exceeds the value of (0.05). Distribution of data by reasonable is the conclusion of the normality test results.

(b) *Multicollinearity test*

Table 6. Multicollinearity test results.

	SRD	ROA	LNCSR	GGBS
SRD	1.0000			
ROA	0.1622	1.0000		
LNCSR	0.4664	0.1220	1.0000	
GGBS	0.1818	0.0074	-0.0571	1.0000

Source: Stata Results.

Based on the data in Table 6, it shows that multicollinearity test is less than 0.8, which means correlation value between a variable independent is not more than 0.80. This test concludes that independent variables have no symptoms of multicollinearity.

(c) *Heteroscedasticity test*

Table 7. Heteroscedasticity test.

Results Prob > chi2	0.0012
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Source: Stata Results.

Based on the results in Table 7, it produces score *Prob>chi2* of 0.0012, which is less from the value of 0.05. Therefore, the conclusion from this research is that heteroscedasticity test could be used to resolve problems using *robust* standard errors.

(d) *Autocorrelation test*

Table 8. Autocorrelation test.

Results Prob > F	0.2165
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Source: Stata Result.

Based on the results of the Table 8, it produces score *Prob> F* of 0.2165, which exceeds the value of is 0.05. Therefore, the conclusion of this study is that no symptom of autocorrelation occurs.

(e) *Hypothesis testing*

(a) *Coefficient of determination test*

Table 9. Coefficient test results determination.

<i>R-Squared</i>	0.2718
<i>Adj R-Squared</i>	0.2495

Source: Stata Result.

Table 9 test results, produce score *R-squared* of 0.2718 or 27.18% and the value of *Adj R-Squared* of 0.2495 or 24.95%. In this research for see R^2 test results use *Adj R-squared* which means variable independent Islamic corporate governance, profitability, and social responsibility can explain variable sustainability report by 24.95%, and the rest of 75.05% is explained by other aspects that are not from this research

(b) *Simultaneous test*

Table 10. Simultaneous test results.

Prob > F	0.0000
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Source: Stata Result.

Table 10 test results produce Prob>F value of 0.000, which is less than 5% or 0.05. This shows that Islamic corporate governance, profitability, and corporate social responsibility have no effect on the sustainability report.

(c) *Partial test*

Table 11. Partial test results.

Variable	Coefficient	Robust Std. Error	T	P> t
Islamic Corporate Governance	0.2321141	0.1034566	2.24	0.027
Profitability	0.0681436	0.0453356	1.50	0.136
Corporate Social Responsibility	3.14179	0.5336342	5.89	0.000
Cons	-47,40516	14.01383	-3.38	0.001

Source: Stata Results.

1) Influence *Islamic corporate governance against sustainability reports.*

Based on the partial test table, the variable *Islamic corporate governance* that is measured uses GGBS value to get a score *prob >t* of 0.027, which is not more than 0.05 and the value of coefficient as big as 0.2321141 which means *Islamic corporate governance* has a positive impact to report sustainability. The implementation of good *Islamic corporate governance* makes the level of publication of sustainability reports increase as well.

This research is in line with Rinda (2021), Purwanti (2016), Zanjabil & Adityawarman (2015), who showed that *Islamic corporate governance* has a definite and significant impact on the sustainability report. One per company must have good governance in management, including the connection with internal and external parties. With good management, the interests of stakeholders will be guaranteed. According to *Sharia Enterprise Theory* (SET) the second *stakeholder* is people who are divided into two categories, that is *indirect stakeholders* and *direct stakeholders*. When the governance of a company is implemented properly and according to Islamic values, the stakeholders have the rights for accept safety from company. Preservation nature and prevention pollution is a form of corporate concern. Information provided about welfare received because good corporate governance is carried out through the disclosure *sustainability report*, which is a medium of communication for management with *stakeholders*.

Based on the partial test table, the proxied profitability use score *return on assets* (ROA) earn score probability of 0.136 which exceeds 0.05 and the value of coefficient as big as 0.0681436 which means profitability does not have an influence on *sustainability reports*. The cause is because decision of disclosure sustainability reports will add cost and lower profit company (Marsuking 2020). Temporary company sued for permanent

produce profit to gain trust of investors because the capital provided could be allocated by appropriate support activity operational company.

Article 15 letter b of Law 25/2007 regarding limited liability companies stipulates that as investors, companies have responsibilities answer for keep doing it norms, culture, and values Public consistently, harmoniously, balanced and environmentally friendly. With this regulation, companies face pressure from regulators, shareholders and the public to carry out and disclose CSR activities, regardless of the company's financial position. Alfaiz & Aryati (2019) state that profitability is not important for company to publish a sustainability report or produce reduced profits. With the level of profit margin decline, company will reduce social activities and focus on making a profit. The conclusion that can be drawn is profitability does not have influence on sustainability reports.

This research is in line with Adiatma & Suryanawa (2018), Kuzey & Uyar (2016), and Fatchurochman & Wahyu (2018) which show that profitability has no impact on the sustainability report. Publishing a sustainability report does not affect the company's bottom line because there are no direct benefits such as profits in the form of profitability. When profits are high, the company will tend no publish reports not quite enough corporate social responsibility because publishing report also increases costs company (Saputro *et al.* 2013). Research is not in line with theory *stakeholders* that the publication of sustainability reports growing with increased profitability. It means the more profitable company so less and less published sustainability reports, because the moment the company generates high profits, management doesn't feel the need to convey factors that do not support financial performance and interfere with information success company finances.

2) Influence of corporate social responsibility on sustainability report

Based on the partial test table, corporate social responsibility is proxied using the score natural logarithm of CSR costs to obtain a score probability of 0.000 which does not exceed 0.05 and the value of coefficient as big as 3.14179. The conclusion drawn is corporate social responsibility influential positive on sustainability reports. The better the application of corporate social responsibility, better are the sustainability reports.

This research is in line with Nutriastuti and Annisa (2020), Abdul (2019) and Ernawan (2014) show that *corporate social responsibility* has an influence on publication of sustainability reports. Indeed the implementation of CSR in the company is very much important. Not only for obeying applicable regulations, but the implementation of CSR also shows the concern of a company about the impact of its activities on the environment and society in around the area where the company operates. So, when the impact this handled with good like the use of labor in the vicinity of the business, they can contribute to an increase in the workforce by creating jobs, hence company already implements CSR with good (Ernawan 2014).

According to Suaryana (2012), CSR disclosure is one of the methods company for communicating with the community and stakeholders. CSR implementation becomes the starting point of gaining profit and legitimacy. The public makes sure of the continuity of life business. The company will give right trust in the community in the company's ability to meet contract social with public around. In line with the theory, the legitimacy is something the company keep striving for continuously to convince public that all activities carried out are within the limits of the standards applicable in the communities in which the company operates.

5 CONCLUSION

The results of the analysis show that the variables of *Islamic corporate governance* and *corporate social responsibility* have a positive effect on *sustainability report disclosure*. While the profitability variable as measured by *return on assets* has no effect on the *sustainability report disclosure* of companies listed in the *Jakarta Islamic Index 70*.

6 LIMITATIONS AND SUGGESTIONS

This study uses relatively short observations, namely three years from 2018 to 2020 with a limited number of samples, namely 34 samples of companies, so the data obtained is not representative of the company's status in the disclosure of sustainability reports. Furthermore, this research is limited only by considering three variables, namely *Islamic corporate governance*, *profitability*, and *corporate social responsibility*. Therefore, in future research, it is possible to determine other objects on the IDX so that there are more sources of research with this theme and obtain more samples. In addition, you can also use things that can affect the *sustainability report* such as *company size*, *liquidity*, *leverage*, and *industry type* and can explore more about the *sustainability report disclosure practices* by looking at the quality of the company's *sustainability report*.

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The theory of planned behavior examination on pro-environment consumer behavior: A study in Banjarbaru, South Kalimantan Indonesia

Widayat*, Helina Ade Putri, Sri Nastiti Andharini & Warsono
University of Muhammadiyah Malang, Malang, Indonesia

ABSTRACT: This study examines the Theory of Planned Behavior in the context of pro-environmental behavior. In particular, this study examines the influence of attitudes and norms on pro-environmental behavior. The study was conducted using a quantitative survey approach to the Banjarbaru community. The sample respondents were selected as many as 150 purposively. Questionnaires are used to collect sample respondent data. Data analysis using multiple linear regression plays SPSS software. The results of the research show that attitudes and norms have a significant positive effect on pro-environmental behavior. Planned Behavior Theory is consistent and able to explain behavioral problems in the context of environmental pollution caused by used plastic bottles

Keywords: Pro-environment, Attitude, Norma, Plastics waste, Post-consumption

1 INTRODUCTION

Environmental pollution is prioritized by countries worldwide, and Indonesia is no exception. The trigger is that people's lifestyles have reached a point where massive use of products packaged in chemicals, such as plastic. Product packaging in plastic, which is no longer used, is immediately disposed of in the environment without being processed first. According to the Indonesian Aromatic and Plastic Olefin Industry Association (INAPLAS), plastic consumption in Indonesia in 2015 reached 17 kg/capita/year. If the total population of Indonesia is 261 million people, the national use of plastic comes to 4.44 million tons (Kamsiati *et al.* 2017).

Plastic waste is a problem that has been increasing in volume until now. One of the reasons is that plastic waste will decompose over a long period, around 20 years, even up to 100 years. As a result, soil fertility is reduced, and the environment worsens. The use of plastic bags is increasing. Based on data from Indonesia's Domestic Waste Statistics, the amount of plastic waste reaches 14% of the total waste production in Indonesia (Indonesia Solid Waste Association 2014). Indonesia's waste production reached 66–67 million tons in 2019; this amount is higher than the amount of waste per year, which went 64 million tons in 2018. There are as many as 3.2 million tons of plastic waste and 1.3 million tons are wasted at sea (Permana 2019). The survey results related to the use of plastic waste during the implementation of Large-Scale Social Restrictions (PSBB) during the COVID-19 period in various regions were shocking. In Jabodetabek (Jakarta, Bogor, Depok, Tangerang, Bekasi), West Java, Central Java, East Java, West Sumatra, and Makassar, from April 20 to May 5, 2020, the amount of plastic waste soared. The results of the study on 1095 respondents aged 15 years and over showed that during the pandemic in Greater Jakarta, plastic waste from package delivery services increased 62% while plastic from fast food delivery services increased 47% (Humas LIPI 2020).

*Corresponding Author

The problem of environmental pollution by-product packaging plastic waste will worsen if it is not solved immediately. This issue is even more complicated because of the contributions of various actors. Rufinaldo (2019) explained that an effort to reduce the environmental impact of solid waste could be made by minimizing the use of plastic, such as the agreement made by European Union (EU) countries in December 2019. They agreed on restrictions on single-use plastic products to reduce waste in the sea and land for its member countries. Plastic plates, cutlery, straws, balloon sticks, and disposable earplugs will be banned in 2021. In addition, EU member states have also agreed to collect 90% of plastic bottles by 2029. Plastic bottles must consist of at least 25% content which can be recycled in 2025 and 30% in 2030. Environmental pollution due to plastic waste is a worry if no effort is made to overcome it.

One of the urgent problems related to environmental pollution caused by plastic waste is the community's insufficient knowledge, awareness, and behavior in managing plastic waste. This issue is still interesting to study from a theoretical and empirical perspective. From the practical side, there have been many studies on consumer attitudes related to environmental problems. In theory, green consumer behavior can be explained by the Theory of Planned Behavior (TPB). Paul *et al.* (2015) stated that the Theory of Planned Behavior (TPB) provided a theoretical framework for researching consumer behavior in purchasing green products. According to Jaolis and Lee in Suryandari *et al.* (2016), a person's behavior, including ecological behavior, is determined by his intention to behave ecologically, attitudes, subjective norms, and perceptions of behavioral control.

Various studies are relevant to the issue of environmental pollution. For example, research by Kaiser and Fuhrer in Sujana (2018) concerns the relationship between ecological attitude and ecological behavior in the associations of transportation users in Switzerland. It is explained that 40% of behavior predicts habit formation, and 75% of behavioral control predicts habit formation. In addition, other factors cause environmental behavior, namely behavioral control. Nilasari *et al.* (2013) examined the variables of attitude, ecological concern, and purchase intention of green products using a quantitative approach and playing path analysis. The results of this study indicate that attitudes significantly positively mediate the effect of environmental concern on the purchase intention of green cosmetics or products. Meanwhile, Hendarsyah *et al.* (2020) examined the impact of socialization, awareness, and attitude variables on green consumer behavior in plastic waste management. The Structural Equation Model (SEM) found that attitudes influence green consumer behavior significantly.

Safitri *et al.* (2019) examined the effect of education level, knowledge, and attitude on waste management behavior, with a quantitative approach using observational analytic methods and cross-sectional design. It was found that the level of education, knowledge, and attitudes was positively and significantly related to waste management behavior. In comparison, Amalia (2019) tested the influence of attitudes, subjective norms, and perceived control on behavior. The results of this study indicate that attitudes, subjective norms, and perceptions of behavioral control are positively significant in the tendency of green behavior. In addition, Utami (2020) examines the variables of green consumer behavior, environmental education, behavior, repetitive habits, and political treatment using a quantitative approach with multiple linear regression data analysis methods. The results showed that environmental education and behavior did not have a significant positive effect, while repetitive habits and political treatment significantly impacted green consumer behavior.

Sujana *et al.* (2018) researched environmental care attitudes and behaviors. Using a quantitative correlational approach, it is found that there is a significant positive relationship between attitudes and environmental care behavior. Meanwhile, Saputro *et al.* (2016) examined ecological knowledge, socioeconomic level, education level, and environmental care attitude variables. This study's results indicate a significant positive relationship between environmental knowledge, socioeconomic status, and education level on environmental care attitudes. Suryandari *et al.* (2016) also investigated behavior, attitudes,

subjective norms, and perceived control variables. The results showed that ecological attitudes, subjective norms, and perceptions of behavioral control had a positive and significant effect on ecological behavior. There is no significant difference in environmental knowledge, attitudes, and behavior.

Likewise, Azhar *et al.* (2015) researched the variables of environmental knowledge, knowledge of ecological ethics, attitudes, and behavior. Using a descriptive quantitative approach, it was found that there was a significant positive relationship between Understanding the environment and knowledge of environmental ethics on attitudes and behavior. Similar research was conducted by Ahmadi *et al.* (2018) regarding environmental knowledge and environmental care attitudes. The results show that ecological knowledge does not entirely influence the attitude of caring for the environment.

The variations of the research findings described above still have interesting gaps and invite further studies. Furthermore, testing the relationship between green consumer behavior, especially pro-environmental behavior, attitudes, and norms towards post-consumption plastics, is still very interesting. Therefore, this paper examines environmental attitudes and norms towards green consumer behavior. This research can contribute to solving environmental sustainability problems by forming attitudes and norms in specific communities. An interesting question in this paper is whether consumer attitudes towards post-consumption plastic packaging and consumer norms affect pro-environmental behavior.

2 RESEARCH METHODS

2.1 *Research sites*

This research was conducted in Banjarbaru, South Kalimantan, concerning the Waste Recapitulation Data of South Kalimantan Province. This location was determined because there is data that the composition of the weight of plastic waste in each Regency and City in South Kalimantan is the second-highest after organic waste (Cipta Karya Public Works Department 2021).

2.2 *Types of research*

This study examines the effect of independent variables on the dependent variable, using a quantitative explanatory research approach.

2.3 *Population and sampling techniques*

The population in this study is the people of Banjarbaru, South Kalimantan. The sample was selected from as many as 150 residents as respondents using purposive non-probability sampling. The selection was carried out with specific requirements, namely residing in South Kalimantan Province, aged more than 17 years, because they are considered mature and rational in making decisions.

2.4 *Data collection technique*

Data were collected employing a questionnaire that was given directly to the respondents. The questionnaire used is a five-response Likert scale that has been tested for validity and reliability. The results of the questionnaire test are shown in Table 2.

2.5 *Variables and indicators*

The variables in this study are broken down into clear indicators, as shown in Table 1.

Table 1. Operational definitions of variables and indicators.

Variable	Definition	Indicators
Attitude	Knowledge and assessment of respondents regarding environmental pollution by plastic bottle waste	a. Understanding of the importance of protecting the environment from plastic bottle waste pollution b. Managing plastic bottle waste c. Understanding the importance of protecting the earth and the environment from plastic waste pollution d. Sorting out plastic bottle waste e. Support the attitude of environmental cleanliness
Behavior	The actions taken by respondents relate to plastics bottles post-consumption	a. Good behavior throwing plastic waste in the right place b. The behavior of littering is still carried out c. The behavior of separating waste according to its type d. The behavior of collecting plastic bottle waste for reuse e. The behavior of disposing of plastic waste in the right place
Norma	the views of people around about the environment and plastic waste	a. Dispose of plastic bottles indiscriminately b. Self-assessment when disposing of plastic bottle waste. c. The desire to be someone around when throwing plastic waste d. The importance of disposing of plastic bottles e. Environmental pollution is a government responsible

Table 2. Validity test.

Variable	Item	Sig	R	r Table	
Attitude (X1)	X1.1	0.05	0.966	0.159	Valid
	X1.2	0.05	0.942	0.159	Valid
	X1.3	0.05	0.952	0.159	Valid
	X1.4	0.05	0.832	0.159	Valid
	X1.5	0.05	0.912	0.159	Valid
Behavior (Y)	X2.1	0.05	0.817	0.159	Valid
	X2.2	0.05	0.871	0.159	Valid
	X2.3	0.05	0.848	0.159	Valid
	X2.4	0.05	0.707	0.159	Valid
	X2.5	0.05	0.804	0.159	Valid
Norm(X2)	Y1.1	0.05	0.746	0.159	Valid
	Y1.2	0.05	0.710	0.159	Valid
	Y1.3	0.05	0.770	0.159	Valid
	Y1.4	0.05	0.736	0.159	Valid
	Y1.5	0.05	0.786	0.159	Valid

In Table 2, it can be seen that all of the items have an r-count value greater than the r-table, which is 0.159. Therefore, it can be concluded that all instruments on the attitude, norm, and behavior variables used in the study are valid. While the reliability test, using Cronbach Alpha. If the value of Cronbach Alpha > 0.60 , the variable is declared reliable. Each variable obtained the Cronbach Alpha Attitude (0.955), Norm (0.867), and Behavior of 0.802, all of which exceeded 0.6 so that it was declared reliable.

3 RESULTS AND DISCUSSION

3.1 Overview of research objects

South Kalimantan is one of the provinces in Indonesia which is located between 1°21' 49" to 4°10'14" South Latitude and 114°19' 13" to 116° 33' 28" East Longitude with an area of 37,377.53 km² or only 6.98% of the island of Borneo. Geographically, it is located in the southeastern part of the island of Borneo and has a lowland area on the west and east coast, as well as a plateau formed by the Meratus Mountains in the middle of the island. This province has two cities and 11 regencies. The region of South Kalimantan has many rivers, which increases the water volume when rainfall and water flow are high. In 2021 and 2022, there are several conditions where the province of South Kalimantan will experience high floods due to high rain. People who litter, especially plastic bottles that are very difficult to decompose cause the flow of water to the river to be blocked. The impact is there was a flood in the province of South Kalimantan.

3.2 Characteristics of respondents

From the aspect of age, the majority of respondents are aged 21–24, 40.6%, female, with 64%. Based on the latest education, the majority is 46.67% of students.

3.3 Description of respondents' answers regarding attitude

The attitude variable consists of five statements given to respondents: protect the environment from plastic bottle waste pollution, manage plastic bottle waste, protect the earth and the environment from plastic waste pollution, sort out plastic bottle waste, and support environmental cleanliness. Each statement has a high index value and can be categorized as good. This means that the attitude of the Banjarbaru community regarding plastic bottle waste is good. Regarding attitudes about protecting the environment from pollution from plastic bottle waste, the highest index value is 84.5. This means that the community's attitude

Table 3. Characteristics of respondents.

Age Group	Frequency	Percentage
17 – 20	37	24.6%
21 – 24	61	40.6%
25 – 27	15	10%
> 28	37	24.67%
Total	150	100%
Gender		
Male	54	36%
Female	96	64%
Total	150	100%
Education Level		
Student	70	46.67%
Junior High School	3	2%
Junior High School	46	30.67%
Diploma (D1, D2, D3, D4)	7	4.67%
Graduate (S1)	22	14.67%
Post Graduate (S2)	2	2%
Total	150	100%

Source: Primary Data.

is categorized as supporting maintaining a clean environmental culture from plastic bottle packaging. Attitudes regarding plastic bottle waste management get an index of 83.61. This management is an effort so that plastic bottle waste can be reused or processed into goods that are beneficial to the surrounding environment and have a good resale value. The attitude statement about protecting the earth and the environment from plastic waste pollution gets an index of 84.24. This positive thing can be seen from implementing plastic bottle recycling, and consumers are becoming more efficient because they use plastic packaging many times. In relation to the statement regarding protecting the earth and the environment, sorting plastic bottle waste gets an index of 74.79, which is the application of environmental stewardship that can help the background be free from unused plastic packaging.

3.4 *Description of respondents' answers regarding norm variables*

The norm variable consists of five statements: littering of plastic bottles, self-assessment when disposing of plastic bottles, views if there are people around when disposing of plastic waste, the importance of disposing of plastic bottles, and environmental pollution is a government matter. The item regarding the importance of disposing of plastic bottle waste shows the highest index value of 68.26, where the index value has an excellent interpretation. The public understands that the norm of disposing of plastic bottle waste is essential to keep the environment clean. On the other hand, the norm of littering plastic bottles indiscriminately gets an index of 52.66, including the medium category. This norm applies in society; it can be seen from the perspective of other consumers that if someone throws plastic bottle waste carelessly, it can be a warning or advice not to do this.

3.5 *Description respondents' answers about behavioral variables*

The behavioral variable consists of five statements given to respondents; it is stated that the behavioral item of collecting plastic bottle waste for reuse has the highest index value of 73.33, including high. The behavior of disposing of garbage in the right place is good because there are already many separate trash cans according to their type. The statement regarding good behavior in disposing of plastic waste in the correct place gets an index of 71.2 in the high category. The behavior of separating waste according to its type has an index of 65.33 in the medium category. Many consumers still throw their garbage in the trash without paying attention to the kind of waste. Only some throw garbage in separate places.

Furthermore, the behavior of collecting plastic bottle waste for reuse got an index of 55.6 in the medium category. Consumers in everyday life are rarely seen to reuse plastic bottles because used goods are usually considered dirty and have no more selling value. However, for some consumers, there are still those who collect plastic bottle waste not only for use or for resale.

3.6 *Data analysis and hypothesis testing*

Data analysis in this study used linear regression. The stages of testing fulfill classical assumptions, including normality, heteroscedasticity, and autocorrelation tests. Normality test using Kolmogorov-Sminov. If the significant value is > 0.05 , it can be expected. While if the considerable matter is < 0.05 , it can be considered abnormal. The test results were obtained from the Asymp deal. Sig (2-tailed) of 0.296, more than 0.05. So it was concluded that the data used in this study were standard. While the Heteroscedasticity Test is used to see whether or not heteroscedasticity occurs by looking at the probability value (sig). If the probability value (sig) > 0.05 , it is concluded that there is no heteroscedasticity. The probability value of the attitude variable is 0.799, and the norm is 0.058, higher than 0.05. So it can be concluded that there is no heteroscedasticity in the regression model. The value used to indicate multicollinearity is VIF. If $VIF > 10$ indicates, multicollinearity occurs. The

Table 4. Results of multiple linear regression.

	Regression Coefficient	Standardized Regression Coefficient	T Stat	Sig
Constans	1.996		1.772	0.078
Attitude	0.386	0.464	7.409	0.000
Norm	0.395	0.369	6.303	0.000

Source: Primary Data.

results of the multicollinearity test showed a tolerance value of 0.994 and a norm of 0.094. Meanwhile, the VIF value for each variable is 1.006 and 1.006, respectively. The VIF value is less than 10. Therefore, it can be concluded that there is no multicollinearity in the regression model.

Table 4 above states that the calculated T value of the attitude variable is 7,409, which is greater than 1.96, and the sig value of 0.000 is less than 0.05. The computed T value of the norm variable is 6.303, which is also greater than 1.96, with a sig value of 0.000, which is smaller than 0.05. From these figures, it can be concluded that attitudes and norms significantly affect post-consumption behavior. The attitude variable coefficient of 0.386 and norm of 0.395 is positive. This means that the higher the value of attitudes or norms, the higher the value of pro-environmental behavior regarding used plastic bottles. The Standardized Coefficient Beta values of attitudes and norms are 0.464 and 0.369, respectively. This figure indicates that attitude is a variable that influences behavior towards post-consumption plastic, which is greater than the norm.

4 DISCUSSION

4.1 *The influence of attitude on post-consumption behavior*

From the results of this study, it is known that the lowest indicator value is the attitude of the people of Banjarbaru, South Kalimantan, in managing plastic bottle waste. Suppose the people of Banjarbaru, South Kalimantan, care and have a good or positive attitude towards working plastic bottle waste with 3R (reduce, reuse, recycle). In that case, it will have a positive impact on environmental sustainability. The behavior of most of the pro-environment people will be an example for other surrounding communities as things considered normal, good things to do. This study also found that the people of Banjarbaru, South Kalimantan, still maintain the environment from pollution from plastic bottle waste.

Discussions regarding the relationship between attitudes towards behavior usually refer to the theory of planned behavior (TPB). Based on this theory, the most critical determinant of a person's behavior is the intention to behave. Good individual attitudes towards the behavior influence the behavioral preferences, perceptions of subjective norms, and the extent to which individuals perceive behavior under their control (Sawitri *et al.* 2015). Therefore, attitude plays an essential role in a person's behavior. Based on the influence of norms on behavior, it can be said that the theory of planned behavior is still relevant and can be used to explain the problem of pro-environmental behavior—likewise, the behavior of the Banjarbaru community towards plastic waste. A positive attitude towards the environment impacts people's behavior towards plastic waste. The more positive the attitude of the people of Banjarbaru, South Kalimantan, the stronger they will behave to reduce environmental pollution from plastic bottle waste after consumption. The results of this study support research conducted by Meliseh (2011), Sarwono (2012), Sujana (2018), and Dewi (2011),

which state that attitudes have a positive and significant effect on post-consumption consumer behavior.

4.2 *The influence of norms on post-consumption behavior*

Research by Ittiravivongs (2012), Suprapti (2015), and Adil (2010) states that norms have a positive and significant effect on post-consumption consumer behavior, in line with the findings of this study. Consumer behavior in consuming green products is a real consumer action to participate in preserving the environment. In this case, consumers play an essential role in protecting the environment. The results of Rahab's research (2017) show that Indonesian consumers' intentions to buy green products are influenced by attitudes towards green product purchasing behavior, subjective norms, perceived behavioral control, and moral norms. Other results show that the formation of consumer attitudes related to the purchasing behavior of green products is influenced by subjective norms, ethical norms, environmental awareness, and environmental knowledge. Based on the influence of norms on behavior, it can be said that the theory of planned behavior is still relevant and can be used to explain the problem of pro-environmental behavior.

The normative trust value of consumers in Banjarbaru, South Kalimantan, is the motivation for behavior. Normative belief means the strength of a person's normative belief in the attributes that influence his behavior towards the object. At the same time, motivation is a person's motor to agree with the details provided as factors influencing his behavior. The people of Banjarbaru, South Kalimantan, will easily follow the existing reference groups, strongly motivated to protect the environment from plastic bottle waste. Therefore, the orientation of consuming a product purchased by the community can become a social norm. Individual belief in norms is a fundamental process that forms the basis for action, which can be applied in everyday life. The interaction of norms in the surrounding environment can influence and encourage environmental care behavior.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 *Conclusion*

Based on the research and discussion of the influence of attitudes and norms on behavior after plastic bottle consumption, it can be concluded that attitude has a positive and significant effect on behavior after plastic bottle consumption. If the consumer's perspective is improving, then the consumer's behavior towards plastic bottles is improving too. The norm variable positively and significantly affects the post-consumption behavior of plastic bottles. This means that if the norms in the consumer environment are excellent and exemplary, consumer behavior towards plastic bottles will be even better. Therefore, the theory of planned behavior is still relevant and can be used to explain behavioral problems, even in pro-environmental behavior.

5.2 *Recommendation*

Based on the research results, discussion, and conclusions, suggestions can be given, including the South Kalimantan provincial government is expected to continue to educate the public about the importance of behavior in protecting the environment. Law enforcement creates an order that makes a cooperative society and becomes the applicable control to improve attitudes, norms, and post-consumption behavior. The attitude of having the highest value Norm also greatly influences protecting the environment so that it remains clean from plastic bottle waste. With the awareness and sensitivity of consumers to the norms that apply in society, and the urge to do good things that are also done by the

community, norms need to be maintained so that a clean environment is maintained. This research can be used as a reference for further research by developing research using the same factors but with research subjects outside of plastic bottle waste. But with the addition of other variables, such as behavioral control.

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Analyzing the perceived understanding of public managers of data quality for data-driven decision-making at local government in Indonesia

Djoko Sigit Sayogo*, Sri Budi Cantika Yuli & Firda Ayu Amalia

Faculty of Economics and Business, Universitas Muhammadiyah Malang, Malang, Indonesia

ABSTRACT: This study examines the perceived understanding of public managers regarding what constitutes high-quality data and its roles in supporting data-driven decision-making. In-depth interviews with 21 public managers of agencies and offices at the Regency of Bojonegoro, Indonesia were conducted to gather the empirical data. Our findings demonstrate that, in the case of a developing country such as Indonesia, insufficient policies and regulations and a non-existent evaluative framework for data quality, amplified by disruptive local tradition and the ingrained autocratic administration, significantly affect how public managers view data quality and its roles in data-driven decision-making.

Keywords: Public managers, Data, Decision making

1 INTRODUCTION

Data usage is a prominent issue in understandings the impact and benefits of adopting information and communication technologies (ICT) for governments worldwide. The use of data and information have become indispensable in the making and execution of decisions that are smart, efficient, and more responsive to current social problems in the public sector (Scholl & Scholl 2014). As a result, efforts to democratize data through initiatives such as open data and open government have become prominent in the last few decades (van Oijen *et al.* 2019).

Data-driven decision-making refers to the drawing of hindsight, insight, and foresight from data analysis to base the decision in opposition to simply using intuition or experiences (Provost & Fawcett 2013). Using data and information facilitated by the ICTs arguably improves the quality of the government's decisions in addressing wicked social problems. The COVID-19 pandemic and the Ebola crisis in 2014 avidly demonstrated the crucial roles of data and information analysis for a more accurate public health decision (Griliopoulos 2014; Harrison & Pardo 2020). The massive growth of data brought forth by the advancement of ICTs and data sciences elevates data-driven decision-making to a higher level (Brynjolfsson & McElheran 2016; Provost & Fawcett 2013; Richards & King, 2013).

Extracting hindsight, insight, and foresight from data analysis to base the decision-making is beneficial for the government in terms of administrative and policy settings (Mandinach 2012; Hwang *et al.* 2021), financial aspects (Brynjolfsson *et al.* 2011), as well as in crisis and high uncertainty environment such as healthcare (Kennedy 2009). For instance, a database policy-making process engenders transparent, faster, and more precise policy actions and increases government operations' efficiency (Brynjolfsson *et al.* 2011; Matheus *et al.* 2018).

*Corresponding Author

More accurate and transparent policy actions by basing the policy on data will result in developing a better trusting relationship between the public and government (Harrison & Sayogo 2014; Matheus *et al.* 2018); whereas imprecise policy decisions and actions could widen public distrust (Matheus *et al.* 2018).

The Indonesian government has been fronting significant efforts to push the availability and use of data. They have been pushing for more data openness through initiatives such as the Open Government Partnership (OGP) movement in 2011 or the recent enactment of Presidential Regulation No. 39 of 2019 regarding the establishment of One Indonesian Data. However, the policy implementation in Indonesia is argued to be inadequate and futile. The argument stemmed from, in particular, the evasion of the government to base their decision on a comprehensive analysis of data and facts (Pramusinto & Irawati 2017). Nonetheless, for the government to reap the benefits of basing decisions on data analysis, the quality of data itself becomes one of the most crucial determinants (Cai & Zu 2015). Lower quality of data could distort and falsify the decision generated from the data. As such, the ability of public managers in government to know and ascertain the quality of the data becomes vital. Hence, based on in-depth interviews with 21 public managers at the Regency of Bojonegoro, Indonesia, this study articulates the perceived understanding of the public managers regarding what constitutes high-quality data and its roles in supporting data-driven decision-making.

This paper consists of 4 sections, including the preceding introduction. Section 2 highlights studies evaluating data-driven decision-making, data quality, and its challenges. Section 3 presents a description of the research methodology. Section 4 provides the findings, discussions, and concluding remarks. Unless specified otherwise, this paper will use data interchangeably with information.

2 DATA QUALITY AND DATA-DRIVEN DECISION-MAKING

Studies indicate that the use of data to support the decision-making process is not solely propagated by the availability of data or advancement in data science (Marsh *et al.* 2006). Various challenges hinder data adoption as the basis of decision-making in the public sector, ranging from economic, social, and technical aspects. Resources in terms of financial and human resources are critical for the government in basing data on their decision-making processes (Brynjolfsson & McElheran 2016). The government needs different skills to utilize data as the basis of decisions. Analysis and usage of high-volume and complex data require cross-disciplinary skills (Towe *et al.* 2020).

On the other hand, it is valid to argue that data quality is the essence of data-driven decision-making without disregarding the availability of financial resources and/or necessary capability. The managers' ability to exercise data-driven decision-making will be hindered by the absence of high-quality data used for the analysis (Kennedy 2009; Witjas-Paalberends *et al.* 2018). Accurate, timely, and economical ways of using data affect the ability of decision-makers to use data to base their decision-making processes (Kennedy 2009). Likewise, the lack of accessibility and availability coupled with a wide variety of data could complicate the use of data for decision-making (Witjas-Paalberends *et al.* 2018). The fact politics and human fallibility consistently affect the decision-making in the public sector (Harrison & Pardo 2021) exacerbates the need for a higher quality of data. More so in the case of Indonesia, where political interest and intuition are more prominent in affecting Indonesia's public officials' policy and administrative decisions (Bachtiar 2011; Hwang *et al.* 2021).

Studies defined data quality as "fitness for use," which indicates that the characteristics constituting data quality depend on the individual who uses it (Tayi & Ballou 1998; Wang & Strong 1996). Thus, data quality is a multi-dimensional concept in which data quality analysis should be done from multiple attributes or dimensions that define its quality (Pipino *et al.* 2002; Tayi & Ballou 1998). Likewise, since the level of quality of data is relative to its

users then, it is plausible to argue that determining data quality can be done from two lenses: a) the subjective perceptions of its users and b) the objective data quality metrics (Pipino *et al.* 2002).

A subjective data quality assessment refers to evaluating the data quality from the users' needs (Pipino *et al.* 2002). This assessment is relative to the user's perceptions regarding their need for the data considering different users may have different requirements for data quality (Tayi & Ballou 1998). Mainly because the quality of data deemed appropriate by one user may not possess the adequate quality requirements for other use. Thus, a subjective evaluation of data quality must conform to the needs and experiences of the stakeholders of the data, namely: the collector of data, the stewards, and the consumers/users of data (Ballou *et al.* 1998).

The objective metrics of data quality signify the attributes, dimensions, or characteristics representing data quality. Many studies discuss the dimensions of data quality resulting in a wide variety of data quality dimensions. Despite the numerous studies, a consensus on what constitutes the ideal data quality dimensions is not yet existed (Ehrlinger & Wöß 2022). The most commonly used data quality dimension is the one proposed by Ballou & Pazer (1985). They offer four (4) data quality dimensions, namely: accuracy, completeness, consistency, and timeline.

3 METHODS

The study conducted in-depth semi-structured interviews to identify and analyze what constitutes high-quality data for data-driven decision-making at the local government level in Indonesia. In-depth interviews with 21 public managers of agencies and offices at the Regency of Bojonegoro, Indonesia were conducted to gather the empirical data (see Table 1). All interviews were recorded and transcribed to obtain rich empirical data. Interviews were transcribed and analyzed following an inductive logic and using grounded theory techniques (Strauss & Corbin 1997). The analytical processes conducted by the research team were iterative. Each team member analyzed the interview transcripts and then discussed them in the group resulting in inductive coding themes. Validation of the analysis results in two stages. First, we contrasted the resulting constructs with the previous studies initially used as theoretical lenses. Second, we also asked the respective interviewees to re-validate the resulting challenges identified in the analysis of the interviews.

Table 1. Composition of the interviewees.

No.	Position	Number of Interviewees
1	Head of Department	17
2	Head of the Board	1
4	Unit manager	3
	Total	21

4 RESULTS AND DISCUSSION

Most interviewees stated that the challenges related to ensuring data reliability in terms of validity, accuracy, and timeliness are crucial for data-driven decision-making. The interviewees accentuate that accuracy and validity trump a volume of data. As underlined by one of the interviewees, "the most important things are data accuracy and validity. The volume of data itself is not that significant. As you know, large but inaccurate data is useless to us. So accuracy and validity are the main game here." The data validity becomes the major

indicator to assure the decision-maker that data is usable. As stated by one of the interviewees, “we assess the data validity and those with the highest validity will be used as the main foundation for the decision”.

However, trust in data quality is marginal in the Regency of Bojonegoro. To ensure data validity, the agencies and offices often conduct more expensive plans by re-validate or re-verifying the data. The re-validation was performed by comparing the data with the reality in the field. One of the interviewees acknowledged, “We validate data directly, by observing in person in the field and identify whether (for instance) the building is indeed damaged or there is lacking this or excess that. Only when the data confirm the reality will we use the data.” The low trust in data quality also stems from the distrust of data sources and the data collection methods since there is no mechanism to evaluate data validity. One of the interviewees emphasized that “the data collection process should be correct for us to trust it, so we implement a biking strategy that requires the staff to go to the school every Saturday and observe to make sure the data is real and valid.”

To complicate the matter, the challenge to data validity also materializes from the data conflict in which the data collected by one agency conflicts with similar data collected by other agencies. According to one of the interviewees from the Department of social services, “Our biggest challenge is often data conflict when we compare similar data from different agencies. For instance, population data collected by the Bureau of Statistics is different from the same data collected by the Department of Civil Registry Services. Which one to trust, we don’t know.”

The agencies and offices also implement additional measures to ensure data trustworthiness by requiring the data to be printed, officially stamped, and signed by the data collector. Thus, guaranteeing that somebody can be held accountable for the data if anything goes wrong. One of the interviewees underlined, “The data source should be clear and legitimate. We need a signature and official stamp because if nobody claims responsibility, then we don’t want to use the data.” The agencies and offices in the Regency of Bojonegoro also emphasized the exact following of formal administration of the data collection process. The practice entails that the data should come from other recognizable agencies or offices, and the agencies should support any data request and response with an official letter. As one of the interviewees affirmed, “Yes, I will believe that the data is correct if we formally requested the data and the owner formally responded to the request with signature and stamp. Yes, through an official application.” Regretfully, as acknowledged by the interviewees, the whole process to ensure validity is expensing the time for data collection and the relevance of data.

Consequently, while the agencies and offices were adamant about ensuring the validity of the data, they were mostly silent about the timeliness and relevance of the data for decision-making. Only one agency mentions the need to collect data timely in passing. Withal, contradictory with the efforts to ensure validity, the interviewees acknowledge the existence of a “special request.” The special request represents the request to use less relevant data to fulfill other benefits such as politics. As stated by one of the interviewees, “sometimes there are “requests” to use this data <specific data>.” Although we contentiously realize the other data is more relevant than those data, what can we say? We didn’t have a way to say no, even if it was against our conscience.

The interviewees affirmed using experience to identify data relevance and choose which data to use for the decision. As one of the interviewees acknowledged, “from that experience, ya . . . not all data is used to make a decision. Yes, some data is important, but we feel it does not affect the decision; we choose only data that matter.” The interviewees asserted that the issue’s urgency would further influence how they will use experience and institution. The very urgent issue mainly will be dealt with using intuition; as stated by one of the interviewees, “intuition for urgent matter requires prompt action, we use intuition for things like that about more than 50% using intuition the rest experiences and supplemented by data.”

5 CONCLUSION

Our findings accentuate critical challenges related to data facing the agencies and offices using data-driven decision-making in a developing country such as Indonesia. The findings indicate all interviewees accede to the importance of ensuring data quality, particularly validity and accuracy, in decision-making. The results further demonstrate the low level of trust in the existing data stems from a lack of trust in the data collection processes. The non-existence of formal and standardized mechanisms to ensure data quality led to a higher distrust of the data, which conformed the Mandinach's (2012) argument. The availability of an evaluative framework will enable the assessment of the effectiveness and efficiency of the data-driven decision-making process and understanding of the components for constructing the data-driven (Mandinach *et al.* 2006). The lack of an evaluative framework inhibits the use of data. It increases the cost of using data for decision-making. Based on the interview results, agencies and offices were forced to carry out additional, often expensive processes to ensure data quality for re-use. The findings thus enrich and fill the gap in the literature on data-driven by accentuating the significance of regulation and policies; and highlighting the strong influence of local norms and value in affecting the perceived understanding of data quality as the basis for data-driven decision-making. Our findings demonstrate that, in the case of a developing country such as Indonesia, insufficient policies and regulations and a non-existent evaluative framework for data quality amplified by disruptive local tradition and the ingrained autocratic administration significantly affect how public managers view data quality and its roles in data-driven decision-making in the local government in Indonesia.

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The role of organizational citizenship behavior for environment (OCBE) in mediating the effect of Corporate Social Responsibility (CSR) on green performance

Rizki Febriani* & Sandra Irawati

University Muhammadiyah of Malang, Malang, Indonesia

ABSTRACT: Corporate Social Responsibility (CSR) is an important concept for organizations for their good image in society. In addition, currently, the concept of employee behavior that is more concerned with the environment is needed for sustainable performance improvement. In essence, an organization should not only think about how it can make a profit but also have to care about the social impact it has on the environment and society. This research was conducted on lecturers at the University of Muhammadiyah Malang (UMM). The sample is 105 using path analysis on the smart-PLS (i.e., smart partial least square) method. The results of this study show that when universities implement CSR programs, this will increase organizational citizenship behavior for environment (OCBE) and this increase turns out to make the performance of the lecturers, especially green performance, better. Suggestions for university leaders to continue to pursue CSR programs that can be felt by the wider community, besides that they always encourage lecturers to behave in a caring environment in their daily work.

Keywords: Organizational Citizenship Behavior for Environment (OCBE), Corporate Social Responsibility (CSR), green performance, Green Human Resources Management (HRM)

1 INTRODUCTION

Corporate social responsibility (CSR) is a concept that is commonly applied in companies. For them, this must be considered because it is related to their image in society. For a university, social responsibility must also be carried out. Because it is related to the position of their image in the stakeholders. For universities, the form of social responsibility is formally implied in the Tridharma of Higher Education, namely community service. The implementation of higher education social responsibility has a wide scope which includes the environment, community, business/industry world, and local government. According to (Novia & Putu 2018), apart from being an obligation to carry out social responsibility in the form of community service, the image of a university can be built through various kinds of useful activities. Various activities are carried out that will be perceived by the community. The activities carried out by universities must be oriented toward the benefits that have been given or received, and as desired by the target audience group, the benefits that are displayed through good service quality.

There is a growing interest in CSR among academics and practitioners. Companies are now expected not only to be accountable to their shareholders but also to society at large.

*Corresponding Author

Universities, as centers of knowledge generation and sharing, play a very important role in solving the world's problems by ensuring a sustainable future. Many researchers state that there is a significant influence between CSR and the performance of organizational members (Malik *et al.* 2021; Siregar & Br Bukit 2018; Wijaya 2020). On the other hand, some conclude that there is no influence between CSR and performance (Ifada *et al.* 2019; Margaretha & Rachmawati 2016; Sameer 2021). For this reason, in this study, researchers included the organizational citizenship behavior for environment (OCBE) variable as a mediation to fill the research gap (Saputro & Nawangsari 2021).

OCBE is defined as employee behavior to contribute to a better and more sustainable environment. With the behavior of employees who are more environmentally friendly, it is hoped that the performance of organizational management can increase, especially regarding employee performance in protecting the environment in their workplace. This behavior includes many approaches such as reducing pollution in the workplace, finding solutions to reduce waste, promoting and implementing green technologies, and attending environmental conferences to gain more knowledge about managing environmental protection.

University of Muhammadiyah Malang (UMM), a leading university in Indonesia, has taken steps to protect the environment. In 2013, UMM established itself as a Green and Clean campus, to support this program UMM has provided 350 wind bikes of various types. Even that number will continue to be increased to reach thousands to facilitate the traffic of lecturers, employees, and students on campus. In addition, UMM also provides shuttle vehicles to pick up and drop off at certain stops with a special design to reduce air pollution.

UMM also applies environmentally friendly energy and of course with efficiency. This can be seen from the electricity consumption. Before 2007, UMM still had to spend an average of IDR 30 million per month to pay the electricity bill per month. The funds are to meet the electricity needs of around 31,000 students, the largest number among other Muhammadiyah campuses in Indonesia. But after 2007, after the emergence of the micro hydro power plant (PLTMH) which was successfully developed at UMM, the alternative energy was able to support electricity consumption by more than 20%. The power plant utilizes the swift overflow of Brantas River water which is dropped from a height of 17 meters, to drive a cross-flow turbine as an electric generator generating power with a maximum energy of 100 kW.

