COVID-19 PANDEMIC AS A CATALYST FOR CHANGE

Consumer's Perspective

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Introduction

Throughout history, humanity has faced many pandemics, such as the plague epidemic called the Black Death, which swept through Asia and Europe in the second half of the 14th century, or the Spanish flu caused by the H1N1 subtype virus, which decimated the population in 1918-1919. A hundred years later, humanity is struggling with another great pandemic, Coronavirus Disease-19 (COVID-19), caused by Severe Acute Respiratory Syndrome-Coronavirus-2 (SARS-COV-2). The effects of this pandemic can be seen in all countries and continents. Population losses are counted in millions of people, and losses in economies in trillions of euros.

Infectious diseases of an epidemic or pandemic nature have killed more people than numerous wars. They induced political, economic, and social changes. At some point, they strengthened faith, contributing to reinforcing spirituality. They also became an inspiration for painters, sculptors, and musicians. Their rapid progress accelerated scientific research, which, in turn, contributed to the development of biological and medical sciences. Although medicines and vaccines have been developed for more and more diseases, pandemics that have accompanied humanity for centuries continue to break out, shaping the reality for the generations living at that time (Krajewska 2020, p. 30).

The COVID-19 pandemic has radically changed the functioning of modern societies and economies, causing a global crisis on an unprecedented scale.

The effects of the pandemic have been felt since the first months of its breakout in Wuhan, China. By causing changes in almost all areas of human life, the COVID-19 pandemic can be described as a catalyst for changes on a scale never seen before.

Although on May 5, 2023, the World Health Organization (WHO) announced the end of the COVID-19 pandemic, recovering from the crisis spurred by the pandemic is still an unprecedented challenge for the entire world (Mróz 2021, p.9). The ongoing war in Ukraine has not led to stabilization. Questions arise about the economy's future and how modern economic theories can cope with the current situation. The world continues to face a multidimensional crisis: health, humanitarian, economic, financial, and climate, which poses a challenge to governments, international organizations, businesses, as well as to consumers and their households. The UN estimates that the consequences of the pandemic and the resulting global recession will be catastrophic for many countries on all continents. However, do the changes triggered by the COVID-19 pandemic only have a negative impact? Or maybe there are also positive effects of the situation? Will the pandemic experience become a catalyst for innovative changes, redirecting society and the economy into safe grounds and sustainable development? To answer these questions, we have planned a three-stage research project entitled "*COVID-19 pandemic as a catalyst for change*," which was implemented in 2022-2024. The project goals were:

- Identification of changes in the behavior of consumers and enterprises operating in a pandemic situation.
- Indication of the areas of the economy (industries) that have suffered the most due to the pandemic and those for which the crisis has become a driving force for development.
- Determining the relationship between the pandemic and the innovative activities of market entities, i.e., enterprises, consumers, and their households.

Proceeding to pursue the project's goals, we formulated five research hypotheses, which we verified empirically:

- H1: Besides the many adverse effects of the COVID-19 pandemic, the ongoing crisis has also had a visible positive impact on enterprises. The pandemic has stimulated innovative solutions that enhance the level and quality of consumers' well-being, spurring beneficial changes in their behavior.

- H2: The most significant changes during the pandemic can be observed in the functioning of market entities that require direct contact with customers and those that require people's mobility.
- H3: The industries for which the pandemic became a driving force are primarily those that could effectively use modern forms of customer communication and electronic sales channels and conduct their business in a remote work mode.
- H4: The COVID-19 pandemic has increased the importance of digital technologies in the functioning of enterprises and households and accelerated the development of infrastructure, tools, and skills necessary to conduct remote activities.
- H5: The innovative activities of enterprises stimulated strategies for coping with the pandemic crisis.

The project was implemented in three stages. We critically reviewed the literature and other secondary sources on the COVID-19 pandemic in the first one. The study focused on how the pandemic has affected the behavior of market entities and how these entities have been categorized based on international findings in this area. The completed tasks enabled us to operationalize the studied concepts and categories, identify existing knowledge gaps in the topic, formulate research questions, and determine the scope of primary research (quantitative and qualitative).

In the second stage, we identified changes in the behavior of market entities during the pandemic. We have prepared quantitative statistical analyses to determine the actual changes in the behavior of consumers and their households and enterprises spurred by the pandemic. The tasks performed also made it possible to identify the areas of the economy (industries) that suffered most due to the pandemic and those for which the crisis became a driving force for development and determine the relationship between the pandemic and the innovative activities of market entities.

In the third stage, we enriched the findings of primary quantitative research with the results of qualitative research, namely the opinions of experts from both the world of science and practice, obtained during individual in-depth interviews. The conducted research and the analyses based on it allowed us to determine the perspective of market entities' functioning after the pandemic's end and summarize research from previous stages.

The result of the research endeavor is the monograph now being presented to readers, which consists of this introduction, four chapters, and a summary. The first chapter shows the COVID-19 pandemic as a determinant of consumer behavior. The conducted bibliometric analysis, based on numerous secondary sources, enabled us to present the impact of the pandemic on the everyday functioning of consumers and their households. The first chapter is exploratory in nature and sets the directions and domains of discourse undertaken in the subsequent chapters of the work.

In the second chapter, we outline the methodological aspects of the research undertaken on consumer behavior in a pandemic. These studies are explanatory in nature. First, we explain empirical research methodology in a situation of limited contact with the research subjects. Then, in the following subsections, we characterize the quantitative and qualitative research undertaken and delineate the research samples.

In the third chapter, we discuss the results of quantitative research. First, we describe the extent of meeting consumer needs during the pandemic, with particular emphasis on diagnosed deficits and areas where the degree of meeting needs increased. In the next section, we address the negative and positive influence of the pandemic on consumers. The sense of threat caused by the pandemic situation and the adaptive actions taken by consumers are presented in the third subchapter. The chapter ends by analyzing consumer behaviors developed during the pandemic and introducing a consumer typology based on these behaviors.