In its journey, UMM also did a lot of community service related to protecting the environment, UMM entered the community and schools to provide counseling for them about how to preserve the environment by planting plants and making green corners so that clean air can be obtained. With many programs launched by UMM in maintaining environmental sustainability, researchers are interested in finding empirical evidence of the relationship between CSR on Green Performance and OCBE as a mediation that has never been done before. This is with the hope that it can add to the limited scientific literature on CSR, OCBE, and green performance and also as consideration for input for UMM in carrying out its programs.

1.1 *Theoretical framework*

Several researchers state that there is a significant positive relationship between CSR and performance (Chaudhary 2020; Malik *et al.* 2021; Siregar & Br Bukit 2018; Wijaya 2020). The better implementation of CSR in an organization will further improve the organizational performance of its employees. When companies carry out CSR programs well, this can increase the stigma that is good for employees, that the company carries out activities that care about the environment so as to encourage employees to do the same.

Luu (2017) and Oo *et al.* (2018) concluded that there is a positive influence between CSR and OCBE. CSR programs that are run regularly and continuously by the company and involve employees in its implementation will encourage the voluntary behavior of employees in protecting their environment. Considering the positive impact of CSR on OCB, leaders and managers should actively communicate and share information about CSR activities with organizational members.

Some research (Indarti *et al.* 2017; Saputro & Nawangsari 2021; Syed Noh 2021) states that there is a significant positive effect between OCB and the performance of organizational members. It was further stated that the behavior of employees who care about the environment can improve their performance in their daily work. The behavior of employees who voluntarily do work that exceeds the standard of the tasks assigned to them, in order to help the sustainability of the company in achieving its goals, especially in relation to protecting the environment will help them to produce better performance related to the environment. The better implementation of CSR in the organization can improve the behavior of employees who care about the environment and this can make their performance even better (Jayabalan *et al.* 2020; Khaskheli *et al.* 2020; Onyishi *et al.* 2020).

2 METHOD

2.1 *Sample and data collection procedure*

The sample in this study was a lecturer at the UMM with a sampling method from Yount (1999) which stated that if the population was between 100 and 1000, the sample was taken 10% of the total population. The population in this study was 800 so a minimum of 10% of the total population was taken, namely 80 people. To get more general results, the researcher in this case took a total sample of 105 people. Data collection was carried out from May to June 2022 using google forms.

2.2 *Research instruments*

The indicators for each variable are taken from research (Malik *et al.* 2021) and (Oo *et al.* 2018), namely for CSR consisting of three indicators, for OCBE there are 7 indicators, and the last 3 indicators for the green performance variable. The statement in the questionnaire uses a Likert scale with 5 points scale from strongly disagree to point 1 and strongly agree to point 5.

2.3 *Data analysis*

A quantitative survey approach research design has been adopted in the current study. Evaluation of the measurement model or outer model by looking at convergent validity (loading factor > 0.70), looking at discriminant validity, looking at average variance extracted (AVE > 0.50), and looking at construct reliability (> 0.60), it can be concluded that the measurement model is acceptable. Then further testing of the structural model or the inner model (model hypothesis) should be done by looking at the t value of the bootstrapping results, if the t value is $> 1,992$ (sig at 5%), looking at the regression coefficient and R2 values.

The partial least square (PLS) test evaluates the goodness of fit or the suitability of the model as in the regression that looks at the value of R2 (coefficient of determination). When running PLS calculation, we will get the regression coefficient value from the relationship between the variables, while to see whether this regression coefficient is significant or not have to run PLS bootstrapping to get the T statistic value and compare it with the t table to see if it is significant or not. Mediation hypothesis testing based on the significance of the indirect effect on PLS was done manually. If the z-value in absolute value = 1.992 or the level of statistical significance z (p-value) = 0.05, it means that the indirect effect of the independent variable on the dependent through the mediating variable is significant at a significance level of 0.05.

3 RESULT AND DISCUSSION

Goodness-of-fit (GOF) is used to assess the overall model (measurement model and structural model). GOF assessment is to pay attention to the GOF value. The squared value of the loading factor value is called commonalities (Communality).

$$GOF = \sqrt{Commuality \times R^2}$$

$$GOF = \sqrt{(0.802) \times (0.391)} = 0.5599$$

Based on the calculation of the GOF value, a value of 0.5599 (GoF large) was obtained, which means that the PLS model made has a high ability to explain empirical data, so it can be said that the overall prediction of the model is quite good.

3.1 *The direct effect of exogenous variables on endogenous variables*

This direct effect shows the magnitude of the direct effect of exogenous variables on endogenous variables without involving mediating variables.

Table 1. Direct effect.

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/ STDEV)	P Values
Corporate Social Responsibility (CSR) -> Green Performance	0.253	0.253	0.071	3.578	0.000
Corporate Social Responsibility (CSR) -> Organizational Citizenship Behavior for Environment (OCBE)	0.517	0.518	0.072	7.164	0.000
Organizational Citizenship Behavior for Environment (OCBE) -> Green Performance	0.552	0.557	0.065	8.558	0.000

Original Sample (O) = coefficient path.

The estimation results of the inner model for the direct effect of CSR on green performance show a p-value of 0.000, where the value is smaller than alpha 0.05, so it can be concluded that there is a significant direct effect. positively between CSR and green performance of 0.253. The positive influence of CSR on green performance can be interpreted that the better implementation of CSR will increase Green Performance.

The estimation results of the inner model for the direct influence of CSR on OCBE show a p-value of 0.000, where the value is smaller than alpha 0.05, so it can be concluded that there is a direct influence (direct effect) which is positively significant between CSR and OCBE of 0.517. The positive influence of CSR on OCBE can be interpreted that the better implementation of CSR will increase OCBE.

The estimation results of the inner model for the direct influence between OCBE on Green Performance show a p-value of 0.000, where the value is smaller than alpha 0.05, so it can be concluded that there is a direct effect. It is positively significant between OCBE and green performance of 0.552. The positive influence of OCBE on green performance can be interpreted that the better the OCBE, the more it will increase green performance.

3.2 *The indirect effect of exogenous variables on endogenous variables*

This indirect effect shows the magnitude of the direct effect of exogenous variables on endogenous variables by involving mediating variables.

Table 2. Specific indirect effects.

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Corporate Social Responsibility (CSR) -> Organizational Citizenship Behavior for Environment (OCBE) -> Green Performance	0.286	0.288	0.052	5.543	0.000

The path coefficient value for the indirect effect of CSR through OCBE on green performance is 0.286 indicating a p-value of 0.000 which is smaller than 0.05, so it can be concluded that the indirect effect between CSR through OCBE on green performance is significant. In other words, the better the implementation of CSR, the more it will increase OCBE, and thus increasing OCBE will increase green performance.

4 CONCLUSION

Empirically, good implementation of CSR by universities affects increasing OCBE, namely the behavior of organizational members to care more about their environment. This behavior turns out to be very important if it is associated with efforts to improve the green performance of lecturers. Lecturers as members of the most important organizations and a reflection of the face of universities in society must continue to strive to improve OCBE in their daily lives. In addition, leaders in universities must also continuously improve CSR programs to encourage increased OCBE implementation. It is hoped that in the end, Green's performance will also get better and of course, this will have a positive impact on the performance and image of PT in the eyes of its stakeholders.

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Green supply chain management practice and competitive advantage: Evidence in SMEs Malang City

Nazaruddin Malik & Kenny Roz*

University of Muhammadiyah Malang, Malang, Indonesia

ABSTRACT: Green Supply Chain Management (GSCM) is a traditional supply chain concept that combines environmental concerns such as product design, supplier selection, material procurement, production, packaging, consumer delivery, and product end use. This research is based on the collaboration of independent and dependent variables by examining the effect of GSCM, and competitive advantage on the operational performance of SMEs in the city of Malang. The purpose of this study was to determine the effect of GSM on the competitive advantage and operational performance of SMEs in Malang City. A total of 124 SMEs became respondents in this study. Data collection was carried out directly to respondents who were determined to share criteria. Data analysis uses path analysis techniques with analysis tools using SmartPLS. The results of this study indicate that GSCM has a strong impact on operational performance, GSCM has a significant positive impact on competitive advantage, and competitive advantage has a significant positive effect on operational performance. The interesting thing that can be found and reported is that competitive advantage can mediate the effect of GSCM on the operational performance of SMEs in the city of Malang. Overall, it can be concluded that good GSCM management is able to make a tactical strategy and is able to improve the operational performance of SMEs in the city of Malang.

Keywords: green supply chain, competitive advantage, operation performance, SMEs

1 INTRODUCTION

The industrial sector has a role in economic development in various countries. This is very important because the industrial sector has several advantages in terms of accelerating development. The existence of industrial development will spur and support the development of other sectors, one of the triggers for the development of the industrial sector (Muhtamil 2017). This is due to the role of technological advances that develop from time to time. An increase in industrialization causes environmental degradation and poses a significant threat to the surrounding environment, and therefore, a green industry concept is needed in every business process (Puryono & Kurniawan 2017). The concept of green industry must be applied in every business process by business owners engaged in the industrial sector, especially in the supply chain known as green supply chain management (GSCM). Every activity carried out by supply chain managers has the opportunity to create waste and hazardous materials for the surrounding environment. As a result, the idea of GSCM is appropriate for addressing supply chain environmental issues. GSCM is a traditional supply chain concept that incorporates environmental considerations such as product design, supplier selection, material procurement, manufacturing activities, packaging activities, consumer product delivery activities, and end-of-life products, specifically, the consumers (Heizer & Render 2014).

*Corresponding Author

GSCM must be implemented by all sectors and business scales, including micro, small, and medium enterprises (MSMEs) (Heriyanto & Noviardy 2019). Small, and medium enterprises (SMEs) have a key role in securing the economy in a country, this condition can be seen from the contribution of SMEs that have provided many positive things for the Indonesian economy, namely contributing 57–60% to GDP (Gross Domestic Product), then a contribution of 97% to the level of employment of the total number of workers in Indonesia. The application of the concept of GSCM will create an increased performance for SMEs in various aspects, one of which is environmental improvement and supply chain performance (Epoh & Mafini 2018). Furthermore, some things are no less important in the process of maintaining the existence of ongoing operational activities in SMEs, one of which is the existence of competitive advantage. Competitive advantage is a concept that refers to the company's skills in competing with other companies to gain a position in the market share (Roz 2021). Competitiveness can be improved and created through the implementation of appropriate competitive strategies, namely by managing resources effectively and efficiently, and must be adapted to all activities of a company function, so that later on the creation of company performance is expected to be even more able to produce a value (Ma 2000). The results of literature studies reveal the inconsistency between competitive advantage and operational performance findings. As expressed by Lee & Park (2016), Linda & Thabrani (2021) explained the positive relationship between competitive advantage and operational performance in the manufacturing sector. This is contrary to the findings of Rita *et al.* (2022) which revealed that competitive advantage was not proven to have a positive effect on the performance of SMEs. The different things that will be done by researchers are positioning competitive finance as a mediation between GSCM and operational performance; this is based on studies and theories that have been previously explained by researchers. Based on this, researchers are interested in conducting research with different findings. The conceptual framework built based on the information above is as follows:

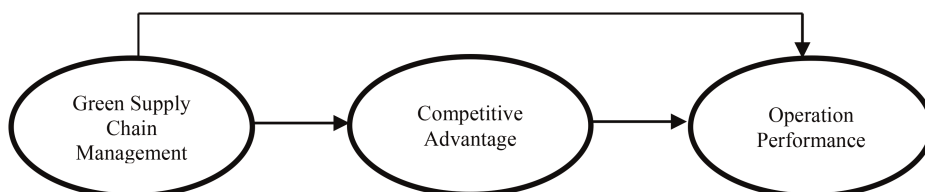


Figure 1. Research framework model.

Based on the research framework model above, the hypotheses proposed in this study are as follows:

- H1: GSCM has a significant positive effect on operational performance in SMEs.
- H2: GSCM has a significant positive effect on competitive advantage in SMEs.
- H3: Competitive advantage has a significant positive effect on operational performance in SMEs.
- H4: GSCM has a significant positive effect on operational performance through operational performance in SMEs.

2 METHOD

This study is based on a partnership of theories and hypotheses that are used to investigate a phenomenon that occurs in specific contexts and circumstances. The primary goal of this form of explanatory research is to evaluate the researcher's hypothesis for explaining the direct and indirect effects (Cooper & Schindler 2014). In this study, the variables GSCM and competitive

advantage are used as independent variables and operational performance as the dependent variable. Data were collected by spreading online distribution using a 5-point Likert scale. The population in this study was SMEs in the city of Malang with the criteria of a business duration of more than 2 years and focusing on SMEs in the manufacturing sector. The sample in this study uses a non-probability technique because the population is unknown. If using a sample of less than 5 then the sample used is at least 100 (Hair *et al.* 2014). The measurement of each variable is based on the indicators used such as the GSCM variable measured using 4 indicators, that is, green procurement, green manufacturing, green distribution, and reverse logistics (Lahcen *et al.* 2021; Novitasari & Agustia 2021). Competitive advantage variable is measured using 5 indicators such as price, quality, delivery dependability, product innovation, and time to market given by (Jamaludin 2021), and operational performance is measured using 3 indicators (quality performance, cost, and delivery) by (Heizer & Render 2014). To test this study model, SMEs partial least squares (PLS) with SmartPLS as an application was used to analyze the data and measure the association between each indicator and its construct.

3 RESULT AND DISCUSSION

Table 1. Respondent information.

Information	Frequency	Percentage
Sex		
Male	78	62.90%
Female	46	37.10%
Age		
20–25 years	19	15.32%
26–30 years	45	36.30%
> 31 years	60	48.39%
During Business		
1–3 years	20	16.13%
4–6 years	34	27.42%
> 7 years	70	56.46%

Source: Primary Data (2022).

Based on the data obtained and analyzed from Table 1, the description of the respondents in this study was the owners/managers of SMEs in the city of Malang with criteria including sex, age, and during business. Results of Table 1 show that the owner/manager of SMEs in the city of Malang is male with an age range of more than 31 years with a length of business-led more than 7 years to dominate to focus on improving operational performance by implementing GSCM.

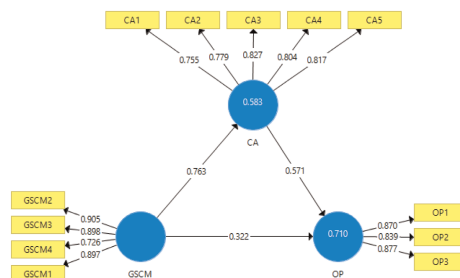


Figure 2. The results of the analysis data by SmartPLS.

Table 2. The results outer loading, composite reliability, dan R square.

Variable	Indicator	Outer Loading	AVE	Composite Reliability	R2
Green Supply Chain Management (GSCM)	GSCM1	0.897	0.739	0.918	
	GSCM2	0.905			
	GSCM3	0.898			
	GSCM4	0.726			
Competitive Advantage (CA)	CA1	0.755	0.635	0.897	0.583
	CA2	0.779			
	CA3	0.827			
	CA4	0.804			
	CA5	0.817			
Operation Performance (OP)	OP1	0.870	0.743	0.890	0.710
	OP2	0.839			
	OP3	0.877			

Source: Primary Data (2022).

From the results of data processing in Table 2, it may be inferred that all construct measurement indicators are valid because all outer loading variables tested had values greater than 0.6. For each variable's AVE value, the value is above 0.5, and for the composite reliability value above 0.7, the variable is said to be constructively reliable. Furthermore, the results of data processing show an R2 value of 0.583 or 58.3% competitive advantage is influenced by GSCM and an R2 value of 0.710 or 71% operational performance is influenced by GSCM and competitive advantage for SMEs in the city of Malang.

Table 3. Hypothesis testing results.

	Original Sample (O)	Sample Mean (M)	T Statistics (O/STDEV)	P-Values	Hypothesis
GSCM -> CA	0.763	0.765	19.905	0.000	Supported
CA-> OP	0.571	0.573	7.312	0.000	Supported
GSCM -> OP	0.322	0.320	4.225	0.002	Supported
GSCM -> CA-> OP	0.436	0.439	6.378	0.000	Supported

Source: Primary Data (2022).

The results of the data analysis prove that there is a significant positive relationship between GSCM on the operational performance of SMEs in the city of Malang. GSCM is an innovative concept in supply chain management by considers environmental sustainability such as waste reduction, recycling, and environmental friendliness (Mallikarathna & Silva 2019). Implementing GSCM provides a positive side for the company, especially in operational activities (Priyashani *et al.* 2021). The results of this study support previous research conducted by Khan *et al.* (2022) revealed that GSCM practices have a good impact on operational performance and technological innovation in manufacturing companies in Pakistan. Similar findings were also described by Hidayat *et al.* (2022) that GSCM practices positively and significantly affect the company's operational results. The direction of the positive relationship shows that the better the GSCM practice, the higher the operational performance of SMEs in the city of Malang. Furthermore, the results of data processing show that there is a positive and significant relationship between GSCM and competitive advantage. GSCM is an effort to choose a strategy to overcome environmental problems caused by industrial activities, government regulations, and requests from customers

(Hidayat *et al.* 2022). Choosing the right strategy is able to keep the company afloat in the face of fierce industry competition (Latuconsina 2021). This is something unique that can distinguish one company from another. This is an advantage of operational activities (Soebroto 2021). Several empirical studies reveal that there is a strong relationship between GSCM practices and competitive advantage. As research conducted by Marhamati & Azizi (2020) revealed that the practice of greening the company's operational activities has a significant positive effect on the company's green performance which in turn increases the company's competitiveness.

Furthermore, the same result was also found by Hilal (2022) and Sharabati (2021), indicating that components of the green supply chain affect the creation of competitive advantage in manufacturing companies. Furthermore, this study also proves that there is a positive and significant effect of competitive advantage on the operational performance of SMEs in the city of Malang. The company's ability to be different from its competitors is one of the efforts/strategies that must be made to get the attention of customers (Roz 2021). Choosing the right strategy such as focusing on quality, price, innovation, and delivery is good to be maintained within the company (Soebroto 2021). The results of research conducted by Lee & Park (2016) while maintaining product quality and competitive priorities can improve operational performance. In addition, the results of this study also reveal the effect of GSCM on the operational performance of SMEs in the city of Malang through competitive advantage. The existing competitive advantage is the company's ability to organize resources including supply chains to achieve the ultimate goal (Latuconsina 2021). The selection of unique strategies, such as the application of green performance, the selection of environmentally friendly raw materials, and those that can be recycled, makes something different to support the improvement of operational performance (Qorri *et al.* 2018).

4 CONCLUSIONS

The results of this study prove that GSCM has a strong positive impact on the operational performance of SMEs in the city of Malang. The implementation of GSCM is the right choice where the results of the process activities pay attention to environmentally friendly aspects. The positive and significant relationship indicates that the better the GSCM in SMEs in Malang City, the higher the operational performance. Competitive advantage has a significant positive effect on operational performance. GSCM also has a positive and significant effect on competitive advantage. This can be interpreted as one of the selections of the right strategy for SMEs to stay afloat with similar competitors. Competitive advantage is understood as the ability of a company to be different from others. The efforts of different companies are defined as something unique and can be used as a strategy for running their business in SMEs. Competitive advantage as a perfect mediation of GSCM on operational performance in SMEs. Choosing a different strategy is considered effective in improving operational performance which is affected by GSCM. The limitation obtained in this study is that in measuring the success rate of operational performance in MSMEs in Malang City, it is not only how to manage good GSCM and the implementation of competitive advantage, but many things need to be considered.

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Halal tourism development (Literature perspective)

Ratih Juliati & Yulist Rima Fiandari*

Universitas Muhammadiyah Malang, Malang, Indonesia

ABSTRACT: Tourism has an important contribution to world GDP. Foreign tourists make a significant involvement in the gross domestic product (GDP). The tourism sector consists of various sectors, one of which is halal tourism which has a fast-growing market segment globally. Non-Muslim countries such as Australia, Taiwan, Korea, Japan, and other European countries are also actively participating in halal tourism. Halal tourism organizers provide products and services that are in accordance with Islam, such as hotels which are also one of the halal tourism destinations, which do not serve alcohol. They also have separate swimming pools and spa facilities for men and women. Moreover, they do not serve dishes made of pork. This research was conducted to know the development of tourism in Muslim and non-Muslim countries, primarily examining the effect of providing worship facilities for tourists. It is certainly very important for the development of halal tourism, both domestically and internationally. Furthermore, this study applied bibliometric analysis i.e., VOSviewer for the analysis development. This research focuses on halal tourism in Lombok. The results of the analysis revealed that 3 clusters that are interconnected between cluster 1, cluster 2, and cluster 3 have the impression of being interrelated. Occurrence results show that there are 8 clusters related to halal tourism.

Keywords: Halal tourism, Muslim, non-Muslim, literature review

1 INTRODUCTION

Indonesia is one of the countries with huge tourism potential. Tourism contributes 10.4% of the global GDP and creates 20% of jobs globally. Revenue derived from foreign tourist visits contributed 221 billion in 2018 with an achievement of 6% of the Gross Domestic Product (GDP) (Habir & Loeis 2020) and one of the biggest contributors is Halal tourism which has a fast-growing market segment globally. Non-Muslim countries such as Australia, Taiwan, Korea, Japan, and other European countries also play an important role in the development of halal tourism. From the point of view of research and industrial activities, the halal tourism sector is observed to experience encouraging growth. Halal tourism is an object or attraction in the tourism sector which is 'allowed' according to Islamic teachings (Battour *et al.* 2018).

The organizers of halal tourism certainly provide products and services that are in accordance with Islam. The hotel, which is also a halal tourism destination, does not serve alcohol, has separate swimming pools and spa facilities for men and women, and does not serve dishes made of pork. Turkey, Malaysia, and other Muslim countries are trying to attract tourists by offering facilities in accordance with Islamic religious guidance. The Indonesian government observes halal tourism as an effective strategy for branding (Peristiwo 2021; Sriprasert 2014). Halal tourism is an understanding of Sharia principles in accordance with Islamic teachings and their implementation. Its practices begin with the provision of several facilities, such as lodging, transportation, food and beverage, and financial system services, to other tourism entities (Kamali 2011).

*Corresponding Author

The increase in halal tourism also has an impact on an increasing number of tourists in this sector. This progress is still very possible to be further optimized, so it is important to know the development of halal tourism that has been carried out in various. The interesting part to explore is that halal is not only developed by countries where the majority of the population embraces Islam in various non-Muslim countries. Halal tourism is a tourism sector that has the largest niche in the world of increasing demand requires strengthening study opportunities and providing the best service to visiting tourists (Suban & Madhan 2021). This research is important to strengthen the mapping of halal tourism. The findings of this study show the development of halal tourism in Indonesia, Malaysia, South Korea, and Japan. This study aims to determine the development of tourism in Muslim and non-Muslim countries, especially in terms of how influential the provision of worship facilities for tourists is for the development of the world of tourism. This research is certainly important for the development of halal tourism, both domestic and international. Furthermore, the development of this research analysis was obtained by using bibliometric analysis using the VOSviewer.

2 LITERATURE REVIEW

2.1 *Halal tourism*

The concept of halal tourism may be a new issue for some people. This concept emerged when the understanding of Islam began to increase. Halal tourism is an essential concept by basing travel activities in accordance with Sharia elements since the beginning of Islamic civilization after Muslims began to travel to various parts of the world. The Islamic Empire has a very large area, such as Asia, Africa, and other parts of Europe so that the Muslims can travel unhindered and safe. This is recorded in history such as Ibn Battuta, Abdellah El Baghdadi, Osama bin Monqid, Ibn Wahb Al-Qorashi, and others.

Islamic tourism or halal tourism has a close relationship with Islam. Every Muslim has an obligation to visit and worship in the holy cities of Mecca and Medina in Saudi Arabia to perform the pilgrimage. This obligation must be carried out for Muslims who have physical and financial capabilities. Muslims who do not live in these two holy places have an obligation to visit both cities. There is also Umrah worship that can be carried out by Muslims who want to perform it. Umrah is not obligatory like Hajj. Umrah has a different time with the implementation of the pilgrimage. Hajj is only performed at certain times, while Umrah has a more flexible time (El-Gohary 2016)

Developments that occur related to halal tourism are the impact of tourism activities that are less pleasant or cause concern, for example, some restaurants serve food containing prohibited substances such as pork, alcohol, or other substances. Halal tourism refers to objects or activities that are permitted to be used or involved in the tourism industry according to Islamic teachings. Halal tourism can also be defined as religious tourism with various activities that are allowed according to Islamic Sharia in the aspects of behavior, clothing, and food (Javed 2007).

Battour *et al.* (2018) revealed that there are two different perceptions regarding non-Muslim tourists. Those who have a good and positive perception of the implementation of halal tourism, assume that they will have a good opportunity to learn and try Muslim culture. The tourists are willing to obey the rules of Islam. However, other non-Muslim tourists have a negative perception. They consider that the provisions applied in halal tourism will only create restrictions for visitors. The solution offered is that tourism service providers create satisfying innovations for tourists, such as affordable rates for hotels offered by halal tourism service providers. In addition, the service facilities provided by the hotel can be accepted by non-Muslim tourists. Another facility is the selection of rooms, some rooms can hear the call to prayer and some are soundproof. Muslim countries that have strong Islamic norms and values have succeeded in promoting halal tourism for non-Muslim tourists. Non-Muslim tourists can also feel comfort and friendliness so that they finally have an interest in halal culture. Another

innovation that service providers can do is to replace alcoholic beverages with teas or juices that have a refreshing taste (Battour *et al.* 2018; Juliansyah *et al.* 2021).

3 METHOD

This study uses bibliometric analysis where this analytical tool is intended to carry out quantitative analysis of the selected articles for review. The bibliometric analysis examines bibliographic data, namely authors, articles, citations, and institutions. Bibliometric analysis can reduce researcher bias in processing data (Bornmann & Marx 2018), and can analyze information by grouping related data into certain clusters so that researchers can interpret the collected data (Herrera-Franco *et al.* 2021). It has been developed in business research for coding.

Bibliometric analysis using VOSviewer generates an image that is the result of a network graphic identification identifying the author's citation and co-occurrence. Citation analysis is a search conducted to determine the relationship between publications. Identification is done to find out the insights that are connected to reveal new ideas and explore the application of the knowledge they have. The occurrence of keywords determines the words that affect the topic that shows the dominant content (Suban & Madhan 2021).

Identification begins with the process of collecting articles through Publish and Perish with Google Scholar sources using the keyword "halal tourism", in the form of "journal". The search was conducted over the last 10 years starting in 2012 journal published on April 03, 2022. There were 268 articles collected related to halal tourism. The data obtained are stored in the form of research information systems (RIS) and comma-separated values (CSV). RIS form data is used for data processing through the VOSviewer application. CSV form data is used to make it easier to understand the citation, author, and keyword occurrence.

4 RESULT AND DISCUSSION

4.1 Author data

The results of the author's image data show that there are three clusters formed. Cluster 1 is red which refers to rahmaningsih, s.; athar, hs.; Hadinata, la. Cluster 2 in green refers to saufi, a; diswandi, d and rojabi, sh. Cluster 3 in blue refers to primary, aa; suparman, I and hermanto, p. Cluster 1 leads to a research entitled "Inhibitors in Building Students' Islamic Characters of Halal Tourism Destination at State Senior High School in East Lombok Regency", which has been cited by another study. Cluster 2 refers to the research entitled "Developing Zero Waste Halal Tourism Community in Lombok". The research has received citations of 1. Cluster 3 refers to a study entitled "Perception of Millennial Group Business Conductors on Halal Tourism Implementation in Lombok Island" where this research does not yet have citations. The three authors above have similar research topics. The three research groups refer to research on halal tourism in Lombok.



Figure 1. Author data.
Source: VOSviewer data processing (2022).

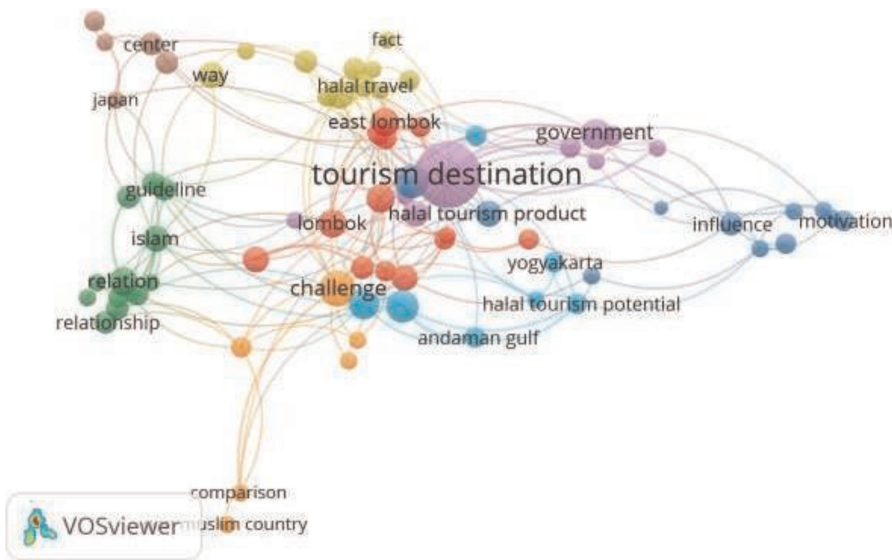


Figure 2. Author data.
Source: VOSviewer data processing (2022).

Cluster 1 is indicated by a red node, there are 12 items which are the keywords for occurrence, namely Aceh, contribution, east Lombok, east Lombok regency, economic growth, halal tourism area, Islamic tourism, Lombok. Access to halal tourism in Aceh is easy to reach, either by land or by air. However, there are weaknesses in the implementation of halal tourism, namely the lack of events that can increase spirituality, such as the lack of Islamic Muslims. This can be seen from the limited Islamic music shows on tourist sites. In addition, halal tourism facilities have not been supported by the availability of halal hotels and restaurants. Communication media is only delivered orally. In fact, the development of halal potential is supported by the culture of the community that promotes the implementation of halal tourism (Gunawan 2020).

Tourists have the perception that halal tourist attractions offer tourism services that provide comfort, and clean places of worship and there is a separation between male and female visitors who are able to maintain privacy (Gunawan 2020). Tourism development is also intensified in other areas such as in Lombok. The Governor of West Nusa Tenggara is fully supported by stakeholders involved in tourism. There is a collaboration between the local government and the Indonesian Ulema Council (MUI) which provides a law on halal certification for hotels and restaurants. The advantage of providing certification is that it provides guarantees for Muslim visitors regarding the quality of food and services provided by service providers. The law provides clear guidelines on standards for the provision of halal services. Communication continues to be carried out by related parties so that the program is accepted by the community to support Nusa Tenggara Barat (NTB) as a target for tourism destinations at the global level (Habir & Loeis 2020).

West Nusa Tenggara Province is the first region to implement a regional regulation on halal tourism. One example is East Lombok, which has shown readiness. Some indicators that can be found there are attractions, hotels and restaurants, guides, and travel agencies. Each hotel room has prayer rugs and signs indicating the direction of the Qibla. The intended tourist destination has been equipped with various necessary facilities such as houses of worship for Muslims. The Lombok area is known as the Region of a Thousand Mosques, East Lombok has attractive nature-based tourist attractions such as the Rinjani Geopark and Pink Jerowaru Beach (Rayendra 2017).

The success of NTB in building halal tourism is also followed by other regions, such as West Sumatra. This province has achievements at the national level as a region that has the best halal tourist destinations, the best culinary destinations, the best travel agencies, and the best halal restaurants. West Sumatra's achievements at the international level include the best halal culinary destinations, the best halal destinations, and the world's best halal tour operators. However, this achievement has not been followed by the increasing number of foreign tourists visiting. At certain times, the number of tourists has increased but sometimes has also decreased. This shows that there is still room for improvement in West Sumatra. The results of problem identification indicate the need for better synergy among the government, communities, hotels, travel agencies, and halal restaurants (Huda *et al.* 2020).

Promotion can be carried out by all parties along with the development of supporting infrastructure. Several interesting destinations are already owned by West Sumatra, namely Siberut National Park, Seblat Kerinci National Park, Maninjau Lake, Singkarak Lake, beach tourism in the Mentawai Islands, and other tourist attractions. Sharia tourism is also characterized by the use of clothing, and the implementation of customs and culture in accordance with sharia guidelines (Wibowo & Yusuf 2020). The growth of the tourism industry in West Sumatra has contributed to regional development. The government provides support for the tourism industry to earn income from domestic and foreign tourists (Masri *et al.* 2019).

Research by Abror *et al.* (2019) revealed that halal tourism has an influence on customer satisfaction. Muslim tourists have concerns about the availability of facilities that support worship such as prayer equipment and Qibla directions. Tourists are also worried about the halalness of the food to be eaten. Muslim tourists are satisfied with the availability of these supporting facilities. Yet, tourists still expect the availability of the Quran in hotel rooms.

Table 1. Keyword data density—occurrence.

Cluster	Keyword Occurrence
Cluster 1	Aceh, contribution, east Lombok, east Lombok regency, economic growth, halal tourism area, Islamic tourism, Lombok, New concept, religiosity, tourism sector, understanding, west Sumatra (12 items)
Cluster 2	Definition, empirical study, guideline, halal, Islam, knowledge, relation, relationship, sustainability, sustainable tourism, turkey (12 items)
Cluster 3	Aspect, Bandung, Covid, halal sex tourism, halal tourism product, halal tourism sector, influence, motivation, Muslim, need, overview (11 items)
Cluster 4	Fact, growth, halal industry, halal travel, hospitality industry, prospect, sharia, sharia tourism, tourism product, way, west java (11 items)
Cluster 5	Government, halal lifestyle, halal tourism management, halal tourism destination, island, Jakarta, tourism destination, tourist attraction, West Nusa Tenggara (9 items)
Cluster 6	Andaman gulf, chance, halal tourism potential, Muslim, Thailand, word halal tourism, Yogyakarta (7 items)
Cluster 7	Challenge, comparison, halal certification, halal tourism concept, non-Muslim, country, tourism operator (6 items)
Cluster 8	Center, halal tourism policy, Japan, religious tourism, South Korea (5 items)

Source: Data processed (2022).

Cluster 2 refers to the keyword occurrence, namely, definition, empirical study, guidelines, halal, Islam, knowledge, relations, relationship, sustainability, sustainable tourism, and Turkey. Tourism also plays an important role in the Thai economy. Thailand has a variety of tourism resources such as geography, climate, biology, flora, and fauna. Thailand is known for its rich cultural tourism. The Thai government promotes its tourism to various countries. Some recommended guidelines for the implementation of halal tourism include

the preservation of natural resources in tourist destinations, the implementation of tourism activities that do not conflict with Islam, the provision of prayer rooms and signs to the mosque direction, the separation of hygienic male and female toilets, the provision of halal restaurants, guarantees for security for Muslim tourists, service of tour guides and staff respect Islamic obligations (Chanin *et al.* 2015).

Feizollah *et al.* (2021) revealed that halal tourism is considered part of religious tourism. This type of tourism is based on Sharia law which regulates aspects of Muslim life from birth to death. Halal tourism searches have reached social media such as Twitter users. This is often discussed by Twitter users about halal tourism (trip, can, get, know) followed by other topics such as tourism, via, Japan, Turkey, and market. This confirms that tourists are interested in knowledge and the halal tourism market. Tourists are also seeking knowledge of the winners of the tour and their favorite hotels visited.

Cluster 3 refers to the keyword occurrence, namely aspect, Bandung, covid, halal sex tourism, halal tourism product, halal tourism sector, influence, motivation, Muslims, need, and overview. Bandung is one of the favorite destinations for domestic tourists (Juliansyah *et al.* 2021). Bandung is easily accessed via air transportation from Singapore and Malaysia. Bandung has a source of historical tourism, shopping, and culinary. Bandung has two attractive natural tourist destinations, namely Tangkuban Gunung Perahu and Kawah Putih (Sutono *et al.* 2020).

Bandung is also known for its gastronomic tourism, namely food and beverage tourism originating from almost all over the world, including Indonesian, Asian, and European cuisines. The results of the research on restaurants show that the atmosphere in some local restaurants has not been adapted to the restaurant surroundings (services cape). This is in contrast to a restaurant which is an international restaurant chain that is very concerned about the atmosphere of the restaurant. Several dimensions that need to be considered in destination products are: a) the existence of attractiveness, accommodation, transportation, and physical accessibility; and b) elements of programs and events organized to support tourism activities. These activities can be in the form of exhibitions, festivals, special events, or other events that involve the community (Sutono *et al.* 2020).

The development of tourism experienced obstacles when COVID-19 occurred. There was a change in behavior that arose before COVID-19 and when COVID-19 took place. There was a decrease in activity and mobility carried out by the community. Work and school activities that are carried out directly switch to work methods using online media. Physical interactions such as in-person meeting attendance, seminars, and conferences turn to virtual meetings. Tourists choose to postpone travel on domestic and international routes (Peristiwa 2021).

Cluster 4 consists of occurrence keywords, namely, fact, growth, halal industry, halal travel, hospitality industry, prospect, sharia, sharia tourism, tourism product, way, and west java. The exponential growth of the halal industry is an alternative to Western values and lifestyle models. Halal values are the focus of Islamic identity and culture. The modern food industry pays attention to the requirements of Islamic products such as avoiding contamination of pork residue, alcohol, gelatin, enzymes, and flavorings derived from forbidden animals (Kamali 2011). Therefore, it is important to apply Islamic values such as Sharia tourism.

Sharia tourism is tourism that includes all types of tourism that do not conflict with Islamic values and tours that are organized are able to meet the needs of Muslim tourists. The concept of Sharia tourism was initially only intended for Muslim tourists and has not been accepted at the global level. The integration carried out by the United Arab Emirates (UAE) made a breakthrough by encouraging Muslim and non-Muslim tourists to visit halal tourism. The UAE is making an economic transition from an oil and natural resource-producing country to an economy based on service industries and tourism (Faidah *et al.* 2021). Halal tourism is in demand by both males and females gender. Likewise, halal hospitality services are also in demand by male and female gender (Ammar *et al.* 2021).

Cluster 5 refers to the keyword's occurrence Government, halal lifestyle, halal tourism management, halal tourism destination, island, Jakarta, tourism destination, tourist

attraction, west nusa tenggara. As a city that focuses on halal tourism, DKI provincial government can organize events related to the halal lifestyle such as halal tourism exhibitions. It has 7795 mosques spread across its territory, 510 hotels that already have a halal certificate as well, 20 Islamic cultural heritage sites, 19 attractions that are friendly to Muslim tourists, and 11 Islamic events. Jakarta is the capital of the country which has complete infrastructure. Convenience of worship through the availability of facilities that become a benchmark, for example, the availability of good, clean, cool, and organized prayer rooms in various shopping centers in Jakarta (Boediman 2017; Widjaja *et al.* 2019).

Cluster 6 refers to the occurrence of the keywords, namely, Andaman Gulf, chance, halal tourism potential, Muslim, Thailand, halal tourism, and Yogyakarta. The tourism sector is the most important sector with the highest foreign currency receipts. Thailand has a variety of tourism sources that allow the number of domestic and international tourists. One of the most visited tourist destinations in Andaman gulf. The reasons tourists visit are local people who are attractive and friendly, free to act, warm welcome to tourists, good quality of the air, water and soil environment, attractive scenery and there are medical spas that can be visited (Sriprasert 2014). The majority of Malaysian tourists visit the Andaman Gulf because of its similar geography and weather to Malaysia (Chookaew *et al.* 2015). Religious programs are broadcasted as entertainment served on planes.

Yogyakarta is known as a tourist, academic and cultural city. The Muslim population in Yogyakarta reaches 91%. This provides an opportunity for tourism activists to provide new halal-certified lodging in the city of Yogyakarta, considering that only one hotel has a halal certificate. Guidelines for mosques and tourism management are also needed. Likewise, cooperation between business people, government, ulama, community, and social media or better known as Penta helix, is absolutely necessary for the effort to organize halal tourism.

Cluster 7 refers to the keyword's occurrence, namely, challenge, comparison, halal certification, halal tourism concept, non-Muslim country, and tourism operator. The dominance of the Muslim population has not been followed by awareness to organize halal certification for tourism business actors. This can be seen from the limited number of tourist destinations, hotels, and adequate restaurants. This is a challenge for tourism operators to promote halal tourism so that this industry can develop well. The halal tourism industry is not only intended for Muslims but can also be enjoyed by non-Muslim tourists (Ratnasari *et al.* 2021)

Cluster 8 refers to the keywords such as center, halal tourism policy, Japan, religious tourism, and South Korea. Japan's cooperation with Muslim countries such as Turkey, Indonesia, Saudi Arabia, and Malaysia through visa applications for Muslim tourists increases the number of visits by Muslim tourists. The increase in Muslim tourists encourages the expansion of cooperation between the Malaysian Islamic Advancement Office (JAKIM), the Indonesian Ulema Council (MUI), ESMA (UAE), MUIS (Singapore), and the GCC Accreditation Center (Saudi Arabia) with the Japanese Halal Approval. Cooperation carried out to obtain halal certification that is marketable in Southeast Asian and Middle Eastern countries. Halal socialization is being intensified in line with the 2020 Olympics (Said *et al.* 2020).

Halal industry activities have been strengthened by providing prayer rooms, lodging for Muslims, and cafes for Muslim tourists. The Japan External Trade Organization (JETRO) estimates that the trade in halal products will reach 2.53 trillion dollars in 2019. This value is expected to experience tariff revenues of 28 billion dollars by 2030. Japanese food organizations have also shipped halal products that have been certified by Muslim countries; for example, Kabaya Food's chocolate bread and UCC Ueshima Coffee have received a halal certificate from the Emirates Halal Center so that the goods can be sold in the UAE (Said *et al.* 2020).

The priority in halal tourism is growing halal affirmations from trusted institutions (Said *et al.* 2020). Halal accreditation is a guarantee for Muslim buyers. Halal accreditation procedure is a series of processes on animals that are allowed to be consumed starting from the process of selecting animals to be raised, the process of slaughtering livestock, storage, and

delivery to consumers. The South Korean government through the Korean Halal Association (KHA) and the Korean Muslim Federation (KMF) has also collaborated with JAKIM Malaysia and MUI Indonesia in this regard. Halal food is imported to meet the needs of Muslims from outside South Korea. Product fulfillment is aligned with the increase in halal food production, such as the production of halal food from the Nestle company. The halal tourism program has also launched a program through an online application with the name Ya! halal! (Nayeem *et al.* 2020).

5 CONCLUSION

The results of data analysis show that 3 authors' clusters are interrelated, that is, red, green, and blue colors. The three clusters have a research theme relationship that refers to halal tourism research in Lombok. On the other hand, the keyword occurrence shows 8 different clusters. Cluster 1 discusses halal tourism activities in Aceh. Halal tourism organizers need to be supported by the existence of halal lodging and halal-certified restaurants. Cluster 2 highlights Thailand's readiness to implement halal tourism. Cluster 4 discusses the importance of the attractiveness of restaurants in Bandung. Cluster 5 reviews halal tourism in Jakarta which has been supported by adequate facilities. Cluster 6 discusses the comparison of the implementation of tourism in the Andaman Gulf with Yogyakarta. Cluster 7 emphasizes that halal tourism activities are not only intended for Muslims but also for non-Muslims. Cluster 8 discussed the importance of the policies taken for the advancement of halal tourism. This study does not look at tourism in European countries.

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Taiwan digital diplomacy association as new public diplomacy practice in the digital era

Bima Jon Nanda*

National Dong Hwa University, Hualien, Taiwan

ABSTRACT: This article aims to explain Taiwan Digital Diplomacy Association (TDDA) as a form of new public diplomacy practice in the digital era using Bjola's three key aspects of public diplomacy in the digital age as a concept to explain TDDA's role as public diplomacy actor that uses the digital platform in their practice. This article is using qualitative approach with data collection techniques used in the study of literature. TDDA indeed is a new public diplomacy practice in the digital era based on how they communicated their presence in blurred Taiwan domestic and foreign connections, and their position as a non-state actor in Taiwan diplomacy practice. This article then contributed to the emerging study of new public diplomacy that utilizes digital platforms.

Keywords: Taiwan Public Diplomacy, Taiwan digital diplomacy association, Non-state diplomacy actor, social media

1 INTRODUCTION

With the advancement of technological information, especially where information is flowing rapidly, breaking borders, and accessed by various actors, whether they are states or non-states, it is becoming obvious that technical information is affecting various aspects of our daily lives. The rapid growth of technological information will impact how public diplomacy is conducted. Data become the 'new oil' for public diplomacy as a field of practice and game-changing policies according to Bjola (2019, 100). In resonance with the Bjola's arguments, Jan Mellisen also argues that digital platforms like social media are the place where people and government both look for live updates. Furthermore, Jan Mellisen explains that the dynamic of citizens and government in the digital age leads to the evolution of relationship, which explain that "Technological change is offering greater potential for exchange via new tools and platforms, shaping a new environment in which citizens and governments swap more information and in which governments and citizens-turned-customers renegotiate the quality of their interaction" (Mellisen & Caesar 2016, 322).