Chapter four presents our predictions about consumer behavior in post-pandemic times. We attempt to answer the question of whether the end of the pandemic is a new beginning or a return to the past. In the following pages of the chapter, we present the statement of gains and losses incurred during the pandemic, covering not only consumers but also enterprises operating in the consumer goods and services market. The source material for the considerations undertaken in this chapter draws on the statements of a group of experts in science and practice obtained during individual in-depth interviews.

The monograph ends with a comprehensive summary. We present the most prominent research results and conclusions regarding the impact of the COVID-19 pandemic on consumer purchasing and consumption behavior. We outline the limitations related to conducting research during the pandemic. Finally, we indicate further possible research directions.

The monograph primarily targets managers of enterprises operating in the consumer goods and services market. The book may also inspire scientists to research consumer behavior in the post-pandemic reality. Students of economics and management should also find interesting content there.

Chapter 1

THE COVID-19 PANDEMIC AS A DETERMINANT OF CONSUMER BEHAVIOR

1.1. The COVID-19 pandemic and its consequences for the functioning of consumers and their households

The World Health Organization announced the outbreak of the COVID-19 pandemic on March 11, 2020 (www1), initiating numerous activities related to limiting its spread. This had consequences for the functioning of the socio-economic sphere and, consequently, for consumer behavior and households.

Due to the number and changes in confirmed cases across different countries, the progress of the pandemic varied and largely depended on the number of tests conducted, the scope and duration of restrictions introduced and their effectiveness, the isolation of infected people, quarantine of those who were in contact with the infected, and the geographical location of individual countries (Dąbrowska, Janoś-Kresło, 2022, p.59). The consequences of the pandemic for individual countries depended on the pace at which the virus spread.

The WHO Director-General announced on May 5, 2023, that COVID-19 is now an established and ongoing health issue that no longer constitutes a public health emergency of international concern (PHEIC) (www2). Nearly seven million people have died due to the coronavirus worldwide. There have been over 775 million confirmed cases of infection (www 3)[1].

[1] As of May 26, 2024.

The pandemic's health, social, and economic effects have been an enormous challenge for economies almost all over the world in the macro-, meso- and microeconomic dimensions and still are. The pandemic has significantly impacted many areas of the economy, society, and personal lives for more than three years. The pandemic caused economic losses in many industries, and the scale of the recession is sometimes compared to that recorded during the Great Depression of 1929 – reflected in the decline in global GDP. In particular, these losses concerned industries such as catering, hotels, tourism, culture, and beauty – all those in which direct contact between staff and customers seemed indispensable. The healthcare system has faced previously unimaginable challenges.

The COVID-19 pandemic, as a crisis of extraordinary scale, has rapidly and drastically changed people's lives worldwide regarding health, everyday life, education, and work. Restrictions and limitations related to the pandemic have led to job losses, increased unemployment, a decline in income for many consumers, and reductions in spending (Laguna et al., 2020; Maison et al., 2022, p.6).

One of the basic countermeasures introduced in many countries to limit the spread of the virus was to radically limit people's mobility and introduce the principle of social distancing (Rejeb, Rejeb, Keogh, 2020, pp.475-485).

Depending on the pandemic situation, and in particular, on the number of cases, governments of individual countries introduced restrictions intended to limit the transmission of the virus. The scope and duration of the measures in force depended significantly on the epidemic situation and the adopted strategy to counteract the pandemic. In addition to the most constraining restrictions on the isolation of sick people and quarantine of contacts/people returning from abroad, pandemic restrictions applied to almost every consumer and their household, conditioning their behavior on the market. The introduced restrictions also applied to enterprises and institutions, limiting and sometimes even preventing their activities.

The consequences of the pandemic on the behavior of consumers and their households resulted primarily from the decisions of the authorities of individual countries to periodically restrict consumers' freedom to move, assemble, and use commercial and service establishments, in particular:

- limiting the number of people staying in one place in domestic/private and public spaces,
- the need to maintain social distance,
- prohibition/limitation of organizing and participating in family events, religious meetings, and mass events,
- restricting mobility (curfew), public transport use,
- closing state borders,
- quarantine for people who have had contact with an infected person,
- quarantine for people returning from countries with a high infection rate,
- the need to wear masks,
- recommendations for frequent hand washing,
- lack of possibility/limited possibility of using classroom educational services at preschool, school, and student levels;
- prohibition/limitation of the possibility of making location-based purchases (including shopping malls),
- closing down/limiting the activities of gyms and fitness clubs,
- closing down/limiting the operation of hotels and other accommodation facilities,
- closing down/limiting the activities of sanatoria,
- preventing/limiting the possibility of providing location-based catering services,
- preventing/limiting the possibility of providing beauty, hairdressing, and SPA services,
- preventing/limiting the possibility of providing rehabilitation and massage services,
- closing down/limiting the activities of enterprises producing consumer goods.

Pandemic restrictions have influenced consumer behavior in many markets, and above all, the scope and way of satisfying their needs related to:

- health care,
- health safety,
- food,
- leisure,

- education,
- cultural participation,
- opportunity to spend time with family and friends,
- self-fulfillment (career),
- housing conditions,
- physical/sports activity.

Consumer reactions to the pandemic can be considered typical responses to a crisis. On the one hand, they consisted of adapting to the existing situation by refraining from purchasing goods and services that are not necessary for survival (e.g., cultural services, education, entertainment, luxury goods), limiting the scale of consumption – using previously purchased goods and reducing the frequency of new purchases (except for stockpiling or speculative purchases), searching for cheaper substitutes to maintain the current standard of living and reducing losses. The pandemic crisis contributed to a change in the structure of consumption and expenditure (including the decreased share of spending on non-food purchases), a change in the way consumers satisfy their needs, and a change in the way of obtaining funds to meet their needs.

Facing the crisis spurred by the pandemic, consumers also became more rational in their purchasing decisions, and more signs of entrepreneurship could be seen in their behavior, including the importance of one's work in the household has increased, and consumption has taken on a natural form in addition to the market form. Concerns about the actual decline in the ability to meet needs, lower incomes, and rising living costs contributed to consumers' search for alternative sources of earnings. At the same time, changes were noted in consumers' attitudes toward their own health care through increased importance of rest and various activities undertaken to lead a healthy lifestyle (e.g., diet, physical activity).

Consumers' reactions to the pandemic depended on their economic situation and social status (Chlipała, Żbikowska, 2021). They changed with the pandemic development stage – the scale of infections and the actions taken by the governments of individual countries (Reformat, 2020, p.178; Mróz, 2021, p.44) (Table 1.1).

Table 1.1. Consumer behavior driven by the COVID-19 pandemic development stage

Stage	**Pandemic situation**	**Behavior**
Proactive interest in health	First confirmed case of the disease	Increased purchases of products that impact health and well-being
Reactive purchase of sanitary products	First cases of local infections and deaths recorded	Increased purchases of sanitary products (including masks and gels)
Grocery shopping for the future	Increase in disease incidence and death rates	Increased purchases of food products with extended use-by and sanitary products
Preparation for the quarantine	Significant increase in disease incidence; emergency response at the national level	Increase in online shopping, decline in location-based shopping, restrictions in supply chains.
Living with restrictions	Mass disease incidence, local quarantine,	A significant decline in purchases in location-based stores, consumer anxiety about price increases, and limited product availability
New Normal	Lifting the quarantine, returning to everyday reality at work, school and other activities	Particular attention to health and personal hygiene issues; further increases in the widespread use of online shopping

Source: own study based on: www4.

For the purchasing behavior of consumers, especially in the initial phase of the pandemic, the fear of contact with other people due to potential infection, uncertainty and anxiety about the development of the situation, but also fear about the accessibility of products, services, and retail trade were of particular importance (Laguna et al., 2020). Faced with these concerns, consumers made significantly larger one-off purchases. Purchases of everyday products increased rapidly to stock-pile food, household chemicals, and cosmetics while reducing purchases of non-essential products. Interest in home cooking and purchasing products online has become more apparent (Borsellino et al., 2020). Increased purchases of some products contributed to shortages in the market. Consumer needs in terms of health safety have particularly intensified, creating unique conditions for the development of suppliers of personal hygiene products (masks, gloves, disinfectants). The importance of the internet as a medium of communication and a place for social and professional activity has increased. The pandemic has affected consumers' professional activity by preventing or limiting it, although in some cases, it has contributed to an increase in this activity. The pandemic was conducive to a change in the way of working (remote, hybrid instead of on-premises) and modified the scope of tasks. The telephone has regained a unique position in communication, especially among consumers of the oldest generation.

Consumer behavior during the pandemic was primarily determined by consumers' perceived risk of making wrong decisions and the potential consequences for the condition of consumers and their households (Oana, 2020, 86). Consumer behavior has become more thoughtful. The pandemic has contributed to reducing waste and consumerism, resulting in the increased purposefulness of purchases, mainly for everyday use, with a particular share of personal hygiene products. Concern for the future and a decline in consumer optimism contributed to increased spending rationality and reduced selective purchases, including clothing, footwear, sports equipment, and catering services (PwC, 2020). Decisions to purchase products were often made from the perspective of assessing their usefulness (Hacioglu, 2020; KPMG International, 2020; Liu et al., 2020; Stanciu et al., 2020; Chlipała, Żbikowska, 2022). Consumers were particularly interested in home furnishing products, such as self-made bread bakers, sewing machines, automatic vacuum cleaners, and air purifiers. Sales of devices necessary for distance working and learning, i.e., computers, computer cameras, headphones, and printers, also increased.

Amid the pandemic and the restrictions introduced by countries, the impact of the COVID-19 pandemic on the behavior of consumers and their households is complex and multi-faceted. Not only did the COVID-19 pandemic limit access to health care, retail, and services and consequently forced a change in lifestyle, work, and leisure. It has caused the deterioration of domestic situations but has also contributed to limiting excessive consumerism and resource waste. Changes were observed in the mentality of the consumer, who during the pandemic willingly sought cooperation and sharing goods and services, strengthened helping and pro-social behaviors, thus manifesting behaviors forming part of the sharing economy, including an increase in pro-social behavior and responsible consumption, development of platforms facilitating contact between those in need of help and the local community, development of knowledge exchange platforms and a database of selected service providers, strengthening the idea of coworking, coliving and garden sharing (Ziobrowska, 2021, p.103).

Adapting to pandemic restrictions and out of concern for health safety, consumers increased their time spent at home, and their contact with others took place mainly via the internet. This also forced a change in the way companies communicate with customers. The pandemic contributed to a radical change in the way and place of satisfying various consumer needs – the internet space and modern information technologies were particularly impactful in this respect. Interpersonal relations and customer-enterprise relations have moved to high-tech connections. The hybrid nature of enterprise operations has become particularly important – a combination of online and offline operations. The pandemic has also contributed to the increased importance of hybrid consumer behavior in many markets. In addition to the traditional consumer and e-consumer, a hybrid consumer has emerged who purchases goods and services both in brick-and-mortar shops and via the internet, combining offline and online shopping. A hybrid consumer is characterized by conventional and innovative (online) product distribution channels without restrictions and difficulties, switching between different shopping channels, depending on the circumstances, and being able to meet their needs most beneficially and conveniently. A hybrid customer buys on a spatially unlimited market (national, local, and global) using traditional sources of information (personal, marketing, public, personal) and online (websites, online forums, blogs, search engines, social media, e-commerce). A hybrid consumer is a pragmatic consumer, aware of the benefits of meeting needs by purchasing products offline and online (Dąbrowska et al., 2022, pp.9-18).