Based on the definition from Han Tuch, public diplomacy is a "government process of communicating with foreign publics in an attempt to bring about understanding for its nation's ideas and ideals, its institution and culture, as well as its national goals and policies" (Tuch 1990, 3). Cull (2008) explains that public diplomacy is the "process of international actors seek to accomplish the goals of their foreign policy by engaging with foreign public". We could understand that public diplomacy is a series of policies of one state to engage with the foreign public, to bring the understanding of its nations, or to accomplish their interest. However, the term new public diplomacy is popularized by Jan Mellisen, who explain that new public diplomacy is a move to engage with a foreign audience where the modus

*Corresponding Author

operandi of new public diplomacy is not entirely different from the approach of enhancing public relations. This means that new public diplomacy operates to achieve information exchange, reduction of misconception, the creation of goodwill, and construction of the image. It is no longer about campaigns, and government contact with foreign public policy services but also about building relationships with civil society actors, and facilitating networks with non-governmental parties at home and abroad (Mellisen 2005). In the new public diplomacy practice, state actors are no longer exclusively engaged; rather, non-state actors such as individuals or civil society organizations may participate.

We could understand that the new public diplomacy practice could be also done by non-state actors, and we also can understand that in the digital era, engagement via social media or other digital platforms is an important trend that creates a high degree of dynamism between the public and government. Then, Taiwan Digital Diplomacy Association (TDDA), a non-state actor based on its official Facebooks page, stated that, "Taiwan Digital Diplomacy Association is dedicated to participatory diplomacy and digital diplomacy. We initiate multinational projects in ways of authentic participation and community localization. In order to strengthen Taiwanese partnerships with other countries by contributing our digital content and hosting real-life events, we invite Taiwanese youths to take part in the new possibilities of public diplomacy and encourage the innovation of social media marketing for government and private sectors in Taiwan." (數位外交行動計畫 Digital Diplomacy 2022) TDAA, according to its founder Kuo Chia-yo (郭家佑), is not a typical government project where it goes to promote how great Taiwan is, but rather the approach is more like networking to find things that TDAA can do together with the people of other countries on social media (Taipei Times 2020).

It is interesting to analyze TDDA as new public diplomacy that uses social media and other digital media as platforms to benefit Taiwan's position in the international community. Taiwan as a political entity is unique, as de facto Taiwan fulfills the requirement to become a state, but the One China policy and the political history of China make Taiwan recognized as one of the provinces of the People's Republic of China (Chiang 2004). From Taiwan's perspective, they are the sole representative of China. Although in recent years, Taiwan has been moving its political agenda to become an independent and sovereign state known as the Republic of China or Taiwan. Taiwan's domestic political dynamic influences this dynamic, but the particular thing is that Taiwan is a political entity like every sovereign state; it wants recognition from the international community.

This paper aims to explain that TDAA is one of the new public diplomacy actors that utilize digital platforms to conduct digital diplomacy. It will also explain TDAA utilizing digital technology when engaging in Public Diplomacy practice in the context of new public diplomacy concepts in the context of the digital age that is predicted to be bright.

2 LITERATURE REVIEW

The term public diplomacy is said to have been coined by Edmund Gullion when he opened the Center of Public Diplomacy in 1965. It stated that "Public Diplomacy deals with influences of public attitudes on the formation and execution of foreign policies" (Cull 2022). Public diplomacy is generally understood as policies to influence public attitudes (Wilson 2008, 117).

Public Diplomacy channeled its influence through attraction. Because of this, soft power become one of the inseparable elements in Public Diplomacy. It is also important to note that hard power or soft power influence is produced by a resource. Hard power resources are channeled directly because of the nature of their resource. That's why the resource of hard power is the military (through military intervention or pressure) and the economy (through economic sanctions) (Dahl 1957). Tangible resources like the military are the resource of hard power (Gallarotti 2011, 27). Wagner argues that the German invasion of Poland in

1939 and the UN Economic sanction against Iraq in 1991 are the examples of use of hard power (Wagner 2014).

Public diplomacy is the way to channel soft power resources. Based on Nye's argument as one of the scholars that popularize soft power term, public diplomacy is a means of promoting a country's soft power, where the objective of soft power is to get others to do what you want based on attraction, hence, soft power in Nye argument could be understood as the power of attraction. Furthermore, Nye stated that a country's soft power rest on its resource of culture, values, and policies (Nye 2008). But after the Cold War, through rapid globalization and the emergence of various non-state actors that become more relevant in international politics, the term new public diplomacy is starting to take the spotlight. Jan Mellisen in his "New Public Diplomacy" term, argues that public diplomacy will increasingly standard component of overall diplomatic practice and is more than a form of propaganda (Mellisen 2005). Mellisen called "new public diplomacy" a form of public diplomacy where the public is no longer the audience or observers in international politics, but also an assertive participant in international politics (Mellisen 2005). Furthermore, Mellisen explains that new public diplomacy is a move to engage with the foreign audience and the modus operandi of new public diplomacy is not entirely different from the public relations approach. This means that new public diplomacy operates to achieve information exchange, reduction of misconception, the creation of goodwill, and construction of image.

In the context of public diplomacy and its correlation to digital advancements in information exchange in the digital era, according to Bjola (2019, 85), there are three key aspects of public diplomacy in the digital age: the evolution of the medium of communication, the blurring of foreign and domestic policies, and the rise to diplomatic prominence of technological-based non-state actors. The digital age affects how diplomacy is communicated. Christopher Johnson said that "without communication, there is no diplomacy" (Jönsson 2016, 79). Bjola wrote that digital technologies have infused the public sphere in which diplomacy operates with new elements that have already started reshaping the way in which public engagement is carried out. He then explained that the impact of the digital age on public diplomacy is determined by communication that utilizes technologies. This aspect in public diplomacy is whether it will prove the messages would be better heard, listened to and followed by the relevant audiences. Next, in the aspect of blurring line between foreign and domestic policies, Bjola argues that digitalization and globalization blurred the domain of domestic and foreign in the context of issues and challenges that one state faced. Where local challenges require regional or global solutions such as climate changes. Digital platform then could be use to engage in two-level game logic. The concept that elaborated by Putnam that explain national and international politics often collide (Robert 1988). In the digitalization context, one government could use social media to inform the public about certain information to gain support for their foreign policy. Lastly, as digital technologies grow, the actors that represent diplomatic activity will also include the non-state actor. Bjola starts its argument about the relevance of technological giants such as Google and Facebook in public diplomacy practice in the digital era, where data now is the most important part of public engagements, and their behavior and attitude in digital spaces. But one trend remains clear that in public diplomacy practice, a field that was once dominated by states become more inclusive with non-state actors through digital engagements.

3 RESEARCH METHODS

This article will be using qualitative methods. Christopher Lamont defined that "qualitative methods refer broadly to data collection and analysis strategies that rely upon the collection of, and analysis of non-numeric data" (Lamont 2021, 78). This article uses a qualitative approach with data collection techniques used in the study of literature. Based on Lamont's explanation, the principal strategies for collecting qualitative data include archival or

document-based research or internet-based research. The sources of data used mostly come from journal articles, newspapers, books, and online media. The data is searched using keywords such as TDAA, new public diplomacy, Taiwan, information technology, new public diplomacy, and non-state actors. After that, the data found will be analyzed using Bjola's three key aspects of public diplomacy in the digital age. This approach aims to explain TDAA as one of the new public diplomacy actors that utilize the digital platform to conduct digital diplomacy. From this analysis, conclusions can be drawn about TDAA as new public diplomacy practice that utilizes digital technology in the digital era.

4 RESULTS AND DISCUSSION

TDAA is established in 2018. As stated on the TDAA website, it committed to creating an international project to change people's perception of Taiwan from "zero impression to good impression" (Taiwan Digital Diplomacy Association 2022). In terms of communication, it's quite impressive what TDAA already does in its public diplomacy practice. Social media is used as a principal medium of Public Diplomacy. TDAA official Twitter account has around 125,000 followers (Twitter 2022), and about 36,000 people follow their Facebook page (Facebook 2022), although their digital engagement on Instagram is quite low with 6500 followers in November 2022. Although TDAA also has YouTube and even Spotify accounts to amplify their voice, the subscriber and follower numbers are lower than 1000 accounts. Despite this, the number of TDAA Twitter and Facebook followers is impressive.

Based on Bjola's argument, TDAA has a good outreach regarding how TDAA is heard, listened to, and followed by international audiences in their Twitter and Facebook followers. Using the digital platform, TDAA can spread its message and information thoroughly and more inclusively; in short, for its message to be heard, only a person with social media and internet connection is needed. Based on what TDAA founder Chiayo Kuo said, in order to build international friendships, TDAA has been creating social media content for countries where Taiwan is active, and training hundreds of volunteers in social media messaging so they can help to keep Taiwan top of mind (New York Times 2022). In resonance with the argument of Hocking and Mellisen, in the 21st Century, social media is the prime focus of debate as a tool of diplomacy (Hocking & Mellisen 2015, 10). It is notable how social media can be used as a diplomacy tool, as demonstrated by the importance of social media in impactful political events such as the Arab Spring (Wolfsfeld 2013, 115). In the context of New Public Diplomacy, the role played by TDAA as a non-state actor in public diplomacy practice to communicate Taiwan's positive image to the international world is in fact the practice of non-state actor public diplomacy in the digital era.

When it comes to the dynamic between domestic and foreign policies, this can be seen in the early history of TDAA. The TDAA was founded by Chiayo Kuo when she launched a campaign to raise international support for Kosovo to receive a national internet domain name; hence, the importance of the internet domain signifies Kosovo's sovereignty (Taiwan News 2022). Since 2008, Taiwan has recognized Kosovo as a sovereign state, yet China, Taiwan's biggest political rival, does not recognize Kosovo independence despite having an informal liaison office in Pristina while Taiwan has not yet established diplomatic relations with Kosovo (Zweers *et al.* 2020, 26). The interesting thing is that Kuo's campaign got recognition from Kosovo citizens when she was invited to local Kosovan TV shows due to the importance of her campaign about Kosovan citizens. Kuo then continued the campaign further that created connection between the Taiwanese and Kosovo through a series of videos where 40 Taiwanese holding signs in Albanian appeared that said "I am from Taiwan. I support Kosovo to have their own domain," and posted it online (CommonWealth Magazine 2018). Additionally, it is interesting to note that Kosovo and Taiwan both have limited international recognition. (Kasim & Kaim 2017, 554). The earlier history of TDAA shows it to be a bridge between the foreign policy objectives of Taiwan to

gain international recognition and the public interest of Taiwan citizens. They support the Kosovo campaign in getting a domain name for the internet.

Another example could be seen in TDDA's presence in Taiwanese support for Lithuania. It started when Lithuania's Defense Ministry in 2021 recommended that consumers avoid buying Chinese mobile phones and even advised its citizens to throw away the phones because the government found out that the devices had built-in censorship capabilities (Reuters 2021). This enraged Beijing and in retaliation, China made many Lithuanian companies sell their wares in China. Seeing this opportunity, Taiwan set up a 200 Million Dollar investment program and a 1 Billion Dollar program to finance joint projects, including semiconductors, in January 2022. The Lithuanian situation sparked wide support from Taiwanese citizens, and the Chinese ban on Lithuanian products resulted in great demand for Lithuanian products in Taiwan as a form of support. These good public-to-public relations also happened between the Lithuanian Taiwanese Governments. Following this, the TDDA acted as an independent actor to further amplify this close friendship between Lithuania and Taiwan, which not only existed in public, but also in government. TDDA Facebook post, on 22 June 2021, showed the Lithuanian government sending 20,000 AstraZeneca vaccines to Taiwan as an act of reciprocity after the Taiwan government sent 100,000 medical masks to Lithuania during the COVID-19 pandemic. The Facebook post had already been shared 601 times and had 110 positive comments mostly from Taiwanese (Facebook 2021). TDDA through its social media presence then utilizes Taiwan's interest to resonate with its people. TDDA using a digital platform then created the connection between the foreign and domestic interests using its Public Diplomacy practice.

As a non-state actor in public diplomacy, TDDA is certainly promoting Taiwan's interests, especially through sending positive images of Taiwan to international audiences. The main objective of TDDA, as stated in their social media and in the statement of the TDDA founder, is to create a good impression of Taiwan and bring a greater understanding of Taiwan. TDDA fills a void that has been missing by Taiwan's government for a long time, which is the importance of digital platforms in the practice of diplomacy. This could be seen the Ministry of Foreign Affairs Republic of China (Taiwan) official Twitter account was created in April 2018 (MOFA 2018). Utilizing digital platforms ironically is very important for Taiwan, because it can give opportunity for Taiwan as an essential tool to connect with a country with no formal diplomatic ties. TDDA become an important actor to fill this gap.

5 CONCLUSION

TDDA is indeed a practice of Public Diplomacy in the digital era. It creates a connection between domestic and foreign issues, and becomes one of the non-state actors in public diplomacy practice, while also communicating diplomacy practice in digital spaces. Although the impact of TDDA's public diplomacy practice on Taiwan image is still open for discussion. Nevertheless, TDDA is marked as proof of rising non-state actors in public diplomacy that have been long practiced exclusively by states. It also marked the current trend of utilizing digital platforms in public diplomacy practice that will keep finding its traction in the future.

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Online political trust in Anies Baswedan as a candidate for the President of Indonesia 2024

Luth*

Universitas Selamat Sri, Kendal, Indonesia

Rani Maswati

Iisip Yapis Biak, Biak, Indonesia

Tawakkal Baharuddin

Universitas Muhammadiyah Makassar, Makassar, Indonesia

ABSTRACT: The purpose of this study is to see the level of political trust in online social networks by paying attention to the presidential candidacy of Anies Baswedan as Indonesia's 2024 presidential candidate. The data source uses social media Twitter which focuses on searching based on the official account @aniesbaswedan. The data is collected using Ncapture, and the collected data is transferred to the Nvivo 12 Plus analysis tool. The data is then coded based on sentiment analysis and word frequency queries. The findings of this study indicate that political trust can be analyzed by paying attention to social interactions and discussions on online social networks such as Twitter. These findings indicate a relatively stable online political trust in Anies Baswedan. There are dominant factors that influence this trust, including the response of Anies Baswedan's leadership in reducing the number of cases of the COVID-19 pandemic, regional development issues, awards or achievements during the leadership period, the presidential nomination for 2024, and self-characteristics that are considered smart and intelligent. This level of political trust may positively affect Anies Baswedan's chances in the upcoming 2024 Indonesian presidential election.

Keywords: Online trust, political trust, presidential election, Indonesia, social media

1 INTRODUCTION

Ahead of the 2024 presidential election, several names of candidates have begun to be busy being discussed to run as Indonesia's 2024 presidential candidate (Baharuddin *et al.* 2022). Anies Baswedan received direct support from the Nasdem party openly. This was conveyed directly by Surya Paloh, Chairman of the Nasdem Party (Teresia 2022). Anies Baswedan is an academic and Governor of DKI Jakarta (Murwani 2018). The existence of sufficient political support and experience during his tenure as Governor was considered representative enough to run in the 2024 presidential election. Some parties welcomed support for Anies Baswedan as a presidential candidate, but there were also rejections from several other parties (Jakartaglobe 2022).

This rejection can be found in several news sources in online newspapers and social media. It also confirms that Anies Baswedan's candidacy as a presidential candidate for 2024 is still being debated, so the level of public trust at the beginning of his candidacy is still

*Corresponding Author

unstable and needs to be maximized. In many kinds of literature, it is explained that it is essential for politicians or institutions to influence the level of public trust (Baharuddin *et al.* 2022; Grönlund & Setälä 2007; Kaase 1999). The existence of this trust helps politicians to maximize their every political agenda and work (Hetherington 1998). Political trust has been identified as one of the foundations of democracy development (Arpino & Obydenkova 2020; Geurkink *et al.* 2020). A decline in the trust will affect the outcome of elections, so political trust should be an essential assessment, especially in a political contest such as the 2024 presidential election in Indonesia.

Today's trust depends not only on discussions in public spaces but has been internalized into new digital or online-based spaces such as social media (Baharuddin *et al.* 2022; Huber *et al.* 2019; Limaye *et al.* 2020). Social media is considered capable of containing many sources of information and facilitating large discussion rooms, which many people, including politicians, have used (Widayat *et al.* 2022). Thus, trust can be analyzed using social media platforms. In the current development of the literature, there are still very few analyses examining online political beliefs that link cases to electoral studies. However, there is still literature or other research results that are considered quite relevant. *First*, online trust can be measured by analyzing the attachments and social networks built into them on online platforms (Kim & Peterson 2017; Wang & Emurian 2005). *Second*, the Internet can potentially change political trust online by observing the intensity of discussion and debate in it (You & Wang 2020). *Third*, the trust shown online can contribute to the idea of a digital democracy going forward (Saud & Margono 2021).

The purpose of this study is to fill the gap left by the author or previous researchers by conducting a study of online political trust with an electoral study. This study focuses on online political trust in the issues of the 2024 presidential election based on the case of Anies Baswedan's candidacy as a 2024 presidential candidate. There are questions formulated in this study, including: (1) What is the level of online political trust in Anies Baswedan as a 2024 presidential candidate in Indonesia? (2) What dominant factors influence online political trust in Anies Baswedan? The answers to these two questions make it possible to find new analysis results on online political trust, especially in the specification of the study on the presidential election related to the nomination of Anies Baswedan as a presidential candidate for 2024. These answers also allow mapping of Anies Baswedan's chances of winning the presidential election.

2 LITERATURE REVIEW

2.1 *Political trust*

The literature on trust has grown rapidly in recent years. The term trust is quite diverse, but there is still a generally agreed view that trust is relational. Relational trust involves individuals who are vulnerable to other individuals, groups, or institutions that can harm them or betray them. The specification on the explanation of political trust refers more to aspects of public assessment and discussion of politicians and government institutions (Levi & Stoker 2000). Common factors that influence the level of trust are the behavior of politicians and government policies (Hetherington & Husser 2012). If socio-political trust is low, it tends to affect political stability, participation, and public acceptance to take the same action within the country (Baharuddin, Sairin *et al.* 2022; Godefroidt *et al.* 2017).

2.2 *Online trust*

Today's trust can transform in the digital or online space by relying on Internet technology (Baharuddin *et al.* 2022; Wang & Emurian 2005). The platforms commonly used to assess trust are websites and social media. The assessment of level of trust is measured by observing the results of user discussions on online networks related to certain subjects or objects,

including those related to politicians and the government (Baharuddin *et al.* 2022). Platforms such as social media are now widely used by politicians and governments. In addition to distributing information, social media is also used to influence public response, behavior and trust (Yang & DeHart 2016). Currently, social media is widely associated with political issues, including elections (Salahudin *et al.* 2020; Soon & Samsudin 2016).

3 METHOD

This study uses quantitative methods with descriptive content analysis. The data source comes from the social media platform Twitter. Twitter was chosen because it contains many data about public discussions and is quite popularly used in political debates by its users. Data filtering was carried out by focusing on Twitter search on the official Twitter account (@aniesbaswedan), which obtained 2841 Tweets captured. The data collection uses Ncapture on Google Chrome on 09/10/2022. The collected data is then transferred to the Nvivo 12 Plus analysis tool.

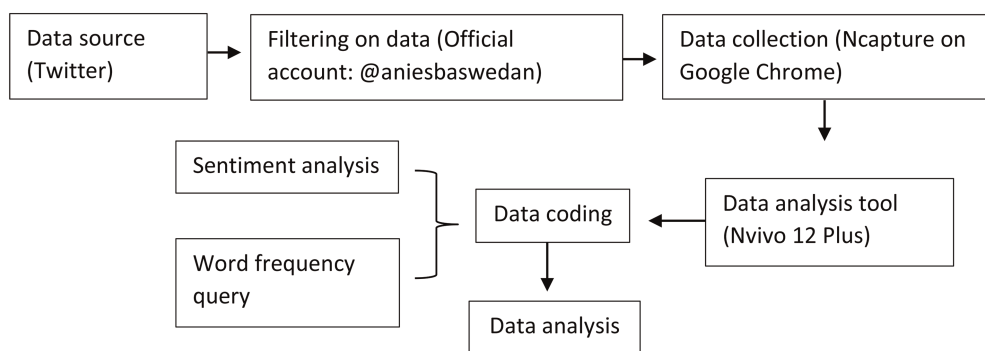


Figure 1. Data analysis process.

The data collected on Twitter using Ncapture was then transferred to the Nvivo 12 Plus analysis tool. The data is coded based on sentiment analysis and Word frequency query. Sentiment analysis is maximized to find public sentiment towards Anies Baswedan, while the word frequency query maps the number of words or phrases that often appear dominant. This helps analyze the factors influencing online political trust. The data successfully coded is then visualized and analyzed to answer research questions.

4 RESULT AND DISCUSSION

4.1 *Online political trust in Anies Baswedan*

It is interesting to know the level of online political trust that Anies Baswedan has as a presidential candidate for Indonesia 2024. Trust from the public is an essential element in assessing the candidate's position. This study managed to map the level of public trust and build on it as follows:

Figure 2 shows the online political trust in Anies Baswedan. Anies Baswedan appears to have seen a positive trend, with an online political trust level of 71.43%, and identified very positive at 8.57%. The relatively negative level of confidence is 14.76%. It identified very negatively, only 5.24%. This data shows that Anies Baswedan's level of online political trust is relatively good. The existence of online political trust also shows that there is a reasonably large online social bond because political trust also depends on the social attachment that is built, especially in Twitter social media. This also indicates a consistent relationship formed in social media between Anies Baswedan and the public, especially Twitter users.

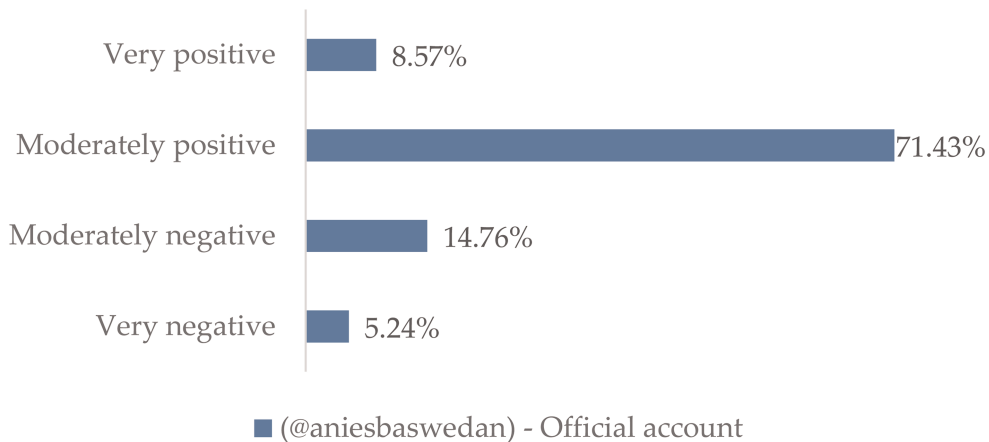


Figure 2. The level of online political trust in Anies Baswedan.
Source: Processed by researchers using Nvivo 12 Plus.

Relatively positive online political trust in the digital space, such as social media, is essential for candidates or politicians, significantly ahead of the 2024 presidential election. Anies Baswedan, who is projected to run as Indonesia’s 2024 presidential candidate, is considered to have accumulated initial resources at the public trust level. Dominant factors strongly influence the level of political trust gained by Anies Baswedan. These dominant factors significantly contribute to the high level of public trust, so this study continues the analysis by mapping the dominant factors that affect the level of online political trust in Anies Baswedan.

4.2 Factors influencing online political trust in Anies Baswedan

The level of political trust in Anies Baswedan appears to be relatively positive. A public discussion on Twitter greatly influences this trust. Several dominant factors have been identified as influencing the level of trust, including the following:

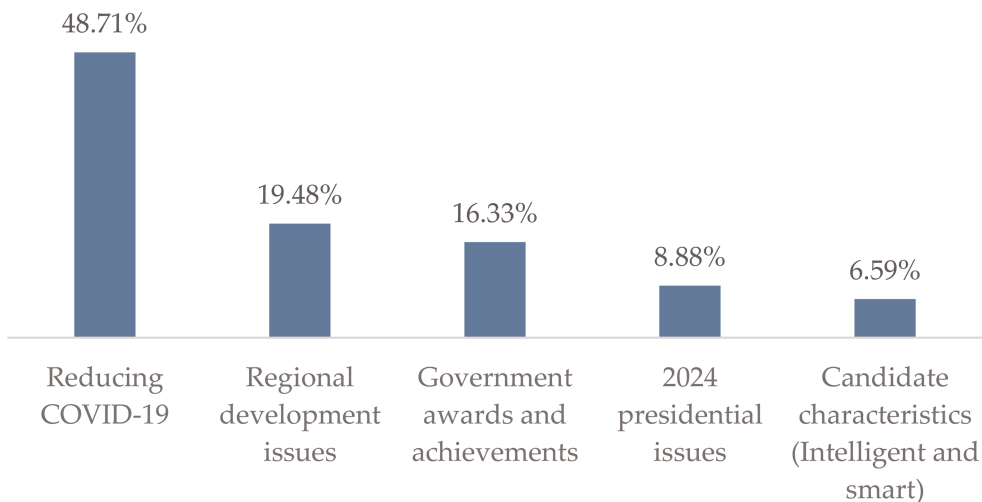


Figure 3. Factors influencing the level of online political trust in Anies Baswedan.
Source: Processed by researchers using Nvivo 12 Plus.

Figure 3 shows that dominant factors affect the level of public trust in Anies Baswedan. Among these dominant factors are the DKI Jakarta government's efforts under Anies Baswedan to reduce the number of cases due to the COVID-19 pandemic. Another influential factor is regional development issues that the public considers quite good. The awards and achievements during Anies Baswedan's leadership in the government also became a public benchmark. The issue of the 2024 presidential nomination has also become a public attraction to discuss Anies Baswedan on social media. Apart from these factors, Anies Baswedan also has characteristics that the public considers quite intelligent. These self-characteristics influence political attitudes on online social networks such as Twitter.

From the trend of the data above, it can be seen that the level of political trust can be measured from social networks formed on social media such as Twitter. This depends on the attitude and response of the public in assessing and discussing issues that link Anies Baswedan. The higher the interaction between social media users and Anies Baswedan, the more solid social relations can be formed, which in turn will change and influence users' political attitudes. The political attitude shown by the public on Twitter social media contributed to increasing political trust in Anies Baswedan. Relatively stable political trust can contribute to democratic political contestations such as the upcoming 2024 presidential election.

5 CONCLUSION

Political trust can be assessed through online activities by observing public interactions or discussions on social networks such as Twitter about issues relating to Anies Baswedan. Political trust in Anies Baswedan is identified as quite good and relatively positive. There are dominant factors that influence this belief, including the response of Anies Baswedan during the COVID-19 pandemic, which the public considered quite good. Another factor is regional development issues during his tenure as Governor of DKI Jakarta. The government's awards and achievements during the leadership period, the issues of presidential candidacy for 2024, and the personal characteristics of Anies Baswedan, who are considered representative, such as a thoughtful and intelligent leaders. The existence of online political trust in Anies Baswedan, which has been identified, has implications and influences on the issues of the upcoming 2024 Indonesian presidential election. The contribution of this research can be an initial recommendation for Anies Baswedan or other candidates to consider the efforts that must be taken to influence and maximize political trust in online social networks such as Twitter.

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Media and empowerment for sustainable production of coconut sugar in Banyumas Central Java 1

Agoeng Noegroho*, Shinta Prastyanti, Bambang Widodo, Dwi Pangastuti Marhaeni & Wiwik Novianti

Jenderal Soedirman University, Banyumas, Indonesia

ABSTRACT: Research on the communication strategy for empowering coconut sugar farmers with digital media during the COVID-19 pandemic period is felt to be very necessary to ensure the sustainability of coconut sugar production in Banyumas. Strategic efforts to maintain coconut sugar production with all its problems will be the focus of this paper. Research with case studies used in-depth interviews, focus group discussions (FGDs), and documentation as data collection techniques. The results show a strategy to instill the entrepreneurial spirit begin to the profession of Nira picker so that the raw material for coconut sugar can constantly establish communication with coconut sugar farmer groups, and collaborate with stakeholders as strategic partners to accommodate the production and promote coconut sugar to the outside of their area through social media.

Keywords: Production sustainability, farmer, coconut sugar, digital media

1 INTRODUCTION

The life of being a coconut sugar farmer (*penderes*) seems to be no longer an option for the younger generation, even in coconut sugar-producing centers such as Cilongok, Banyumas. Uncertain income because the price of coconut sugar tends to fluctuate and the weather changes become a pain for farmers. The regeneration of farmers is another problem that must be faced by farmers and the coconut sugar industry in Banyumas. Not to mention the risk of falling when they are tapping Nira, as well as unstable income, making farmers often have to go into debt first to stalls or collectors to meet their daily needs, so that farmers are not free to sell their coconut sugar products to other parties, including cooperatives. As a center for the coconut sugar industry, both at the regional and national levels, the coconut sugar industry in Cilongok Banyumas has existed for decades, although it is not known exactly when the Cilongok people began to engage in the coconut sugar business (Prastyanti, *et al.* 2020). The development of the coconut sugar industry in Banyumas is marked by the presence of a cooperative which is a forum for farmers, not only to sell their products but also to develop themselves. The coconut sugar cooperative Nira Satria in Cilongok is established in 2008, starting with the concerns of several local youths over the condition of farmers at that time, although they are not coconut sugar farmers as a profession. The establishment of the cooperative, generally turned out to have a significant impact on the progress of the rural coconut sugar industry, and on the lives of farmers at the micro level, especially after the farmers shift from producing printed coconut sugar to crystal coconut sugar which has higher economic value. Based on the background as described above, that the goal for the welfare of farmers to be realized, it is necessary for the sustainability of coconut sugar production, especially the curing profession as the spearhead of Nira taking as an ingredient for making coconut sugar,

*Corresponding Author

which is very important. In addition to post-production, a group of farmers produced coconut sugar for sale or promoted the product with digital media.

2 RESEARCH METHODOLOGY

The purpose of this study was to analyze the sustainability of the production of coconut sugar farmers. The case study was chosen as an approach that uses a qualitative research design. This research on the perspective of coconut sugar farmers towards this cooperative is located in one of the rural coconut sugar industry centers in Banyumas Regency, namely Cilongok. In-depth interviews and focus group discussions (FGDs), offline and online, with coconut sugar farmers were conducted to obtain primary data. To complete the primary data, an in-depth analysis of the literature or related documents was carried out as secondary data. The data obtained were analyzed by triangulation of sources and methods. Interactive analysis was chosen to validate the data.

3 LITERATURE REVIEW

Cooperatives and ideal empowerment of farmers through cooperatives are considered effective in increasing the power of small and weak farmers, especially participation in the supply chain, developing business and expanding market reach, promoting rights and access to human resources, and building the identity of farmers as partners in agricultural development (Quilloy 2003). In Quilloy's opinion, it can be seen that cooperatives do not only contribute to business expansion so that they have a positive impact on the economy but also in the political aspect, increasing the confidence of farmers and placing them as an important part in agricultural development. The results of another study conducted by Dolinska & d'Aquino (2016) found that farmer empowerment was correlated with the innovation adoption process. According to the two researchers, in empowering farmers, power sharing occurs among farmers in the process. Farmers not only jointly produce and reproduce discourses and norms that are considered by individuals in their actions but can also support or hinder the process of diffusion of innovations. Empowerment through cooperatives can bring benefits to the community in accordance with the goals of cooperatives when all stakeholders, including community members who previously had no power, are involved and an empowerment strategy is designed that can embrace all parties so that these stakeholders can play their respective roles to the fullest. This is expressed by Civera *et al.* (2018) that the organizations can design effective empowerment strategies so that they involve the involvement of low-power stakeholders to become active business partners. In the digital media era, the presence of the internet and new media is increasingly significant in spurring efforts to empower farmers. In India, the potential of social media to support access and exchange of information is a form of empowerment for farmers, in addition to the Government of India which has also launched a program called Digital India (Kamani 2016). In line with the findings of research in India, Norman Uphoff from Cornell University, United States of America also links information and communication technology with farmer empowerment. According to Uphoff (2012), ICT has an impact on farmers in 3 (three) ways, namely: 1) farmers can access and improve control over resources, 2) farmers can access new and better technologies, and 3) farmers can connect to various organizations. Uphoff's research is very interesting and in accordance with the spirit of community empowerment which aims to provide space for farmers so that they can increase control over themselves and their environment.

4 RESULTS AND DISCUSSION

The sustainability of coconut sugar production is part of the journey of the farmers and the rural coconut sugar industry. One of the key elements is the presence of coconut sugar farmers.

As important actors in the production of coconut sugar, potential youth see the profession as farmers to be very crucial and sometimes underestimated, so they tend to choose to work in big cities like Jakarta, and will return to the village in their 30s to continue the struggle. Living after economic hardship in a big city cannot provide for the needs of his family. The problems COVID-19 pandemic also had an impact on coconut sugar farmers. The prices that tend to decrease are felt by farmers. Even today, the price of crystal coconut sugar is only Rp. 13,000-Rp.14,000.00/kg after previously reaching Rp. 17,000.00 to Rp. 18.000,00/kg. Although farmers always try to maintain the quality of the coconut sugar they produce, the price still cannot recover as before. Printed coconut sugar also experienced the same condition. Printed coconut sugar is priced in three price variants depending on the quality, Rp.10,000,00 for the worst quality, Rp. 11,000.00 medium quality, and Rp. 12.000,00 with super quality. Despite experiencing problems in selling sugar to cooperatives and farmer groups, so that their products can still enter the market, farmers sell their coconut sugar products to stalls/collectors whose payments can only be received by farmers after the next 3 or 4 days. This condition is certainly detrimental to farmers. This debt bondage makes farmers unable to sell their products freely. Some time ago, cooperatives and farmer groups could become a mainstay for farmers in selling coconut sugar and also stabilizing sugar prices. However, most of the cooperatives failed to provide benefits to small farmers. These failures are caused by unpredictable markets, lack of trust, social differentiation, and weak policy design and implementation, not to mention the intervention of former village officials who control the allocation of profits and social services so that they are like private companies rather than sharing member profits with farmers. (Shen & Shen 2018). The use of digital media as a tool to sell coconut sugar production requires the touch of young people, as millennials are more adaptive to the development of communication technology. Efforts made by non-governmental organizations have actually touched teenagers and adults to help product marketing through social media that has existed so far. Circumstances that do not meet expectations also sometimes discourage the entrepreneurial spirit among young people in Cilongok, so they still choose to work in big cities instead of getting experience and prestige when working in big cities. However, they will return to the village in their 30s to continue the business of their parents or in-laws to become coconut sugar farmers. The digital media era has actually contributed to the community empowerment process, marked by the use of information and communication technology (ICT) tools in an effort to increase community empowerment, including farmers. Community empowerment is a long process because changing people's mindsets is not easy. Community empowerment can run optimally when it can reach the intended audience and involve the right stakeholders. In this case, ICT tools contribute to farmer empowerment so that the communication process does not only function to convey messages and influence targets but also how stakeholders are willing to be involved in the empowerment program. To strengthen face-to-face media, cooperatives also use mobile phones to empower farmers. Cooperative management often posts information and news related to coconut sugar to farmers so that farmers become more well-informed and open to knowledge. While the existence of cooperatives such as We Were Nothing may not optimal in receiving coconut sugar production from farmers, some farmers are reluctant to participate in activities carried out by cooperatives. Whereas some time ago, farmers often participated in training and counseling and cooperatives carried out in collaboration with various related stakeholders, for example on the production of crystal sugar, coconut tree seeds which were easier to extract. In fact, farmers are still willing to participate in activities carried out by cooperatives as long as the cooperative pays attention to the problems faced by farmers. Cooperatives have indeed tried to take an inventory of farmers' problems but have not followed up with their implementation. The results of research conducted by Pinto (2009) also found that cooperatives, which were supposed to be partners with farmers, have instead become instruments of the state. Cooperatives become inefficient because the amount of production is too much. After all, it is the farmers who are asked to determine how much to send to the cooperative and the cooperative does not control this decision.(Albaek & Schultz 1997).

5 CONCLUSION

Based on the results of the study, several interesting statements are found: 1. The inheritance of the penderes profession has become a problem to maintain coconut sugar production in Cilongok. The next generation of coconut sugar farmers is followed by the son or daughter-in-law of the Nira penderes who return from overseas after getting married and having children in big cities like Jakarta; 2. ICT tools contribute to group farmer empowerment so that the communication process can deliver messages and influence targets, and also willing to be involved in the empowerment program by stakeholder and nongovernment organizations; 3. The unstable price of coconut sugar and the less than the optimal role of cooperatives and farmer groups as representatives of the cooperative in the process of selling and marketing coconut sugar, make private collectors the main choice for farmers in selling their coconut sugar products.

ACKNOWLEDGMENTS

The author would like to thank the Ministry of Research, Technology, and Higher Education for funding this research through the Research Grant. The author also thank the informants of coconut sugar farmers in Cilongok and the LPPSLH NGO as the initiator of coconut sugar.

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The role of corporate governance in moderating the effect of risk finance and intellectual capital on Islamic banks performance in Indonesia

Indra Siswanti*

Mercu Buana University, Jakarta, Indonesia

Yusliza Mohd Yusoff

Universiti Malaysia Terengganu, Terengganu, Malaysia

Yananto Mihadi Putra

Mercu Buana University, Jakarta, Indonesia

Embun Prowanta

Perbanas Institute, Jakarta, Indonesia

ABSTRACT: In general, this study wants to create a model of the performance of Islamic banks in Indonesia through the risk of financing, intellectual capital, and corporate governance. The population in this study is 14 Islamic commercial banks (BUS) in Indonesia, while the sampling criteria used in this study are Islamic commercials that which have published financial reports and annual reports for the 2016–2020 period, Thus, the number of samples obtained is 9 Islamic commercial banks. The results of the study state that: Risk financing has a significant positive effect on financial performance; intellectual capital has a significant positive effect on financial performance; good corporate governance moderates the effect of risk financing on financial performance.

Keywords: financing risk, intellectual capital, corporate governance, financial performance

1 INTRODUCTION

According to data from the Financial Services Authority (OJK) in early 2020, the number of Sharia Commercial Banks (BUS) is 14, Sharia Business Units (UUS) is 20, Sharia People's Financing Banks (BPRS) are 163 with a market share of only 6%. The data indicates that Islamic banking still shows positive growth despite experiencing a slowdown. This is much different from the market share of Islamic banks in Malaysia which has reached a figure ranging from 25% to 30%, even the Middle East has reached a figure above 60%. Meanwhile, it is known that Indonesia is a country with the largest Muslim population in the world. The market share of Islamic banks in Indonesia should grow faster than other countries, otherwise, this opportunity could be taken by other countries.

Factors may contribute to why the market share of Islamic banks in Indonesia is running slowly, among others, due to the lack of socialization carried out by both Islamic banks and by the government and other parties that should be able to help the development of Islamic banks. Another factor that can also affect the market share of Islamic banks is the lack of innovation of

*Corresponding Author

Islamic bank products, including inadequate technological developments. Islamic banks must also pay attention to the risk and quantity of human funding sources from Islamic banks, which until now are still deemed to be insufficient in terms of both risk and quantity.

Currently, competition between Islamic banks and conventional banks is more fierce than ever; therefore, Islamic banks are required to have good performance, in order to compete in the national banking market in Indonesia. Profitability is one of the main focuses that is always considered in running a business, especially in banking. This is because banks in carrying out their operational activities want to obtain maximum profits (Suwarno & Muthohar 2018). Therefore, the bank will always optimize its financial performance. Better bank management will provide benefits that can increase profitability.

Profitability is one indicator to determine bank performance. The bank's ability to increase profitability can show a good bank's financial performance. Conversely, if the profitability achieved is low, then the bank's performance is less than optimal in generating profits. Profitability is the most appropriate indicator to measure the performance of a bank (Wibowo & Syaichu 2013). By knowing good bank performance, the level of public confidence in the bank will increase, and vice versa, if the bank's performance decreases, the level of public confidence in the bank will also decrease. In this study, profitability will be proxied by using return on assets (ROA) as a measure of bank performance, because ROA is used by bank management to measure its ability to obtain overall profits. The greater the ROA, the better the financial performance.

In general, the largest source of income for Islamic banks is derived from financing distributed by Islamic banks to the public. However, it should be noted that not all financing disbursed by banks to the public will be smooth, for which Islamic banks need to control the possibility of financing risks, because if many financing risks are problematic, then this will affect the income of Islamic banks which, in turn, will ultimately affect the performance of Islamic banks as a whole. Islamic bank financing risk can be measured by the ratio of non-performing financing (NPF) where all the rules have been determined by Bank Indonesia, where if the level of financing risk is higher, it will reduce the bank's income, and vice versa, if the financing risk is getting smaller then the risk of financing is getting smaller. This will increase the income of Islamic banks. Research conducted by Suwarno & Muthohar (2018), Ekaputri (2014), Lemiyana & Litriani (2016), Nyarko (2018), and John (2018) stated that the financing risk reflected by NPF has a negative effect on bank performance as measured by ROA.

Globalization leads companies to reform by thinking globally and acting locally, technological innovations that accelerate carrying out various activities with all their limitations and advantages make competition in the business world more competitive. The development of enterprises driven by information and knowledge has brought increasing attention to intellectual capital. The company will make every effort to achieve every goal that has been previously planned and one of the efforts in achieving the company's goals is to increase intellectual capital which consists of three main components, namely, human capital, structural capital, and relational capital. Siswanti *et al.* (2017) stated that intellectual capital has been seen as an integral part of the company in the value creation process, and is increasingly playing an important role in maintaining the company's competitive advantage. Since knowing the importance of intellectual capital, most companies and banks in Islamic countries have begun to shift their mindset. Intellectual capital is defined as an intangible asset that includes technology, customer information, brand name, reputation, and corporate culture which are very valuable for the company's competitiveness. In the modern business environment, intellectual capital is considered the most important strategic asset for the success of the company. Intellectual capital is the lifeblood of a high-tech enterprise, therefore, there is a great need to nourish the concept and application of intellectual capital in the banking sector. (Rezaei 2014).

According to Matos *et al.* (2018), the main goal in a knowledge-based economy is to create value-added. To be able to create value-added, it takes the right measure of physical capital (i.e., financial funds) and intellectual potential (represented by employees with all the

potential and abilities attached to them). Ulum (2013) conducted a study to create a measure of intellectual capital in Islamic banks, and the results of his research are known as Islamic intellectual capital.

Research on intellectual capital was initially conducted by Santoso (2011), who tested the effect of intellectual capital on the performance of companies listed on the Indonesia Stock Exchange. The test results show that there is a significant positive influence of intellectual capital on the company's financial performance. Likewise, the results of the research by Siswanti & Sukoharsono (2019) state that intellectual capital has a significant effect on the financial performance of Islamic banks in Indonesia.

Corporate governance in the Islamic perspective constantly links all concepts related to behavior in business governance with spiritual matters. The importance of corporate governance in Islamic banking reflects the results of research by Chapra & Habib (2002) declare that the implementation of corporate governance practices has not been implemented properly. The importance of Sharia compliance is the result of research which states that 62% of the respondents involved in a survey conducted at 14 Islamic banks in Bahrain, Bangladesh, and Sudan stated that they would transfer funds to other Islamic banks if suspected Sharia violations were in operation.

This research needs to be done considering that many cases occur in conventional banks where the implementation of corporate governance is still low and the level of credit risk is high. So that this does not happen to Islamic banks, Islamic banks should always pay attention to the implementation of good corporate governance and pay attention to the level of financing risk, including the level of intellectual capital. The novelty of this research is the model proposed by the researcher using corporate governance as a moderating variable.

2 LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 *Financial performance*

Financial performance is a description of the company's financial condition in a certain period, both in terms of raising funds and distributing funds, which are usually measured by indicators of capital adequacy, liquidity, and profitability (Munawir 2011). ROA is a company's financial ratio in measuring the ability of the profit generated. The higher the profitability of a company, the higher the company's ability to generate profits, thus affecting the level of disclosure made by the company in order to attract investors to invest in the company.

Companies doing business on both small and large scales have the same goal of seeking profit. A sustainable business is a business that can generate profits continuously, without stopping. To generate sustainable profits, of course, we must have the right business strategies both in terms of technology, production, marketing, and other aspects. Profit in Islam pays attention to business through the moral aspect to achieve maximum profit. This shows that Islam is related to the economy and morality, both of which cannot be separated.

A healthy bank and its good performance will certainly be seen from its ability to earn income in the form of profit. The greater the profit earned, the higher the bank's performance is getting better and its financial condition is getting healthier. ROA is used to measure the ability of bank management to earn a profit (net income before tax) and measure the effectiveness of the bank in gaining overall profit. The bigger the ROA, the greater the level of profit achieved by the bank, so that the bank in carrying out its activities can run well. The best standard for ROA according to Circular Letter of Bank Indonesia No.6/23/DPNP May 31, 2004, is more than 1.5%.

2.2 *Risk financing*

The main function of the bank is to collect and distribute funds from the public and channel funds to the public. The function of the bank in channeling funds to the public is in the form

of providing financing. It should be noted that not all funds channeled to the public in the form of financing will be smooth because there are times when the financing becomes sub-standard, doubtful, or even gets stuck. To find out the financing risk in Islamic banks, it can be reflected by the NPF formula.