The impact of the pandemic on consumer behavior can also be considered through disruptions (or mega-disruptions) present in many industries (Table 1.2). Disruptions in the service industries and retail trade related to the need to ensure direct contact with the service provider (e.g., hairdressing, medical, transport, hotel, fitness, catering) were of particular importance for consumer behavior (Pluta-Olearnik, 2021, pp.128-129).

Unexpected and radical changes spurred by the pandemic forced enterprises to take measures to adapt to the new situation. Pandemic disruptions forced enterprises and institutions to introduce new, often innovative solutions to enable customers to use their offers and, above all, allow accessible two-way communication.

Table 1.2. Impact of mega disruptions on various service and trade industries worldwide

Specification	Examples of worldwide disruptions
Education	Closure of schools and universities around the world, forcing schools (teachers, students) to continue classes remotely
Events	Cancellation of sporting events, music festivals, conferences, and fairs to contain the pandemic
Health Care	In many countries, the number of tests and hospital capacity proved insufficient to cope with the increasing number of cases;
Catering	Complete closure of restaurants and other catering facilities for many weeks; the number of people eating out has dropped dramatically due to the order to maintain social distancing; a takeaway food offer was introduced, and the catering offer was expanded; the main goal for the owners of catering outlets was to wait out the difficult period and survive. There were problems with maintaining employment.
Hospitality industry	The exponential increase in hotel room cancellations due to restricted mobility and trip cancellations; hotels limiting the number of rented rooms and access to hotel infrastructure;
Air transport	Flight cancellations by airlines due to travel restrictions and temporary border closures;
Retail trade	Limiting the activities of selected retail formats, maintaining distance between customers in the store, determining the number of customers in the store and/or the number of customers per one cash register, introducing special sanitary regulations during shopping, limiting the exposure of unpackaged food intended for direct consumption; emphasis on cashless, contactless payments;

Source: own study based on: (Pluta – Olearnik, 2021, pp.128-129; Kucharska, Malinowska, 2021, p.142).

The pandemic contributed to the digital transformation of many enterprises and institutions. It was particularly noticeable in areas of specific consumer priorities, e.g., health care. Information, processes, and roles within business operations were digitalized, while companies and their strategies were digitized. The digital transformation accelerated by the pandemic was based on new technologies, e.g., artificial intelligence (AI), machine learning (ML), blockchain, or automation, changing or creating new business models of enterprises affecting almost all areas of human life. According to research by KPMG International and Harvey Nash, investments to ensure security and privacy, building customer experience and engagement, as well as investments related to infrastructure and cloud solutions were critical for enterprises (KPMiG, retrieved: October 17, 2023).

The actions taken by enterprises created new opportunities for consumers to meet their needs (and the needs of their households) in a slightly modified or completely different way. Amid the pandemic, there was primarily a dynamic increase in consumer remote activity, which was possible, among other things, thanks to easy access to the internet and modern internet services (cloud technology). This activity concerned work, education, entertainment, physical recreation, and household services (financial and insurance services).

Table 1.3 lists examples of changes in consumer behavior in the use of services and retail trade caused by experiences during the COVID-19 pandemic, indicating consumers' adaptation to new pandemic conditions.

Table 1.3. Examples of changes in consumer behavior regarding the use of services and retail during the COVID-19 pandemic

Specification	Consumer behavior
Internet services	• consumers adapt to new forms of digital contact by installing high-speed internet, • increase in purchases of cloud computing services, • using new electronic shopping channels.
Insurance services	• consumers adapt to new forms of digital contact, digital sales channels, and customer service (including claims), • increasing public health awareness and interest in health insurance covers, • increasing health insurance purchases.
Banking services	• withdrawal from cash payments – increase in non-cash payments, • using call center services, • abandoning ATM services, • increased interest in electronic and online payments, • using digital communication with banks.
Tourism and hotel services	• increased popularity of domestic travel – expenditure on foreign travel redirected to domestic travel, • increased interest in health, physical, and mental well-being investment after the post-pandemic period, • new travel preferences, e.g., FIT segment (*free independent travel*), • choosing lower population density destinations, • selecting small towns as tourist destinations, • transferring remote work to tourist destinations, often abroad (*bleisure* trend, i.e., work + leisure) and joining the ranks of the so-called digital nomads, • traveling in campers – a dramatic increase in RV purchase and rental
Postal and courier services	• increase in "distance" shopping and the use of courier services, • preferred "touchless" collection of purchased goods at parcel lockers, • avoiding/limiting on-site presence in places with high customer density (post offices, shops), • appreciating the convenience of distance purchasing,
Catering services	• taking advantage of the opportunity provided by restaurants of partially prepared products to prepare their own meals, • using instructions (including instructional videos) on how to prepare a dish, • using catering services via a mobile application or website of a catering establishment with home delivery (restaurant – restaurant delivery – consumer) or collection by the customer (restaurant – consumer pickup), • using catering services through an e-intermediary (restaurant – e-intermediary – restaurant delivery – consumer or restaurant – e-intermediary – e-intermediary delivery – consumer), • using box diets, often as a substitute for going to a restaurant and as a sign of caring for a healthy and balanced diet; • purchase of vouchers supporting catering enterprises.

Table 1.3. (Continued)

Specification	Consumer behavior
Personal and household services (hairdressing, laundry, fitness)	• change in consumption patterns as a result of remote work at home (e.g., takeaway food, forms of entertainment), • increase in demand for services consumed locally (so-called zoom shock – shock caused by remote work at home) • using mobile applications as part of physical activities (training) and developing an individual physical activity plan adapted to the user's general health condition (Kolny, p. 375) • virtual running
Medical services	• health self-monitoring, • using telecare, teleconsultation, telehealth, • treatment self-monitoring, • using data about the patient's medical events made available in electronic form (history of diagnoses, services, referrals, and prescriptions issued so far) (Rogalska Waichl, p. 207).
Cultural services	• particular importance of home entertainment, • increasing importance of home cinema and television, • increasing importance of streaming, which allows one to watch or listen online and via mobile networks without first downloading the content to one device and saving it (Spotify and Netflix), • using internet TV services, • using the possibility of TV screen sharing, • participation in concerts on digital platforms, • surge in interest in digital games.
Retailing	• using mobile shopping, • increasing electronic shopping and click & collect, • using digital communication channels, • using remote customer service, • adapting to sanitary requirements in location-based spaces, • making larger one-off purchases.