As for the definition of NPF, according to Dendawijaya (2005), NPF is the failure of the debtor to fulfill its obligations to pay the agreed principal installments. According to Siamat (2005), NPF is a loan that has difficulty repaying due to internal factors, namely intentional and external factors, namely an event beyond the control of the creditor. There are three types of NPF: substandard financing, doubtful financing, and NPF.

Based on Bank Indonesia Regulation Number 12/11/DPNP dated March 31, 2010, concerning the Rating System for Commercial Bank Soundness, the higher the NPF value (above 5%), the bank is not healthy. So if the NPF value is still below 5%, the bank is still considered healthy. Several previous research results related to the effect of financing risk on bank financial performance as the results of research conducted by: Araka *et al.* (2018), Nyarko (2018), and Kingu *et al.* (2018) stated that non-performing loans have a significant effect on bank financial performance. Based on the related theory and the results of previous researchers, the hypothesis proposed as follows:

H1: financing risk has a significant negative effect on the financial performance of Islamic banks in Indonesia.

2.3 Intellectual capital

According to Ulum (2013) in Islamic intellectual capital value-added (VA) is constructed from income accounts, all of which are Sharia-based, namely net income from Sharia activities and Sharia non-operational income. The intellectual capital performance appraisal model for Islamic banking (which will be named iB-VAIC) is important to be produced as a modification of the existing model, namely the Value Added Intellectual Coefficient (VAIC). VAIC is designed to measure the intellectual capital performance of companies with common types of transactions. Meanwhile, Islamic banking has its own types of transactions which are relatively different from general/conventional banking.

Intellectual Capital has a very important and strategic role in measuring human resources in a company. Intellectual capital is the knowledge that can provide benefits to the company by donating something or making contributions that can provide added value and different uses for the company. Intellectual capital is a term that has various definitions in different economic theories.

Intellectual capital is a very valuable asset, although the recognition of these assets is not contained in the financial statements, this is because it is difficult to measure the value of intellectual capital, so an indirect measurement is developed to measure the efficiency of added value to the intellectual capital of companies that have known as the VAIC method developed by Pulic (1998). VAIC provides information about the value creation efficiency of the company's tangible assets and intangible assets. VAIC is a tool to measure the performance of a company's intellectual capital. This model is relatively easy and very possible to do because it is constructed from the accounts in the financial statements (balance sheet and income statement). Meanwhile, Ibrahimy & Raman (2019) identified three main constructs: from intellectual capital, namely: Human Capital (HC), Structural Capital (SC), and Capital Employed (CE).

Several previous research results related to the influence of intellectual capital on bank financial performance as the results of research conducted by Siswanti & Cahaya (2019), Siswanti & Sukoharsono (2019), Massaro *et al.* (2018), Matos *et al.* (2018), Yong *et al.* (2018) state that intellectual capital has a significant positive effect on the performance of Islamic banks in Indonesia. Likewise, Yusliza (2020) stated that intellectual capital has a significant effect on manufacturing companies in Malaysia. The results of the research by Yusoff *et al.* (2019) stated that intellectual capital has an influence on financial performance and is able to encourage the sustainable

development of micro, small and medium enterprises in Malaysia, as well as the results of the research by Cavicchi & Vagnoni (2017), which also states that intellectual capital has a significant effect on financial performance. Based on this description, the hypotheses are proposed as follows:

H2: Intellectual capital has a significant positive effect on the financial performance of Islamic banks in Indonesia.

2.4 Corporate governance

Corporate governance is a relatively new issue in the world of business management. In general, corporate governance is related to the relationship system and mechanism that regulates and creates appropriate incentives between parties who have an interest in a company so that the company in question can achieve its business goals optimally. As a concept, corporate governance does not have a single definition. As stated by the Forum for Corporate Governance in Indonesia (FCGI) in its first publication using the Cadbury Committee definition, namely: A set of regulations that regulate the relationship between shareholders, company management, creditors, government, employees, and other stakeholders. other internal and external related to their rights and obligations, or in other words a system that regulates and controls the company. In addition, FCGI also explained that the purpose of Corporate Governance is to create added value for all interested parties (stakeholders).

Guidelines for Good Corporate Governance in Indonesian Banking, according to the National Committee on Governance Policy, states that banks as intermediary institutions and trust institutions, in carrying out their business activities, banks must adhere to the principle of transparency, have performance measures from all levels of the bank based on these measures. consistent with corporate values, business goals, and bank strategy as a reflection of bank accountability, adhering to prudential banking practices, and ensuring the implementation of applicable regulations as a form of bank responsibility, objective, and free from pressure from any party in making decisions (independence), and always pay attention to the interests of all stakeholders based on the principles of equality and fairness (Harisa 2019).

The definition of corporate governance or corporate governance based on Bank Indonesia Regulation (PBI) No. 11/33/PBI/2009 is bank governance that applies the principles of transparency, accountability, responsibility, professionalism, and fairness.” Organization for Economic Cooperation and Development defines: “Corporate governance is the structure of relationships and responsibilities among related parties consisting of shareholders, members of the board of directors and commissioners including managers, which is designed to encourage the creation of a good performance. competitive advantage needed to achieve the company’s main objectives.”

In relation to the performance of a company, the results of research by Rehman & Mangla (2012) examined the impact of corporate governance variables on the financial performance of various types of banking sectors in Pakistan. The results of the study indicate that there is a significant effect of the corporate governance variable on the overall performance of the banking sector. Likewise, the results of research by Haider *et al.* (2015); Luki & Basuki (2015); Paul *et al.* (2015) and Agustina *et al.* (2015), Siswanti *et al.* (2017), which state that corporate governance has a significant effect on the financial performance of companies in various industrial sectors, both corporate and banking companies. Based on this description, the hypothesis proposed in this study is as follows:

H3: good corporate governance moderates the effect of risk financing on financial performance

H4: good corporate governance moderates the effect of intellectual capital on financial performance

Based on the above description, the conceptual framework for this research is depicted as follows:

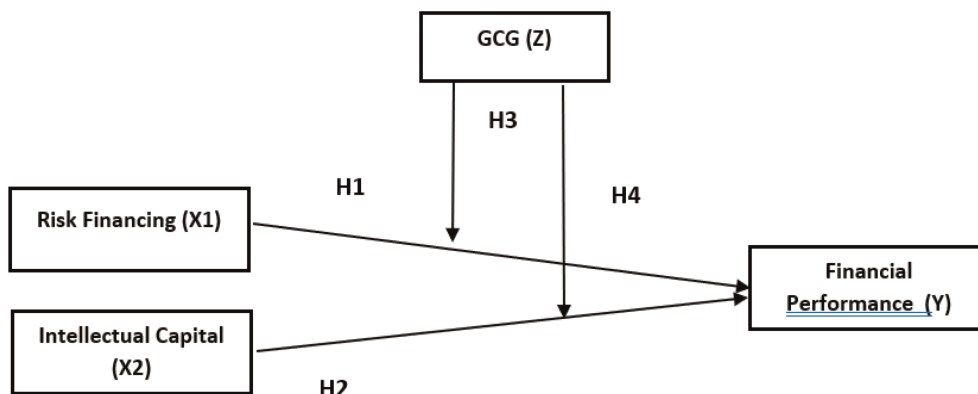


Figure 1. Conceptual framework.

3 RESEARCH METHODOLOGY

This study uses secondary data in the form of financial statements and annual reports of Islamic banks for the 2016–2020 period. The population used in this study was all 14 Islamic banks in Indonesia. Sample selection was based on purposive sampling. The sample criteria in this study are as follows:

1. Islamic Banks that publish financial reports for the period 2016–2020
2. Islamic Banks that publish annual reports for the period 2016–2020.
3. Islamic Banks established before 2015

Based on the above criteria, the number of samples used in this study was 9 Islamic banks: Muamalat Bank, Sharia Independent Bank, Mega Sharia Bank, Bri Sharia Bank, Bni Sharia Bank, Bukopin Sharia Bank, Sharia Bca Bank, Panin Bank Sharia, and Victorian Sharia Banks.

The data used in this study is secondary data, where the data was obtained directly from the website of the Islamic banks and considered as the samples of this research. The research variables include the independent variables: risk financing, intellectual capital, and good corporate governance, and the dependent variable in this study is financial performance. The measurement of each variable can be seen in Table 1.

Table 1. Operational and measurement definition.

Variable	Operational Definition	Measurement
Financial Performance (ROA)	The rate of return obtained from the bank's operational activities comes from own capital and loans.	$ROA = \frac{\text{Net Income} \times 100\%}{\text{Total Assets}}$ Source: SEBI No.6/23/DPNP/2004
Finance Risk (NPF)	Bank's ability to manage NPF.	$NPF = \frac{\text{Poor financing} \times 100\%}{\text{Total Financing}}$ Source: SEBI No.12/11/DPNP/2010
Intellectual Capital (IC)	The knowledge that provides information about the company's intangible value that can affect the durability and competitive advantage of a company.	$VAIC = VACA + VAHU + STVA$ Source: Ulum (2013)
Good Corporate Governance	corporate that applies the principles of transparency, accountability, responsibility, professionalism, and fairness.	Quality Rating of Good Corporate Governance Source: SEBI No. 12/13/DPbS tahun 2010

Data processing and analysis would be performed using Eviews version 10 for the significance of multiple linear regression analysis of panel data.

4 ANALYSIS AND DISCUSSION

Panel data regression model selection from testing the data using Eviews, the results of the appropriate model in this study were obtained as follows:

Table 2. Panel data regression model.

Method	Testing	Result
Chow test	common effect >< fixed effect	fixed effect
Hausman test	fixed effect >< random effect	fixed effect

From the three regression model test results, two tests showed a more precise fixed effect method, so it can be concluded that the fixed effect method is the best panel data regression estimation method in this study. The results of the fixed effect model panel data regression can be seen in Table 3.

Table 3. Fixed effect model.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
NPF	-0.21549	0.084943	-2.536856	0.0133
MI	0.006191	0.001272	4.865959	0.0000
FDR	0.00506	0.017654	0.286578	0.7752
C	0.011098	0.017184	0.645807	0.5204

Effects Specification

Cross-section fixed (dummy variables)			
R-squared	0.756905	Mean dependent var	0.012424
Adjusted R-squared	0.712267	S.D. dependent var	0.011605
S.E. of regression	0.008897	Akaike info criterion	-6.52282
Sum squared resid	0.005778	Schwarz criterion	-6.3144
Log likelihood	267.9129	Hannan-Quinn criter.	-6.43926
F-statistic	10.23579	Durbin-Watson stat	0.750869
Prob(F-statistic)	0.00000		

(data processed 2022)

4.1 Hypothesis test

4.1.1 F-test

The F-test was conducted to determine the effect of the independent variable simultaneously on the dependent variable. With the level of confidence for hypothesis testing is 95% or $\alpha = 0.05$ (5%).

Based on Table 4, the results for the prob (F-statistics) are 0.00000. Thus, it can be concluded that the prob value (F-statistics) is $< \alpha$ 5%.

Table 4. F-test.

R-squared	0.754478	Mean dependent var	3.013889
Adjusted R-squared	0.720726	S.D. dependent var	1.081119
S.E. of regression	0.748484	Akaike info criterion	2.338043
Sum squared resid	36.97215	Schwarz criterion	2.527765
Log likelihood	-78.16953	Hannan-Quinn criter.	2.413572
F-statistic	16.42815	Durbin-Watson stat	1.478389
Prob(F-statistic)	0.000000		

(data processed 2022)

4.2 Coefficient of determination (R^2)

The coefficient of determination R^2 measures how far the model's ability to explain variations in the dependent variable is. The value of the coefficient of determination is between 0 and 1. The small value of adjusted R^2 means that the ability of the independent variable in explaining the variation of the dependent variable is very limited. If the adjusted R^2 value is closer to one, the greater the variation in the independent variable explains the variation in the dependent variable (Ghozali 2013).

Table 5. Coefficient of determination test.

R-squared	0.754478	Mean dependent var	3.013889
Adjusted R-squared	0.720726	S.D. dependent var	1.081119
S.E. of regression	0.748484	Akaike info criterion	2.338043
Sum squared resid	36.97215	Schwarz criterion	2.527765
Log likelihood	-78.16953	Hannan-Quinn criter.	2.413572
F-statistic	16.42815	Durbin-Watson stat	1.478389
Prob(F-statistic)	0.000000		

(data processed 2022)

In Table 5, it can be seen that the Adjusted R-squared value is 0.720726. This shows that the value of the independent variables, namely risk financing and intellectual capital can explain the financial performance variable by 72.07%, while the remaining 27.93% is explained by other variables outside the study.

4.3 Partial test (T -test)

The t-test was used to partially test the hypothesis in order to show the effect of each independent variable individually on the dependent variable. Testing using a significance level of $\alpha = 5\%$. The significance level of 0.05 is a standard measure that is often used in research (Ghozali 2013).

Table 6. T-test.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.555528	0.173435	14.73476	0.0000
RF	0.293941	0.133248	2.205970	0.0309
IC	0.360345	0.092211	3.907811	0.0002
GCG	0.649372	0.116785	5.560417	0.0000
SNM1	0.381711	0.115506	3.304677	0.0015
SNM2	-0.051348	0.156336	-0.328447	0.7436

(data processed 2022)

From the results of the t-test in Table 6, it can be concluded that the results of the influence between the independent variables on the dependent variable are shown as follows.

4.4 *The effect of risk financing on financial performance*

Based on the results of the t-test, it can be stated that the financing risk reflected by NPF has a significant negative effect on financial performance as reflected by ROA. This shows that the decreasing level of NPF will increase the financing income of Islamic banks, thus the financial performance of Islamic banks will increase by decreasing financing risk. Thus, it can be said that if a bank has a high NPF, it shows that the bank is not professional in managing its financing, as well as an indication that the level of risk or the provision of financing to the bank is quite high in line with the high NPF faced by banks. The results of this study are in line with Araka *et al.* (2018), Nyarko (2018), Kingu *et al.* (2018), Nugroho *et al.* (2021), which state that non-performing loans have a significant negative effect on bank financial performance. Thus, the research hypothesis proposed by the researcher which states that financing risk has a negative effect on financial performance is proven to be proven.

4.5 *The effect of intellectual capital on financial performance*

Based on the results of the t-test, it can be stated that intellectual capital has a significant effect on financial performance which is reflected by ROA. This shows that intellectual capital consisting of human capital, structural capital, and capital employed has been implemented well by Islamic banks. The application of intellectual capital properly in Islamic banks can improve the performance of Islamic banks, considering that intellectual capital is an intangible asset element that is very important for Islamic banks. Intellectual capital has a very important and strategic role in measuring human resources in Islamic banks and intellectual capital is knowledge that can provide benefits to the company by donating something or making contributions that can provide added value and different uses for the company. The results of this study are supported by the research of Siswanti & Cahaya (2019), Siswanti & Sukoharsono (2019), Massaro *et al.* (2018), Matos *et al.* (2018), Yong *et al.* (2018) state that intellectual capital has a significant positive effect on the performance of Islamic banks in Indonesia. Likewise, Yusliza (2020) states that intellectual capital has a significant effect on manufacturing companies in Malaysia. The results of research by Yusoff *et al.* (2019), state that intellectual capital has an influence on financial performance and is able to encourage sustainable development of micro, small and medium enterprises in Malaysia, as well as the results of research by Cavicchi & Vagnoni (2017), also states that intellectual capital has a significant effect on financial performance. Thus, the research hypothesis proposed by the researcher which states that intellectual capital has a positive effect on financial performance is proven to be proven.

4.6 *The effect of risk financing on financial performance with good corporate governance as moderation variable*

The results of the study state that good corporate governance moderates the effect of risk financing on financial performance. One of the factors that make a company continue to develop is Good Corporate Governance. Good Corporate Governance is a principle applied by a company with the aim of continuously improving the company's development, values, performance, and contribution to maintaining the sustainability of the company in the long term. The implementation of Good Corporate Governance in Islamic banks is very important because it can affect the growth and development of Islamic banks and maintain the image of the Islamic bank. GCG in financial institutions, especially banks, is unique when compared to governance in non-bank financial institutions. Thus the existence of Good

Corporate Governance in Islamic banks if implemented properly and correctly can reduce financing risk which will ultimately improve the financial performance of Islamic banks in Indonesia.

The results of this study are in line with the research of Siswanti *et al.* (2016) which states that Good Corporate Governance has a significant positive effect on the financial performance of Islamic banks in Indonesia. Siswanti & Cahaya (2019), Harisa *et al.* (2019), Siswanti *et al.* (2017), Siswanti (2016), and Utami *et al.* (2021) state that Good Corporate Governance has a significant positive effect on the financial performance of Islamic banks.

4.7 *The effect of intellectual capital on financial performance with good corporate governance as a moderation variable*

The results of the study indicate that good corporate governance does not moderate the influence of intellectual capital on financial performance. As it is known that intellectual capital directly has a positive significant effect on financial performance, but the results of the study state that the existence of good corporate governance does not actually moderate the influence of intellectual capital on financial performance. intended to obtain bank management that is in accordance with the five basic principles, but is also intended for wider interests. This interest, among others, is to protect the interests of stakeholders and improve compliance with applicable laws and regulations as well as ethical values that apply in general to the Islamic banking industry. The implementation of GCG in Islamic banks is more focused on the implementation of the duties and responsibilities of the Board of Commissioners and the Board of Directors; completeness and implementation of the duties of the committees and functions that carry out internal control; implementation of the duties and responsibilities of the Sharia Supervisory Board; implementation of the compliance function, internal audit and external audit; the maximum limit for disbursement of funds; and transparency of financial and non-financial conditions, so that it can be seen that the implementation of good corporate governance does not pay attention to the existence of intellectual capital. The results of this study are in line with the research of Peters & Bagshaw (2014), which states that good corporate governance does not moderate the effect of intellectual capital on financial performance.

5 CONCLUSIONS AND SUGGESTIONS

From the description and explanation in the previous chapter, it can be concluded that financing risk has a significant positive effect on the financial performance of Islamic banks in Indonesia, this shows that the decreasing level of NPF will increase the financing income of Islamic banks, thus the financial performance of Islamic banks will increase with a decrease in financing risk. Intellectual capital has a significant positive effect on financial performance, it shows that intellectual capital consisting of human capital, structural capital, and capital employed has been implemented well by Islamic banks. The application of intellectual capital properly in Islamic banks can improve the performance of Islamic banks, considering that intellectual capital is an intangible asset element that is very important for Islamic banks. Good corporate governance moderates the effect of risk financing on financial performance, it shows that the existence of Good Corporate Governance in Islamic banks if implemented properly and correctly can reduce financing risk which will ultimately improve the financial performance of Islamic banks in Indonesia. Good corporate governance does not moderate the influence of intellectual capital on financial performance, this is because the implementation of good corporate governance focuses more on implementing the principles of corporate governance, so it can be seen that the implementation of good corporate governance pays less attention to the existence of intellectual capital.

The author can provide suggestions as follows: Islamic banks in Indonesia must further improve the implementation of good corporate governance, not only focusing on the application of the principles of good corporate governance, considering that the relationship with intellectual capital also needs attention so that the performance of Islamic banks can be further improved. Islamic banks are expected to always maintain the value of NPF so that financing risk can be reduced even lower. And Islamic banks are expected to further increase their intellectual capital so that the performance of Islamic banks in the future can continue to increase.

DECLARATION OF CONFLICTING INTERESTS

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

FUNDING

The author received financial support for this research from Mercu Buana University.

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Big data and village's SDG-based development policy (Study in Terong Village, Kapanewon Dlingo, Bantul Regency, Yogyakarta)

Condrodewi Puspitasari*, Fadjarini Sulistyowati, B. Hari Saptaning Tyas & MC. Candra R. Dibyorini

STPMD Government Science Study Program, APMD, Yogyakarta

ABSTRACT: The use of big data is considered a recent breakthrough in the government sector because it can provide more accountable, transparent, and impersonal information, including in villages. Sustainable Development Goals (SDGs) is a global development agreement agreed upon by 193 countries and based on big data. As an effort to localize SDGs in villages, the Ministry of Villages launched the Village SDGs program with 18 objectives which are used as the basis for determining the direction of village development policies until 2030 according to Permendesa PD TT Number 21/2020. In the first step, village data was updated as part of big data in the village for solutions to accelerate development based on Village SDGs. The Ministry of Village is of the opinion that village data is considered as a field reflection of village factual conditions. Eggplant Village, Kapanewon Dlingo, Bantul Regency have also updated the village data according to the direction of the Ministry of Villages in order to achieve the Village SDGs goals for data-based development policies. This study uses a qualitative method with a thick description approach. Data collection techniques used focus group discussions and in-depth interviews. While the data analysis technique used is an interactive data analysis technique. The results of the study show that data collection on SDGs in Terong Subdistrict faces various obstacles and problems, including the limited Village Fund budget allocated for financing data collection. Then, there was a problem with the system and technology in data collection from supra-village where the conversion of data input used to be using an application on an Android-based mobile phone then changed to web-based so that data input had to be repeated and a lot of data was lost. The validity of the process of collecting data from the community was also questioned, to the skeptical attitude of the community during the data collection process.

Keywords: big data, development, village SDGs

1 INTRODUCTION

Today, the concept of big data is one of the most discussed concepts. Rapid advancements in digital sensors, networks, storage, and increasingly low-cost computing are driving the growing trend of massive online data collection. This trend is also getting stronger with the increasing popularity of the SMAC paradigm or what is known as social, mobile, analytics and cloud, where a number of data are being generated, processed, and stored by several companies online. (Buyya *et al.* 2016). For example, Facebook, in 2012, reported that their company was processing more than 200 Terabytes of data per hour (Ohlhorst 2013). In fact, SINTEF (i.e., The Foundation for Scientific and Industrial Research) Norway reports that

*Corresponding Author

nearly 90% of the data in the world is generated massively in line with the development of the SMAC paradigm and is the main motivator for the emergence of the Big Data paradigm (Buyya *et al.* 2016).

The etymology of Big Data itself began to appear in the mid-1990s when it was first used by John Mashey, a scientist in America who refers to handling and analyzing large data sets (Diebold 2012). Only in 2001, Doug Laney, an industry analyst explained that Big Data can be explained in 3 keywords or what is known as 3V: volume, velocity, and variety (Kitchin & McArdle 2016). *Volume* is understood that Big Data consists of huge amounts of data, where the digital universe is expected to experience an explosion of an unprecedented amount of data and will reach 180 zettabytes (180 followed by 21 zeros) by 2025 (Djurakovic 2022). Today, the challenge to data volumes is no longer about large storage capacities, but how to identify relevant data in giant data sets and use them properly. Furthermore, the speed at which data is generated increases continually and approaches real-time.

According to 2019 data regarding “1 minute on the internet” activity, in just 60 seconds there were 1 million logging into the Facebook application, 4.5 million YouTube videos watched; 2.1 million shots were taken which would have been much higher were it not for the editing process; there are 3.8 million search queries on the Google search engine; online spending of US\$ 996,956; there are 156 million messages sent via email; and 41.6 million messages were sent via WhatsApp or Facebook Messenger (Siddiqui 2019). With such a large data turnover, it becomes a challenge for data scientists to find ways to collect, process, and utilize large amounts of circulating data. The third is the variety or diversity of data, where the data comes in various forms, which are divided into 3 groups: structured, semi-structured and unstructured (University of Wisconsin 2017). Structured data is data that can be neatly organized into database columns and is relatively easy to input, store, query, and analyze. Semi-structured data is data that has been organized neatly but requires more ability to sort it, while unstructured data is more difficult to sort and extract, examples are email data, social media posts, word processing documents, audio files, videos and photos, web pages, and much more.

In Indonesia, the paradigm regarding Big Data itself has actually been used for a long time along with the rapid use of the internet in Indonesia. In 2014 alone, internet users throughout Indonesia with various age ranges reached 88.1 million people or 34.8 percent of the population in 2014 (APJII 2015). Even though Indonesia is a developing country with a high digital divide, the penetration of internet media in this country is very significant. In fact, in 2022, internet penetration in Indonesia has reached 77.02 percent or more than 210 million people out of a total population of 272.7 million Indonesians in 2021 (APJII 2022). This digital penetration is influenced by mobile smart devices and the affordability of available data package prices. In Indonesia, a person can spend around 5 hours to 8 hours or even more a day accessing the internet both via computers and cell phones (Rumata 2016). It also encourages changes in behavior and social networks in society significantly.

This change also affects the use of technology by the government in all sectors, from administration, reporting, and services, to even the use of big data in policymaking. The use of big data is considered a recent breakthrough in the government sector because it can provide more accountable, transparent and impersonal information, including in villages (Effendy 2020). One of the programs initiated by the government is SDGs Desa. Replacing the previous era, namely the Millennium Development Goals (MDGs), the era of SDGs was echoed in 2015 which is a global development agreement by 193 countries around the world with a framework designed and valid until 2030 (Pratama *et al.* 2020). SDGs have 3 main priorities: energy, food security, and water which are considered as the keys to achieving sustainable development with the principle “no one is left behind” (United Nations 2020). To localize SDGs in Indonesia, through the Ministry of Villages, the SDGs Desa program was launched which has 18 objectives. It is hoped that the data obtained through the SDGs of this village will be able to be used as a reference in making policies to realize sustainable development targets in villages that are carried out in a participatory manner.

The existence of Village Law no. 6/2014 has changed the paradigm of village development which initially placed the village only as an object, turned into the main subject of development and encouraged the participation of all village communities to play an active role in developing the village. In addition, the purpose of the Village Law is in line with SDGs ideals which aim to create a better life in terms of social, economic, and synergy with the environment (Iskandar 2020). In line with this, through the Regulation of the Minister of Villages, Development of Disadvantaged Regions and Transmigration (Permendesa PDTT) No. 13 of 2020 concerning Priority for Use of Village Funds for 2021 is used by villages as a reference for compiling village annual activities and budgets with one of the priorities being the implementation of SDGs Desa which is the total development of the village (Ministry of PDTT 2020). Since 2021 the Ministry of Village PDTT has also used SDGs Desa as an integrated effort to accelerate the achievement of sustainable development goals which have 18 goals with 222 indicators of meeting the needs of residents, development of village areas, and village institutions. Furthermore, in 2021 the PDTT Village Regulation No. 7/2021 concerning Priority for the Use of Village Funds for 2022 which also regulates priorities for completing village SDG data collection.

The achievement of SDGs Desa goals begins with village data collection based on SDGs Desa. In accordance with PDTT Village Regulation Number 21 of 2020, village data based on Village SDGs is detailed data in the form of one name, one address of residents and families, data on the smallest area at the RT level and data on village development (Ditama Binbangkum 2022). Village Data, which is village-owned Big Data, is collected and inputted by village volunteers, while ownership, availability and use are fully under the authority of the village. SDGs Village-based village data after being inputted through a special web-based application owned by the Ministry of Villages. This data is also input into the Village Information System (SID), which will integrate information on the potentials and problems of each village. It is hoped that this data can be processed into development recommendations and used as the basis for making policies for each village.

This research was conducted in Bantul Regency; Special Region of Yogyakarta based on the Development Village Index (IDM) of villages in Bantul is currently quite good with an increase in the number of village statuses from previously only 19 villages, and now there are 46 villages/Kalurahan with the status of independent villages. In fact, the Regent of Bantul encourages and instructs villages in his area to become Independent Villages through SDGs Villages, one of which is the Terong Village. Located in Kapanewon Dlingo, Bantul Regency, Terong Village is one of the villages that have conducted SDGs data collection by forming a team of volunteers to collect data according to the SDGs filling form. This study wants to see how the processes and constraints that occur starting from data collection, inputting,

2 LITERATURE REVIEW

There have been several previous studies that have been conducted related to SDGs Villages as well as Big Data and development policies in villages. One of them is research conducted by Nanda Bhayu Pratama, Eko Priyo Purnomo, and Agustiyara, entitled “Sustainable Development Goals (SDGs) and Poverty Alleviation in the Special Region of Yogyakarta” (Pratama *et al.* 2020). Research on discussing the relationship between SDGs and poverty alleviation which is the first goal in SDGs. Indonesia as a UN member is also committed to overcoming the problem of poverty and the gap between the “rich” and the “poor”. This research underlies the idea that the poverty rate of the population in the Special Region of Yogyakarta (DIY) is still relatively high when compared to the national poverty rate. The research method used is descriptive qualitative. The results of this study show that the reduction target during the validity period of the MDGs, which was expected to be able to reduce poverty to 10.30%, has not been implemented. However, in line with SDGs, the

DIY government took several steps to reduce the poverty rate through several programs carried out by the Regional Apparatus Organization. Broadly speaking, there are 4 goals in the context of reducing poverty as stated in the 2017–2022 RPJMD belonging to the DIY Provincial Government. These goals are: 1) reducing the proportion of poverty in all dimensions according to the national definition, 2) implementing a social protection system for those affected by poverty, 3) building disaster resilience, social and equal rights in economic resources, and 4) facilitating access to services the basis of society.

The next research is entitled “Implementation of SDGs Villages in Building Village Resilience on Madura Island: A Study of Dasok Village and Alang-Alang Village” by Muhammad Afifudin and Rival Hanip (Afifuddin & Hanip 2021). This study examines the role of the Village SDGs document as the main document for development planning in the village to build village resilience in facing various development challenges on Madura Island. The results of the study show that the village government has begun to affirm instructions from the Ministry of Villages, Development of Disadvantaged Regions, and Transmigration to prepare the Village Budget by referring to the SDGs Village document. Research is more focused on looking at the implementation of public policies, especially policy politics at the local level, namely the village.

Next is a study entitled “Implementation of Recognition and Respect for the Dayak Iban Semunying Customary Law Community and its Relation to Sustainable Development Goals” by Sandy Kurnia Christmas and Marzellina Hardiyanti (Christmas & Hardiyanti 2020). This research provides an overview of the protection of the rights of indigenous peoples from the perspective of SDG. The results of the study show that the implementation of the recognition and protection of the Dayak Iban Semunying Jaya Customary Law Community is still weak. This research focuses more on legal issues in the implementation of SDGs in indigenous peoples.

Another research related to participation and SDGs entitled “Monitoring the SDGs: Digital and Social Technologies to Ensure Citizen Participation, Inclusiveness and Transparency” by Raymond Saner, Lichia Yiu, and Melanie Nguyen (Saner *et al.* 2020). This article reviews the various options for conducting a four-year review and the methods used in monitoring the SDGs. This research shows that it is still unclear how to measure the achievement of the SDGs, whereas on the other hand, the SDGs program has principles to promote inclusiveness, participation, and transparency. So there is a need for clearer monitoring/monitoring to ensure participation, inclusiveness, and transparency in the implementation of SDGs.

Several previous studies have shown that there is still little research related to SDGs Villages as Big Data for Villages. Some of the studies above regarding SDGs Desa focus on public policies from the village government and how the village government affirms policies from the Ministry of Villages. There has not been much research related to participation and SDGs, especially Village SDGs. The difference between this research and research that has been done is that this research focuses on village big data and village SDG-based development policies in the Terong sub-district. Participation is an important role in the SDGs so efforts are needed to ensure access to participation from the community.

3 RESEARCH METHODS

This study uses a qualitative research method with a thick description approach that places more emphasis on the in-depth interpretation of the meaning and presents it in a descriptive form. Researchers try to capture all the details in the social setting with detailed descriptions and subjective narrations (Neuman 2017). Data acquisition techniques used in this study focused group discussions, in-depth interviews, observation, and documentation.

This study used purposive sampling. Purposive sampling is a technique for selecting informants who are selective toward those who have the capacity in implementing Village

SDGs. The FGD activities were carried out by gathering village SDGs data collection volunteers and village officials and related parties. The results of the FGD were followed up with in-depth interviews. The data analysis technique is an inductive analysis using an interactive analysis model developed by Miles and Huberman (Sutopo 2006) consists of three main components, namely: 1) data reduction; 2) presentation of data; and 3) drawing conclusions and verification.

4 RESULTS AND DISCUSSION

Terong Village is a village located in Kapanewon Dlingo, Bantul and has 9 Padukuhan, namely: Kebon Kuning, Saradan, Pancuran, Rejosari, Terong II, Eggplant I, Pencit Rejo, Sendang Sari and Ngenep. Based on the 2021 Terong Village monograph data, the population has reached 5,748 details of the male population 2,849 souls and 2,899 female inhabitants. The level of education in the Terong sub-district is a relatively large number of people who do not or have not attended school, while the percentage of residents who have completed education above high school or its equivalent has smaller percentage. However, based on data from the Ministry of Village, Terong Village is included in the Independent Village category.

The implementation of SDGs is implemented with Presidential Regulation No. 59 of 2017 concerning SDG. This policy was followed by the Regulation of the Minister of Village of PDTT No. 7 of 2021 concerning Priority for the Use of Village Funds for 2022. In article 5 paragraph 2 of this PDTT Village Regulation it is stated, the use of village funds for the 2022 Fiscal Year is prioritized at three points to accelerate Village SDGs, including (1) National economic recovery according to village authority; (2) National priority programs according to village authorities; and (3) Mitigation and management of natural and non-natural disasters according to village authority.

Implementation of Village SDGs data collection is regulated by Permendesa PDTT No 21/2020; a Village Data Collection Volunteer Working Group is formed consisting of village heads and officials, RT, RW, Karang Taruna and partners namely Babinsa, village assistants and others. The data collection activity took place from the beginning of March 2021-the end of May 2021, socialization was carried out through online training via the Village Academy website 4.0, and explanations can also be obtained by contacting the Sapa Desa team (Ministry of PDTT 2020).

Based on the Regulation of the Minister of Villages, PDIT No. 13 of 2020 concerning Priorities for Use of Village Funds for 2021, the Regent Regulation No. 125 of 2020 concerning Technical Guidelines for the Use of Village Funds for the 2021 Fiscal Year emerged, in order to realize the village development goals mandated by Law no. 6 of 2014 concerning Villages, the use of village funds is prioritized to realize 8 village typologies and 18 Village SDGs goals. The eight village typologies are as follows: 1) Villages without poverty and hunger; 2) Village economy grows evenly; 3) Village cares about health; 4) The village cares about the environment; 5) The village cares about education; 6) Women-friendly village; 7) Networked villages and 8) Culturally responsive villages. So based on the Regent's Regulation, Bantul Regency asked the village to carry out village SDGs data collection. in all villages in Bantul Regency, totaling 75 villages.

The Terong Village Government implements the Village SDGs starting in March 2021 and finishing at the end of May 2021. In accordance with PDIT Ministry of Village Regulation No. 13 of 2020, the Terong Village Office also sent the village secretary to get socialization about Village SDGs in the district and take part in online training. Based on the socialization of Village SDGs, a Volunteer Working Group for Village SDGs data collection was formed in accordance with Permendesa PDTT No 21/2020. During the village data collection process, a team of district experts is assisted who acts as a liaison either to the district or to the operator of the Ministry of Village if the village experiences data collection

problems. For villages, this program is indeed considered sudden because there was no socialization from the start, but the SDGs Village program must be implemented by villages in March 2021 using village funds. However, this program was not included in the village development plan because the village development plan had been made the previous year through the village development planning meeting.

Regarding SDGs Village data collection activities, the Terong Sub-District spent Rp. 42,000,000. When compared to other villages, this fee is small because the volunteers try to save money by not photocopying the questionnaires that residents have to fill out, but volunteer officers fill them in directly through the application on their cell phones. From the statement submitted by the village secretary, it is clear that the SDGs Village program is a program that appeared suddenly but must be included in village development planning and this has implications for the use of village funds. This policy is essentially a “top down” policy without consultation and dialogue with the village. Socialization that is carried out online is less effective, while offline is only done once. The contents of SDGs Desa data collection are quite rigid with a variety of detailed questions and give rise to multiple interpretations of perceptions. This is an obstacle for the data volunteer team to explain to the public what the question means.

If you look at the decline in policies and implementation that must be implemented immediately and the lack of dialogue with the village, the SDGs Desa program is considered to have not taken a participatory approach first to the village. In addition, this program was launched in order to support the achievement of the SDGs in 2030, but the program planning has not been carried out since the initial launch of the SDGs in 2016.

SDGs Desa is a public policy, namely a policy taken by the government to be implemented by the community. The formulation of public policy must involve the community as the main component because the product of the policy will have an impact on the community so public policy needs to be socialized to the community with dialogue space as an effort to hear the voices of the citizens so that the policies taken can be adapted to the conditions of the environment and society. However, often this is not taken seriously, so the dialogue space is only socialization without feedback, in the end, the activities are interpreted as mere formalities for administrative purposes.

SDGs Village socialization is carried out online and is limited face-to-face in Bantul district. However, for village officials, this socialization was felt to be insufficient. The existence of the “Sapa Desa” program is also felt to be insufficient to answer various questions related to the implementation of SDGs Desa. Until now, technical problems related to the maze of uploaded data with results published on the Ministry of Village information system website have not been answered.

The data collection process was felt in a hurry made the data obtained inaccurately. The use of questionnaires in data collection has weaknesses in the form of limitations, lack of reliability, and does not provide as much wisdom as the researcher wants so preparation and implementation must be carried out carefully and thoroughly. The data collection process is important; SDGs Village data requires quality, accessible and timely data. The contents of the data which were quite a lot amounted to about 12 pages and were very rigid, making it difficult for the data volunteer officers so that for filling in which had a double meaning each volunteer tried to perceive it individually. This is in accordance with Mustofa and Dody Afianto’s research, one of the weaknesses in the Village SDGs data collection program is the role of the village data collection volunteer group which is expected to be able to maximally collect data for all target groups even though their competencies vary.

Village SDGs are in accordance with the SDGs principle of no one left behind, which means that it must involve and attract community participation. Participation and collaboration of all parties are one of the keys to implementing the SDGs as well as the Village SDGs. The purpose of collecting data on Village SDGs can later become a guide in preparing village development plans so that Village SDGs are a road map or village planning master document. The Village SDGs data collection program in the Terong Village has been

underway and completed on time. Village SDGs data collection is the initial SDGs Village program, it is hoped that villages will have comprehensive and complete data so that village development planning activities will be based on real data. The target is data-based village development that is more focused and answers the problems of each village.

On the other hand, the lack of socialization of the SDGs Desa program has resulted in the village community not understanding the aims and objectives of the program. The people of Terong Village participated in filling in the data, they answered the questions in the questionnaire but when asked what the SDGs Desa program was and why they had to answer the questionnaire, and they were unable to answer. Data collection is important for the village community, but for the implementation of a program, it is necessary to have an understanding of the program and its benefits for the community. If the participants showed only want to answer the questionnaire but they don't understand. Village diversity should be a consideration for the government so that villages need to have dialogue for the implementation of SDGs Villages. If this program is not socialized and consulted in the village carefully, community participation can lead to mobilization (mass mobilization).

Application-based Village SDGs filling using Google Playstore which can be accessed using each cell phone. Volunteers for filling in data in Terong Village conducted interviews and filled in data directly via their respective cellphones. The weakness is that not all cell phones owned by volunteers are able to access the application and the capacity of each volunteer in explaining the contents of the questions is not the same. As a result, there are differences in the interpretation of each individual in filling out each questionnaire so the data is not fully valid.

On the other hand, technical problems arose which resulted in village officials not being able to access their data through the village information system application from the Ministry of Village PDTT. This is expected because the server at the center has not been able to fully synchronize data so some data cannot be updated as a result, the data collection can be completed immediately but the results of this data collection cannot be utilized by the village. The data plays a role as information, with the existence of complete village data; the village will have accurate information for village development planning. It could be that the same data can be interpreted differently.

Starting from this, data collection on Village SDGs is indeed important to do, but the data can be useful information for the village if the data collected is accurate and precise. In addition, data utilization can be used if the data is consistent and can be read as information for village development planning. Some technical problems in uploading data, and servers that don't support are obstacles that interfere with data to become useful information. Village data collection is not only information for the central government, but data is more meaningful as information on village development planning.

5 CONCLUSION

The Government's desire to realize a prosperous community life based on village-owned Big Data is realized in the SDGs Desa program as the government's effort to bring SDGs closer to the community. The SDGs Desa program begins with data collection which includes individual, family, RT, and village data. Data collection is carried out by entering the SDGs Desa application. The Village SDGs policy was not carried out with careful planning so this policy became a "top down" policy and the same for all villages, even though villages in Indonesia have diversity. The village community has not been able to interpret the benefits of SDGs Desa because socialization is still lacking.

The SDGs Village data collection program in Terong Kapanewon Dlingo Bantul Village has been completed but the government and village communities have not been able to utilize this data for village development planning. There were several technical problems resulting in some data not being able to upload perfectly.

Overall the Village SDGs program is a good program because then the village will carry out a comprehensive data collection but of course, this program needs to be further socialized to the village so that this program will get a lot of input from the community. The government needs to devise a better communication strategy for conveying new policies to the public so that policies that are oriented in one direction are not impressed. However, the use of SDGs Village data as Big Data for development policies in villages cannot be used optimally because of the inappropriate validity.

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The effect of company profitability, leverage, and size on carbon emission disclosure with environmental performance as a moderating variable (empirical study on manufacturing companies listed on the stock exchange in 2020)

Dinda Galuh Efendy, Ihyaul Ulum & Aviani Widyastuti
Accounting Study Program, Universitas Muhammadiyah Malang, Indonesia

ABSTRACT: This study aims to examine the effect of profitability, leverage, and company size on carbon emission disclosures with environmental performance as a moderating variable. This study comprises 35 manufacturing companies listed on the Indonesia Stock Exchange (IDX) in 2020 as a sample. The purposive sampling method is used to determine the number of samples. The hypothesis was tested using the SPSS 21 program with multiple linear regression data analysis techniques using Moderated Regression Analysis (MRA). The results of this study indicate that profitability, leverage, and company size have a significant effect on carbon emission disclosures. Environmental performance has a significant effect on carbon emission disclosures.

Keywords: Profitability, leverage, company size, environmental performance

1 INTRODUCTION

The earth's surface temperature increases due to the amount of carbon dioxide (CO₂), resulting in the greenhouse effect. The presence of climate change and extreme weather poses a worrying threat. This concern is getting worse because of the presence of climate change which is a global problem, not only a national risk. The World Meteorological Organization (2006) recorded that the atmosphere has a concentration of carbon dioxide (CO₂) that reaches 396 parts per million (ppm) (Zuhrufiyah & Anggraeni 2019).

The realization of the reduction in greenhouse gas emissions by 64.4 million tons of CO₂ in 2020. This number is higher than the previous year, that is, 54.8 million tons of CO₂, where the initial target was 58 million tons of CO₂. The Ministry of Energy and Mineral Resources has set a GHG emission reduction of 67 million tons of CO₂ in 2021 (Lidwina & Ridhoi 2021). Carbon Emission Disclosure carried out by companies can be assessed by readers of the annual report as a sign of the company's seriousness in regulating global marketing problems caused by greenhouse gases (Kelvin *et al.* 2017). This can indicate that environmental disclosures, especially on carbon emissions, are very attractive to investors. The capital market uses the disclosure of carbon emissions to assess the company, if the environmental performance is poor then the reaction of the capital market is reduced. This causes investors to be anxious about the costs the company will incur in dealing with global warming (Firmansyah *et al.* 2021).

The requirements for the Financial Accounting Standards (PSAK) state the company's obligation to report emission disclosures: (1) PSAK 57 is regarding companies required to make reserves if there is a constructive obligation, (2) PSAK 48 is regarding the decline in the value of their assets, (3) PSAK 60 is related to environmental risks that must be managed properly and reported by companies, (4) PSAK 71 applies in Indonesia in 2020 that requires companies modeling expected credit loss with consideration of the possibility of default throughout the life

of the financial instrument, and (5) PSAK 19 is related to intangible assets in the development of new products and must include elements of SDGs in its considerations (Wiratno & Muaziz 2020). One way to help reduce carbon levels in the world is for the United Nations to make an amendment called the Kyoto Protocol. This amendment is a UN framework convention on climate change UNFCCC which was carried out in Rio de Janeiro, Brazil in 1992. From 1997 to 2007, the Kyoto Protocol was ratified by 174 countries, with a commitment to reduce emissions of greenhouse gases, one of which is Indonesia by implementing the Kyoto Protocol through Law no. 17 of 2004 in the context of implementing sustainable development and reducing carbon emissions is also regulated in Presidential Decree no. 61 of 2011 concerning the National Action Plan for Reducing Greenhouse Gas Emissions and in Presidential Decree no. 71 of 2011 about holding a national greenhouse gas inventory (Zanra *et al.* 2020).

Zanra *et al.* (2020) suggested the effect of the Good Corporate Governance mechanism with the results of GCG research, firm size, profitability with a positive effect, leverage with a negative effect, and environmental performance moderating the independent and dependent variables. Wiratno & Muaziz (2020) analyzed how the profitability, company size, and leverage affected the disclosure of carbon emissions in Indonesia. The result was that only leverage significantly affected the disclosure of carbon emissions. On the other hand, Damas *et al.* (2021) researched the effect of eco-efficiency, green innovation, and disclosure of carbon emissions on firm value with environmental performance as a moderating variable. The results showed that the independent variable had a positive effect and environmental performance only moderated the effect of eco-efficiency on firm value.