Source: own study based on: (Pluta-Olearnik, 2021, pp.128-129; Kucharska, Malinowska, 2021, p.142).

The pandemic has impacted consumers' physical and mental health. Isolation, limited social contacts, and fear of illness have left ongoing psychological effects in the form of various types of psychopathic symptoms and syndromes of varying duration and intensity. The blurring of boundaries between work/study and family life and the simultaneous presence of many people in one place hampered the proper professional and educational activity of consumers and members of their households. Throughout almost its entire duration, the pandemic has raised anxiety and concerns among consumers and their household members about their future, in particular, their health and economic security. The various types of problems resulting from the COVID-19 pandemic include psychological issues, among others, those related to limited social contacts, especially among children, adolescents, and older people; mental disorders associated with COVID-19; post-traumatic stress disorder (PTSD) in patients and medical staff, as well as the development of social pathologies, e.g., increased unemployment, addictions, and acts of domestic violence (Księska-Koszałka, 2021, pp.47-48).

1.2. Consumer behavior during COVID-19 as a research subject. Assumptions of bibliometric analysis

Researching the pandemic and its consequences on the behavior of market entities requires answers to questions regarding the scope of research undertaken so far and the degree of its intensity. Bibliometrics, a quantitative analysis of publications, allows us to provide information on the development of a selected research area, taking into account the number of publications containing the results of research conducted on a given research topic. Researchers use bibliometrics when they need to extract information from scientific journals. It facilitates a relatively objective and precise identification of the scope of research undertaken, in this case, research on the pandemic.

In particular, the results of the bibliometric analysis allow for searching for knowledge gaps and, thus, areas requiring research to be undertaken, defining lines of research, identifying relationships between areas of research, recognizing areas characterized by a relatively high saturation of research, or identifying trends emerging in a given research area (Ejdys, 2016). It also allows us to search for ideas for new research or locate already undertaken research in a given research area.

The bibliometric analysis includes defining the goals and scope of the analysis, selecting a technique, collecting data for bibliometric analysis, carrying out a bibliometric analysis, and presenting the results (Donthu et al., 2021, p.291). The techniques of bibliometric analysis encompass review techniques, evaluation, and relational bibliometric analysis techniques, including analysis of citations, co-citations, and co-word analysis (Lenart-Gansiniec 2021, p.175). Bibliometric analysis is essentially related to content analysis. In turn, content analysis is used by researchers when they need to extract information from scientific journals. The subject of analysis, in this case, is the content. Abstracts of peer-reviewed articles on the pandemic in the context of consumer behavior provide data about facts and expected changes in this area.

The benefits of content analysis depend on properly selecting the information contained. Decisions about using abstracts of peer-reviewed scientific texts require an appropriate selection of journals that may be reliable sources of information on a given topic.

Content analysis is a research method that enables objective recognition of the state of research on the pandemic in the context of consumer behavior. Its methodology is based on the experience of analyzing linguistic statements (content analysis of mass media, analysis of literary texts). It is performed by dividing the entire analyzed text into simpler parts using a categorization key developed each time based on the subject-specific classification units. The key categories must be subordinated to the purpose of the research and adapted to the nature of the material being examined.

To identify research conducted on the pandemic between 2020 and 2023 (published until November 2023), a content analysis of articles published in peer-reviewed scientific journals was performed. The EbscoHost scientific publication database was chosen as the data source.[2] This database was selected as it enables access to one of the largest collections of scientific publications. The conducted research employed a review technique allowing for frequency analysis.

Ensuring the research correctness of the conducted analysis required the adoption of certain assumptions, enabling a systematic and precise method of obtaining information.

The benefits a researcher can derive from content analysis depend on properly selecting the information. Decisions on using scientific journals as a source on areas of research conducted on the pandemic require selecting an appropriate database containing articles that may be a source of information in this area.

It was decided to carry out a bibliometric analysis of publications that concerned the pandemic in the context of consumer behavior, innovation, and selected industries. The content analysis aimed to identify the dimensions and areas of study on the pandemic in the context of consumer behavior, considering articles over the last four years. For analytical purposes, the time range of the searched items included articles published between 2020 and 2023. Research publications in the EBSCOhost database were subjected to a detailed content analysis. This database was selected as it provides access to one of

[2] EBSCOhost was used (Academic Search Ultimate, Regional Business News, and Business Source Ultimate databases). For more information on databases, see: https://web.p.ebscohost.com/ehost/search/selectdb?vid=0& sid=9c3efee2-18db-4992-8daf-151897d4065c%40redis (Retrieved: Feb. 6, 2024).

the largest collections of scientific publications. These were articles from all over the world, published in various languages, and their authors came from all continents. The criterion for selecting articles for analysis was the type of article – a peer-reviewed publication in a scientific journal, containing "pandemic" in the title and connected with consumer behavior, innovations, and selected services. Articles were analyzed according to specific criteria describing examined articles – a language of publication, publisher, and publication. Three criteria were selected for the content analysis: thesaurus terms, a country mentioned in articles, and the NAICS industry[3] (Table 1.4).