2 HYPOTHESES FORMULATION

Signalling theory explains that the sender (the owner of the information) gives a sign in the form of information that describes a company that has benefits for the recipient (investor). Gumanti (2009) in the economic and financial literature explicitly states that signaling theory is intended to reveal evidence that parties within the company generally have better information about the company's condition and future prospects than outsiders.

Legitimacy theory focuses on the company's interactions with society. According to Ghozali & Chariri (2007) in Mulya & Rohman (2020), which underlies the legitimacy theory, the social contract agreed upon by the company with the local community, where the community has allowed the company to use resources in running its business.

Stakeholder theory shortly defines a stakeholder as a person with an interest in a particular issue. Stakeholder theory states that the company is not an entity that operates with its interests, but must provide benefits to its stakeholders. The existence of the company is very influential by the support provided by stakeholders to the company (Ghozali and Chariri 2007; Hilmi *et al.* 2020).

2.1 Carbon emission disclosure

Carbon Emission Disclosure is a type of environmental disclosure. Carbon disclosure is defined as quantitative and qualitative information relating to the company's past and forecast carbon emission levels. The Carbon Disclosure Project (CDP) is a non-profit global disclosure system for companies, cities, states, and regions to manage their environmental impacts and for investors or buyers to access environmental information for use in financial decisions (Zuhrufiyah & Anggraeni 2019).

2.2 Profitability

Profitability is a description of a company's financial performance in generating profits from asset management known as Return On Assets (ROA). According to Wiratno & Muaziz (2020), profitability is used as a reference to demand that companies make voluntary disclosures. According to Chariri *et al.* (2019), the higher the environmental investment that has

been made by the company, the higher the profitability of the company. Communities depend on companies that have high profitability to allocate funds to preserving the environment by treating waste and or reducing greenhouse gas emissions.

H1: Profitability affects carbon emission disclosure Leverage

The measurement of leverage uses a percentage of the company's total debt to equity in a period called the Debt to Equity Ratio (DER). According to Wiratno & Muaziz (2020), leverage shows how much equity is available to provide guarantees for debt. Debt includes current debt and long-term debt. If the higher the leverage, the company cannot fulfill its promise, so the company reduces costs, including the cost of disclosing social information. According to research by Mulya & Rohman (2020) in Choi *et al.* (2013), leverage has an influence on the disclosure of carbon emissions, where if the company's leverage is high, it allows the company to be unable to pay its obligations and unable to absorb the financial impacts that cause disadvantages of disclosing carbon information.

H2: Leverage affects carbon emission disclosure

2.3 *Company size*

Company size is the size, scale, or variable that describes the size of the company based on several provisions, such as total assets, log size, market value, shares, total sales, total income, total capital, and others (Wiratno & Muaziz 2020). Company size is one of the factors that can affect profit. According to Irwhantoko & Basuki (2016), the size of the company and the disclosure of greenhouse gas emissions showed positive results, because the bigger the company is, the greater the resources owned by the company, and the greater the company's operational activities. The greater the operational activity, the higher the emission of greenhouse gases.

H3: Company size affects carbon emission disclosure Environmental Performance

Environmental performance is a measurable result of the environmental management system, which is related to the control of the environmental aspects, as well as environmental performance assessments based on environmental policies, environmental targets, and environmental targets (ISO 14001). Ari Retno (2010) revealed that environmental performance is how the company's performance contributes to preserving the environment. Florencia & Handoko (2021) stated that environmental performance can be moderate, namely strengthening profitability and leverage on Carbon Emission Disclosure. Companies with high profitability will make environmental disclosures, that is, carbon emissions to gain legitimacy from the community because if they are not in line with the values held by the community, the company will lose legitimacy. Meanwhile, low leverage or poor financial performance will raise stakeholder concerns. Companies must maintain good relations with stakeholders to meet the needs of their stakeholders. Meanwhile, according to research by Zanra *et al.* (2020), environmental performance can moderate the size of the company toward Carbon Emission Disclosure. Large companies will have great pressure from environmental problems so they tend to increase environmental performance responses. Large companies are encouraged to provide voluntary disclosures to gain legitimacy.

H4: environmental performance moderates profitability, leverage, and company size on carbon emission disclosures

3 RESEARCH METHODS

This study uses associative research which aims to analyze the relationship between a variable and other variables (Ulum *et al.* 2021). The sample of this research is manufacturing companies listed on the Indonesia Stock Exchange in 2020, with a sampling technique using the purposive sampling method. This type of data uses secondary data sourced from the BEI website. The data analysis technique used multiple linear regression with the help of SPSS 21 software.

3.1 Operational definition and measurement of variable

3.1.1 Carbon emission disclosure

The measurement of carbon emissions disclosure is based on the results of the 18-item checklist scoring of carbon emissions disclosures developed by Choi, with a maximum total score of 18 and a minimum of 0.

$$CED = \frac{\text{Total Company Score}}{\text{Maximum score}} \times 100\%$$

3.1.2 Profitability

Measurement of profitability is proxied using Return on Assets (ROA) which can generate profits from asset management. Thus, the higher the profitability generated, the higher the social and environmental responsibility of the company carried out.

$$ROA = \frac{\text{Net Profit}}{\text{Total Assets}}$$

3.1.3 Leverage

Leverage measurement uses the Debt to Equity Ratio (DER). DER is a ratio that compares the amount of debt to equity. High leverage has an impact on at least disclosure because the company focuses on fulfilling its obligations rather than making disclosures.

$$DER = \frac{\text{Total Loan}}{\text{Total Equity}}$$

3.1.4 Company size

Firm size uses the natural logarithm (Ln) of total assets. The natural logarithm (Ln) is used to reduce the significant difference between the size of the company that is too large and the size of the company that is too small, then the natural logarithm of the total assets is formed which aims to make the total asset data normally distributed.

$$\text{Size} = \text{Ln} (\text{tal Assets})$$

3.1.5 Environmental performance

By utilizing the PROPER classification compiled by the Ministry of the Environment of the Republic of Indonesia, it can be assessed that companies with a high PROPER level have good environmental performance. The PROPER performance rating system is shown in Table 1.

Table 1. Performance rating system.

No.	Predicate	Score
1.	Gold	5
2.	Green	4
3.	Blue	3
4.	Red	2
5.	Black	1
6.	Did Not Get The Predicate	0

3.1.6 Multiple linear regression analysis method

Multiple regression is a regression that involves more than one independent variable using an MRA approach. With the following regression formula:

Model 1:

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e$$

Model 2:

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_1 * X_4 + b_5X_2 * X_4 + b_6X_3 * X_4 + e$$

4 RESULT

4.1 Description of research object

The objects used in this chapter's research are manufacturing companies listed on the Indonesia Stock Exchange in 2020. In this study, a sample selection was used with a purposive sampling technique. Based on data that has been obtained from the website www.sahamok.net, the number of manufacturing companies listed on the BEI is 180 companies. Based on the criteria taken in the selection of samples, a final sample of 35 was obtained.

4.2 Descriptive statistical analysis

Table 2. Descriptive analysis descriptive statistics.

	N	Minimum	Maximum	Mean	Std. Deviation
X1	35	.00	.49	.0652	.08779
X2	35	.05	3.73	1.0738	.97277
X3	35	12.73	30.07	21.7179	5.51277
Y	35	.06	.39	.1603	.06141
Z	35	0	4	1.51	1.704
Valid N (listwise)	35				

Source: Results of research data processing 2022.

Based on Table 3 of the test results, it can be seen that the results of descriptive statistics on all research variables indicate that the majority of the resulting mean values are greater than the standard deviation. This shows that this research is quite good because it has a lower standard of error.

4.3 Normality test

Based on the normality test using the One-Sample Kolmogorov-Smirnov test, it can be seen that the Asymp.sig (2-tailed) value is 0.736 which is more than 0.05. Thus, these results indicate that the normality test assumptions have been normally distributed.

4.4 Multicollinearity test

Based on *Multicollinearity Test*, it can be seen from the results of the multicollinearity test that there is no multicollinearity in the data because the tolerance value of all independent variables is greater than 0.10 and the VIF value is not more than 10.4.5 Based on the test results of *Heteroscedasticity Test*, it can be concluded that the data does not occur heteroscedasticity because the points of distribution in the data are spread out and do not form a pattern.

4.5 Multiple linear regression analysis

Table 3. Multiple linear regression test result coefficients.

Model	Unstandardized Coefficients		Standardized Coefficients Beta	T	Sig.
	B	Std. Error			
1 (Constant)	20.131	2.384		8.445	.000
X1	-.226	.103	-.324	-2.204	.035
X2	.479	.122	.563	3.920	.001
X3	.470	.141	.466	3.334	.003
Z	.022	.006	.622	3.815	.001
X1_Z	.579	.059	.710	9.763	.000
X2_Z	.560	.069	.760	9.951	.000
X3_Z	.672	.205	.601	3.285	.003

Source: Results of research data processing, 2022.

Based on Table 4 of the second equation, it can be seen that the influence of variables X1, X2, and X3 on variable Y with environmental performance as a moderating variable can be said to have an effect. Judging from the results of the coefficient test above that the value after being moderated is smaller than the significant value used in this study of 0.05. Therefore, it can be concluded that environmental performance can moderate the effect of profitability, leverage, and company size on carbon emission disclosures, this can be seen from the smaller significant value with the moderating variable. It can be seen from the test results using MRA that the moderating variable will partially or directly moderate the effect of profitability, leverage, and company size on carbon emission disclosures.

Table 4. Linear regression test results with ANOVA^b moderating variable.

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	.068	7	.010	4.421	.002 ^a
Residual	.060	27	.002		
Total	.128	34			

a. Predictors: (Constant), X3_Z, X1, X3, X2, X2_Z, X1_Z, Z

b. Dependent Variable: Y

Source: Results of research data processing, 2022.

Based on the results of the test shown in Table 5, it can be seen that the effect of profitability, leverage, and company size on CED with environmental performance as a moderating variable can have an effect. The test results with the moderating variable stated that the sig value was 0.002, while the significant (sig) value without moderation was 0.063 but with the moderating variable, moderation is a variable affect (strengthen and weaken) the relationship between variables independent with dependent. This variable is also called the independent variable second. the sig value decreased to 0.002, so that it can be shown that this variable moderates purely, this happens because of the effect of the Z variable on Y at the first output and the interaction effect of Z*X1, Z*X2, and Z*X3 at the second output, one of which is significantly less than 0, 05.

4.6 Simultaneous test

Based on the *Simultaneous Test*, the test results show that the test results for the F value of 4.421 with a significant value of 0.002 are smaller than the significant value that has been used in this study of 0.05 or 5%, so it can be concluded that profitability, leverage, company size, and performance environment simultaneously affects the carbon emission disclosure.

4.7 Statistical test

Table 5. T-test results – Equation 1 coefficients^a.

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
1 (Constant)	.279	.045			6.199	.000
X1	-.206	.123	-.294		-1.674	.104
X2	-.008	.011	-.123		-.707	.485
X3	-.004	.002	-.402		-2.495	.018

a. Dependent Variable: Y

Source: Results of research data processing, 2022.

Table 6. T-test results - Equation 2 coefficients^a.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	20.131	2.384		8.445	.000
	X1	-.226	.103	-.324	-2.204	.035
	X2	.479	.122	.563	3.920	.001
	X3	.470	.141	.466	3.334	.003
	Z	.022	.006	.622	3.815	.001
	X1_Z	.579	.059	.710	9.763	.000
	X2_Z	.560	.069	.760	9.951	.000
	X3_Z	.672	.205	.601	3.285	.003

a. Dependent Variable: Y

Source: Results of research data processing, 2022.

Based on the results of the Table 5, the results of the individual parameter significance test of each independent variable on the dependent variable are as follows:

1) Profitability

Based on the results of the second equation shown in Table 6, it can be seen that the regression coefficient is -0.226 and the T value is -2.204 with a significant value of 0.035 which is smaller than the significance level used in this study, which is 0.05, and it can be interpreted that profitability has a negative effect on carbon emission disclosures.

2) Leverage

Based on the results of the second equation shown in Table 6, it can be seen that the regression coefficient is 0.479 and the T value is 3.920 with a significant value of 0.001 which is smaller than the significance level used in this study which is 0.05, and it can be interpreted that leverage has a positive effect on carbon emission disclosure.

3) Company size

Based on the results of the second equation shown in Table 6, it can be seen that the regression coefficient is 0.470 and the T value is 3.334 with a significant value of 0.003 which is smaller than the significance level used in this study, which is 0.05, and it can be interpreted that company size has a positive effect on carbon emission disclosures.

4) Environmental performance

Based on the results of the second equation shown in Table 6, it can be seen that the regression coefficient is 0.022 and the T value is 3.815 with a significant value of 0.001 which is smaller than the significance level used in this study, which is 0.05, and it can be interpreted that environmental performance has a positive effect on carbon emission disclosures.

Based on the *Coefficient of Determination Test* the results of the R2 (R-square), it can be seen that the R2 value is 0.634 which is equal to 63.4% while the adjusted R Square value is 0.613 which explains that the independent variables of this study can explain 61.3% of the variables. The dependent variable in this study has a high ability to explain the independent variable, while the remaining 38.7% is explained by other variables outside this study.

5 DISCUSSION

5.1 *The effect of profitability on carbon emission disclosure*

Theoretically and logically, the higher the ROA value, the higher the net profit value of the company and the higher its profitability. The results of this test are based on research conducted by Saptiwi (2019) which states that profitability has a significant negative effect on

Carbon Emission Disclosure. Companies with high profits only prioritize their operational interests, for the benefit of lower social and environmental activities.

This can provide support for the legitimacy theory which explains that voluntary environmental disclosure can be used by companies to reduce socio-political pressure to gain legitimacy in which companies interact with the community. The results of this study can also be explained by signaling theory which explains that management does not fully convey all the information obtained about all things that can affect the value of the company to the capital market.

Carbon Emission Disclosure differences in companies appear with low levels of profitability where management does not fully convey all the information obtained about all things that can affect the value of the company to the capital market. Voluntary disclosure of carbon emissions is considered to provide a competitive disadvantage for companies because disclosing corporate social information must incur additional costs. In line with Bae Choi *et al.* (2013), the opposite occurs for companies with low levels of profitability on the disclosure of Carbon Emissions Disclosure. The company does not fully disclose the issue of emissions because it feels that it will incur additional costs in the future which will become a burden for creditors, customers, and suppliers. With the addition of operational costs to report carbon emissions, companies with high profits are reluctant to disclose because financial conditions are more important than environmental conditions, which are still voluntary. The company disclosed more environmental information in the year when the company was not profitable to gain legitimacy.

5.2 *Effect of leverage on carbon emission disclosure*

Anggraini & Susi Handayani (2021) and Saptiwi, (2019) state that leverage has a positive effect on carbon emission disclosure. The same result was also obtained by Irwhantoko & Basuki (2016) who stated that the debt-to-equity ratio showed a negative and significant effect on the disclosure of carbon emissions. The results of the analysis show that the coefficient value of the debt-to-equity ratio shows a value of -1.008 with a probability of 0.014. High leverage will tend to disclose its social activities and carbon emissions arising from its operational activities to meet the information needs of its creditors and as a form of increasing company value.

This provides support for the legitimacy theory that environmental disclosure requires additional costs which will result in losses to the company, if the debt is used in high amounts, the company is unable to pay its debts. Companies with poor financial performance will prioritize their financial growth rather than disclosing carbon emissions. It also supports the stakeholder theory which states that some creditors will pressure companies to prioritize paying off their debts rather than disclosing carbon emissions because this will increase the company's financial burden.

5.3 *The effect of company size on carbon emission disclosure*

Company size is one of the factors that can affect profit. According to Irwhantoko & Basuki (2016), company size and disclosure of greenhouse gas emissions show positive results, because larger the company, the greater the resources owned by the company, and the greater the company's operational activities. And the greater the operational activity, the higher the emission of greenhouse gases.

This follows the legitimacy theory which states that large companies will be the main focus of external parties because the activities carried out by the company are visible and allow them to have an impact on the environment. As part of the company's business strategy, it will increase information disclosure to build a good social image. Likewise, this is in line with stakeholder theory which explains that companies operate not for their own interests, but for their stakeholders. Because this supports the survival of the company that depends on the support of investors or stakeholders. This finding is in line with the legitimacy theory that companies fight for community legitimacy which

may be obtained through disclosing carbon emission information which is also an implementation of corporate social responsibility (Dewi & Kurniawan 2020). These results are based on research conducted by Mulya & Rohman (2020) which explains that company size has a significant positive effect on the disclosure of carbon emissions. Large companies are assumed to be able to meet the costs associated with disclosing carbon emissions because they have available resources.

5.4 *The role of environmental performance as moderating variable: The effect of profitability on carbon emission disclosure*

This study strengthens previous research that states that the effect of carbon emission disclosures on company value with environmental performance as a moderating variable (Rahmanita 2020). This happens because it gets a low PROPER rating. This means that the better the environmental performance of a company, the higher the level of disclosure of carbon emissions made. The reasons underlying the results of this study are the theory of legitimacy and stakeholder theory. Based on the legitimacy theory when the company's environmental performance is good, the company will voluntarily make environmental disclosures, one of which is the disclosure of carbon emissions. This is because companies with good environmental performance tend to have various active strategies for the environmental problems they face, such as the strategy of measuring and managing their carbon footprint in dealing with the problems of carbon emissions produced by the company. The results of this study are in line with research from Mujiani *et al.* (2019) (Dawkins & Fraas (2011), and (Frida Christin Natalia (2020).

Environmental performance can help companies to gain value from investors by implementing an environmental management system so that it can be legitimized by reducing environmental impacts that will arise in the community. In addition, environmental performance can help companies deal with environmental impacts, namely carbon emissions, and can also act as information for stakeholders.

6 CONCLUSION

Based on the results of the analysis, it can be concluded that profitability, leverage, and company size have a significant effect on carbon emissions disclosures and this hypothesis is accepted. Meanwhile, environmental performance can strengthen the effect of profitability, leverage, and company size on carbon emission disclosures, and this hypothesis is accepted.

SUGGESTIONS

Based on the conclusions and results of the analysis above, suggestions for further researchers are to expand the scope of the object and change or add new variables that can affect carbon emission disclosures.

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Millennial generation mental health: Self-healing process and coping strategies in the time of the pandemic

Moordiningsih, Sowanya Ardi Prahara & Angelina Dyah Arum Setyaningtyas
Psychology Study Program, University of Mercu Buana Yogyakarta, Indonesia

ABSTRACT: This study aims to understand the self-healing process and coping strategies carried out by the millennial generation during the pandemic. Understand the efforts made to maintain mental health. The research was conducted with a qualitative approach by giving an open-ended questionnaire to 655 millennial generation respondents from various regions in Indonesia. Data collection is done online. Data analysis was carried out by categorizing themes and analyzing content. The results showed that the millennial generation carried out strategies to overcome conditions that were felt to be stressful during the pandemic by: 1) Doing positive activities/hobbies, 2) Worshiping, meditation, convincing themselves to calm themselves down, 3) Traveling outside the house, as a form of refreshing, 4) Express feelings or emotions experienced by telling stories to friends and family. An additional interesting finding from this study is that only 0.46% of respondents came and consulted a psychologist/doctor about the problems or pressures they were experiencing. The rest, 99.54% of respondents choose strategies to adapt and cope with the pressure they feel naturally and independently.

1 INTRODUCTION

The millennial generation is the generation born in the period 1981 to 2000. In 2020, the millennial generation will be between 20 and 30 years old. According to data from the Central Statistics Agency on the Indonesian population, the millennial generation (20–34 years old) accounts for 23.77 percent of Indonesia's total population of 268 million people (Central Bureau of Statistics 2019). The millennial generation grew during the development of the digital era of information technology, thus forming a distinctive character, namely the ability to adapt to information technology quickly, tend to be optimistic, independent and have freedom, tend to be individualistic, reduce social interaction in the real world, be confident, open in international relations, and delivery of ideas.

This generation also has risk factors for experiencing psychological problems, namely depression and anxiety. This is because of the times, problems such as monotonous life, high mobility, office environment factors, social media, bullying, and drugs are risk factors for mental health problems. The demands of daily life and family and friendship relationships often make the millennial generation experience pressure and stress. According to data from the American Psychological Association cited by Sifferlin (2013), in the young adult group of 18–33 years, namely, 11.6%, or the prevalence occurs in 1 in 10 people in Indonesia are at risk of experiencing an increase in stress levels, because they are unable to manage stress.

This generation also has a risk factor for experiencing mass violence. This is also shown in many cases in Indonesia, related to the tendency to self-harm and suicidal behavior in the younger generation. This condition needs to be anticipated by conducting a study and understanding the dynamics of psychological problems experienced by the millennial

generation, as well as seeking appropriate psychological assistance intervention solutions. The millennial generation is the generation born in the period 1981 to 2000. In 2020, the millennial generation will be between 20 and 30 years old. According to data from the Badan Pusat Statistik on the Indonesian population, the millennial generation (20–34 years old) accounts for 23.77 percent of Indonesia's total population of 268 million people (Central Bureau of Statistics 2019). Psychological problems, namely depression, and anxiety. This is because of the times, problems such as monotonous life, high mobility, office environment factors, social media, bullying, and drugs are risk factors for mental health problems. The demands of daily life and family and friendship relationships often make the millennial generation experience pressure and stress. According to data from the American Psychological Association cited by Sifferlin (2013), in the young adult group of 18–33 years, 11.6%, or the prevalence occurs in 1 in 10 people in Indonesia are at risk of experiencing an increase in stress levels, because they are unable to manage stress.

According to data from the American Psychological Association cited by Sifferlin (2013), in the young adult group of 18–33 years, 11.6%, or the prevalence occurs in 1 in 10 people in Indonesia are at risk of experiencing an increase in stress levels, because they are unable to manage stress. This is also shown from the many cases of the millennial generation in Indonesia, related to the tendency to self-harm and suicidal behavior in the younger generation. This condition needs to be anticipated by conducting a study and understanding of the dynamics of psychological problems experienced by the millennial generation, especially during the Covid-19 pandemic. Period for a period of 2 years, early 2020 until the end of 2021. This research also aims to examine efforts and solutions for appropriate psychological assistance interventions for the mental health of the millennial generation.

1.1 *Mental health*

The World Health Organization (WHO) defines health as a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity. This definition explains that mental health is an important part of human health. Mental health is also closely related to physical health. WHO defines mental health as:

A state of well-being in which the individual realizes his or her own abilities, can cope with normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community (WHO 2001).

Mental health is a condition in which an individual has visible well-being, can realize his potential, can cope with the normal stresses of life in various situations in life, can work productively and productively, and can contribute to the surrounding community. Quoting from the motto used by WHO, “there is no health without mental health” indicates that mental health needs to be seen as something as important as physical health. Recognizing that health is a state of balance between self, others and the environment helps society and individuals understand how to maintain and improve it (WHO 2002).

A normal/mentally healthy person is a person who displays adequate behavior and is acceptable to society in general, his life attitude is following the norms & patterns of community groups so that there are satisfying interpersonal and intersocial relationships (Dewi 2012; Kartono 1989). Meanwhile, according to Karl Menninger, mentally healthy individuals are those who can restrain themselves, show intelligence, behave with tolerance for other people's feelings, and have a happy life attitude. Currently, mentally healthy individuals can be defined in two ways, negatively in the absence of mental disorders and positively, namely when the characteristics of mentally healthy individuals are present. The characteristics of mentally healthy individuals refer to positive conditions or traits, such as positive psychological well-being, strong character, and good qualities (virtues) (Lowenthal 2006). In conclusion, it can be stated that a mentally healthy person is a person who is

physically and psychologically prosperous, able to show good and productive performance, able to cope with normal stresses in life, and able to contribute to others.

1.2 *Self-healing*

Pluralism is the hallmark of this era where the worst effects of colonial rule have receded. Therefore, natives (natives) can take advantage of this freedom to build a diversity of social spaces that are connected in social relations aimed at self-determination as well as in the context of self-determination and self-healing based on local culture. In this case, the spaces that exist in society, as well as indigenous peoples can also find the healing process that exists in that community (Liu *et al.* 2014).

For example, in Tibet (China), the relationship between the Dalai Lama and a Tibetan Buddhist teacher with his disciple is inherently powerful. This difference in strength appears in many cases also in a positive healing process (Capper 2002, 2004). Capper (2004) in his research based on the theory of “Self Psychology”. The theory of “self-psychology” was developed by Heinz Kohut, a theory that is becoming common in the practice of clinical psychology. Focusing on the “self-object”, the object of the self is the inner experience of a certain function in humans, by extrospection, this inner experience is physically separated (Kohut 1991). The self-healing process based on an observational study with a qualitative approach conducted by Capper (2004) explains that students who have relationships with teachers (the Dalai Lama) report that there is an increase in personal autonomy arising from increased feelings of self-worth, increased interpersonal relationships, increased job satisfaction, and increased meaning in life.

The path to real self-growth or healing psychologically painful conditions, inner conflicts, increased fulfillment, and constructive personal transformation, can only be achieved through a non-judgmental, non-selective (uncontrolled) process, and a process of self-understanding experience. The creative self-understanding process is a natural mind-feeling process for self-healing and self-fulfillment by restoring oneself to each other’s natural conditions as an inseparable whole. These ways of recovery will then be understood and explored in the context of the concept of individual coping strategies.

1.3 *Coping strategy*

On the other hand, an individual in his life certainly cannot be separated from problems and pressures (stress) in his daily life. This includes pandemic events in the period 2020–2021 in Indonesia. According to Oltmanns & Emery (2013), stress is any situation that is felt to be challenging so that it requires physiological adaptation, which includes physical changes, both functions and habits that occur daily in response to tense and challenging circumstances, a cognitive adaptation which includes the ability to learn, think or the ability to learn new skills or concepts, the ability to understand what is happening in the environment and around it, and also memory skills, behavioral adaptation, namely the response to environmental conditions, for example, the response to cold temperatures by wearing warm clothes.

Lovibond & Lovibond (1995) define stress as an emotional response that arises due to stressful events in an individual’s life. When there are stressful events, individuals tend to become more irritable, find it difficult to calm down, and become impatient in dealing with various situations. According to Lovibond & Lovibond (1995), there are four indicators of stress, namely:

a. Being Easily Annoyed/Agitated

Easily ignited by emotions/angry with trivial things, tends to be excessive in responding to a problem, feels irritated, and easily offended by the words or actions of others.

b. Difficulty Relaxing

Feels difficult to relax in every activity then when it’s time to rest feels difficult to rest, even though if you look at the time it is intended to rest.

c. Irritable/Too Reactive and Impatient

Hasty or impatient with various things, does not want to be disturbed during activities in the hope that the activity will be finished soon if there is a disturbance, it is difficult for him to give an explanation or just understand the intruder.

d. Flustered

Feeling easily sad, unprepared for the various situations they are facing, and feeling endless tension and anxiety.

When faced with stressful events, each individual also has a coping strategy, a strategy to adapt to the conditions that occur. According to Lazarus & Folkman (1984), coping is a process in which individuals try to manage the distance that exists between demands (both demands from the individual and demands from the environment) and the resources used in dealing with stressful situations (stressful situations). There are 2 strategies for coping:

- a. Emotional-focused coping is used to regulate emotional responses to stress. This regulation through individual's behavior such as alcohol use, and negating unpleasant facts through cognitive strategies. If the individual is not able to change conditions that are full of stress, then the individual tends to regulate his emotions.
- b. Problem-focused coping is used to reduce stressors or cope with stress by learning new ways or skills. Individuals will tend to use this strategy if they believe they can change a stressful situation.

A good way to deal with intrapersonal stress is to express emotions (Schuler *et al.* 2009). Being willing to talk to others is also a way to deal with pressure. This happens because individuals can reduce the consequences of uncomfortable feelings experienced (negative affect) and individuals can also experience cognitive changes, as well as gain a better understanding of the pressing problem or condition they are facing.

2 RESEARCH METHODS

The main method that will be used in this research is a mixed-method design, a combination of quantitative and qualitative approaches (Tashakkori & Teddlie 1998, 2004). The method used in this research is a quantitative approach and a qualitative approach. This research is the first study conducted with a qualitative approach, namely by giving an open questionnaire. Collecting data on 655 research respondents using an open questionnaire (but one respondent filled out an incomplete questionnaire, so for qualitative data analysis using data from 654 respondents). Research respondents filled out an open online questionnaire using a link form via google form. The main research question examined in this first study is related to: "what are the psychological problems experienced by the millennial generation during the pandemic?" and "how are the process of coping strategies and self-healing done?" Data analysis was carried out by coding based on the similarity and contrast of answers from research respondents (similar and contrast principle). Data analysis was also carried out by finding similar themes in theme categorization and presenting them in the form of descriptive statistical frequency. Content analysis is carried out by understanding the results of text data citations derived from open questionnaire responses.

3 RESULTS

3.1 Respondent's description

Jenis Kelamin

655 responses

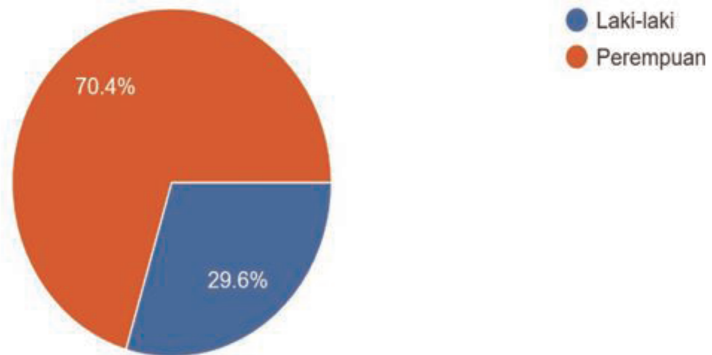


Figure 1. Description of respondents by gender Research participants who became respondents in this study consisted of 194 male students (29.6%) and 461 female students (70.4%).

3.2 *The Psychological Problems of the Millennial Generation During the Pandemic*

Based on the description and tabulation of the data above, it can be understood that during the pandemic period, some psychologically uncomfortable feelings experienced by the millennial generation emerged. The three highest feelings of discomfort are boredom, anxiety and stress. Other discomforts that arise are sadness, worry, anxiety, fear, guilt, anger, or other discomfort. Frustration, regret, fatigue, and mixed feelings appear in the domain of affection.

Perasaan tidak nyaman apa yang paling sering muncul?

655 responses

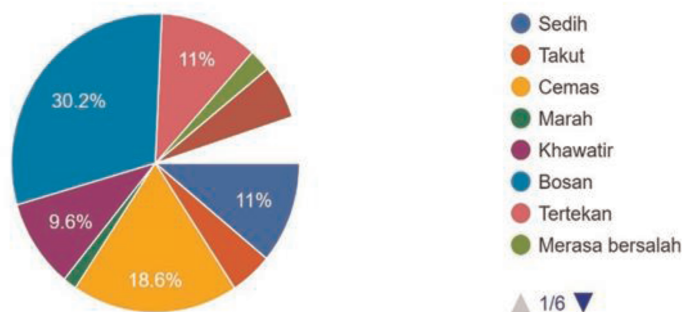


Figure 2. Uncomfortable feelings that arise during the pandemic.

3.3 *Self-healing and coping strategies used*

Based on the data categorization process above, it can be understood that the millennial generation is carrying out a coping strategy process in an effort to heal themselves from

Table 1. Millennial generation's uncomfortable feeling conditions.

Code	Feeling uncomfortable during the pandemic	Respond	%
1	Bored	198	30,23
2	Worried	122	18,63
3	Stressed	72	10,99
4	Sad	72	10,99
5	Worry	63	9,62
6	Nervous	38	5,80
7	Afraid	31	4,73
8	Feel guilty	16	2,44
9	Angry	10	1,53
10	Other flavors (mixed flavors)	33	5,04
		655	100,00

Table 2. Millennial generation self-healing and coping strategies (big categorization).

Code	Categorization area (large)	Respond	%
1	Watch Korean movies/drama/YouTube	43	6,57
2	Reading novels/books	18	2,75
3	Doing positive activities/hobbies	94	14,37
4	Playing games	27	4,13
5	Positive thinking	46	7,03
6	Sleep/sleep, rest	20	3,06
7	Be in a quiet/cool place	17	2,60
8	Listening to music	35	5,35
9	Pray/worship, meditation	47	7,19
10	Convince yourself/calm down	62	9,48
11	get out of the house / take a walk / ride a motorbike around the city	62	9,48
12	Making crafts	1	0,15
13	Regulate breathing	4	0,61
14	Accept the situation, be patient, sincere	38	5,81
15	Looking for/meeting sharing with friends	45	6,88
16	Silence, "me time"	29	4,43
17	Talking with family	16	2,45
18	Follow health protocols	14	2,14
19	Playing gadgets, accessing social media	7	1,07
20	Diary writing, painting, drawing	6	0,92
21	Exercising	14	2,14
22	Eat more	6	0,92
23	Counseling to a psychologist/doctor	3	0,46
		654	100,00

various mental stresses during the pandemic. The three things that are mostly done are 1) doing positive activities/hobbies, 2) Worshipping, meditating, and convincing yourself to calm yourself down, and 3) Traveling outside the house, as a form of refreshing or taking a break in quiet or cool places to relax. Likewise, by telling stories about the problems faced by fellow millennials and their parents.

Table 3. Millennial generation self-healing and coping strategies (small categorization).

Code	Categorization area (small)	Respond	%
1	Doing positive activities/hobbies	197	30,12
2	Worship, meditation, self-assurance	113	17,28
3	Get out of the house, refreshing in a quiet/cool place	79	12,08
4	Tell your friends or family	61	9,33
5	Rest, sleep quietly, "me time"	49	7,49
6	positive thinking	46	7,03
7	Accept the situation, be patient and sincere	38	5,81
8	Maintain a healthy lifestyle, exercise	34	5,20
9	Playing gadgets/accessing social media	34	5,20
10	Consult a psychologist/doctor	3	0,46
		654	100,00

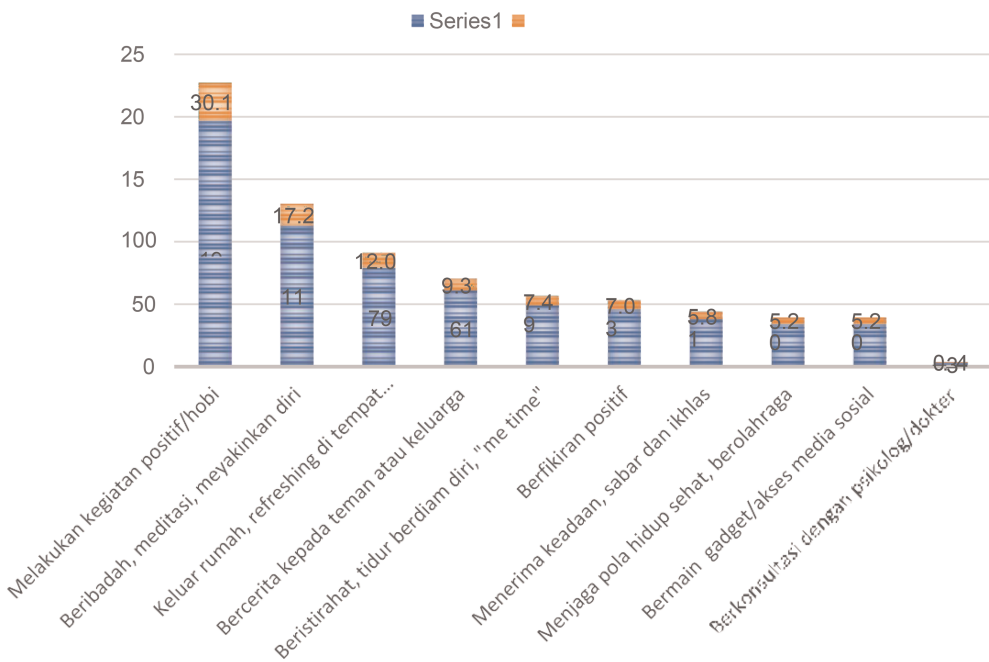


Figure 3. Categorization of millennial generation coping strategy themes during a pandemic.

The results of the deepening of data to the respondents also show the following research findings:

1. Reasons for choosing coping strategies and self-healing:

"... Karena cara tersebut cukup efisien dan bagi saya dapat mengurangi stres dan membuat pikiran saya menjadi lebih fresh, sehingga tidak terfokus pada permasalahannya saja..."

(R-116)

"... Because this method is quite efficient and for me it can reduce stress and make my mind fresher, so I don't just focus on the problem..."

(R-116)

“ ... Karena selama hidup cara tersebut dapat menenangkan perasaan tidak nyaman saya ... ” (R-134)

“ ... Because as long as I live this way can soothe my uncomfortable feelings ... ” (R-134)

“ ... Karena dapat melupakan/meredakan masalah ketika bercerita dengan teman-teman ... ” (R-511)

“ ... Because it can forget/relieve problems when talking to friends ... ” (R-511)

2. Changes in feelings that occur when choosing a coping strategy:

“ ... Menjadi tenang serta selalu berpikiran positif ... ” (R-522)

“ ... Be calm and always think positive ... ” (R-522)

“ ... Perubahan yang saya rasakan mungkin merasa sedikit lega, setidaknya saya sudah mencoba yang terbaik ... ” (R-583)

“ ... The change I felt might feel a little relieved, at least I tried my best ... ” (R-583)

“ Lebih tenang dan merasa lebih bersyukur ... ” (R-647)

“Be calmer and feel more grateful ... ” (R-647)

3. Feelings experienced after the coping and self-healing process

“ ... Mood saya jadi lebih baik, dan lebih tenang ... ” (R-59)

“ ... My mood got better, and calmer ... ” (R-59)

“ ... Perasaan tenang dan damai karena bisa melakukan hal yang bermanfaat dan mengisi waktu luang selama dirumah ... ” (R-227)

“ ... Feeling calm and peaceful because you can do useful things and fill your free time at home ... ” (R-227)

“ ... Lebih tenang dan saya lebih bersemangat dalam menjalani kehidupan saya kedepannya ... ” (R-453).

“ ... It's calmer and I'm more enthusiastic about living my life in the future ... ” (R-453).

4 DISCUSSION

The results showed that the efforts made by the millennial generation to cope with stress during the pandemic are 1) Doing positive activities/hobbies, 2) Worshipping, meditation, convincing yourself to calm yourself down, and 3) Traveling outside the house, as a form of refreshing, 4) express feelings or emotions experienced by telling stories to friends and family.

The results of this study are in line with Lo's (2002) research that students in nursing schools cope with stress by using problem-solving strategies, doing recreation and exercise, seeking social support, and implementing strategies to reduce tension. The effort made is to tell the emotional experiences experienced to friends and family. This effort is a good emotional expression to do (Schuler *et al.* 2009). Several respondents (3 out of 654 respondents, 0.46%) also said they consulted psychologists and doctors. This number is relatively very small compared to the number of respondents who try to overcome the pressures in their lives by carrying out the process of coping strategies and self-healing independently.

These efforts are a strategy implemented to deal with stress during the pandemic. Generally, coping strategies have been dichotomized into problem-focused coping strategies (making an active effort toward problem situations) or managing emotional responses to problematic situations (Dyson & Renk 1984; Lazarus & Folkman 1984; Snyder 1999; Taylor & Aspinwal 1996). Calm conditions or feelings of calm, and peace are feelings that are expected to occur after trying the coping strategy process and the self-healing process.

5 CONCLUSION

The self-healing process is the process of self-recovery from various life stresses, including conditions during a pandemic. This process requires understanding the process of

self-understanding creatively, involving natural thoughts and feelings (mindset) to find appropriate coping strategies toward a more calm and peaceful feeling condition. Coping strategies carried out by the millennial generation during this pandemic are 1) Doing positive activities/hobbies, 2) Worshipping, meditation, convincing yourself to calm yourself down, 3) Traveling outside the house, as a form of refreshing, calming yourself down, 4) express feelings or emotions experienced by telling stories to friends and family. An interesting finding from this study is that only 0.46% of respondents came and consulted a psychologist/doctor about the problems or pressures they experienced. The rest, 99.54% of respondents choose strategies to adapt and cope with the pressure they feel naturally and independently. It becomes important for psychology practitioners to develop psychological interventions based on the client's ability to carry out the healing process from within. The role of the psychologist is to become a facilitator in the process of expressing emotions experienced and to help find the best solution that the client can do.

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Government graphic design response to Covid-19 vaccination in Indonesia

Aditya Dwi Putra Bhakti & Awan Setia Dharmawan
University of Muhammadiyah Malang, East Java, Indonesia

ABSTRACT: This research aims to observe the graphic design response of the Indonesian government, especially with regard to the phenomenon of the Covid-19 vaccination in Indonesia. This research also seeks to examine the involvement of graphic design in the problems of the Covid-19 vaccination program in Indonesia. This study uses a descriptive qualitative approach with Roland Barthes' semiotic analysis methods, Michael Foucault's discourse analysis, and Timothy Samara's "Twenty Rules for Making Good Design" concept. As a result, communication through graphic design made by the government related to vaccination does not use existing graphic design principles. The content in graphic designs produced are completely controlled by their "boss" who may be full of political interests. The graphic designs produced not yet have a visual identity guideline and still take a role as a form of the existence of each government agency in dealing with Covid-19.

Keywords: government graphic, covid-19, vaccination

1 INTRODUCTION

Currently, at the end of the second quarter of 2021, the Covid-19 problem is still a major problem for the world community, especially if we look and learn from the Covid-19 cases that occurred in India which is crazy where the daily cases reached more than 400 thousand with the number of victims who died more than 400 people per day. The pattern of the spread of this virus depends on how individuals maintain their health and comply with government regulations related to Covid-19 is very much based on the awareness of each individual. The vaccines that have been issued by several countries such as the Sinovac Vaccine, Oxford Aztrazeneca Vaccine, Sinopharm Vaccine, Moderna Vaccine, Pfizer Vaccine, Novovac Vaccine, Red and White Vaccine, do not appear to have significantly reduced the rate of spread of the virus.

The discovery of a vaccine that is predicted to be able to end the pandemic will not necessarily be a solution. Social problems are often caused by misinformation and the large number of hoaxes. On the other hand, there are still many people with low media literacy who are too reactionary in responding to the hoax information so that the strategy of disseminating information should be a separate topic because it has an impact on the effectiveness of handling Covid-19.

The development of information technology in the industrial revolution 4.0 which has become the world's headline today seems to have a significant impact on the development of people's lives (Fenni 2020; Schwab 2019) But the negative side is whether technological developments and the industrial revolution is able to increase public interest in receiving and understanding information given and can be immediately responded to with the right action (Schwab 2019). The rapid development of technology has radically changed our communication culture (Giri 2006; Sudibyo 2019) This refers to how today the habits of people

around the world can no longer be separated from their devices or the habit of staring at gadget screens both cellphones and computers. Internet-based social media applications are currently the main media in sending messages. Conventional media such as television, radio and print media have also begun converge toward digital (Arifianto & Juditha 2019). Screen culture is currently not only limited to media such as television but has shifted to internet-based media.

If we relate it to the dissemination of information related to Covid-19 vaccination in Indonesia, the delivery of this information is also mostly channeled through internet-based media, either through websites or through social media such as Facebook, Instagram, Twitter, TikTok, etc. It seems that the government's step in choosing internet-based media is right, but the problems do not stop there. As stated by (Berger 2012; Pettey *et al.* 2019) the media is the focal point of the communication process, but it really depends on the actors and the creative process of conveying the message as well as the characteristics of the audience and the conditions and also values that are adopted by society, including in terms of habits and patterns of media consumption.

Seeing the characteristics of Internet media nowadays, the effectiveness of information dissemination through Internet media is supported by the ability to communicate visually, including graphic design. Graphic design occupies an important position in visual communication. Graphic design is one of the main elements in disseminating information related to Covid-19 vaccination. Graphic design elements are the mainstay of effective visual communication (Dewi 2011; Lupton & Phillips 2008) Design is the basis of human activity (Papanek & Victor 1972). Research is an intrinsic aspect of graphic design, because it can contribute to solving visual communication problems (Bestley 2016). Therefore graphic design must be made based on certain principles by taking into the purpose of the design being made and the characteristics of the intended audience. If a graphic designer makes a design out of graphic design principles, this must be made consciously and included in a chosen strategy.

Nowadays, with many internet-based instant graphic design software and applications, everyone can easily create a graphic design. However, because of this instant, not everyone understands that graphic design must also be arranged according to certain procedures. Like making a series of words from our laptop keyboard, in order to be effective and be able to convey the message the words we type must be aware of a clear syntax. Unfortunately, many people in general are not aware of the elements that make up graphic design such as layout, typography, color, visual hierarchy, design style, etc. As a form of visual communication, graphic design also has a purpose to convey a message. In contrast to a work of art that focuses more on self-expression of the artist who made it so that many people in general are still trapped in aesthetics when designing a graphic design. Instead of paying attention to the function of the graphic design, they are busier taking care of decorative things.