Table 1.4. Assumptions of bibliometric analysis

Specification	**Characteristics**
Research aim	Identification of dimensions and areas of research on the pandemic in the context of consumer behavior
Research subject	Pandemic, consumer behavior, selected services
Research time frame	January 2020 – December 2023
Research spatial scope	Worldwide
Research methodology	Content analysis
Research tool	Categorization key contains three specific criteria (describing the examined articles) and three substantive criteria.
Criteria for selecting articles for analysis	Peer-reviewed articles published in scientific journals Articles including in the title: pandemic/COVID-19 and buyer behavior, innovations, travel, gastronomy, hotels, education, culture, health services, retail, e-commerce, and services, available in various language versions Articles available on EBSCOhost
Number of articles analyzed	Pandemic & consumer behavior - 191 Pandemic & consumers & innovation - 56 Pandemic & consumers & retail – 76 Pandemic & consumers & e-commerce – 117 Pandemic & consumers & delivery services – 38 Pandemic & consumers & health services – 80 Pandemic & consumers & education – 94 Pandemic & consumers & tourism – 63 Pandemic & consumers & travel – 38 Pandemic & consumers & accommodation – 64 Pandemic & consumers & food service – 90 Pandemic & consumers & cultural and entertainment services - 10

Source: own study.

[3] A system of statistical classification of economic activity in North American countries (the North American Industry Classification System).

1.3. Pandemic and consumer behavior – results of bibliometric analysis

Scientific journals worldwide have reflected the pandemic as a global phenomenon. The analysis of socio-economic aspects in the context of COVID-19 was undertaken concerning all regions of the world, many countries and their regions, and even specific cities. To implement the research project "COVID-19 pandemic as a catalyst for change," it was necessary to analyze scientific publications related to consumer behavior during the pandemic. This analysis was conducted using resources available in the EbscoHost database.

Due to the vast number of articles published worldwide (10,969 articles containing "pandemics" and "consumer behavior" in the text, 739 - in the subject: thesaurus terms, and 839 - in the abstract), the search was narrowed to publications containing "pandemics" and "consumer behavior" in the title, which limited the number of analyzed articles to 191. This led to a more precise determination of the state of scientific literature on the pandemic in the context of consumer behavior (Table 1.5).

Table 1.5. Consumer behavior in the context of the COVID-19 pandemic – characteristics of the analyzed articles (N=191, in numbers)[4]

Language	Number	Publisher	No.	Publication	No.
English	161	Elsevier B.V	40	Socio-Economic Planning Sciences	22
Portuguese	8	Taylor & Francis Ltd	16	Journal of Retailing & Consumer Services	4
Turkish	8	Mdpi	12	Energies	3
Spanish	5	Wiley-Blackwell	11	Journal of Business Research	3
Hungarian	2	Emerald Publishing Limited	8	Journal of Marketing Management	3
Others (Arabic, German, Romanian, Slovak, Ukrainian)	5	Sciendo	5	Ovidius University Annals, Series Economic Sciences	3
		Springer Nature	4		
		Ovidius University Of Constantza, Faculty Of Economic Sciences	3		
		Sage Publications Inc.	3		

* *Includes publishers and names of publications found in at least three articles.*
Source: own study.

[4] All tables in this part of the monograph were based on available databases in EBSCOhost.

The vast majority of the analyzed articles (161) were published in English. Elsevier and Taylor & Francis LTD, MDPI, and Wiley-Blacwell released the largest number of publications. Scientific articles on this topic have been published in many scientific journals, most often in Socio-Economic Planning Sciences and also in the Journal of Retailing & Consumer Services, Energies, Journal of Business Research, and Journal of Marketing Management.

The subject of various articles was analyzed and classified based on the thesaurus terms used (Table 1.6). These articles explored the impact of the pandemic on consumer behavior, particularly in the areas of consumption, shopping (including online shopping), and food waste. Furthermore, the articles discussed consumer attitudes and preferences and how these varied across different age groups. They also examined business and marketing-related topics, such as food prices, e-commerce, internet marketing, and technological innovations. Finally, the articles touched on methodological aspects related to their research.

Table 1.6. Consumer behavior in the context of the COVID-19 pandemic – results of bibliometric analysis by topics (thesaurus entries) in the studied articles (N=191, number)

Specification	Thesaurus terms	No.
Consumer behavior	consumer behavior	134
	consumption (economics)	14
	consumers	18
	grocery shopping	18
	consumer attitudes	11
	food consumption	11
	consumer preferences	9
	impulse buying	8
	food waste	9
	food habits	6
	customer loyalty	5
	shopping	5
	stay-at-home orders	5
Consumer behavior	purchasing	4
	young consumers	4
	social distancing	3

Table 1.6. (Continued)

Specification	Thesaurus terms	No.
Pandemic	COVID-19 pandemic	118
	COVID-19	40
	sars-cov-2	6
	pandemics	5
E-commerce	online shopping	19
	stay-at-home orders	5
	electronic commerce	4
Marketing	food prices	10
	commodity exchanges	4
	marketing	4
	farm produce prices	4
	food labeling	4
	refuse containers	4
	waste management	4
	consumer goods	3
	emerging markets	3
	organic foods	3
	recessions	3
	brand image	3
	internet marketing	3
	business success	3
	technological innovations	3
Methodological issues	design thinking	4
	convenience sampling (statistics)	3
	multivariate analysis	3
	regression analysis	3
	structural equation modeling	3

* *Includes thesaurus entries found in at least three articles.*
Source: own study.

In the case of some articles, it was possible to refer the problem to a specific country and industry (Table 1.7). Most articles on consumer behavior in the context of the pandemic were published in European and Asian countries (a total of 31 countries were described). The analyzed articles identified 50 different industries based on NAICS. Most of them deal with online shopping (electronic shopping, electronic shopping, mail order houses, and mail order houses). Delivery and information services, clothing, and food industries in the context of production and retail trade were also described.