In Indonesia, graphic design is more interpreted in practical matters. Graphic design seems to be removed from things that are research and academic, which in the end places graphic design only at the level of technical skills. This has an impact on graphic design products that are less connected to the problem-solving aspect. With a lack of academic understanding from designers, it could be the opposite, graphic design is not a solution to existing problems but is very likely to contribute to misleading and cause hoaxes, hatred, intolerance, and other new problems. The Covid-19 pandemic has had an impact on the development of graphic design. The new normal era forces people to migrate to the digital world. Virtual culture is fast building and getting established. Graphic designs such as digital posters and infographics spread out conveying information about Covid-19 on digital media. Graphic design has become a trend in communicating in the digital world, especially during this pandemic. Government agencies through their websites and social media use graphic design as one of the main media to convey messages about the development of Covid-19, including those related to vaccinations. Looking at the position and development of graphic design during the Covid-19 pandemic in Indonesia, it will be very interesting for us to

observe the graphic design response from the Indonesian government, especially with regard to the phenomenon of the Covid-19 vaccination in Indonesia. As is known in the early days of a pandemic, a vaccine is something that is very much expected because it is considered to be able to end this pandemic. However, recently after the vaccine was available, many problems emerged as a result of the pros and cons associated with the vaccination. This research also seeks to examine the involvement of graphic design in the problems of socialization program of the Covid-19 vaccination in Indonesia.

2 RESEARCH METHODS

This research uses a qualitative approach. The object examined in this study is a screen capture of graphic designs around the Covid-19 vaccination made by the Indonesian government, selected purposively based on their relevance to the research topic. The research object will be analysed using Roland Barthes' semiotic analysis method, Michael Foucault's discourse analysis, and Timothy Samara's "Twenty Rules for Making Good Design" concept (Samara 2007). Furthermore, the results of the analysis will be presented based on the descriptive type of research.

3 RESULTS AND DISCUSSION

3.1 *Covid-19 vaccination in Indonesia*

Covid-19 vaccination is a mass immunization carried out by the government through the ministry of health as a response to the Covid-19 pandemic. Covid-19 itself was declared a global pandemic after WHO announced it through the Director General Tedros Adhanom Ghebreyesus in a press conference on March 11, 2020. Until now the pandemic is still a global problem where it cannot be predicted when it will end. Vaccines are the most expected product, so virologists and experts are working hard to find a Covid-19 vaccine. In the early days of the Covid-19 pandemic, the discovery and availability of a vaccine was a big hope for ending this pandemic. However, over time and the existing social dynamics, the vaccinations that were carried out were reaping the pros and cons. In Indonesia, the pros and cons of vaccination are mostly related to the risk, effectiveness, and halalness of the vaccine itself. Therefore, to increase public confidence in the vaccine program, President Joko Widodo is willing to be the first person to be vaccinated on January 13, 2021 at the Merdeka Palace. Accompanying him were several influential figures such as the Minister of Health, the Chairman of the Indonesian Doctors Association (IDI), the National Police Chief, the TNI Commander, Religious Figures, and Celebrities, etc. As the background for the vaccination process, a graphic design reads "Safe and Halal Vaccines" in red and white colors.



Figure 1. The process of President Joko Widodo's Covid-19 vaccination.
Source: <https://setkab.go.id> (2021)

The design looks simple, consisting only of white writing and red background. Red as background can be interpreted as the courage of the president and important figures to be vaccinated for the first time. The red and white colors chosen can also indicate a high spirit of nationalism, and match the colors of the Republic of Indonesia flag, red and white. So that we can interpret what we want to construct, if we love the country and want Indonesia to get out of the Covid-19 pandemic, then contribute by participating in vaccinations organized by the government. The public is positioned as a “hero of the pandemic” so that they are required to have high nationalism. The writing in the design focuses on the words “AMAN” and “HALAL”. The emphasis is shown by the visual contrast created, the words “AMAN” and “HALAL” are made with a bolder typeface. Addition to talking about courage and a nationalist spirit, the emphasis of this design also wants to convince those who are still in doubt due to the risk, effectiveness, and halalness of the Covid-19 vaccine. The many series of events that occurred during vaccination led to a decline in public trust, both on the vaccination itself and also on the government’s ability in general to deal with the Covid-19 pandemic. In this regard, the government tries to communicate through graphic design with the aim of counter-existing problems.

3.2 *Responding to graphic design and the network society using*

The current form of capitalization in the digital era (Network Society) is about cultural capitalization. Today’s digital society has indeed become an inseparable part of the state of technological development (Castells, in Beckett *et al.* 2020; Rustam 2017). Castells said that 2 main indicators support the development of a digital society, the first is the determinism of technology and the second is that the community as users of this technology (Castells 2015; Yulianti *et al.* 2020) also provides an example of the relationship between the Network Society and Social Movements.

In this case, Castells argues that the foundation of today’s digital society is the development of information technology and the use of the internet. Until now, the internet has become an inseparable part of our daily activities. Various activities all depend on the internet as the main and supporting element of the profession. In this case, the digital community will be very easily influenced by what is on the internet itself, one of which is the public’s response in certain matters, such as seeing information presented by the government or data received related to the Covid-19 vaccination itself. The concept of network society and public consumption intersect very much; however, in this case, the two concepts clearly perceive social phenomena differently. Castells’ theory looks at the relationship between how the graphic design patterns are conveyed by the Government and how the relationship or the response of the digital society itself. Because in this case, as conveyed by Castells (2016: 189), is related to how the framing is conveyed or presented has the power to influence how the mindset, acceptability and willingness of individuals to see and understand what is to be conveyed in language (Berger & Nursalam 2016) and is referred to as social construction. How can an individual’s emotional state be influenced and constructed by a situation which Castells calls “The Power of Frame”.

The government’s response through graphic design in responding to the Covid-19 vaccination can be seen more through the government’s social media accounts, especially Instagram, for instance, the official Instagram of the Ministry of Health @kemenkes_ri, the Ministry of Health’s account @kemensetneg.ri, and the account @lawancovid19_id. Because one of the targets of the phase 1 and 2 vaccination is targeting the elderly, which is citizens over 60 years of age, the graphic designs displayed in the Instagram feed of these government accounts also display a lot of information on vaccinations aimed at the elderly.

Design “Vaccination Home Care & Home Delivery Program “ is one of the many designs related to the socialization of vaccination for the elderly. If viewed from the vaccination targets for stages 1 and 2 (health workers, elderly people, and public officials), the number of elderly groups who have received vaccination is classified as the least. This is because this



Figure 2. Graphic design of the vaccination home care & home delivery program.
Source: Instagram @kemenkes_ri

group is the last group to get vaccinated in stages 1 and 2. Considering at the beginning of vaccination, there were still not many studies showing safety for this group, there was a lot of concern and public speculation regarding vaccination of the elderly group. However, of the total vaccination targets for stages 1 and 2, the elderly occupy the largest number. No wonder there is enough information presented in the form of graphic designs aimed at Covid-19 vaccinations for the elderly.

If we observe, the design of @kemenkes_ri informs the Home Care & Home Delivery Vaccination program initiated by Indonesia Lawan Libas Covid-19 Community (KILLCOVID19) and Husada Hospital. Home Care is a program to pick up the elderly to the vaccination center, while Home Delivery is a vaccination program at the location where the elderly are located. This program was inaugurated by the Coordinating Minister for the Economy of the Republic of Indonesia Airlangga Hartarto. It seems that the program is still focused on the island of Java, starting in the Greater Jakarta area then in the next stage it will be expanded to the cities of Bandung, Yogyakarta, Semarang and Surabaya.

If we see from the ongoing implementation of vaccinations, the focus of the government is still centered on the island of Java, considering that the majority of Indonesia's population lives in Java. However, if we observe based on data processed from vaccines.kemkes.go.id, out of a total of 21.5 million elderly people who are targeted to be vaccinated, 57.6% came from Java Island, while 42.4 came from outside Java. This shows that the percentage of the target group of the elderly to be vaccinated from Java and outside Java is not much different. Samara (2007) in his book *Design Elements: A Graphic Style Manual* explains how to make an effective design, one of which is related to visual hierarchy. In connection with the graphic design made to socialize the Home Care & Home Delivery Vaccination program, the focus of the design is indeed on the title "Home Care & Home Delivery Vaccination Program", but the second focus seems to be on the total target of "1 Million Elderly" which continues to "Home Care" and "Home Delivery Vaccinations". What is less prominent visually so that it becomes the information that is not caught in the eyes is this program which was initiated by KILLCOVID19 and Husada Hospital. Moreover, this graphic design was produced by the Indonesian Ministry of Health with the logo of the Indonesian Ministry of Health which is quite clear at the top right. This has the potential for public misleading that the "Home Care" and "Home Delivery Vaccination" programs are made by the government through the Ministry of Health so that the impression that the government only focuses on vaccination in Java isn't avoided. The graphic design should pay more attention to compositional flow and rhythm and use more eye-based measurements, not just mathematics, so that there is no potential for community misleading, on the contrary, the design must be able to inspire so that it initiates groups outside Java to do the same thing or even more. Still related to vaccinations that aimed at elderly groups, Budi Gunadi Sadikin, who officially replaced doctor Terawan Agus Putranto as the previous Minister of Health on December 22, 2020, changed his direction of public



Figure 4. Graphic design of halal Covid-19 vaccination & does not break fasting.
 Source: Instagram @lawancovid19_id dan @kemenkes_ri

The legality of vaccines is an issue that has been consistently communicated since the start of vaccination. With the increasing number of government agencies communicating the halalness of vaccines through graphic design, more and more government agencies feel they “have to” contribute to the production of information for the needs of Covid-19. However, these institutions have not been coordinated in terms of public communication, especially those related to the visual communication aspect, causing visual communication to have no clear pattern and direction. Work individually with each other’s content and goals. The taglines “SAFE” and “HALAL” that were raised during the initial vaccination process on January 13, 2021 are no longer the main taglines. Changes in the tagline and design language should be more coordinated, so that the direction of change does not just follow the reaction of each government agency in responding to the existing phenomena.

If we observe some of the graphic designs of the Covid-19 vaccination, halal and not breaking the fast, and graphic designs produced by the government still rely on design templates and design stock on microstock. The ease of finding templates, for an instant, and free design software causes the government not to have a visual identity and visual identity guideline related to the visual language of handling Covid-19. This causes government agencies to work independently following the style of the designer. Even from one posted Instagram feed there are some very different and unrelated design styles. The graphic designs that are made are still campaigning for their respective issues, have not been coordinated into a single issue, which is the strategy for handling Covid19 through visual communication in the form of graphic design.

“Create images dont scavenge” (Samara 2007). Sometimes a designer is asked to work practically. The demands of a very short deadline result in no time for serious and maximum research and design. Microstock is a solution for designers who are working with tight deadlines. However, if a designer is too following the design style of the design template they does not care of whether it fits their audience or is even too mainstream, often the design cannot have an impact. It seems that graphic design as a form of visual communication has not been realized and its potential is maximized to have a big impact if managed optimally.

Sometimes graphic designers are required to be good at predicting the response of their audience, which sometimes is difficult to predict. Comment from @popcorn_galery in response to the design of “keep vaccinating during fasting” instagram @kemenkes_ri “It is better if the media is selective in displaying pictures. In this pandemic, is it good to kiss your hands like that?”. Kissing the hands of parents when they want to travel is a local wisdom that is owned by Indonesia, as a form of politeness and respect for parents. The designer certainly shows that he wants to accommodate the habits in society with the aim that the message is more easily accepted. However, in times of pandemics like this, shaking hands or even kissing hands has become a sensitive matter. People who shake hands may be deemed not to comply with health protocols. There have also emerged several alternatives to shake hands in the new normal era as a form of concern for the handling of this pandemic. So it is not surprising if a graphic designer does not work from the perspective of their audience, it could be that the focus of the audience is not on the message content that the graphic design carries. The more the quantity of meaningless information, the more difficult the design will



Figure 5. Graphic design still vaccinated during fasting.
Source: Instagram @kemenkes_ri

be to interpret (Malamed 2009). Graphic designers must be able to minimize the visual noise that occurs in the visual communication process they create.

Graphic designs produced by the government, especially those channeled through social media, must be supported by an admin who is able to manage netizen comments. Understanding the characteristics of social media that allow for interaction also needs to be a focus. Comments from netizens that come out of the context of the topics displayed in graphic design are often encountered. For example, comments relating to stagnation and cutting Covid-19 incentives for health workers. The Ministry of Finance through decree number S-65 / MK.02 / 2021 had a chance to reduce 50% incentives for health workers compared to the previous year. This makes the audience interpret the design not in its context. Graphic designs produced by government agencies and channeled through social media are considered by the public as a representation of the government itself. So that it can be used as a medium to communicate with the government and a place to voice aspirations.

Another thing that adds to the complexity of information visually is because in this era everyone can produce graphic designs that can also be mass distributed so that a lot of information is scattered inaccurate and / or contains visual confusion. The government has socialized the official portals used for the Covid-19 pandemic. However, in the absence of a similar visual language, people are still confused about detailed and accurate information. On the other hand, the graphic designs made by the government are not able to counter graphic designs that are inaccurate and / or contain visual clutter. The public is confused as to which institutions can “have the right” to convey information related to the handling of the Covid-19 pandemic. Clusterization of information is also not very seems, graphic designs tend to be reactionary from what is available. Reactive is allowed, but as much as possible it is used to close the clustering of information that has been previously created. On the other hand, the community does not yet have sufficient visual literacy to accept inaccurate information and contains visual confusion. People need visual literacy competencies to really be able to understand the meaning of a visual presentation (Avgerinou 2009).

4 CONCLUSION

Government agencies through their websites and social media use graphic design as one of the main media to convey messages about the development of Covid-19, including those related to vaccinations. However, communication through graphic design made by the government related to vaccination does not pay attention to existing graphic design principles, is not consistent with one visual language, some are still trapped in aesthetic and

decorative elements, and many still make designs that use materials from microstock so that the main message of the design is not conveyed well.

“Be universal, remember that it’s not about you” (Samara 2007). Graphic designers need to work from the audience’s perspective even if they are hampered by short deadlines. Creating a graphic design product is not just completing the task of the “boss” but it is important for a designer to position himself not as a “craftsman” but as a “real designer”. It can be seen that the graphic designer from the government related to the Covid-19 vaccination is not positioned themselves at the “understand” stage in Design Thinking, which includes “empathy”, which is conducting research and observations to better understand the characteristics of the audience and the “define” stage, which is elaborating research data to analyze audience problems (Pressman 2019). The content to be delivered is completely controlled by their “boss” who may be laden with political interests.

There is no visible coordination in visual communication between government agencies with one another that disseminates Covid-19 vaccination information. Besides the absence of a visual identity guideline, graphic designs that are produced still seem to play a role as a form of the existence of these government agencies in dealing with Covid-19. This can reduce the effectiveness of the objectives to be constructed in every graphic design that is made. A designer is like a “doctor” who must have the ability to analyze patient problems, make diagnoses and give the right prescription. In the context of graphic design, a graphic design designer must be able to explore and formulate data about the topic you want to visualize before exploring ideas and making them happen. To complement this research, further research can take a different point of view. For example, relating to the meaning of the designs made by the audience. This will complement the data findings related to the effectiveness of the design.

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Pedestrian development in supporting sustainable community mobility

Evi Satispi, Aulia Widyajasita & Dini Herliani

Department of Public Administration, University of Muhammadiyah Jakarta, Indonesia

ABSTRACT: The Jakarta Provincial Government provides a mode of public transportation for residents which is expected to reduce congestion and air pollution, but needs to provide supporting facilities such as pedestrian roads. In Jakarta, all pedestrian streets have not been arranged in accordance with city government policies. The purpose of this research is to describe and analyze the city government's policies regarding the construction of pedestrian roads with research on problems in the Slipi area, Kemanggisan, West Jakarta. This research method uses a qualitative descriptive approach. The theory used is Merile S. Grindle's theory in 2 variables: 1) Policy content; 2) Policy area or context. The research results show that the arrangement of pedestrian roads in the Slipi area, Kemanggisan, West Jakarta has been carried out at 50%, but some paths in the area are not well organized because they are still in the planning stages. The obstacle of this research is that the human resources of the city government are not going well; this has resulted in the presence of street vendors and illegal parking along pedestrian streets.

Keywords: Pedestrian development

1 INTRODUCTION

With economic growth and an increasing population, many countries and cities are experiencing complex problems, one of which is transportation mobility because transportation infrastructure, roads, and other supports use concepts inherited from the colonial era (Arta *et al.* 2021; Wijono 2017). The urban transportation system needs to be adapted to the times to meet the needs of citizens while reducing the impact of their negative externalization which will affect environmental and road damage, accidents, and dependence on private transportation (Alkahtani *et al.* 2019; Soathong *et al.* 2019). Changing the transportation paradigm from previously using fossil fuels to using renewable fuels is an effort to deal with climate change by reducing carbon dioxide and vehicle emissions, therefore, public transportation and walking are the best choices for sustainable modes of transportation in fighting climate change and bringing social, economic and environmental benefits (Lee *et al.* 2021). Many studies are prioritizing the concept of walkability (security and safety, comfort and attractiveness, as well as government policy support) (Elangga *et al.* 2020; Gonzalez-Urango *et al.* 2020; Khairunnisa *et al.* 2022) with many benefits that obtained from walking as good for mental health (Kelly *et al.* 2018), to rehabilitation after being diagnosed with cancer (Ireland *et al.* 2019). Therefore, involving the government becomes a natural thing because of its function in decision-making, and of course, it needs the support of stakeholder collaboration.

Research (Gonzalez-Urango *et al.* 2020) using social network analysis (SNA) identified that in designing pedestrian paths, stakeholders, stakeholders, and security networks must be involved so that transportation mobility projects on pedestrian paths run very well. City

governments should pay attention to urban support in great detail and make efforts to deal with climate change because the government's role is very important with regard to decision-making. In many countries, for example, the problem in China, pedestrians have different attitude characteristics from one pedestrian to another depending on the pedestrian's age, which indicates that the characteristics when walking can affect the speed of motorized vehicles crossing a zebra crossing (Yang *et al.* 2020). Research on elderly pedestrians classified as accident-prone has long been supported by Kim (2019) which identified that in Los Angeles elderly people are more prone to accidents, but the government has made an effort to prioritize human life by making policies on pedestrian arrangements and operating roads so that they can eliminating traffic fatalities by 2025. From this case, government policies are very important in relation to urban pedestrian planning, whether that is done by adopting walkability, vision zero policies, or by formulating pedestrian planning policies that are tailored to individual urban characteristics.

Existing facilities will certainly greatly support the activities of the people of Jakarta, because Jakarta is one of the cities with a lot of activity. To support this, the Jakarta provincial government provides a mode of public transportation for the community which is expected to reduce congestion and air pollution, of course with public transportation prepared by the government must also prepare supporting facilities such as pedestrian paths which are special lanes for pedestrians, to support activities the general public, for example, there are 4 (four) components in the manufacture of pedestrians, namely the distance traveled by the width of the sidewalk, barriers, and the continuity and consistency of pedestrian paths (Pandapotan & Sumabrata 2020). Pedestrian roads are spaces for carrying out activities for pedestrians so that they can improve smoothness, safety, and comfort which are the basic concepts in the development of sustainable mobility with standard values such as imageability, human scale, enclosure, comfort, safety, attractiveness, transparency, as well as interactive for the community (Alverina *et al.* 2020). Therefore, the concept of developing sustainable mobility needs to be broken down into rotational space, service space, and self-evident space with a green layout concept for comfort and aesthetics (Subadyo 2020). For example, in Malioboro, Yogyakarta, pedestrian development is carried out using the concept of walkability with the criteria of accessibility, aesthetics, safety, security, and comfort (Uak 2020).

In Padang, pedestrian development prioritizes the function of pedestrians by having aspects expected by the community, such as vegetation on pedestrian paths, completing facilities, and controlling malfunctions of street vendors (MSMEs) (Roza *et al.* 2020). In the development of pedestrians through infrastructure systems or the provision of facilities, each area has criteria, including: (1) primary areas are urban areas that act as places of activity on a national and international scale; (2) secondary areas are urban areas that act as regional-scale activities; (3) Transit oriented development areas are transit areas for public transportation (Endangsih *et al.* 2022). For some Indonesians, especially in urban areas, they are lazy to walk because there are no proper pedestrian roads and there are still incomplete arrangements for pedestrian roads, especially outside the city center, residential areas, areas that are not well organized, and do not match what which are formalized by applicable policies, such as the absence of supporting facilities by looking at the accessibility of persons with disabilities. The government of Jakarta and the people need to be aware of the importance of urban planning that continues to become crowded and slum, not only is the government involved directly in improving the spatial planning of Jakarta, but also the citizens who have important functions in creating a beautiful, safe and prosperous Jakarta urban planning area. The spatial layout of the city of Jakarta which continues to be congested can lead to negative things, one of which is the mismatch between usage and the use of existing facilities. This research will use a case study in the Slipi area of Kemanggisan, West Jakarta with the aim of knowing and analyzing pedestrian development in supporting sustainable community mobility.

2 LITERATURE REVIEW

2.1 *Pedestrian concept*

Pedestrian development requires various supporting factors such as increasing facilities by adding signs, markings, lighting, seating, and vegetation, as well as avoiding street vendors and illegal parking (Fadhli 2021; Subadyo 2020). In designing pedestrian development, appropriate measurements are needed by carrying out normal calculations of the distance between intersections between pedestrian centers, as well as calculating normal pedestrian crossing intervals using the Super DDI (Diverging Diamond Interchange) design method (Mehrra Molan *et al.* 2019).

More and more pedestrians in the concept of pedestrian development need to be identified to coincide with adequate infrastructure. In several studies on pedestrian development, it is known that walking behavior is from age and the behavioral conditions of pedestrian users. There is a need for green open space in the pedestrian area so that it fits the criteria of site planning and connectivity, materials, circulation, building period, proportion, and transparency, as well as details of the pedestrian-friendly concept (Agustianti & Pudianti 2022; Friyessi 2020).

2.2 *Policy implementation*

A policy has been prepared properly and neatly, but the objectives of the policy will never be achieved if the policy is not implemented properly so that policy implementation is needed as a formulation process in the policy to be made (Mubarok *et al.* 2020). According to Mubarok *et al.* (2020) a policy can be successfully implemented when two variables are taken into account: the suitability of the policy design and the implementation of action. By looking at the consequences for citizens, the implementation model describes the decision-making process tried by various government actors and stakeholders based on programs that have been achieved or the interaction of decision-makers in a political-administrative context (Mubarok *et al.* 2020).

3 RESEARCH METHODS

This research method uses a descriptive method with a qualitative approach that uses information gathering methods in the form of observation, interviews, and documentation, information analysis methods use several steps, namely reducing information, presenting information, and verifying and validity of information by selecting informants using purposive sampling methods and accidental sampling method. As a result, this research seeks to describe and explain the implementation of the governor of Jakarta regulations regarding the construction of pedestrian roads, Slipi, West Jakarta. In conducting interviews in this study, deep interviews were conducted with informants, including: (1) West Jakarta City Bina Marga Sub-agency; (2) DKI Jakarta Bina Marga Service; (3) BAPPEDA DKI Jakarta; (4) Forestry Service; and (5) People who often use the pedestrian path in the Slipi Kemanggisian area.

The documentation used in this study examines and analyzes laws and regulations, including: (1) Regulation of the Minister of Public Works Number: 03/PRT/M/2014 concerning guidelines for planning, provision and utilization of pedestrian network infrastructure and facilities in urban areas; (2) Regional Regulation of the Province of Jakarta Number 1 of 2012 concerning the 2030 Jakarta Area Spatial Plan; (3) Regional Regulation of the Province of Jakarta Number 1 of 2014 concerning Detailed Spatial Plans for Jakarta and Zoning Regulations; (4) Governor Regulation Number 45 of 2012 Arrangement of Pedestrian Routes; (5) Decree of the Governor of Jakarta Number 1107 of 2019 concerning Amendments to Governor's Decree Number 1042 of 2018 concerning List of Regional

Strategic Activities; (5) The 2017–2022 Jakarta Regional Medium Term Development Plan; (5) 2020 Jakarta Regional Government Work Plan; (6) Criteria for Design Criteria; and (7) Design Guidelines for Pedestrian Facilities: DKI Jakarta 2017–2022. Using the theory developed by Merile S. Grindle, namely the concept of policy implementation can affect (1) policy content and (2) policy environment), the variables of both can be seen in Table 1.

Table 1. Policy implementation variable (Grindle).

No	Variable	Scope
1.	Policy Content	<ol style="list-style-type: none"> 1. Interests affected by the policy 2. Type of benefits to be generated 3. Desired degree of change 4. Location of decision making 5. Implementation of the program 6. Resources deployed
2.	Policy Environment	<ol style="list-style-type: none"> 1. How much power, interests, and strategies are owned by the actors involved in implementing the policy 2. Characteristics of Institutions and actors in power 3. The level of compliance and responsiveness of implementers

Source: Grindle Theory in Mubarak *et al.* (2020)

4 RESULTS AND DISCUSSION

Parts of Jakarta in terms of pedestrian development have been improved with the applicable rules, but this is only visible in the central strategic areas of the city, so for areas outside the city center pedestrian development has not been carried out properly. Some of the cases studied can be seen in Table 2.

Table 2. Analysis of field findings.

No	Findings	Compliance with Regional Regulations on the Jakarta Area Spatial Planning
1.	On Jalan Kemanggisan Utama opposite the Slipi Kemanggisan bus stop, the development of pedestrians does not seem convenient to use, from the stairs of the pedestrian crossing bridge (JPO) the condition of the pedestrian path is not good because the road dividing stones are broken and left like that, the roads are uneven because there is damaged soil and rocks, after the bend the pedestrian lane is used by the motorcycle taxi base so that pedestrians have to go down to the main road	Not compliant
2.	On Jalan Latumenten near Grogol Station, pedestrian development does not look comfortable because the width of the sidewalk is less than 1.5 meters and there are no special lanes for persons with disabilities	Not compliant

Source: Regional Regulation on the Jakarta Area Spatial Planning

Based on these findings, pedestrian development is built and provided for pedestrians with the provisions stipulated in laws and regulations; this pedestrian development requires

commitment from the government in providing comfort and safety for its citizens. Pedestrian development prioritizes equality, prioritizes comfort and safety, and benefits people with disabilities. In Jakarta, revitalizing sidewalks has been carried out from 2017 to 2019 along 134 kilometers and is targeted for 2022 which has been planned for 47 kilometers with a budget of 1.1 trillion Rupiah. The area that has been completely revitalized in 2017–2018 is the pedestrian route on Jalan Sudirman, MH. Thamrin, the pedestrian path on the road has been designed to be friendly for persons with disabilities, including the existence of a pelican crossing between the sidewalks on the west and east sides.

Last year's revitalization of pedestrian paths was expanded to five urban areas, and 51 street locations throughout Jakarta underwent revitalization by spending a budget of around 327 billion rupiahs, including Jalan KH, Wahid Hasyim, Sudirman-Thamrin (Central Jakarta), Jalan Sisingamangaraja to Jalan Fatmawati (South Jakarta), Velodrome Area (East Jakarta), Jalan Daan Mogot (West Jakarta), Jalan Yos Sudarso, and Jalan Pluit Selatan Raya (North Jakarta). West Jakarta Kemanggisan Slipi Case Study West Jakarta has a population growth of 2.5 million people with the largest population in the Kebon Jeruk District area while the least population is in Taman Sari District. Table 3 is a list of the District areas in West Jakarta, in which we can see that the districts are densely populated the population is in Tambora District and Palmerah District.

Table 3. Data on the total population of districts in West Jakarta.

No	Subdistrict	Number of Population (Person)	Area (Km ²)
1.	Orange Grove	490.000	17.92
2.	Flower	444.100	24.19
3.	Crybaby	435.800	26.54
4.	Kalideres	295.200	27.39
5.	Grogol Petamburan	365.100	11.31
6.	Palmer	318.000	5.4
7.	Tambora	389.900	5.42
8.	Taman Sari	211.900	4.36

Source: Processed Data

West Jakarta has the vision to create a safe and prosperous service city with a mission to build good governance in order to create a service city, cultural and historical tourism, and improve the quality of sustainable urban areas and empower residents by increasing values, norms, and social institutions, to improve the quality of citizen services. West Jakarta has a meaning and hope for a great sense of responsibility and love of the people which is manifested by standing, solid and integrated cooperation between the government, the private sector, and residents in promoting urban development in all fields to produce the welfare of the city's people.

As for the development of conditions in developing pedestrians in Slipi Kemanggisan, West Jakarta, it has been designed through a Regional Regulation concerning Detailed Spatial Planning and Zoning Regulations, which can be seen in Figure 1 and an explanation of the plan in accordance with laws and regulations.

The plan to improve the activity center system originates from activities as space creators which were inaugurated at Asem Reges Market, S. Parman, Grogol Market, Tanjung Duren Market, Cengkareng Market, and Kalideres. Next, an activity center system based on service activities with a special role was inaugurated at the Mayor's Office, Rawa Belong Ornamental Plant Flower Market, Rawa Buaya Food Ingredients Market, Harapan Kita Hospital, Sumber Waras, and Husada.

Duren area as a center for learning, trade, offices, shopping tours, and services. Plans to improve infrastructure systems and water management and flood control facilities stem from increasing river/river capacity, building and increasing canal capacity, managing river banks by controlling illegal buildings on river/river banks, increasing river capacity, building water catchments, and building polders and water pumps.

In the Slipi Kemanggisan area on Jalan Letjen S. Parman and Jalan Kemanggisan Utama, the condition of the pedestrian paths looks less comfortable for road users and does not meet the facilities and infrastructure of pedestrian paths with the concept of walkability. Situations like this make pedestrians feel uncomfortable and choose roads on highways that can be dangerous, as can be seen in Figure 2.



Figure 2. Pedestrian Path Conditions.
Source: Processed Data.

The condition of the pedestrian development on Jalan Letjen S. Parman has been arranged pedestrian paths and can be used by pedestrians, but does not meet the criteria of sustainable pedestrian, walkability, as can be seen in Figure 2. Therefore, the condition of pedestrian paths in the Slipi Kemanggisan area has been implemented, however, the overall arrangement has not been carried out; there are still lane areas full of red dirt, insufficient pedestrian vegetation, and does not support persons with disabilities.

Based on the theory of policy implementation according to Merile S. Grindle with 2 criteria, namely, (1) policy content, and (2) policy environment. So, this research can be analyzed as follows:

- 1) Criteria for the contents of the policy, including; (1) interests that are influenced by policies; in its implementation this policy is influenced by existing interests, such as the interests of the community who need pedestrian lane facilities; (2) the type of benefits to be generated; in its implementation pedestrian development certainly provides great benefits for the general public, especially users of public transportation modes in terms of walking comfort and equality in society; (3) the desired degree of change; in its implementation, changes for both users and the environment with the implementation of a pedestrian development that is at least 5 meters wide will have an impact on the comfort of pedestrians, and street vendors can sell because the pedestrian area feels wide; (4) location of decision making; in its implementation, decision making for pedestrian development pays attention to and prioritizes the comfort of pedestrian users and users of public transportation modes; (5) program implementation; in its implementation,

pedestrian development starting from the planning, implementation, and monitoring stages is carried out by government agencies including the Highways Service, Forestry Service, and SKPD related to overcoming obstacles in accordance with SOTK and taking strict action if it does not match the target; (6) resources deployed; highly qualified human resources are lacking.

- 2) Policy Environment Variables, including: (1) how much power, interests, and strategies are owned by the actors involved in implementing the policy; power, interests and strategies are very closely related in the implementation of pedestrian development, the power of ordinary citizens and elite citizens or interest owners is of course different, but the government must have a strategy in implementing these policies; (2) characteristics of institutions and actors in power; the characteristics of policy implementers or actors who play a role can influence policy implementation, but can be controlled with a strong commitment from implementers and stakeholders involved to realize the objectives of the pedestrian development policy; (3) level of compliance and responsiveness; policy implementers in terms of responsiveness have been carried out very well because pedestrian development has begun to be implemented, but for compliance still requires commitment from policy implementers.

5 CONCLUSION

Pedestrian development is generally regulated using laws and regulations from the local government; the policy process seems to need to be analyzed using policy implementation studies so that the commitment of the local government to provide comfort and safety for pedestrians in Jakarta can be felt by residents. The development currently focuses on the economic center of the capital and pays little attention to areas outside the commercial center. Therefore, in this research, for the development of pedestrians, it is expected to increase human resources to maintain the quality of the concept that has been planned by the local government and pay attention to street vendors to keep the community's economy running, as well as take firm action against illegal parking carried out by the community to maintain order socialize.

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Murals: Art, politics, and democracy

Analysis of Michel Foucault’s discourse of power on the mural phenomenon “Jokowi 404: Not Found”

Aditya Dwi Putra Bhakti

Universitas Muhammadiyah Malang, Indonesia

ABSTRACT: This study aims to analyze the discourse of Michel Foucault’s power on the mural phenomenon “Jokowi 404: Not Found” and aims how are discourses of power produced, by whom, and what are their effects and impacts? This also discusses the murals and their relationship with art, politics, and democracy, especially in Indonesia. Using a qualitative approach, the objects in this research are the actors involved in the production of discourse in several online news portal reports related to the mural “Jokowi 404: Not Found”. The data was obtained by means of observation, literature study, and recording of existing reports related to the mural phenomenon “Jokowi 404: Not Found” which was then analyzed descriptively and qualitatively. The results show that the actors involved in the phenomenon of removing the mural “Jokowi 404: Not Found” discussed in this study build their own version of the episteme in order to dominate each other and make their version of the discourse become the dominant discourse.

Keywords: Mural, politics, democracy

1 INTRODUCTION

Since Friday, August 13, 2021, people passing through the inspection tunnel of the Kunciran-Soekarno Hatta Airport Toll Road, Batuaceper, Tangerang, Banten, Indonesia can no longer access the mural “Jokowi 404: Not Found”. What can be seen from the tunnel walls is a wall with black paint in the shape of a circle due to the removal of the mural “Jokowi 404: Not Found”. “Jokowi 404: Not Found” is an inscription on the mural that is critical of Joko Widodo as the President of Indonesia. This term is used to imply that the Indonesian president or government is considered “lost” or “non-existent” in dealing with existing problems. The phenomenon of removing the mural “Jokowi 404: Not Found” had indeed become viral on social media. A wave of protests from various parties also colored the removal of the mural. The mural maker is wanted by the police for allegedly insulting the symbol of the state. However, many people think that the mural is nothing but an artistic expression or an ordinary critique.

On the other hand, the removal of the mural has inspired mural artists from various regions to produce other murals with the theme of social criticism as a form of protest. It didn’t last long and the murals that had just appeared were also not separated from deletion. Like the mural “Dipaksa Sehat di Negara yang Sakit (Forced Health in a Sick Country)” in Pasuruan Regency; the mural “Wabah sebenarnya adalah Kelaparan (The Epidemic is Actually Hunger)” in Ciledug, Tangerang; the mural “Hapus Korupsi bukan Muralnya (Erase Corruption, not the Mural)” on Jalan Inpres Larangan Utara, Tangerang City; the mural “Ngabalín 504 Error”, in Bogor; mural “Tuhan Aku Lapar! (God I’m Hungry!)” in Tigaraksa, Tangerang Regency, and so forth. The deletion of murals keeps repeating itself.



Figure 1. Mural “Jokowi 404: Not Found”.

This attitude which is considered repressive and even oppressive by the government is what has drawn controversy among the public, both on social media and in the real world. The apparatus is considered excessive and too paranoid of the existing criticism.

Murals are a form of street art expression, which since the era of the struggle for independence has been synonymous with voicing aspirations (Pranama & Irfansyah 2019). The appearance of expression through murals can also be interpreted as an indication of blocked channeling of aspirations, especially for the marginalized. The government’s response in the form of deleting the existing murals and finding out who made them is considered too excessive.

“404: Not Found” is a term that we often encounter when we access the internet. We often find this when a website cannot be opened (Sholicin 2016). The message of the mural “Jokowi 404: Not Found” can be easily interpreted, namely that there are groups of people who feel they have lost the figure and presence of their president. Where there are still many parties who feel that the state is not present for certain things—the effects of the split in the twice elections are still very much felt.

The phenomenon of deleting murals that have been rife lately has received a clarification response from the Presidential Chief of Staff (KSP) Moeldoko. Thursday, August 19, 2021, KSP Moeldoko stated that President Jokowi is very open and never dizzy or brittle on criticism. KSP Moeldoko also revealed that President Jokowi is very open to discussion and likes art. KSP Moeldoko focused his presentation on how to criticize. As an Eastern person, criticizing must be moral and civilized by always prioritizing ethics. From the deletion of the mural and the government’s statement represented by KSP Moeldoko, it can be concluded that the mural “Jokowi 404: Not Found” is considered a work that lacks manners and does not deserve to be used as a medium for criticism of the government.

This is confirmed by the hunt for mural makers. As if it was not enough to remove a mural that “offends” the government, the police are also hunting for the artist who created it. Faldo Maldini, Special Staff of the Minister of State Secretariat, assessed that this was related to the absence of a mural permit, so it was considered a violation of the law. Of course, this cannot be separated from the criticism contained in the mural. On the streets, we encounter many unauthorized murals that become “eternal works” and have never been

erased even after years. Of course, the mural does not reek of criticism of the regime. Freemuse (freemuse.org), an independent international non-governmental organization that advocates for freedom of artistic expression and cultural diversity, notes that in 2020 74% of the world's artists will be imprisoned for criticism of governments, 71% of the world's artists imprisoned, and the detention of artists for political reasons. Of all of that, visual arts contributed the most, that is 24% (Freemuse 2021).

Responding to Faldo Maldini's comments, Komnas HAM (national human rights commission) Commissioner Beka Ulung Hapsara discussed the standards, norms, and rules for freedom of opinion and expression owned by Komnas HAM. Aspects that should not be violated are related to state security, public safety, and public order. In addition, the content must not spread lies, hate speech, and contain SARA. So as long as it doesn't violate these points, one's freedom, including artistic expression, should not be restricted. Furthermore, according to Beka Ulung Hapsara, the mural "Jokowi 404: Not Found" is still within reasonable limits and is not out of the regulations.

The hunt for mural makers doesn't just happen in the real world. Starting from an upload in cyberspace, Riswan, 29, a resident of Tuban Regency was arrested by the police for uploading a t-shirt with the mural "Jokowi 404: Not Found". It seems that the police are serious about reducing the circulation of the mural image so as not to cause a massive movement. The hunt for mural makers and their distribution on social media makes people think again and again if they want to send or trade mural designs that have been deleted.

The Main Expert Staff of the Presidential Staff Office, Ali Mochtar Ngabalin, specifically through the YouTube channel stated that President Jokowi had no problem with "Jokowi 404: Not Found" and the removal of the mural had nothing to do with the Palace (government). The removal of the murals carried out by the police was in accordance with the police's authority to maintain security and public order in Article 1 of Law No. 2 of 2002. From Ngabalin's statement, it can be concluded that the state responds to murals that criticize the government as a work that is definitely not liked by everyone. It also has the potential to disrupt public security and order so it deserves to be removed.

The deletion of the mural "Jokowi 404: Not Found" and the like has been the subject of public discussion and debate. Of course, this is disturbing for artists, especially mural artists. Some are even moved to make murals in the form of criticism of the government, but not a few are choosing to be more careful. The phenomenon of removing murals has also received a response from various parties, including human rights activist Haris Azhar, he said that it is better for the mural art to get appreciation, not to be policed, because this shows an indication that the democratic alarm is still running. In this case, the police are considered too paranoid.

Instead of clearly explaining the problems contained in the "Jokowi 404: Not Found" mural, he immediately took action by eliminating and pursuing the creator. This gave rise to speculation, debate, fear, and even resistance from various parties, which intensified the atmosphere. If it is related to violations of public order, the government through law enforcement officers or related agencies can make an appeal first rather than directly hunting down the mural maker and threatening the Criminal Code for insulting the state symbol. It seems that there is still uncertainty regarding this, if one refers to the 1945 Constitution, the symbol of the state is not the President, but Pancasila.

Michel Foucault (1926–1984) was a French philosopher of knowledge who had contributed knowledge that was widely applied in various scientific disciplines. His methods and concepts of thinking are popularly used today. According to Michel Foucault, discourse is not as simple as conveying propositions through meaningful and knowledge-generating narratives. However, power is productive in the dissemination of the discourse. Discourse is not interpreted as a proposition in a text, but discourse produces an idea, concept, and effect (Eriyanto 2001). So that we can interpret discourse as an instrument of power in which knowledge collaborates with each other and creates synthesis to support the legitimacy of its power. Discourse can be mediated by language so knowledge representation can be done through language (Hayatmoko 2017).

Discourse is not objective, but very subjective which is spread everywhere. Regarding the phenomenon of the mural “Jokowi 404: Not Found”, there are many discourses produced by various actors. Of course, if we hold on to the view of Michel Foucault when discourse is produced, we cannot escape legitimacy or the struggle for power. Therefore, this research is interesting to examine how the actors involved in the mural phenomenon “Jokowi 404: Not Found” produce their discourse in order to seize or legitimize their respective powers.

2 RESEARCH METHODS

This study uses a qualitative approach by prioritizing the interpretation of the researcher based on Michel Foucault’s concept of power. This study uses Michel Foucault’s critical discourse analysis. Michel Foucault’s critical discourse analysis is used as a theory as well as a method to see the relationship between power and existing social relations. Using content analysis, the objects studied are the actors involved in the production of discourse in several online news portal reports related to the mural phenomenon “Jokowi 404: Not Found”. Data were collected by observation, literature study, and recording of existing reports related to the mural phenomenon “Jokowi 404: Not Found” which was then analyzed descriptively and qualitatively using Michel Foucault’s critical discourse analysis.

In investigating discourses, Foucault uses three interrelated concepts, namely positivity, historical a priori, and archive (Razak 2015). Discourse positivity is used to observe the attachment between discourses in a certain period. A priori history is the conditions and rules that determine the embodiment of a discourse itself. While archives are statements that are generated from the positivity system with their respective historical a priori. Archives can be in the form of documents or existing rules. Archives in this case are not like general terminology, namely in the form of past documents, but rather new statements that emerge from the positivity system with historical a priori.

In addition, this study uses Michel Foucault to uncover the meaning behind knowledge, namely archeology, and genealogy. Archaeology is an effort used to dig up existing archives, and find facts about discontinuities. Genealogy is used to trace the origin of the formation of epistemes. Episteme is a process of forming knowledge which, according to Foucault, is closely related to power. Genealogy seeks to explore the depths of epistemology. Genealogy is a perspective to study epistemology, social practice, and human self (Kali 2013). Therefore, genealogy is a continuation of archaeology. After the process of extracting the archives, it is continued with the process of describing the episteme.

The knowledge to be uncovered in this research is related to the mural phenomenon “Jokowi 404: Not Found” through a description of the actors involved, the epistemes they produce, and the discourses circulating during the phenomenon. That way it can be seen how the power relations between the characters involved through the production of knowledge are. In accordance with Foucault’s opinion, history so far is not a distorted history, but the history of power relations (Kali 2013).

3 RESULTS AND DISCUSSION

3.1 *The concept of power according to Michael Foucault*

The concept of power according to Michel Foucault is different from the general concept of power which is repressive. In general, when we talk about power, in our minds there are people or groups of people who control and are controlled, in other words, there are parties who always dominate and others who are always suppressed. In Foucault’s view, the concept of power is found in human relations. Power is understood as a strategy in human relations which can also be referred to as power relations. Power arises from the relations of various

forces (Foucault 1986). Power is not just something controlled by the state. Power is a dimension of the relationship, where there is a relationship there is power. Therein lies the peculiarity of Foucault's concept of power (Af. 2012). The concept of power according to Michel Foucault is not materialistic so it cannot be fully owned by a person or exchanged. Power is interpreted as a strategy in a social relationship so that power is not centered only on a particular institution or subject, but power can be spread everywhere (Razak 2015).

That's why power cannot be permanent, power is very dynamic. In modern society, the concept of power is not sovereign power but rather disciplinary power (Mudhoffir 2013). Disciplinary power here is not a power that is possessed by the authority to exercise repressive control over others as in sovereign power, as was done by the new order. Disciplinary power is more about the normalization of behavior through the internalization of habits (discipline) contained in social relations. The disciplinary process that is carried out regularly, it will affect the mindset, attitude, and behavior of the normalized subject. So, the subject has been controlled by the ruler.

Power is closely related to knowledge, power can also appear without being repressive because every person has the freedom to respond to reactions from others (Kebung 2018). Power produces knowledge, and knowledge creates power. The process of creating knowledge is known as episteme. Episteme is the meaning of certain conditions and situations, not only true or false, but rather something that is normal and abnormal to do and think about. Episteme is a technical term to refer to the space/limit of the distribution of a discourse (Dhona, n.d.). We can imagine that what we believe to be normal and abnormal is an episteme or set of knowledge derived from power relations. Episteme is understood as the basis for thinking where a statement has been considered knowledge (Mills 1997). Knowledge is the background for the formation of a reality (Jager 2001).

Epistemes are everywhere and their formation involves power, where there is no reality of knowledge that is final or at least universal. Reality is very dependent on who brings the truth. Those who say that the mural is vandalism are, of course, the groups that profit from the capitalization of the city's public space. Public space is commodified into a space that can generate profits so that its use is redeemed with a certain nominal amount of money. This can work for most people because it uses discourses that have been massively internalized and seem to become consensus. As with "murals must be aesthetic", the parameters of beauty have been defined through other discourses. Even with regard to spiritual beliefs, such as, "cleanliness is part of faith" a mural style that looks "dirty" is not harmonious or aesthetically pleasing, it is not proper to be in a public space because its existence is considered disturbing to many people. As if they were social, environmental, or religious issues, even though they are nothing but political issues. By using discourse narratives that are in contact with beliefs, which are also creations, people will easily believe them so the reality is subjective. What we believed to be true in the past period is not necessarily true in the current period, or what we believe to be true in the current period is not a guarantee that it will stay true in the future (Dharma 2018). In the history of art, Van Gogh's works are considered to have damaged the existing art/aesthetic order, as was Pablo Picasso's, but when the times changed they were judged as geniuses who surpassed their time.