Table 1.7. Countries and NAICS industries analyzed in the researched articles in the context of the pandemic and consumer behavior

Region/Country		No.	NAICS Industry	No.*
Asia	India	13	electronic shopping	24
	Turkey	8	electronic shopping and mail-order houses	24
	China	4	mail-order houses	20
	Azerbaijan	2	local messengers and local delivery	7
	Lebanon	2	internet publishing and broadcasting and web search portals	6
	South Korea	3	private households	5
	Others (Bangladesh, Israel, Japan, Malaysia, Vietnam)	5	clothing and clothing accessories merchant wholesalers	4
Africa	Zimbabwe	2	family clothing stores	4
	South Africa	1	farm product warehousing and storage	4
North America	USA	6	international affairs	4
South America	Brazil	3	international and other extra-territorial public administration	4
	Columbia	1	marketing consulting services	4
Europe	Italy	7	other clothing stores	4
	Serbia	4	other farm product raw material merchant wholesalers	4
	Greece	3	other waste collection	4
	Poland	3	packaging and labeling services	4
	Romania	4	securities and commodity exchanges	4
	Slovakia	3	solid waste landfill	4
	Czech Republic	2	waste collection	4
	Ukraine	2	waste treatment and disposal	4
	United Kingdom	2	all other clothing stores	3
	Others (Croatia, Germany, Hungary, Macedonia, Spain)	5	all other consumer goods rental	3
			commercial and institutional building construction	3
			cut and sew apparel contractors	3

* *Includes NAICS industries found in at least three articles.*

Source: own study.

Selected articles on consumer behavior in the context of the pandemic and their topics are presented in Table 1.8.

Table 1.8. Selected scientific articles on consumer behavior in the context of the pandemic

Article Title	Topics
The Impact of the **COVID-19 Pandemic** on **Consumer Behavior**. By: Paraquett Coutinho, Mahyara; Moreira Da Silva Paula, Renata Céli. Revista Fsa. Ago2023, Vol. 20 Issue 8, pp. 3-**19**. 17p	Hedonistic consumption; COVID-19 pandemic; consumption (economics); purchasing
Return to the New Normal: Empirical Analysis of Changes in E-**Consumer Behavior** During the **COVID-19 Pandemic**. By: Pollák, František; Markovič, Peter; Vavrek, Roman; Konečný, Michal. Behavioral Sciences (2076-328x). Mar2022, Vol. 12 Issue 3, p. 85. 19p.	COVID-19 pandemic; consumer behavior; sars-cov-2; pandemics;
Psychological Factors and Consumer Behavior During the **COVID-19 Pandemic**. By: Di Crosta, Adolfo; Ceccato, Irene; Marchetti, Daniela; La Malva, Pasquale; Maiella, Roberta; Cannito, Loreta; Cipi, Mario; Mammarella, Nicola; Palumbo, Riccardo; Verrocchio, Maria Cristina; Palumbo, Rocco; Di Domenico, Alberto. Plos One. 8/16/2021, Vol. 16 Issue 8, pp.1-23. 23p	Consumer behavior; COVID-19 pandemic; psychological factors; personality; economic equilibrium
Consumer Buying **Behaviour** Towards Online And Offline Shopping: Pre, During And Post **COVID-19 Pandemic**. By: Roy, Priyabrata; Datta, Dhananjoy. International Journal of Professional Business Review (Jpbreview). 2023, Vol. 8 Issue 5, P1-22. 22p.	Online shopping; consumer behavior; impulse buying; COVID-19 pandemic; consumer attitudes; marketing; consumer preferences; organic certification; marketing consulting services; electronic shopping; electronic shopping and mail-order houses; mail-order houses; environmental literacy
Global **Consumers** Before And During The **COVID-19 Pandemic**: What Aspects Characterize Digital **Consumer Behavior**? By: Solís Rivera, Luis Ricardo; Barrantes Aguilar, Luz Elena; Villalobos Monge, Alexis. Remark: Revista Brasileira De Marketing. 2023 Special Issue, Vol. 22, P1614-1644. 31p.	Online shopping; consumers; business planning; consumption (economics); computer literacy; electronic shopping; mail-order houses; electronic shopping and mail-order houses; environmental literacy

Source: own study.

The preliminary analysis inspired the authors to conduct a deeper search for scientific articles on consumers and innovations in the context of the pandemic in the scientific literature in 2020-2023. For this purpose, the EBSCOhost databases were analyzed using "pandemics" and "innovation" as the search keywords in the article title and "consumer" in the article abstract. The database contained 56 items, most often published in English (47). They were published in many journals by various publishers, most often by Elsevier, Taylor & Francis Ltd., and the Journal of Open Innovation (Table 1.9).

Table 1.9. Consumers and innovations in the context of the COVID-19 pandemic - characteristics of the analyzed articles (2020-2023; N=56, in numbers)

Language	No.	Publisher	No.*	Publication name	No.*
English	47	Elsevier B.V.	12	Journal of Open Innovation	8
Portuguese	3	Taylor & Francis Ltd	12		
Turkish	2	Emerald Publishing Limited	3		
Others	4				

* *Includes publishers and names of publications found in at least three articles.*
Source: own study.

The results of the content analysis indicate that the topic of consumers and innovation in the context of the pandemic was described in terms of technological, open, business, and social innovation, as well as the process of innovation diffusion (Table 1.10). The articles also covered digital technologies, digital communication, and digital transformation. In a large part of the articles, consumers and innovations in the context of the pandemic were considered from the standpoint of business, entrepreneurship, businesspeople, telecommuting, and marketing. The analyzed articles also referred to specific industries (most often medical/health services) and tourist, information, and statistical services. In some articles, innovations and consumers were considered in the context of sustainable development.

Table 1.10. Consumers and innovations in the context of the COVID-19 pandemic – results of bibliometric analysis by topics (thesaurus entries) in the studied articles (N=56, number)

Specification	Thesaurus terms	No.*
Pandemics	COVID 19 pandemic	35
	COVID-19	12
	pandemics	5
Innovation	technological innovations	13
	open innovation	6
	diffusion of innovations	4
	innovations in business	4
	social innovation	3
Consumer	consumer behavior	8
	consumers	2
	customer satisfaction	2

Table 1.10. (Continued)

Specification	**Thesaurus terms**	**No.***
Consumer	undergraduates	2
Digital technology	digital communications	3
	digital technology	2
	digital transformation	2
Business	entrepreneurship	3
	businesspeople	3
	small business	3
	tourism	3
	business ecosystems	2
	data security	2
	event tourism	2
	local delivery services	2
	marketing	2
	new product development	2
	telecommuting	2
	quality function deployment	3
Medical/Health	medical care	3
	nursing students	2
	telemedicine	2
	circular economy	2
Sustainable development	green infrastructure	2
	industrial hygiene	2
	sustainable development	2
Statistics	statistical services	2
	statistics	2
	online information services	2
Public administration	public administration	2

**Includes thesaurus entries found in at least two articles.*
Source: own study.

The analyzed articles concerned 21 countries and addressed issues related to 49 different NAICS industries (Table 1.11). They most often covered the tourism industry, including hotels, motels, camping sites, other forms of accommodation, entertainment, and recreation. They also referred to marketing consulting services and libraries and archives.