3.2 *Archeology and genealogy*

For Michel Foucault, knowledge occupies an important place related to power relations. Archeology and Genealogy are ways used by Foucault to see propositions and possibilities. Archeology is a step that can be taken to get archives. These archives can be in the form of documents or existing rules that arise from the attachment between discourses that exist in a certain period so that discontinuous facts are found from them. According to Foucault, there are four important principles in archeology. First, archeology is not allegorical. This means that archeology focuses on defining the discourses that occur; archeology does not focus on the representations or images contained in these discourses. Second, archeology is not

doxology but differential analysis is concerned with the modalities of discourse. Third, the archeology referred to here is not a product of psychology, sociology, or anthropology. Fourth, archeology is a systematic description of the objects of discourse (Af. 2012). In the discussion of the archeology of knowledge, knowledge is not something that appears by itself, knowledge is a space where the subject occupies a place and can speak about the objects he knows in the discourse. Knowledge is an area of coordination and subordination of statements where concepts are seen, defined, applied, and transformed (Umanailo 2019). All knowledge practices must have discursive practices, and it is in this context that epistemes appear as a process of knowledge creation.

Genealogy is a perspective that Foucault uses to trace the origin of the formation of epistemes. Genealogy seeks to explore the depths of epistemology. The genealogical process is a continuation of archeology which intends to describe the history of epistemology. So that from the archaeological and genealogical processes it can be known the process of discourse production through the practices of power. It is power that defines what is right and wrong, right and wrong, good and bad. Truth is very subjective depending on the definition of power and each person or group of people has their own version of truth.

3.3 *Mural in the era of the struggle for independence*

In the era of the struggle for independence, murals were widely used as propaganda and encouragement for the struggle of the heroes of the Indonesian independence revolution. Since the first, the substance of the mural has been used more for resistance, struggle, and conveying aspirations. One of the most inspiring ones is the mural/poster “Boeng, Ajo Boeng” (Juliana et al. 2018) by the painter Affandi. The mural was a request from Bung Karno to Sudjojono to create a work that could raise the spirit of struggle, especially for youth. Sudjojono then gave Affandi a mandate to make it. The idea for the phrase “Boeng Ajo Boeng (Man, come on Man)” was coined by Chairil Anwar who is said to have been inspired by the whore in the Pasar Senen area who often called men “Boeng Ajo Boeng”. However, the connotation of the sentence becomes the spirit of struggle (Hermanto & Supatra 2020).

Murals in the era of struggle were more used as tools for the struggle for independence. This has become something common and certain. Again, if talking about episteme is knowledge obtained from power relations, then the terms “Boeng Ajo Boeng (Man, come on Man)”, “Merdeka atau Mati (Freedom or Death)”, “Freedom for Nation”, “Awat Tipoe Moeslihat Moesoeh (watch out for the enemy’s tricks)”, and the like are narratives that are constructed which involves power which wants independence. It can work because it is related to the belief that freedom will get us out of suffering and make life better. So, which one is considered a truth depends on the truth that is brought by an episteme which is communicated by the authorities who have the instruments to produce it. In several countries in the world, murals have become a common medium to convey struggles and criticisms.

3.4 *Power relations in the mural phenomenon “Jokowi 404: Not Found”*

The controversy over the mural phenomenon “Jokowi 404: Not Found” stems from the viral deletion of the mural, which many people feel is redundant. The debate involved many parties, from the mural artists themselves, the government, experts and observers, to the National Human Rights Commission, and so on.

If it is related to power relations, according to Michel Foucault, we cannot immediately conclude that the removal of murals, which is considered a repressive attitude of the government and a restraint on democracy, becomes a form of absolute power. It is true that with all its instruments, the government can easily hunt down and arrest the muralist, but Michel Foucault’s concept of seeing power is based on human relations. Therefore, we have to look in more detail at the relationship between the actors in this case.



Figure 2. Several news headlines from a number of online news portals in Indonesia regarding the removal of the mural “Jokowi 404: Not Found”.

If you divide it dichotomously, of course, there are pros and cons to the removal of the mural “Jokowi 404: Not Found”. Actors involved in debates and arguments in public spaces related to the removal of the mural “Jokowi 404: Not Found” at least include the president, palace officials—outside the president, law enforcement officers—the police and Satpol PP, mural artists, Komnas HAM, experts, activists, DPR, etc. Every group or actor involved and interested in removing the mural “Jokowi 404: Not Found” has its own argumentative narrative. Where some agree and reject the action of removing the murals. So we can call it a discourse war to seize power.

Friday, December 2, 2021, President Jokowi highlighted the declining freedom of expression index; this was conveyed during a briefing to the Head of the Regional Unit Heads in 2021. The President warned that the approach to the phenomenon of making murals was carried out in a persuasive and dialogue way. In connection with the recent deletions of murals in various regions, the President explained that it was impossible for the instructions to come from him, or from the chief of police, the head of the regional police, and the head of the resort police. This is a matter at the police chief level. “...Just a bit of an example, the mural was deleted. I know that the order of the chief of police is impossible, the order of the chief of police, the head of the police is not possible. That’s a matter for the police in the field...” From the statement, it seems that they are trying to throw the problem and responsibility to the “unscrupulous” officers at the police station level. In this case, the president seems to want to distance himself from the police and communicate that there are clear boundaries between him and the police group. The discourse that is trying to be constructed is that the president’s attitude is different from the apparatus that removed the mural “Jokowi 404: Not Found” and similar murals. In fact, the president may say that even the police at the sub-district level are part of him in supporting running a government. If the impression obtained from the removal of the murals is the attitude of the police officers who object to the presence of the murals, it is different from the attitude of the president who wants to convey that he does not mind. If there is no instruction from the palace (president) about the removal of the mural, then what is seen is an initiative that arises as a result of the fear of neglecting the mural. Of course, the president could easily give instructions through the national police chief to stop the process of removing murals, after what happened to the mural “Jokowi 404: Not Found”—again if he doesn’t mind the existence of these murals. However, the erasure of similar murals continues to occur in various places so that it becomes a national polemic.

The president also said that he was used to insults and slander. So there is nothing to be afraid of from a mural. Furthermore, the president has warned about freedom of expression in this democratic country. But this is as long as it does not interfere with public order. While the definition of public order is often still a debate (Suhendi 2019). The president's statement can be interpreted as an effort to neutralize the discourse that has developed so far about the government's repressive and anti-criticism attitude. The President would like to convey that this is a minor problem that he does not object to the murals of criticism. He even expressed his appreciation for the mural competition initiated by the National Police Chief Listyo Sigit Prabowo. This is in line with KSP Moeldoko's statement on August 19, 2021, he also revealed that the president is very open and never bothers with criticism, even though the president is said to really like art. When conveying this, KSP Moeldoko also focused on ethical criticism, because we are Easterners. As a representative of the government, the Special Staff of the Minister of State Secretary Faldo Maldini also had a chance to comment. He focused his statement on the permits that must be had when making murals. If it is not licensed, then the mural deserves to be removed because it is considered a violation of the law.

From the narratives presented by several actors who represent the government, it seems that the discourse produced is that the president is very open to criticism and does not question the existence of a mural with a critical pattern. As is known, the main actor's accusations against the act of removing the mural "Jokowi 404: Not Found" and the like are directed at the president's instructions as head of government. It seems that this discourse wants to be neutralized. In addition, the government conveys that discourse related to criticism must be ethical because we are Easterners. Eastern culture itself is a discourse that has been internalized in the majority of Indonesian society. The state has chosen the way of thinking and behaving with its citizens. This particular way that has been chosen is what makes other ways of thinking and behaving something unusual and deserves to be questioned. Another thing is the use of public spaces that must be licensed or paid for. The government feels entitled to convey this with an argument so as not to harm other parties, or there is already a law that regulates it. As a result, people or groups of people with money can be able to buy public space to just satisfy their egos. For example, in June 2021, the feud between artist Uya Kuya and his family with Denise became public consumption. Uya Kuya had time to install a billboard with a fund of around 100 million rupiah which he placed in every corner of the city in Jakarta. The billboard demands that Denise immediately apologize to him. The media also enlivened it through its reports. This "forced" to attract public attention. Of course, the majority of the public considered it to be legal and okay because Uya had paid the advertising manager. And advertising has paid "tribute" to the government. It becomes dangerous for our democracy if the index of freedom of speech is valued more than its material elements. The proletariat has no access to the use of public space as a medium of criticism.

On many occasions, President Jokowi and his supporters have stated that they are not anti-criticism and invited people to criticize him. However, the criticism referred to here seems to have a condition, which must be accompanied by data and have a solution dimension. The public is not obliged to include solutions in conveying their criticisms, so it does not bring up the saying "there is no solution, so don't criticize". Criticism is the right of every citizen in a democratic country (Nugroho 2012). The narrative about criticism must be accompanied by a solution and is also a discourse produced by the government to control and filter the criticism it will receive. On the other hand, the government builds a narrative that they are not anti-criticism, but although they offer limits for the quality and feasibility of a critique as well as the method for its delivery. This is an effort to get the community to think about the government's burden so that if there is a problem that cannot be resolved, it will be an explanation because it is indeed difficult for citizens themselves to find a solution. Yet the capacities of the government and citizens are clearly very different. Regarding the mural "Jokowi 404: Not Found", the president has also stated that he is very open to

criticism. The production of epistemes related to the president's openness to criticism resulted in the knowledge that the president has an open attitude and does not have a problem with murals with criticisms. In Foucault's concept of power, there is the term discipline. Discipline is carried out through the production of knowledge that has been normalized. It is used by each group to seize or keep up its power. This disciplinary process is usually carried out through beliefs that have been established by law, or by the curriculum in educational institutions. The creativity and beauty is defined by who is determinant the mural as a medium neither to convey aspirations or a scribble vandalism even slander? Of course, the regime is in power because they have control over the legal infrastructure and education.

4 CONCLUSION

This study focuses on the relationship between the actors involved in the debate over the deletion of the mural "Jokowi 404: Not Found", so that from an analysis of these relations it can be understood the power relations that go with it. Through the various instruments it has, the government is not automatically able to get Foucault's version of power, it is clear that the development of an anti-critical government discourse. However, public opinion of the position of mural art in Indonesia is still very dependent on the regime in power. From the deletion of the mural "Jokowi 404: Not Found", it can be seen that the mural is now positioned as vandalism, illegal, or even a work containing hate speech, so that it raises the fear of movement that might be riding it. However, this overly repressive and oppressive attitude is of course very likely to create polemics.

What has not changed from the era of struggle is the position of the mural which is used as a medium to voice criticism and aspirations. The development of digital art does not necessarily migrate murals into digital form. When disseminated via the internet, murals will certainly have a different effect. Its meaning can vary, whether it is still seen as a counter-culture or even seen as a commodity. The process of making murals in public spaces requires timing and speed so that it can stimulate the adrenaline of the artist. This is in line with the spirit of making murals and the aspirations that exist in the soul of the maker. The Electronic Information and Transaction (ITE) Law, which is the "digital police", is proven to be often misdirected and the anonymity of the digital world does not necessarily become a protective shield for critics in the digital world. For mural artists running and disappearing in the dark alley can guarantee their safety.

After the emergence of an anti-critical government discourse, the palace tried to neutralize the discourse by directing the source of the problem to law enforcement officials at lower levels. This is done by trying to separate themselves from the problem of removing the mural "Jokowi 404: Not Found" and taking distance from law enforcement officials. Each actor has their own episteme, such as the government with their definition of aesthetics and vandalism, or artists and activists with their marginal issues of criticism and human rights. These epistemes' are used to influence public knowledge, so that knowledge has an impact on the reality or truth that is believed. This truth influences one's mindset, attitude, and behavior. So that discipline can be mental or physical. Discipline can also be done subtly or repressively. When people agree to the removal of murals, the stigma about people who are anti-critic and arrogant can be attached to them. On the other hand, when people disapprove of the action, the stigma about vandalism and not knowing the rules can be obtained. Each actor has their own power infrastructure to exercise disciplinary power. In seeing social phenomena, people should get used to realizing that each discourse that is built by each particular group tries to get its own stage and of course for their respective goals and interests. Next research is expected to be able to examine the topics studied in this study in more media, not only limited to online media. So that more comprehensive research results will be obtained.

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Smart cities in China: Addressing environmental issues

Inda Mustika Permata

Taiwan International Relations Department, Asia Pacific Regional Studies Program, National Dong Hwa University, Universitas of Andalas, Indonesia

ABSTRACT: This paper aims to explain China's potential to play a role in developing smart cities, especially in overcoming the environment problems. Due to China's significant contribution to carbon emissions and its potential to increase with urbanization, China's attempts to develop smart cities as one of the central national policies can contribute to addressing global environmental issues. This paper uses qualitative methods with secondary data. As a conceptual framework, the author uses Dameri's concept of smartness. The result is that China does have the potential to be influential in handling environmental issues through its smart city projects. In addition, China also desires to become a leader in smart city development. This is because China has developed smart cities as a national priority with various investments in research and technology development that involve the government and the private sector. China also puts forward the effectiveness of its smart city, which benefits the community through ease of service and a sustainable environment.

Keywords: city, China, environment, lead, technology

1 INTRODUCTION

The problem of urbanization in IR studies is a low-political issue, so it is often marginalized from other issues. Based on data from the United Nations, the urban population is predicted to increase to 2.5 billion people by 2050, with the majority of the increase in Africa and Asia (United Nations Department of Economic and Social Affairs Population Division 2019). This massive urbanization phenomenon requires an innovative way of managing the complexity of urban life because this growth raises problems for land use and the environment (Manville *et al.* 2014). According to Hayat (2016), the impact of globalization and industrialization causes cities to consume three-quarters of the world's natural resources and produce as much pollution and waste as possible. The challenges of urbanization and its impact on cities are obstacles for developing and developed countries, although the definition of environmental problems in question can be different. Developed countries, for example, are more concerned with the issue of global warming, ozone-layer depletion, loss of biodiversity, deforestation, and exhaustion of non-renewable resources. Meanwhile, developing countries are more concerned about basic environmental issues such as water and air pollution, inadequate waste management, and lacking basic services and green areas (Grierson 2007). Apart from the differences in addressing environmental challenges between developed and developing countries, environmental issues as a global challenge cannot be separated from aspects of the locality, such as urban governance. As a result, the city becomes a catalyst and can be a solution to global environmental issues simultaneously.

The smart city then emerged as an innovation in terms of city management to face the challenges of urban life. Smart cities are also considered a solution to environmental problems because the idea of a sustainable environment is part of the elements of smart cities

(Ringenson & Hojer 2016). There is still some debate regarding the definition of the term smart city as it is a relatively new concept. However, one idea regarding this term can be agreed upon is about the city being “smarter” in terms of competitiveness, social and human capital, participation, transport, ICT, natural resources, and quality of life (Walravens & Ballon 2013). From these factors, it can be understood that the challenges of urbanization and the consequences of globalization and current technological developments have led to the creation of smart city projects. The presence of the smart city phenomenon shows that sub-national actors such as cities also have the same opportunities as the state in solving global environmental problems.

Both developed and developing countries then compete to apply the smart city idea in their cities. Referring to the smart city index, currently, there are 118 smart cities identified (The IMD World Competitiveness Center 2021). This number can differ from other datasets, considering the different indicators used. Based on the smart city index data, cities in Singapore, Taiwan, and European countries topped the rankings, while many other smart cities in China were ranked in the 60s. This ranking is quite good as a country that is late to implement the smart city idea. As a latecomer, China has the potential to excel in terms of smart cities (Xuejing 2020). It is interesting to examine China’s potential to play a significant role in smart city development practices. Because China is the most populous country in the world, this condition, according to Li & Qiao (2015), poses a severe urbanization challenge and has implications for environmental security. They also argue that more than a quarter of the world’s solid domestic waste comes from China, mainly contributed by its cities. Besides waste, China is the world’s largest greenhouse gas emitter (Zheng & Kahn 2017). Of course, this condition can be both a challenge and an opportunity for China. Therefore, this paper describes China’s potential to play a role in developing smart cities, especially in overcoming environmental problems.

2 LITERATURE REVIEW

In its development, much literature has discussed the smart city concept. According to Hayat (2016), the term smart city is ambiguous because the features and nature of the smart city itself differ from one country to another, adjusting to geographical conditions, ecosystems, availability of resources, and the main challenges faced. Hayat further differentiates this term into two meanings. First, in a narrow sense, a smart city can be defined as “the city that uses information and communication technologies to deliver services to their citizens. In the broad sense, Information and communication technologies (ICT) in smart city to be more intelligent and efficient in the use of resources, resulting in cost and energy savings, improved serving delivery and quality of life, and reduced environmental footprint – all supporting innovation and a low-carbon economy.” Furthermore, Nam & Pardo (2011) argued that the term smart city is not only related to technology, people, and institutions. From this definition, it can be understood that within the scope of a smart city, ICT must be used as a solution to society’s problems. It must also be supported by government policies. Therefore, according to Höjer & Wangel (2015), smart cities should aim to create sustainable cities that can meet the needs of people living in the city by maximizing ICT as a solution to local and global environmental problems. To be able to understand what the “smartness” of a city is, Dameri (2017) highlighted three things that need to be considered, namely (1) effectiveness: the capacity of a city to provide services to every individual in the city; (2) environmental considerations: the capacity of a city to ensure environmental quality is maintained, especially in terms of energy consumption, air, and water pollution, traffic congestion, and land consumption; (3) innovation: the capacity of a city to use technology to improve the quality of life in the city. These three aspects can help identify a city’s capacity as a smart city.

Smart city projects are being created all over the world. Sakuma *et al.* (2021) compared the implementation of smart cities in two developed countries, namely Japan and Sweden.

According to them, these two countries develop smart cities with different triggers. Large private corporations usually encourage the planning and implementation of smart cities in Japan, unlike Sweden, where local governments and communities play a role. In addition, both have a different focus of excellence where Japan has experience in preventing natural disasters, and Sweden has experience in preventing cyber-attacks. Then, Iqbal (2021) in his writing explained that Taiwan also has one of the best smart cities in the world, namely Taipei. People in Taipei integrate ICT into almost every aspect of their lives, and government policies facilitate this work. Iqbal takes an example in the health sector; hospitals in Taipei utilize artificial intelligence and big data to maximize service to the community. Furthermore, from the Middle-East region, Virtudes *et al.* (2017) explained that Dubai was the first smart city in an Arab country to adopt the smart city concept quickly. Dubai turned the desert into the most modern city in the world, providing income for the United Arab Emirates. Furthermore, Sonn & Lee (2020) showed that implementing smart cities in South Korea is very helpful in monitoring and controlling the spread of Covid-19 in the community. The four works of literature show that each city has specific goals for implementing smart cities. Then, in the context of China, Veglianti *et al.* (2021) describe the development of a smart city in the Xiongan New Area that pays attention to environmental aspects, is innovative, and produces low carbon. In its development, the authors highlight the central role of government from planning to implementation. Also, Huang *et al.* (2021) provide an overview of the various implementation results of smart city projects in China. They argue that these projects are still developing and there is much room for improvement. These two articles provide an overview of the big picture of the smart city phenomenon in China. Based on the literature above, they discuss the term smart city and its relation to sustainable cities, the capacity of the city as a smart city, and the implementation of smart cities in several countries, including China. However, it has yet to specifically discuss how China's potential is related to developing smart cities to address environmental problems. Therefore, this paper will focus more on exploring the role of states, such as China, in this regard.

3 RESEARCH METHODS

This paper applies a qualitative method. The data used in this paper is secondary. Data is collected from journal articles, books, reports, and news based on keywords such as smart city, sustainable smart city, eco-city, China, global environmental issues, and technology. The data is then analyzed using smartness city capacity. After that, we can conclude the smartness capacity of cities and the role of China as a state in overcoming environmental problems.

4 RESULTS AND DISCUSSION

According to Liao & Chen (2022), the formation of smart cities in China is divided into four phases. First, the 2010–2014 period is considered the exploration phase, marked by using ICT to digitize cities. Second, the period from 2014–2016 is referred to as the adjustment phase, marked by strengthening coordination between institutions related to smart city regulation. Third, the period between 2016 and 2017 is referred to as the strategic phase; in this phase, the government begins to link the smart city concept to the national strategy known as Innovative Smart City. The period from 2017 to the present represents comprehensive smart city development. At this time, the concept of a smart society was introduced, focusing more on the community than the city itself. Based on these phases, it can be understood that China is following a world change that places more emphasis on the use of technology. In addition, the Xi Jinping administration promoted policies focused on urban development called All-in-One Pilot Cities. This policy is top-down, which is implemented

with coordination between institutions and emphasizes green urbanization and technology as a solution in its implementation (Höffken & Limmer 2019). This shows that China is focused on ensuring environmental protection amid high urbanization.

Since Mao, Chinese governments have been concerned about the environment. However, the specifics of including environmental elements in development can be seen in the Hu Jintao Government. During Hu's time, the term "ecological civilization," which promotes environmental awareness, was first mentioned at the CCP Congress. Hu recognized that this principle must be applied to all aspects of China's economic, social, political, and cultural development to achieve its economic miracle. However, during the Xi Jinping Administration, this term was not just a slogan but a well-documented plan and a basis for making decisions regarding development strategies (Geall & Ely 2018). This shows that the protection of the environment and the implementation of development in China are equally significant and cannot be separated. Smart city projects align with the principles of ecological civilization set by China. This paper will identify three aspects of Dameri (2017), described in the previous section, to explain the capacity of smart cities in China. These three aspects do not directly explain China's capabilities as a country. However, Dameri's framework helps show that if smart cities in China have or cannot be smart, it will indirectly have implications for China's potential to address environmental issues locally and globally. Because China is one of the largest carbon emitters and contributes to the world's solid waste, if smart cities in China have smartness capacity, they will undoubtedly positively impact the world.

The first aspect being studied is effectiveness. In terms of services, the Chinese government focuses on transportation, public services, public security, education, health, and environmental protection as the main focus for smart cities (Atha *et al.* 2020). Understanding the smart city's situation and the community's satisfaction is essential to explaining its efficiency. Based on the findings by the China Academy of Information and Communications Technology (2016), of the 15 smart cities in China evaluated for their usefulness, these cities contribute to society with good, average, and more advanced values. According to Shan *et al.* (2021), to evaluate the city, China at the national level conducted two evaluations, namely in 2017 and 2019, by the National Development and Reform Commission and the Cyberspace Administration of the CPC Central Committee and the National Standards Commission. They formulated Evaluation of the Innovative Smarter Cities Indicator. In this evaluation, 220 cities participated in 2017 and 271 cities in 2019. The evaluation results showed improvements in indicators of public services, proper governance, a livable environment, information resources, and indicators of reform and innovation. Additionally, Shan *et al.* reported that regional development is evenly distributed among the cities.

Increasing numbers indicate that China is taking steps to ensure that smart city facilities and services available to individuals in the city conform to established standards. This evaluation is critical because the characteristics of developed smart cities in China must be community-oriented. The principle of community orientation is the basis of smart city development (Yang *et al.* 2021). To ensure this principle has been implemented properly, seeing the community's satisfaction is necessary. Research by Huang *et al.* (2022) showed that people in Nanjing are satisfied with smart city services' effectiveness, fluency, comfortability, and affordability. However, Huang also found that smart cities are insufficient to satisfy people's needs. This dissatisfaction may occur because the community is not involved in the planning to the implementation process, and this is also the characteristic of smart cities in China which are more top-down (Fang & Shan 2022). However, the presence of the state, in this case, is a positive thing because the government will have the power to run its administration in the end. Nevertheless, the community must still be given space to provide feedback on each process so that the effectiveness of its implementation can still be realized.

The next aspect being examined is the environmental consideration. As explained in the previous section, China has principle of protecting the environment is the basis for development. Smart cities are built on this principle. A conceptually smart city can improve

environmental quality. This is in line with the research results of Yao *et al.* (2020), which state that eco-efficiency, a measure of maximizing economic benefits by minimizing resource consumption and environmental damage, can be significantly improved by implementing smart cities in China. The findings of Qian *et al.* (2021) also show, especially in large urban areas, that there is a positive correlation between the implementation of smart cities in China and economic growth, which reaches 10.91%, energy saving by 2.84%, and reduction of pollutant emissions. However, the percentage is small, namely 0.69%. In urban activities, these three things are always taken into consideration.

In line with Chu *et al.* (2021), research explains that ecological, environmental quality in China can increase China's capacity to reduce urban pollution. According to him, the reason is that there are changes to the urban structure in the development of smart cities to improve the quality of urbanization while reducing pollution. Then, Yu & Zhang (2019) also showed empirically that there is an increase in energy efficiency in cities that implement smart cities in China due to the application of innovative urban development and management models. Regarding the reduction of smog pollution, research by Feng & Hu (2022) showed that although China is currently in the early stages of developing smart cities, Chinese cities show the potential to reduce smog pollution. They also explained that the practice of smart city policy is a solution to the dilemma between pursuing economic progress or protecting the environment that cities always face. Based on the research above, it can be interpreted that China's smart city development generally fulfills the second smart capacity. Even though there are disparities between cities shown in the studies above, it is due to the priorities of local governments in developing smart cities not being met. To create harmony at the national level and contribute actively to solving global problems from a local standpoint, this condition must be addressed. To ensure this can be done, from the studies above, it can be identified that technological advances are the backbone for smart cities to achieve their goals, especially in environmental issues. Therefore, the third aspect being discussed is innovation.

Previously, it was mentioned that the government's role was dominant in developing smart cities, so most of the funding for this project came from the central and local governments. According to Hu & Zheng (2021), cities such as Shanghai and Zhengzhou provide special funding for smart city project development, Beijing gets funding through sponsorships, and Chongqing encourages public-private partnerships to support their smart city projects. The presence of the government has promising implications for innovation related to smart cities. The government's seriousness was more evident in 2015 when Li Keqiang highlighted that smart technologies and smart cities were the two priorities of his administration. To achieve this, China will carry out extensive information technology applications in industrialization, digitization, and smart technologies. This is also supported by The Internet Plus Action Plan to promote the development of e-commerce, industrial networks, internet banking, Internet-based companies, which aim to integrate mobile Internet, cloud computing, big data, and the Internet of things (Yu & Xu 2018). Li Keqiang's statement aligns with China's first national urban plan in 2014 issued by the State Council entitled "National New-Type Urbanization Strategy" (2014–2020). The plan includes a section on smart cities, outlining dimensions of digital networking, planning management, urban infrastructure, public services, hi-tech industry, and social governance (Hu 2019). In his 2017 speech in which he used the term 'smart society' to elaborate on his goal of making China an innovative country, President Xi Jinping demonstrated how serious China is about technological innovation, which is applied to smart cities (Hu 2019). The government's consistency every year regarding smart city projects is not only a solution to the urbanization phenomenon but also a national interest and strategy to make China a beacon for the world in the context of innovation in smart cities. Therefore, implementing the smart city system can be applied in other countries. It is proven that since 2013, Chinese companies have installed Chinese smart city systems in 116 countries (Segev 2021). This contract shows that China is already oriented to becoming a leading country in innovation.

Innovation requires effort in this smart city. China is making significant progress in developing and implementing ICT to support its smart city projects. This can be seen through the rapid development of China's Internet of Things (IoT), big data, and computing industries. China's IoT industry increased from 28 billion dollars to 209.8 billion dollars in 2018. The big data industry is expected to grow by 25% in 2019, and the cloud market in China is expected to reach 6.1 billion dollars in 2018, an increase of 65.2% year-on-year (Atha *et al.* 2020). The development of ICT and applications and technological innovation is one of the indicators for measuring the development of smart cities. As China's technology market grows, its cities continue innovating.

China's ambition for technological innovation and its seriousness to invest in research related to technology to be applied to smart cities can also be seen in the New Generation Artificial Intelligence Development Plan announced by the state council in 2017, China will invest 139 billion dollars to make China a leader in Artificial Intelligence technology by 2030 (Atha *et al.* 2020). Smart city innovation in China is attracting the attention of the private sector, such as Huawei, Baidu, Alibaba, Tencent, Cisco, and IBM. Experts estimate that the market value for building smart cities in China will rise from RMB 740 billion in 2014 to RMB 10,500 billion in 2019 and be worth RMB 25,000 billion in 2022 (Hu 2019). This figure certainly reflects the profit opportunities for China in terms of developing its smart city projects. In addition, with the significant investment that China has allocated in smart city research and development, it will undoubtedly upgrade the city's capacity to improve the quality of life of individuals in the city.

5 CONCLUSION

As one of the great powers, China faces challenges regarding urbanization and environmental issues. Today's domestic problems and technological developments encourage China to actively develop its smart city projects. The application of technology can increase the smart capacity of a city to solve problems locally, which has positive implications domestically and globally. Since 2014, China has been serious about developing its smart city project. Although China is late compared to other countries in terms of development, China can show that it is capable. The effectiveness, environment, and innovation aspects of smart cities in China evidence this capability. Having ambitions to become a leader in smart city innovation and making a sustainable environment a central part of its smart cities allows China to contribute positively to solving global environmental issues. The government must allow the public to provide feedback so that discrepancies in all aspects can be resolved between smart cities in China.

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The metafunction of divorce mediation regulations in the supreme court regulation number 1 of 2016 as stated in the public information text

M. Isnaini, Setya Yuwana Sudikan, Dianita Indawati & Suhartono
Surabaya State University, Indonesia

ABSTRACT: This study aims to describe the meaning of metafunction contained in the text of Supreme Court Regulation Number 1 of 2016 concerning Mediation and the metafunction relationship and social context contained in Supreme Court Regulation Number 1 of 2016 concerning Mediation. The method used in this study is a qualitative method. Qualitative methods are used to answer the first and second problems. This research method is used to obtain data logically and empirically. The data obtained were then analyzed using the metalanguage theory pioneered by Halliday and Martin. The results of this study are that the meaning of metafunction contained in the text of Supreme Court Regulation Number 1 of 2016 consists of three levels: ideational meaning, interpersonal meaning, and textual meaning. In a social context, by looking at the content, involvement, and method. The contents of the text of MA Regulation Number 1 of 2016 concerning mediation is the fulfillment of citizens' rights to justice in obtaining justice and reconciliation in civil law disputes. This shows that civil law processes, especially disputes, can be passed peacefully, namely carrying out the mediation process as a way of the dispute process. This is contained in the first part of the consideration for the formation of the regulation to realize a peaceful dispute resolution method that is appropriate, effective, and can open wider access to the Parties to obtain a satisfactory and fair resolution.

Keywords: Divorce, Mediation, Social Context

1 INTRODUCTION

Text as a linguistic unit has a meaning that cannot be separated from context. Context as a complement to the text, plays an important role in determining the meaning of language. Context is influenced by text because the text is an expression of social behavior in contexts. The meaning of each word is to some degree dependent on context (Malinowski 1946:307 and Firth 1957). In the functional approach, sound and meaning are obtained from metafunctions. Language is analyzed functionally and related to social context, so the functional approach is very relevant for all areas related to language use. Functional analysis will present the complete function of language meaning. This functional analysis is called metafunction (Saragih 2006:7). Systemic functional linguistics (LFS) views language as social semiotics. LFS examines texts that are related to social contexts. According to Halliday & Hasan (1985:11), LSF is concerned with the context and the relationship between language organization and social situations.

The situation context describes the terrain, the participants, and the means of the text. Cultural context explains what genre is used. Ideology is anything that is prohibited and what is allowed to be done. Furthermore, Systemic Functional Linguistics is used to analyze

texts related to the social context by involving speakers, speech communities, speech acts, culture, and social conditions of speech communities as factual phenomena and worthy of study. The linguistic context that greatly influences the meaning of language is the social context. Social context includes situational, cultural, and ideological contexts (Martin 1985). The meaning or content of the message in the linguistic aspect can be known so that it does not cause ambiguity for the recipient or reader. The role of the social context as a companion to the text is needed to analyze a discourse or text. Discourse contains a social context, both written and spoken texts. Written texts such as texts of the Constitution, old prose texts, and other written texts.

Meanwhile, the text is not written or spoken related to the rules and norms that apply in a particular society. This context shows the role played by language in the social interaction of text creation. The mediation regulations in the supreme court rule number 1 of 2016 are very important to understand in depth, considering that this mediation direction positively impacts the application of law in Indonesia. The mediation process is an important tool in the dynamics of positive law because this mediation will make the process of peaceful dispute resolution. So that the regulatory functions in this mediation must become the dominant benchmark in the process of resolving disputes by peaceful means. In this case, it is important to study the contents and functions of these regulations. Because in various cases many dispute cases cannot be resolved peacefully. Mediation in the aspect of divorce is decisive for couples who carry out the divorce process because if the mediation process goes well, it will have an impact on couples who are going to divorce in completing their legal process in the religious court. The results to be obtained when the process of carrying out the mediation is well understood and understood by the plaintiff and the defendant in the divorce process occur in an amicable settlement even when the divorce process does not occur. Because after all, the increase in the divorce process will psychologically impact the family.

Legal language is difficult to understand when compared to other texts. It is important to analyze this with a linguistics approach to find out the meaning of the text by involving multiple contexts. Legal experts and makers of the text also recognize the linguistic complexity of this legal text. Legal language has its own level of complexity, the various uses of non-grammatical sentence structures cause this. In addition to this, the use of lexical elements does not comply with the correct linguistic rules. These various aspects include (1) capital letters; (2) punctuation marks; (3) form and choice of words; (4) wording (Setia 2008, 2018). Understanding the role of legal language as an important part in formulating statutory norms and regulations will provide efficiency, effectiveness and validity in formulating legal norms to achieve the goals and functions of law. is to understand the legal language well for Indonesian legal scientists, with a good understanding of Indonesian as a medium for legal language (Qamar & Djanggih 2017: 346).

1.1 *Systemic Functional Linguistics (LFS)*

According to Kridalaksana (2008) suggests that systemic functional linguistics is a linguistic breakthrough that structurally, grammatically, and semantically has various functions in society and can carry out these linguistic functions. Some characteristics of systemic functional linguistics include (a) various layers of linguistic functions that receive attention in this study, such as syntax, semantics, and pragmatics. (b) don't change simple changes to words, transformations, and filters. (c) the description of language starts from the formation of the basic layer into the framework of the language structure. (d) language is seen as a coherent expression from semantics, syntax, and pragmatics to expression rules. According to Sinar (2012: 6), LFS is the main theory applied in this study. The theory put forward by M.AK. Halliday describes an analysis of the relationship between text and social context. So that the system becomes a representation of these two things with a paradigmatic relationship. Meanwhile, functional identifies the semiotic functions of language in various semiotic dimensions and the realization of functions in structural systems with syntagmatic

relationships. Language is not only interpreted in a single way, but is intertwined with other meaning systems. The existence of a system of forms and expressions is interpreted to connect these meanings. According to Saragih (2006: 1), views on LFS are categorized into two concepts: language, which is seen as a social phenomenon with its form as social semiotics, and language in constructual texts. Furthermore, the study of systemic functional linguistics leads to discussing texts in social contexts.

So that the functional boundaries are within the boundaries of the text. Halliday (1994) stated that functional language would give meaning to its users. Thus, texts are not only categorized as grammatical units. According to the social context, the relationship between language and text is a construal relationship. This relationship means that the text determines the social context. With this conceptual explanation, only certain texts can be produced in a social context.

On the other hand, certain texts can also be referred to. In functional linguistics, grammar is strongly influenced by the development of linguistics, so that aspects of the function of language itself become the main study in language research. Thus the use of functional terms refers to the various functions of the language elements. So that the study of systemic functional linguistics has the advantage of various elements of language ranging from phonemes having a function to differences in meaning, and each phoneme that is articulated will carry content and expression so that its use can be seen. At the level of syntax, the use of prepositions and sentence structure refers to a logical and complete understanding. So that this flow study looks at the overall components of language and its functions in inspiring an idea by looking at the structural relations of the language itself and its functions. At the level of phonology and morphology have the same relationship.

1.2 *Metafunction*

In accordance with the statement above, it has been stated that the metafunction of language consists of three areas of ideational meaning, interpersonal, and textual. These three areas of meaning are a unit that cannot be separated. Therefore, these three domains are used simultaneously to analyze text (Halliday & Eggins 1994). Metafunction is defined as a function of language in the process of using language and in every interaction of speakers of languages in speaking, composing, and explaining their experiences and ideas. The three metafunctions are interpreted as communication functions. Thus this function has the meaning of experience (ideational meaning), exchange (interpersonal meaning), and organizing (textual meaning). The exposure consists of exposure to experience (experiential function) and the relationship between experiences (logical function).

1.3 *Ideational meaning*

Ideational meaning consists of experiential meaning and logical meaning. This meaning is explained as follows.

1. Experiential Meaning

Experiential meaning is the meaning of experience. In this scope, experiential discusses transitivity, namely process, participant, and circumstance at the clause level. Process refers to experiences, activities, and activities. The process is referred to as a verb or verb at the traditional grammar level. Participants are objects or people involved in the process. Circumstance is an environment that is a place for processes that involve participants or those that cover the process. The essence of an experience, namely poses.

The process can determine the category of participants and the number of participants (Halliday 1994:168). In addition, the process also determines the circumstance at the probability level. The experience of language speakers consists of six types of processes, namely material, mental, relational, verbal, existential, or behavioral, as well as the

functions of all participants involved in each type of process (actor, sensor, goal, phenomenon, sayers, and so on). (a) Material Process Material process is a process that shows activities, actions, events, and activities carried out by humans. These material processes are real and can be seen and observed by human senses. The first participant in the material process is called an actor (actor), and the second is called a target (goal).

(b) Mental Processes Processes that show activities or activities involving the senses, cognition, emotions, and various perceptions are called mental processes or processes of sensing. (c) Relational Process is a process that functions as an entity's relationship with reality or other environments intensively, circumstance, or ownership by way of (mode) identification or attributes. Circumstantial relations and entities show time, place, and sequence. (d) Behavioral Process Behavioral (behavioral) processes are physiological activities or activities that express human physical behavior. (e) Verbal Process Verbal process indicates an activity or activities that aim to convey information. Verbal processes belong partly to mental processes and partly to relational processes.

2. Logical Meaning

In accordance with Halliday's analysis model (1985:192–251), the notations of numbers 1,2,3,4,5,6, and so on state complex clauses that are related paratactically. Greek letters are used to represent hypothetically related complex clauses. The (+) sign indicates addition (extension, elaboration). The equal sign (=) indicates expansion (elaboration, elaboration). Times sign (x) indicates folding (enhation, enhancement).

Double quotation marks (“”) to indicate elocutionary projections. Single quotation marks (‘’) express the projected idea. colon (:) and semicolon (;) are used to connect one clause with another clause. A simplex clause (simplex) is a clause that contains only one action or one process. Complex clauses are clauses that have paratactic and hypotactic relationships. The paratactic relationship is different from the hypotactic relationship. This difference is expressed by identifying the conjunction (conjunctive). In structural grammar, paratactic is referred to as an equivalent compound sentence. In contrast, hypotactic is a multilevel compound sentence (not equivalent).

1.4 *Interpersonal meaning*

In this section, the function of language is used as a tool to exchange experiences. Exchanging experiences is expressed by a system of clauses called the mode (mood). The mode indicates the type of clause used when exchanging experiences. The mode consists of declarative, imperative, and interrogative modes. Declarative mode is a statement, imperative mode is a command, and interrogative mode is a question. Meanwhile, semantically, a clause consists of statements, questions, orders, and offers. The way of conveying the mode affects the meaning of the language.

1.5 *Textual meaning*

This textual meaning is generally interpreted as the basis and focus used as the foundation in depicting ideas. The two meanings contained in the theme include. First, the theme as a reference and focus in the efforts made to convey ideas. Thus the themes in the LSF study become the starting point in developing clauses that include clauses and paragraphs. This extends the text into subsections, chapters, and a unified discourse. So that in the unity of the text, something becomes the focus or theme and outside the focus, which is called rheme. The theme is the beginning of a message to be conveyed in the clause (the starting point of the message). In the theme clause, it has an important role in conveying the message and being the starting point for the development of an idea so that it becomes a unitary idea in the text and forms a message or idea.

1.6 *Social context*

The social context consists of three elements, namely situation context (register), cultural context (genre), and ideological context (ideology). These three contexts accompany the language or text in stages or strata, and form a multilevel semiotic relationship (Martin 2001). The use of language and various social contexts are interrelated with one another. Discourse in the text is seen as the smallest unit or core unit. The larger scope is seen as the largest unit. First, situational context. Genre creates meaning by forming register variables by conditioning the fields of manner (what happens in a given situational context), tenor (how people relate to each other in which events are situated) and mode (the media and channels chosen for communication) are combined in repeated forms in certain cultures (Martin 2001).

Situation context is context related to three components, namely content (field), involvement (participant), and method (mode). The elements that build the content consist of three aspects, namely the arena/activity, the characteristics of the participants or participants, and the semantic domain. The activity arena refers to a location that specifically shows the characteristics of the activity and the characteristics of the institution that determines it. Second, the Cultural Context The cultural context determines in detail the configuration of content elements, involvement and means. In this case, there will be certain limitations. In this context, the stages that must be passed and the goals to be achieved from a text will also be explained. The stages that each text must pass vary depending on the genre of the text (Martin 1992).

Third, Ideological Context Ideology influences a person to act or do something and interact. Ideology is a social concept that states what should or should not be done as a member of society. The text is the realization of ideology, and can be explored in the text. Kress (1993) said that ideology can be realized with the influence of power on the system of society, political history, values, and literature and culture form society's views so that they believe in a concept. This ideological context includes various values, viewpoints, and various perspectives. In addition, Hassan (1996: 133) sees ideology as something that lives through the daily habitual actions of groups of social actors, both verbal and non-verbal, far from their conscious thoughts about it. Hasan also said that ideology is a socially constructed system of ideas that his followers cannot avoid.

1.7 *Metafunction relations and social context*

Globally the models used by LSF experts where they produce conceptual statements and descriptions in formulating models used to analyze discourse and texts. In other words, the field of meaning is closely related to ideational metafunctions. Involvement has a relationship with interpersonal metafunction. This means have a relationship with textual metafunctions. This relationship refers to and determines each other (Sinar 2003: 57). Prayudisti Shinta Pandanwangi carried out previous research related to this with the title Critical Discourse Studies Against Perppu No. 2 of 2017 concerning Community Organizations.

This research examines the Perppu text on CSOs from the modality, transitivity, and appraisal systems. In addition, this study also describes the background to the emergence of the Perpu. The difference with the research that the researcher will conduct is that the researcher will describe the metafunction and the relationship between metafunction and context in the text of the Supreme Court mediation regulation number 1 of 2016 regarding divorce mediation. This study aims to describe the meaning of metafunction contained in the text of Supreme Court Regulation Number 1 of 2016 concerning Mediation and how is the relationship between metafunction and social context contained in Supreme Court Regulation Number 1 of 2016 concerning mediation.

2 RESEARCH METHODS

This study uses a qualitative method. Qualitative methods are used to answer the first and second problems. This research method is used to obtain data logically and empirically. The data obtained were then analyzed using the metalanguage theory pioneered by Halliday and Martin. Thus, data from the text of Supreme Court Regulation Number 1 of 2016 concerning Divorce Mediation is presented in terms of metafunction and social context. The data analyzed in this study are the clauses contained in the text of Supreme Court Regulation Number 1 of 2016 concerning divorce mediation. The data source for this research is the text of Supreme Court Regulation Number 1 of 2016 concerning Divorce Mediation obtained from the official website of the Supreme Court. The data collection method involves recording, writing, grouping, organizing, and interpreting. Data analysis techniques were carried out by coding, presenting, and concluding.

3 RESULT AND DISCUSSION

The Meaning of Metafunctions in the Text of Supreme Court Regulation Number 1 of 2016

The metafunction meaning in the text of Supreme Court Regulation Number 1 of 2016 consists of three levels of meaning: ideational, interpersonal, and textual. As for the discussion of these three matters, we will describe as follows:

(a) **Edical Meaning**

Ideational meaning consists of experiential meaning and logical meaning. The experiential meaning contained in the mediation regulations includes the experiential scope, which discusses transitivity, namely the process (process). In contrast, the processes contained in the text of the mediation regulations include:

First, Material Process Material Process is a process that shows activities, actions, events, and activities carried out by humans.

“Obligation to Attend Mediation”

“Good Faith in Mediation”

In the fourth and fifth parts of the regulation, use the word attend. The intention is a material process that is in the text of MA Number 1 of 2016. Material processes dominate MA Number 1 of 2016. This proves that the text of MA Number 1 of 2016 is a text that contains rules for performing an action. Do something that must be fulfilled if you want the mediation process.

Second, relational processes are categorized as entity relationships with other environments with intensive relationships by identifying attributes. In the Supreme Court Regulation Number 1 of 2016, what is embodied in the word is a relational process to state that there is a relationship between mediation and dispute resolution, so this path is an activity to resolve legal disputes. Then the word becomes in chapter 36.

“The Judge Examining the Case before the Parties will only strengthen the Peace Agreement to become a Peace Deed, if the Settlement Agreement is in accordance with the provisions of Article 27 paragraph (2)”

In this article, the word becomes correlational, that the peace agreement will be converted into a peace deed so that it has legal force so that there will be no more disputes in the future.

Third, mental processes or processes of sensing are called Mental Processes or Processes that show activities involving the senses, cognition, emotions, and perceptions that occur in humans. In this aspect, the word peace and peace is the dominant mental process in the

Supreme Court Regulation Number 1 of 2016. This shows that this mediation process has the main objective, namely peace over legal disputes.

Fourth, Verbal Process: The Verbal process shows activities that aim to convey information. In this case, it is found in articles 3 part one and 32 part six in the words inform and order.

“The Mediator must declare that the Mediation has failed to reach an agreement and notify it in writing to the Examining Judge of the Case”.

“The Examining Judge who did not order the Parties to take Mediation so that the Parties did not carry out Mediation had violated the provisions of the laws and regulations governing Mediation in Court”.

In the data, it is emphasized that the mediator owns the verbal process towards the judge in a dispute. The second, namely the examining judge, should order each dispute to take the mediation route. If this is not done, the verbal process from the case judge will not be conveyed to the litigants.

Fifth, the Process of Being The process of being (existential) shows the existence of an entity. In English, the process of being is usually marked with the clause there. A subject separator does not precede the process of being in the Indonesian language. There are many form clauses contained in MA Number 1 of 2016 in article 6 part four.

“The Parties are obliged to attend the Mediation meeting in person with or without being accompanied by legal counsel.”

Thus the process of being in the implementation of mediation becomes an important framework because in this article all disputing parties are obliged to attend the mediation meeting even without and with the presence of legal counsel. This is proof that the presence of the parties will have a clear impact on the ongoing dispute. The presence of the parties will provide a great opportunity for creating a peace process when carried out according to procedures.

(b) Interpersonal Meaning

In this section, the function of language is used as a tool to exchange experiences. Exchanging experiences is expressed by a system of clauses called the mode (MOOD). The mode indicates the type of clause used when exchanging experiences. The mode consists of declarative, imperative, and interrogative modes.

First, this declarative mode is in the second part of Article 4.

“All civil disputes submitted to the Court, including cases of resistance (verzet) to verstek decisions and resistance to litigants (partij verzet) and third parties (derden verzet) against the implementation of decisions that have permanent legal force, must first seek a settlement through Mediation”.

This article emphasizes the purpose of notifying all citizens that all civil disputes are legally obligated to carry out the mediation process before proceeding with the civil dispute. In this case, mediation is the first step that can be taken before taking other steps. Many people do not know about this, so they neglect and even carry out this matter at will. Of course, this must be massive information to the public to optimize the way of peace compared to other legal settlements.

Second, the imperative mode is contained in the fourth part of article 6 in points 1 to point 3.

“The Parties are obliged to attend the Mediation meeting in person with or without being accompanied by legal counsel”.

“The presence of the Parties via remote audio-visual communication as referred to in Article 5 paragraph (3) is considered as a direct presence”.

“The absence of the Parties directly in the Mediation process can only be made based on valid reasons”.

In this case, the imperative mode is an order to attend each stage in the mediation process as a form of step that the parties involved in the dispute want peace or justice with various information owned by each dispute to be used as a basis for decision making. The arrival of these parties manifests that the Supreme Court Regulation Number 1 of 2016 concerning mediation is an effective way of resolving disputes.

(c) Textual Meaning

The message contained in the language must be conveyed in a pattern and system. Language has rhythms and rules in conveying messages, so they must be well structured and structured. In the text of the Supreme Court Regulation Number 1 of 2016 concerning mediation, it is well structured and customary. In this case, the theme contained in the text is the topical theme contained in the Considerations and general provisions.

“that in the context of reforming the bureaucracy of the Supreme Court of the Republic of Indonesia which is oriented towards the vision of realizing a great Indonesian judiciary, one of the supporting elements is Mediation as an instrument to increase people’s access to justice as well as to implement the principles of administering justice that is simple, fast and low-cost.”

In this case, the topical theme of administering justice is a bureaucratic step from the Supreme Court of the Republic of Indonesia. In realizing mediation as a concrete step in providing access to justice for all people in Indonesia.

“Mediation is a way of resolving disputes through a negotiation process to obtain an agreement between the Parties assisted by the Mediator”.

This description uses a textual theme as a conjunctive or conjunctive message linking the clause with the clause above it as a consideration in the text of MA Regulation Number 1 of 2016. Thus the settlement of disputes or civil law should be pursued through mediation to obtain an agreement.

The Social Context Contained in the Text of Supreme Court Regulation Number 1 of 2016

In a social context by looking at content, involvement, and method. The contents of the text of MA Regulation Number 1 of 2016 concerning mediation are the fulfillment of citizens’ rights to justice in obtaining justice and reconciliation in civil law disputes. This shows that civil law processes, especially disputes, can be passed peacefully, namely carrying out the mediation process as a way of the dispute process. This is contained in the first part of the consideration for the formation of the Regulation to realize a peaceful and effective dispute resolution process. To open access to various parties who have disputes to obtain a fair and satisfactory settlement process.

<i>“that in the context of bureaucratic reform of the Supreme Court of the Republic of Indonesia which is oriented towards the vision of realizing a great Indonesian judiciary, one of the supporting elements is Mediation as an instrument to increase people’s access to justice as well as to implement the principles of administering justice that is simple, fast and low-cost”</i>	<i>Justice</i>
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(continued)

Continued

<p><i>“that the applicable civil procedural law provisions, Article 154 of the Procedural Law for Regions Outside Java and Madura (Reglement Tot Regeling Van Het Rechtswezen In De Gewesten Buiten Java En Madura, Staatsblad 1927:227) and Article 130 of the updated Indonesian Regulation (Het Herziene Inlandsch Reglement, Staatsblad 1941:44) encourages the Parties to pursue a peace process that can be utilized through Mediation by integrating it into litigation procedures in Courts”</i></p>	<p>Peace</p>
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In some of the data above, it is very clear how the ideological context of the Republic of Indonesia is contained in the various clauses in the Supreme Court regulations. According to Article 1 paragraph (3) of the 1945 Constitution of the Republic of Indonesia, “the state of Indonesia is a state of law” so that the ideological references of this state reflect the basic ideology of the Republic of Indonesia, namely Pancasila. So that its implementation refers to the various precepts in the sound of Pancasila. In implementing the law, it refers to the fifth precept, namely “Social Justice for All Indonesian People”. So that in the preamble of the 1945 Constitution, it was also emphasized that the Government of the Republic of Indonesia protects the entire Indonesian nation and all of Indonesia’s bloodshed and advances public welfare, educating the nation’s life, and participates in carrying out world order based on freedom, eternal peace, and social justice, the National Independence was drafted. Indonesia is in a Constitution of the State of Indonesia.

4 CONCLUSION

Systemic functional linguistics is a linguistic movement that holds that phonological, grammatical, and semantic structures are determined by the functions performed by society and that language itself has various functions. Furthermore, LFS leads to the discussion of texts in a social context. Text delimitation is part of a functional language. According to Halliday (1994), functional language gives meaning to language users. The meaning of metafunction contained in the text of Supreme Court Regulation Number 1 of 2016 consists of three levels: ideational meaning, interpersonal meaning, and textual meaning.

In a social context by looking at content, involvement, and method. The contents of the text of MA Regulation Number 1 of 2016 concerning Mediation is the fulfillment of citizens’ rights to justice in obtaining justice and reconciliation in civil law disputes. This shows that civil law processes, especially disputes, can be passed in a peaceful way, namely, carrying out the mediation process as a way of the dispute process. This is contained in the first part of the consideration for the formation of the Regulation to realize a peaceful dispute resolution method that is appropriate, effective, and can open wider access to the Parties to obtain a satisfactory and fair resolution. Thus the mediation regulations aim to determine the process of justice for community disputes. In this case, the contained article implies positive things that can be done for the mediation process to produce effective stages and as an implementation process on the principle of conducting justice which is simple, fast, and fairly low cost.

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The Content Language Integrated Learning (CLIL) approach is an effort to improve speaking skills at the beginner level of UMM BIPA students

Faizin, Setya Yuwana, Syamsul Sodiq & Suhartono
Language and Literature Education, Surabaya State University, Indonesia

ABSTRACT: In successful learning, the use of the teaching language is a factor that also determines the success of teaching. How the teacher patterns the language used in teaching becomes the teacher's obligation to facilitate student understanding. The CLIL approach is a language learning approach that can relate language and content by developing linguistic competence. In this case, the focus is on learning speaking classes at the BIPA KNB class at the University of Muhammadiyah Malang (UMM) or the elementary level. Furthermore, Puffer (2007) said that he views teachers in the context of CLIL, which can be integrated with various language learning support strategies which refer to forms of teaching towards two focuses equally well on understanding the language itself and the language content. This means that the first focus is learning Indonesian and the second focus is Indonesian, which is used as teaching. This pattern should be done in the UMM BIPA speaking class. In BIPA learning in the beginner-level speaking class in the KNB program at BIPA UMM, there was a fairly high dominance of the use of English as an introduction to teaching conducted by two instructors who were informants. Of the two teachers, it was found that there was a fairly high dominance in the use of English, even in the context of simple languages, such as the word good job 'good' as often expressed by the teacher or informant F. In addition, the second informant, M, often uses English for some simple vocabulary 'hear'. Informant M repeated several times during the lesson. BIPA students are ideally taught in Indonesian and no longer use English or other foreign languages. It will be better when that target language becomes a surgical tool in understanding L2. In this case, the target language is Indonesian.

Keywords: CLIL Concept, BIPA, Target Language, Learning, Teaching

1 INTRODUCTION

The CLIL approach is a language learning approach that can relate language and content by developing linguistic competence. This means that teaching the language can be done with the target language. Within the conceptual framework mentioned by Coyle, namely, the more specific objectives summarized in the 4CS concept. First, Content (content); Second, Communication (communication); Third, Cognition (cognition); and fourth, Culture (culture). The content focuses on building subject skills or lesson content. Communication focuses on improving the overall competence of the target language. Cognition aims to develop thinking skills. Meanwhile, culture has the goal of building intercultural knowledge and understanding. From the CLIL Approach paradigm, the dimension of language is related to the role of CLIL, which emphasizes language competence in general and therefore includes reading, writing, speaking, and listening skills, as well as adding to language experience through the integration of language and non-language teaching. Spratt (2012)

stated that, in general, the purpose of CLIL is to improve students' knowledge and skills in a subject, and their ability in the language being taught.

BIPA (Indonesian Language for Foreign Speakers) learning is ideally taught in Indonesian to provide initial input for understanding Indonesian. This means it does not dominate the use of English as an introduction to BIPA learning. In successful learning, the use of the teaching language is a factor that also determines the success of teaching. How the teacher patterns the language used in teaching becomes the teacher's obligation to facilitate student understanding. BIPA learning can be taught by anyone who can speak Indonesian. However, special skills and strategies are needed in teaching. Today, not a few BIPA teachers come from various disciplines to foreigners who have Indonesian language skills. This means that the basic competence of teaching BIPA is not considered difficult. However, when looking at the level of success, it is necessary to conduct an in-depth evaluation of the methods or concepts applied in teaching. Compared to BIPA teachers with a scientific background in English or other non-linguistic knowledge with teachers who come from a scientific background in Indonesian, there will be differences in linguistic patterns in their teaching practices.

This is a CLIL conceptual framework that relates to various cultural aspects and BIPA teaching schemes. The University of Muhammadiyah Malang organizes BIPA learning specifically for the Developing Countries Partnership (KNB) scholarship program. This program is a degree scholarship for international students to study at various selected and reputable universities in Indonesia. The background of KNB students is that the dominant student candidates will continue their Masters in Indonesia. Before taking their master's degree, KNB students must take part in the BIPA program for 1 (one) year to strengthen their Indonesian language as a provision for their degree study. The learning of the Indonesian language is divided into various levels, depending on the level of proficiency in the Indonesian language that is mastered. Starting from elementary, intermediate, to advanced levels. In this case, the focus is more on the basic class with speaking skills subject in 2 (two) classes and different teachers. In the elementary class, BIPA students will be taught 4 (four) language skills: listening, speaking, reading, and writing.

2 RESEARCH METHODS

The method used in this study was descriptive qualitative using a case study approach carried out in the context of basic-level BIPA teaching for speaking material conducted at BIPA University of Muhammadiyah Malang (UMM). The primary data source comes from two key informants, F, a BIPA teacher from an English scientific background. F received his tertiary education in Australia and other educational experiences in the USA. The informant M is a BIPA teacher who has a background in Mathematics education from undergraduate to masters. The duration of the teaching experience of two informants has taught BIPA for 7 years.

The background of the informant's educational experience is the criterion for determining the source. Data retrieval by documentation, interviews, and observations are then analyzed by following several stages, namely data collection through several methods of data collection, data reduction, analysis to concluding. Secondary data is obtained from books, theories, articles, and research that has been done before. The data is in the form of speech by BIPA teachers who predominantly use English as the language of instruction in speaking materials for the beginner or basic level of KNB classes at BIPA, University of Muhammadiyah Malang. It is necessary to collect official electronic documents such as writing, videos, photos, and other electronic records.

This was collected during the beginner-level BIPA learning process for speaking skills material at the BIPA Muhammadiyah University of Malang. Furthermore, it is analyzed in certain ways that are used by researchers to understand the problems of linguistic units that are appointed as research objects (Sudaryanto via Udayani 2011: 40). The data analysis

techniques used were as follows: (1) virtual collection of teaching and learning process data for beginner classes with speaking material at BIPA UMM through recording techniques, (2) data reduction by grouping relevant data and describing forms of dominance in the use of English by teachers in explaining Indonesian words or sentences, (3) systematic presentation of data so that it is easy to understand as categories of forms, patterns, and teacher strategies in providing an understanding of Indonesian to BIPA students, (4) grouping data based on the type of English and Indonesian used by BIPA teachers, (5) analyzing how the dominance of the use of English and Indonesian by BIPA teachers for basic speaking classes, (6) conclusions on the data that has been analyzed and discussed (Miles et al. 2014).

3 RESULTS AND DISCUSSION

The language teaching model can be influenced by the culture of the language, according to Coyle (2006). Within the CLIL framework, culture has the following components of the approach.

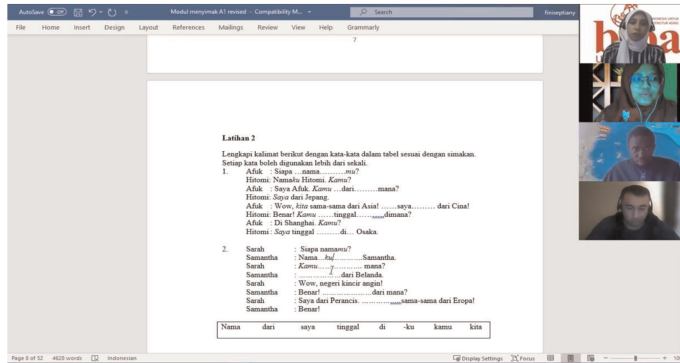
- (a) Especially relevant for classes with students who bring diverse language and cultural experiences.
- (b) It is an appropriate vehicle for exploring the relationship between language and cultural identity, examining behavior, attitudes, and values.
- (c) Involve context and content that enriches students' understanding of their culture and others.
- (d) Strengthen intercultural understanding.

Departing from the various aspects above, this study aims to find the dominance of the use of the target language used as the teaching language based on the CLIL concept. In teaching BIPA, does the teacher explain Indonesian language material using a foreign language or Indonesian. This is seen from various influencing factors, such as the language culture owned by the teacher, the language knowledge possessed by the teacher, to the limits of the teacher's language ability. When using Indonesian as an introduction to teaching BIPA, it will be able to improve students' speaking skills.

**The form of sample data from each informant is as follows.
Table of quotations from informant F**


Lecturer/ Informant	Teaching Sentences in the Form of Explanations in English	Participant Name	Participant Response
F Please go ahead, spell it ... no no no ...	Lames	Ah, ok
	After, after that ...		
	Can you repet egain ...		
	Yes, shoe. What is it? What is it shoe?	Nok	eee ... no idea
	No ide, nok, how know shoe is?		
	That thing they you wer use, that's to use to go other please.		That shoes?
	What number? Which number? Number?	Gatnos	
	Good job, good ...		
Sayid, which number? What Number?	Sayid	Number five	
Good job			
Everybody knows? What trousers is?			
Thanks you Farid Good job	Farid	Yeh yeh	

Screenshot of BIPA Learning (online) with Informant M



4. Kata Ganti Penunjuk (Demonstrative Pronouns)

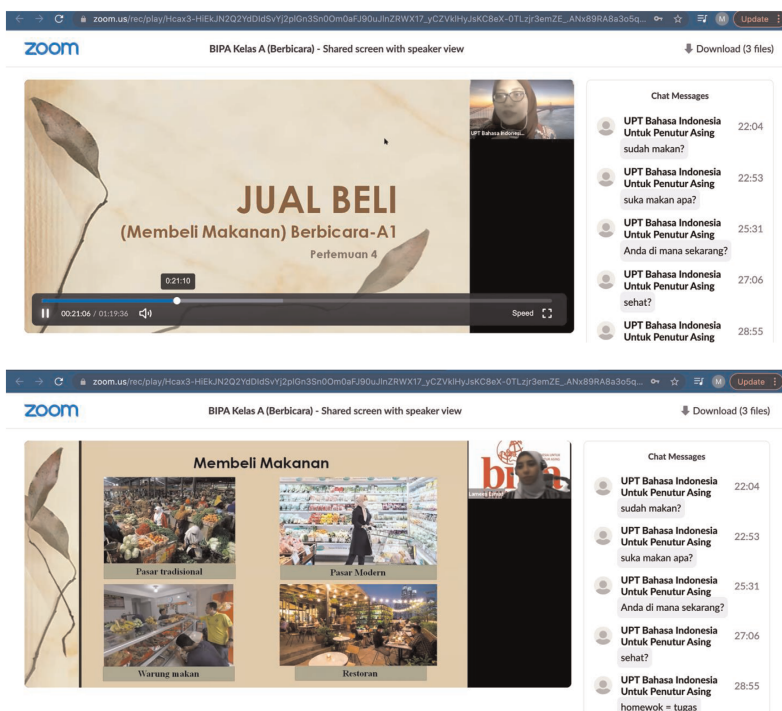
- a pronoun that is used to point out a location or an object
- Penunjuk umum : ini (this), itu (that).
- Penunjuk tempat : sana (there), sini (here), situ (there), ke sana (go there), ke sini (come here), ke situ (go there), di sana (there), di sini (here), di situ (there).



**Tabel kutipan data informan M
Table of Citation Informant Data F**

Lecturer/ Informant	Teaching Sentences in the Form of Explanations in English	Participant Response	Participant Name
M	Where are you now?		Ukabek
	Where are you now?		
	Can you hear me? Can listen to me sir Ukabek?		
	Mr Healthy?	What?	
	Are you healthy today?	Yes yes, I am fine	
	We will learn about Activity. Yeah activity.	Activity, yes	Lameaes
	Not B, but P. o'clock, not bukul. Like, once not bernah.	O'clock? Ah ok	Lameaes
	Yes, and than. O'clock or time. You can use pukul or time.	When I cant use o'clock or time?	Nick
	Can you hear me mr Khan?	I am sorry miss	Khan
	Mr Halid, can you hear me?		
	Hello Maziko welcome, can you hear me?	Hello . . . how are you?	Maziko
	This one, what is this? This, this	Ah, this market	Nick

Screenshot of BIPA Learning (online) with Informant M



3.1 CLIL in BIPA learning

CLIL is a learning approach adopted in learning in Europe around 1994. The emergence of CLIL was influenced by bilingual or dual language orientation initiatives and developed in Canada to design and adapt language learning as expressed by Marsh (2002). This approach focuses on the integration aspects of a learning material linked to the learner's language skills. In BIPA learning, understanding the content being studied is very important so that you don't just know the meaning of a word or sentence but understand the meaning of the word or sentence as a whole. As Puffer (2007) says, he views teachers in the context of CLIL as being integrated with various language learning support strategies that refer to forms of teaching that focus equally on understanding the language itself and the content of that language.

Because this focus will be able to influence BIPA students in language competence as well as an understanding of socio-culture. For example, like the variety of greetings or greetings spoken by Indonesians. Good morning, good afternoon, good night, and *Assalamualaikum*, which is used by the Muslim community in Indonesia. Here they understand how Indonesian culture, which Muslims dominate, uses greetings as initial greetings, and that is equally understood by people, not only Muslims but also other non-Muslims.

3.2 Indonesian as an introduction to BIPA learning

CLIL becomes a language approach that focuses more on aspects of the learning material. Even so, the components of the conceptual framework in this approach depend on strategic

aspects, especially the most dominant aspects of communication and cognition. Strategy is important in teaching BIPA because students' learning characteristics differ from Indonesians in general. Differences in language, cultural, and learning backgrounds certainly also influence BIPA students understanding Indonesian.

Looking at previous studies on research related to the application of CLIL in the context of learning Indonesian, quite a lot has been done. Several studies include research by Febriani (2015), Dewi and Zulaeha (2016), and Utami & Sadya (2019) which show that CLIL provides solutions to assist in actualizing students' top-level thinking activities in communicating their creative products in Indonesian. So that the process of thinking in BIPA learning can be realized through how to teach Indonesian to foreigners by using Indonesian, meaning without introducing other foreign languages. Furthermore, there will be a thinking process for BIPA students to understand Indonesian without an automatic process, like finding the translation of a word and sentence in a dictionary. As also explained by Nuny (2012) that understanding of the language for BIPA students is obtained without using a dictionary or translation.

Most BIPA students prefer instant teaching, such as explanations in Indonesian using English or other foreign languages. However, this is not very good because it will make the understanding of the Indonesian language too "instant" so it also affects the level of long-term understanding or is easily forgotten.

3.3 *Intralingual language in BIPA learning*

The BIPA learning pattern, as emphasized by Nuny (2012) in the context of understanding a second language (B2), namely that it can be emphasized that:

- (a) B2 is used as the primary referral system
- (b) There is no need for a comparison between L1 and L2 because the characteristics of one language another are different.
- (c) There is no need for translation from and to B2 in BIPA learning
- (d) Using the direct method (direct method) in learning

How does CLIL encourage learning content by understanding aspects of language skills, in this case, BIPA students. They are ideally taught in Indonesian and no longer use English or other foreign languages. Understanding content requires language as an entry point to understand the content. Then it will be better when the target language becomes a surgical tool in understanding L2 because the content being studied is also Indonesian and the target language is Indonesian.

In BIPA learning in the beginner-level speaking class in the KNB program at BIPA UMM, there was a fairly high dominance of the use of English as an introduction to teaching conducted by two instructors who were informants. Of the two teachers, it was found that there was a fairly high dominance in the use of English, even in the context of simple languages, such as the word good job 'good' as often expressed by the teacher or informant F. In addition to the second informant, M, he often used English for some simple vocabulary 'hear'. Informant M repeated several times during the lesson.

Basically, a word that is repeated will be very good, especially if it is repeated in the target language. As in this case the target language is Indonesian. Meanwhile, in this case, the continuous repetition is done in English which is not the target language of learning. This can also happen because of the background in the scientific field between the two instructors with non-Indonesian language backgrounds. Informant M has an educational background from Bachelor to Masters in Mathematics Education, while informant F has a Bachelors and Masters background in English education and received his education in Australia.

Four components can support the achievement of learning success according to the CLIL concept, namely:

- (a) Content, namely by increasing knowledge, skills, and understanding of the material.
- (b) Communication, namely by using language to learn and learning to use language.
- (c) Cognition, namely by developing thinking skills connecting abstract and concrete concepts and understanding and language.
- (d) Culture, namely by opening new views and sharing understanding to foster awareness of oneself and others.

At point 2 emphasizes how to learn the language using the language as well. This means it can also be assumed that learning Indonesian also uses an introduction to Indonesian. Meanwhile, at other points, it is more about what content aspects are being studied or the content in the learning.

4 CONCLUSION

The paradigm built on the CLIL concept is to integrate learning related to language. This means that when someone learns something, he will also learn the language, regardless of whether it is the target language, B1 or B2, how the integration of learning is built with the language skills to be achieved. This shows that it does not mean that language learning is only a complementary feature but is equally a main feature, as is the content of the material being studied. Therefore, in learning BIPA, it is necessary to strengthen the introduction of Indonesian in the learning process.

BIPA students are ideally taught in Indonesian and no longer use English or other foreign languages. Understanding content requires language as an entry point to understand the content. Then it will be better when the target language becomes a surgical tool in understanding L2 because the content being studied is also Indonesian. Furthermore, in this case, the target language is Indonesian.

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Financial inclusion and its impact on inclusive growth (Evidence from Islamic banking in Middle East countries)

Idah Zuhroh, Firdha Aksari Anindyntha & Fitri Rusdianasari
University of Muhammadiyah Malang, Indonesia

ABSTRACT: Financial inclusion is one of the instruments in sustainable development and a comprehensive commitment for many developing countries as a development agenda from the financial aspect and it is expected to encourage inclusive growth. This study aims to look at the role of financial inclusion in Islamic banking on economic growth and unemployment reduction as indicators of inclusive growth in Indonesia and the Middle East countries. The data was used quarterly from IFSB (Islamic Financial Statistics Board) and World Bank. The panel regression method is used to see the effect of financial inclusion instruments consisting of the amount of financing as well as macroeconomic variables consisting of the interest rate, exchange rate, and inflation rate on economic growth and unemployment as a proxy for inclusive growth. The results found that financial inclusion with Islamic bank financing had a significant positive effect on economic growth. Meanwhile, Islamic bank financing can help reduce unemployment so that the increase in Islamic financing channels can absorb labor. Thus, financial inclusion can encourage inclusive growth through indicators of economic growth and employment. Meanwhile, macroeconomic variables, such as inflation, pose a negative effect on economic growth and unemployment.

Keywords: inclusive growth, financial inclusion, macroeconomics

1 INTRODUCTION

The effort to achieve inclusive growth in line with the Sustainable Development Goals (SDGs) was adopted by the United Nations. The SDGs aim to eradicate poverty and inequality globally by 2030 (Mehry et al. 2021). OECD (2014) defined inclusive growth as growth in the economy that creates opportunities and ensures equitable distribution of income for society (Amponsah et al. 2021). The financial inclusion strategy was directed at low-income people in accessing financial products and services to create money circulation through capital, investment, and savings (Vo & Nguyen 2021). The World Bank (2014) sets 3 indicators of financial inclusion including access, usage, and quality of financial service products. The financial development strategy through financial inclusion is a comprehensive commitment to enhancing the development of the country (Demircuc-Kunt et al. 2017).

Financial inclusion includes access to financial services which is reflected in the use of financial products that not only affects aspects of development but also reduces unemployment. Mehry et al. (2021) found that increasing financial inclusion had an effect on decreasing unemployment. This financial inclusion agenda is in line with the philosophical foundation of Islamic finance which aims to achieve social justice for all people. The IMF Press Release on 9 May 2018 stated that growth in Islamic finance creates an important opportunity to strengthen financial inclusion, deepen and expand financial markets, and also can increase public participation and literacy about banking by mobilizing funding as financing for business. Financial inclusion refers to universal access to various financial services at a rational cost (Ouma et al. 2017); (Swamy 2014); (Zins & Weill 2016).

Fundamentally, financial inclusion can be defined as an effort to remove barriers to society in accessing and utilizing financial services and products (Ali et al. 2019). The World Bank Middle East sets targets for individuals and businesses to have access and services to financial products to fulfill the needs of transactions, payments, financing, savings, credit and insurance (Trianto et al. 2021); (Siddiqui & Malik 2001).

In the Organization of Islamic Cooperation (OIC) countries, increasing financial inclusion has an impact on increasing economic growth (Kim et al. 2017). Financial inclusion as measured by access to finance also has a positive impact on growth in Middle East countries (Emara & El Said 2021). Several studies using various analytical tools and case studies in different countries also show that financial inclusion has a positive effect on economic growth (Anwar & Amri 2017); (Sethi & Acharya 2018); (Mwaitete & George 2018). In a different direction, the relationship between financial inclusion and economic growth actually shows an inverted U-curve or non-linear relationship in developing countries (Nizam et al. 2020); (Amponsah et al. 2021). These results confirm that financial inclusion will increase economic growth. But under certain conditions, if financial inclusion cannot be controlled properly beyond the normal size it can actually reduce the economic growth of countries so that it shows a non-linear relationship under certain conditions. Islamic financial products those carried out by the financial institution Ar-Rahn also help boost Malaysia's economic growth through increasing its production (Razak et al. 2019). On the other hand, macroeconomics is also an important factor because banking financial flows are also influenced by economic factors such as inflation, economic growth, and exchange rates. Habib & Islam (2017) found that the exchange rate and interest rate variables significantly affect economic growth.

In the topic of financial inclusion, the majority of discussion is still focused on conventional banking and only a few academics or researchers focus on financial inclusion in Islamic banks. So this study tries to focus on financial inclusion in Islamic banks in influencing economic growth and reducing unemployment in Indonesia and several Middle East countries, which have a basis of Islamic banking. Indonesia is a country with great potential in developing financial inclusion in the Islamic banking sector with its capacity as the world's largest Muslim country. Competition between conventional banks and Islamic banks is still visible with a fairly large gap seen from financial deepening and financial access as well as total assets and profitability as a reflection of banking performance. Meanwhile, Indonesia and several other Middle East countries have opportunities in developing the Islamic finance sector and need efforts to encourage financial inclusion. The importance of development from the financial aspect to encourage the achievement of public welfare in terms of ease of access and banking product services for financing and investment. In addition, financial inclusion not only helps in achieving inclusive and sustainable development but also maintains and encourages the banking sector itself. At present, the performance of the Islamic banking industry which has experienced a significant increase is indicated by banking profitability.

Islamic banking in Indonesia has experienced an increase in performance from the financing aspect as recorded in the report of OJK (2019), which is experiencing a significant increase compared to national banking. This means that the Islamic banking industry has opportunities for market expansion through financial inclusion efforts so that it can have an impact on increasing economic growth and reducing unemployment. In addition, external banking instruments such as macroeconomic fundamentals can also be a factor influencing economic growth and unemployment in Indonesia and several Middle Eastern countries. The urgency of this study is to look at the role of the Islamic banking industry in providing services and access to financial products through Islamic financial inclusion to encourage inclusive growth which is proxied by economic growth and unemployment rate.

2 METHODOLOGY

The research method used panel data regression analysis with research samples consisting of Indonesia, Oman, Pakistan, Kuwait, and Brunei Darussalam. The data comes from the

Islamic Financial Statistics Broad (IFSB) and the World Bank. Panel data in this study is a cross-section of 5 countries (Indonesia, Brunei Darussalam, Oman, Pakistan, and Kuwait) with a series of 2013–2021. The panel model specifications for the purpose of knowing the effect of each component of the financial inclusion variable consisting of the number of bank branches, and the number of Islamic financing in influencing economic growth and unemployment in Indonesia and several Middle East countries are as follows:

$$GDP = f(financing, IR, ER, CPI) \quad (1)$$

$$Unemployment = f(financing, IR, ER, CPI) \quad (2)$$

The panel model is as follows:

$$\text{LogGDP}_{it} = \beta_0 + \beta_1 \log \text{financing}_{it} + \beta_2 IR_{it} + \beta_3 ER_{it} + \beta_4 CPI_{it} + e_{it} \quad (3)$$

$$\text{Unemployment}_{it} = \beta_0 + \beta_1 \log \text{financing}_{it} + \beta_2 IR + \beta_3 ER_{it} + \beta_4 CPI_{it} + e_{it} \quad (4)$$

The GDP used is nominal GDP then converted into logarithms to simplify the units so they are linear with other data units used in the model. Unemployment shows the unemployment rate that occurs in each country as a reflection of labor market conditions so that further identification of the effect of financial inclusion on unemployment reduction can be identified. The financing variable reflects the amount of Islamic financing that is distributed to the public as a form of financial inclusion from the financial deepening aspect throughout Indonesia and Middle Eastern countries. The ER shows the exchange rate of each country against US\$ and the CPI shows the inflation experienced by each country so that the IR, ER, and CPI are a reflection of macroeconomic fundamentals. $\beta_0, \beta_1, \beta_2, \beta_3,$ and β_4 indicate the parameter of each variable, indicates the error term, and reflects the panel data.

3 RESULT AND DISCUSSION

The issue of financial inclusion has become a major agenda for developing countries to achieve inclusive growth where the concept of development is not only seen from the economic aspect but also from the social and environmental aspects. In this study, aspects of inclusive development used include economic growth and employment as a result of financial inclusion. The development of Islamic financial inclusion in several countries with an Islamic banking base is quite varied. Several indicators as a measure of financial inclusion by using access and formal financial services from the supply side in the banking market (Cámara & Tuesta 2017). In this case, the financial sector offers access and financial services as reflected with the public having access to financing for accelerated real sectors so that it can increase production output and create jobs which will have an impact on increasing income and reducing unemployment. However, the fact is that efforts are not yet inclusive also massive, and not yet accessed by the entire community due to various basic reasons, such as geographic constraints on service points that cannot be reached and accessed by people in certain areas. In the context of Islamic financial inclusion, it still tends to be lower than conventional financial inclusion. Market share and inadequate infrastructure are one of the obstacles to expanding the achievement of financial inclusion.

The dynamics of Islamic financial inclusion indicators have not moved significantly from year to year in various countries, including several countries in the object of this research. Financial inclusion indicators used to analyze the role of financial inclusion are seen from the form of access and services in the form of financing channeled by the Islamic banking industry, as shown in Figure 1. The movement of data changes in Islamic financing is almost different in each country. It can be seen that the largest of the financing was in Oman with

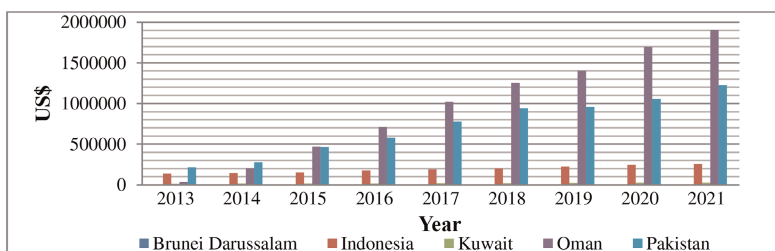


Figure 1. The development of Islamic financing in Indonesia and Middle East countries. Source: IFSB, 2022

the highest Islamic financing distribution, which shows the highest number compared to other countries and tends to increase every year. In Pakistan, the distribution of financing does not show a large enough increase every year but tends to be high under Oman when compared to other countries. Meanwhile, Indonesia, Kuwait, and Brunei Darussalam tend to show relatively small financing figures and do not show large changes.

The gap between Islamic and conventional financial inclusion still tends to be high in Indonesia. The results of the OJK survey in 2019 showed that Islamic financial inclusion reached 9.1% and tends to increase compared to the previous year's 8.39%. However, this figure is still very far compared to Indonesia's conventional financial inclusion which almost reached 75.28%. The report from the National Committee for Islamic Economy and Finance (KNEKS) based on OJK data noted that the market share of Islamic finance only reached 10.11% in April 2021. This condition is very unbalanced considering that Indonesia is one of the countries with the largest Muslim population in the world. Thus the existence of the Islamic finance industry has a great opportunity to reach a wider market segment. So that Islamic banking can contribute significantly through financial inclusion to encourage inclusive growth in achieving development both from the economic aspect through increasing economic growth and labor aspects through reducing unemployment by creating jobs with increased financial inclusion. Preferably, the use of financial products as an indicator of Islamic financial inclusion through financing in the productive sector can encourage the creation of real output and encourage the creation of new jobs so that it can absorb a lot of workers. But in fact, the ratio of Islamic financing is lower than conventional financing. This can be influenced by the low literacy related to Islamic finance so people are still reluctant to choose Islamic banks to use their service products.

Meanwhile, Islamic finance assets have more than 50% of the market share in Islamic finance as a whole, which is larger than other countries with Islamic finance bases in Brunei Darussalam (bdif.com). The number of Islamic financial assets in Brunei Darussalam which almost reaches 50% of the Islamic financial market share, is one of the impacts of the high distribution of Islamic financing compared to other research object countries. Ideally, high financing will have an impact on increasing bank profitability which must be accompanied by an increase in third-party funds from the public so that the circulation of funds will be more effective and can encourage productivity in the real sector which can have an impact on increasing real economic growth and creating jobs. Pakistan with the largest number of bank branches is also the country with the largest Islamic banking assets compared to the 4 other research sample countries.

The fixed effect model (FEM) is an appropriate model from a panel data regression analysis test to see the effect of financial and macroeconomic inclusion variables to encourage inclusive growth through economic growth indicators.

$$\begin{aligned} \text{LogGDP}_{it} = & 26,11231 + 0.351105\text{logfinancing}_{it} - 0.020967\text{IR}_{it} + 0.03421\text{ER}_{it} \\ & - 0.57856\text{CPI}_{it} + e_{it} \end{aligned} \quad (5)$$

The regression coefficient for the financing variable is 0,351105 which means if there is an increase of 1 unit in the Islamic financing distributions, it will increase economic growth by 0,351105. Furthermore, the regression coefficient for the interest rate variable is $-0,020967$ which means if there is an increase of 1 unit in the interest rate, then economic growth will decrease by 0,020967. And then, the coefficient for the exchange rate is 0,03421 which means that the increase of 1 unit exchange rate will increase economic growth by 0,03421. The last variable is inflation which has a regression coefficient of $-0,57856$ which means if there is an increase of 1 unit in inflation, there will be a decrease of 0,57856 in economic growth.

Table 1. Estimation results of fixed effect model panel data with dependent variables of economic growth.

Independent variable	Relation	Coefficient	Prob
Constanta	+	26,11231	0,0000
Financing (X1)	+	0,35110	0,0004*
Interest Rate (X2)		0,02067	0,1055
Exchange rate (X3)	+	0,03421	0,0022*
Inflation (X4)	-	0,57856	0,0009*
R-squared		0,696066	
Prob F		0,000000	

*Significant in 5%

The value of R-squared is 0,696066. It means that economic growth can be explained or influenced by financial inclusion variables represented by the number of Islamic bank offices and financing as well as macroeconomic variables as indicated by the exchange rate and inflation variables of 66,23% and the remaining 30,04% is explained by other variables that not included in the model. Furthermore, for the simultaneous statistical test, it is indicated by the prob value of $F = 0,000000$ less than $= 5\%$ or 0.05, which means the variables of financial inclusion and macroeconomics jointly affect economic growth in Indonesia and Middle East countries. Furthermore, based on the results of panel data regression analysis and model selection test to see the effect of financial inclusion and macroeconomic variables in encouraging inclusive growth through labor indicators, the model chosen is the Fixed Effect Model (FEM).

$$Unemployment_{it} = 11,54153 - 0,647332financing_{it} + 0,015703IR_{it} + 0,011281ER_{it} - 0,090337CPI_{it} + e_{it} \quad (6)$$

Table 2. Estimation results of fixed effect model panel data with dependent variables of unemployment.

Independent variable	Relation	Coefficient	Prob
Constanta	+	11,54153	0,0000
Financing (X1)	-	0,647332	0,0000*
Interest Rate (X2)	+	0,015703	0,1218
Exchange rate (X3)	+	0,011281	0,0007*
Inflation (X4)	-	0,090337	0,0883**
R-squared		0,547778	
Prob F		0,000000	

*Significant in 5%, ** Significant in 10%

The regression coefficient for the financing variable is -0.647332 which means if there is an increase in the financing with 1 unit, it will decrease unemployment by 0.647332. It means that Islamic financing to intervention the real sector can increase job creation and the rate of unemployment could decrease. Furthermore, the regression coefficient for the interest rate variable is 0.015703 but not significant effect on the unemployment rate. Meanwhile exchange rate variable is significant with probability number 0.0007 and coefficient regression of 0.011281 which means if there is an increase of 1 unit in the exchange rate, then unemployment will increase by 0.011281. The last variable is inflation which has a regression coefficient of 0.090337. It means if there is a decrease of 1 unit in inflation, there will be an increase of 0.090337 in unemployment. Inflation shows that an increase in the price of certain products which are price elastic along with an increase in investment can encourage a reduction in unemployment.

The value of R-squared is 0.547778, it means that unemployment can be explained or influenced by financial inclusion variables represented by the number of Islamic bank offices and financing as well as macroeconomic variables as indicated by the exchange rate and inflation variables of 54.77% and the remaining 46,23% is explained by other variables that not included in the model. Furthermore, for the simultaneous statistical test, it is indicated by the probability value of $F = 0,000001$ less than $= 5\%$ or 0.05 which means the variables of financial inclusion and macroeconomics jointly affect unemployment in Indonesia and Middle East countries.

Financing is a very important instrument in encouraging economic growth, especially in developing countries. Financing intervention in Islamic banking as a form of service and financial access is necessary, particularly in a country that has two banking systems with a majority Muslim population. Job creation is not only driven by investment but also by internal financing from the banking sector, which can boost aggregate output and reduce unemployment. This result is in accordance with the analysis which shows the effect of sharia financing which has a significant positive relationship to economic growth and a significant negative effect on reducing unemployment. The productive financing model is very important to increase people's creativity so it can produce output that has contributed not only to increasing aggregate output but also to encourage the creation of business fields as well as to reduce the unemployment rate in a country.

The results of this study are in line with empirical research from Kim et al. (2017) that Islamic financial inclusion through positive financing aspects significantly affects economic growth. Several countries selected in MENA from the research results by Emara & El Said (2021) found a positive relationship between the effect of financial inclusion (number of banks and financing) on economic growth. This condition implies that financial development is necessary for achieving financial inclusion and can encourage economic growth through financing instruments. Financing is channeled to the real sector in order to increase production output so that it will have an impact on increasing real output in the aggregate which has an impact on stimulating economic growth, especially in developing countries. Increased access to financial services has a positive effect on economic growth in line with research from (Onaolapo 2015); (Sharma 2016); (Anwar & Amri 2017); (Sethi & Acharya 2018).

The existence of massive and productive financing by banks can have an impact on reducing the unemployment rate through the creation of new jobs by increasing activity in the real sector. This is in line with the results of this study that the role of financing as an instrument of financial inclusion can help reduce the unemployment rate. Empirically this result is supported by the research of Mehry et al. (2021). Alshyab et al. (2021) found the negative relationship between financial inclusion and labor market dynamics and thus helps to further contextualize the role of financial inclusion in creating job opportunities and ultimately promoting economic development and prosperity to achieve inclusive growth.

Macroeconomic variables such as the exchange rate can increase economic growth. It means that the appreciation of the exchange rate can encourage real output and national income because when the exchange rate of a country strengthens, export production will increase and

contribute to boosting aggregate output also encouraging an increase in the balance of trade and payments. In addition, the appreciation of the domestic exchange rate will encourage capital inflows so that investment inflows will increase which in turn will have an impact on increasing job creation which can reduce unemployment. This is in line with Solow's (1956) growth model which states that an increase in production inputs such as investment, technology, and capital (through Islamic banking financing is one of them) can increase in aggregate output and help reduce unemployment. Meanwhile, the interest rate variable cannot explain directly between economic growth and unemployment because it must pass through monetary policy transmissions such as transmissions to price stability, the real sector, or the financial system.

The inflation variable showed a significant negative effect on the two dependent variables, namely economic growth and the unemployment rate. In the concept of the Phillips curve theory, it is emphasized that in the long run, there is a tradeoff between inflation and unemployment so we cannot choose simultaneously between a decrease in unemployment with inflation. In addition, an increase in prices as reflected by an increase in inflation can lead to a sluggish economy which can have an impact on a decrease in growth. This is due to a decrease in aggregate demand, especially for goods that are elastic to price changes. Putra (2018) stated that inflation can have a negative effect on unemployment because along with rising prices, producers will increase their production. Therefore, they need a lot of labor which will have implications for decreasing unemployment.

4 CONCLUSION

Based on the results of the study, it can be concluded that financial inclusion is very important to achieve inclusive growth which does not only grow in the economic aspect but also in social aspects such as stability in the labor market through reducing unemployment. In addition to conventional banking which contributes to achieving inclusive growth, countries that adopt a dual banking system also need to pay attention to the role of Islamic banking in contributing to inclusive growth. Although the role of Islamic banking tends to be small, its existence shows an increase in performance and has a great opportunity to be further developed, especially in countries with large Muslim populations such as the countries in the sample of this study. Technology integration for digitizing the financial sector is very important in Islamic banking so that financial inclusion can be achieved more massively. In addition, in order to go hand in hand to achieve high financial inclusion, it is also necessary to expand Islamic financial literacy so as to increase public understanding and knowledge of Islamic banking and encourage the use of Islamic financial products.

Reflecting on the conclusions and suggestions above, this study has limitations because it used panel data. The weakness is it cannot identify more detail in both Indonesia and Middle East countries. In addition, data collection from several sources of Islamic banking data is still minimal, so it is difficult to obtain complex models, especially regarding the integration of technology into the Islamic banking system. In addition, this study only uses financing as a proxy in reflecting financial inclusion. It is hoped that further research can add to the role of technology and banking digitalization as a proxy for financial inclusion.

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