Table 1.11. Countries and NAICS industries analyzed in examined articles on consumers and innovation in the context of the pandemic (number)

Country	No.	NAICS Industry	No.*
Turkey	2	hotels (except casino hotels) and motels	4
United Kingdom	2	marketing consulting services	4
Indonesia	2	all other amusement and recreation industries	3
Others (Brazil, Hungary, Iran, Italy, Mexico, Nigeria, Philippines, Poland, Portugal, Romania, Russia, Scotland, Slovakia, Ukraine, USA)	15	all other traveler accommodation	3
		bed-and-breakfast inns	3
		casino hotels	3
		commercial and institutional building construction	3
		convention and visitors bureaus	3
		libraries and archives	3
		recreational and vacation camps (except campgrounds)	3
		rv (recreational vehicle) parks and campgrounds	3

**Includes NAICS industries found in at least three articles.*
Source: own study.

Narrowing the search for publications to "pandemics," "innovation," and "consumers" allowed for more precise identification of articles published in this area (11 publications). Table 1.12 presents selected articles on consumers and innovations in the context of the pandemic and the topics covered.

Given the implemented project, it was pivotal to identify scientific literature on consumer behavior in the context of the pandemic concerning trade, e-commerce, and selected services (health, education, tourism, transport, accommodation, catering, and cultural and entertainment). When selecting articles for analysis, a similar search strategy was used as in the case of innovations, i.e., "pandemics" and the searched word (e.g., "retail," "e-commerce," "tourism," etc.) in the title of the article and "consumers" in the abstract.

As a result, we identified 76 articles on retail and consumers in the context of the pandemic, of which 71 were published in English (Table 1.13). Most of the articles were published by Elsevier B.V., Emerald Publishing Limited, and Taylor & Francis Ltd. They came out in various scientific journals, predominantly in the Journal of Retailing & Consumer Services, Transportation Research Part E: Logistics & Transportation Review, International Journal of Retail & Distribution Management, and International Research Journal of Business Studies.

Table 1.12. Selected scientific articles on innovation and consumers in the context of the pandemic

Article Title	Topics
How Consumers Behave in a Crisis: International Lessons (and Innovations) from COVID-19. By: Wood, Stacy. Journal of International Marketing. Jun 2022, Vol. 30 Issue 2, pp.5-12. 8p.	COVID-19; COVID-19 pandemic; marketing theory; shift systems; crises
Factors Affecting Customer Satisfaction and Loyalty in Online Food Delivery Service during the COVID-19 Pandemic: Its Relation with Open Innovation. By: Tri Prasetyo, Yogi; Tanto, Hans; Mariyanto, Martinus; Hanjaya, Christopher; Nayat Young, Michael; Persada, Satria Fadil; Ardiansyah Miraja, Bobby; Perwira Redi, Anak Agung Ngurah. Journal of Open Innovation. Mar 2021, Vol. 7 Issue 1, pp.1-16. 16p.	COVID-19 pandemic; local delivery services; customer satisfaction; customer loyalty; pandemics; open innovation; Indonesia; local messengers and local delivery
Consumer Purchasing Behaviour Towards Strategic Innovation Management Practices in Morocco During COVID-19 Health Crisis. By: Zaoui, Soukaina; Hamou-ou-Brahim, Safae Ait; Zhou, Haiwei; Omrane, Amina; Huang, Dechun. FIIB Business Review. Jun 2021, Vol. 10 Issue 2, pp.158-171. 14p.	international trade; COVID-19 pandemic; innovation management; consumer behavior; international organization for standardization; international trade financing
Service innovation in the restaurant sector during COVID-19: digital technologies to reduce customers' risk perception. By: Esposito, Benedetta; Sessa, Maria Rosaria; Sica, Daniela; Malandrino, Ornella. TQM Journal. 2022, Vol. 34 Issue 7, pp.134-164. 31p	consumers; digital transformation; restaurant customer services; organizational resilience; Italy; full-service restaurants; commercial and institutional building construction; all other building equipment contractors; risk perception; digital technology
Why have consumers opposed, postponed, and rejected innovations during a pandemic? A study of mobile payment innovations. By: Talwar, Shalini; Talwar, Manish; Kaur, Puneet; Singh, Gurmeet; Dhir, Amandeep. Australasian Journal of Information Systems. 2021, Vol. 25, pp.1-27, 27p.	mobile commerce; consumer behavior; near field communication; artificial neural networks; COVID-19 pandemic; electronic shopping and mail-order houses; electronic shopping; pandemics

Source: own study.

The results of the bibliometric analysis indicate that the studied topic covered the retail industry, retail chains, chain stores, and retail stores. E-commerce, i.e., internet stores, online shopping, electronic shopping, and stay-at-home orders, was addressed in many articles. Retail trade was also discussed in the context of food and new technologies (contactless payments, NFC) (Table 1.14).

Table 1.13. Retail and consumers in the context of the COVID-19 pandemic – characteristics of the analyzed articles (N=76, in numbers)

Language	No.	Publisher	No.*	Publication name	No.*
English	71	Elsevier B.V.	17	Journal of Retailing & Consumer Services	7
Others (Afrikaans, Portugues, Slovak, Spanish, Turkish)	5	Emerald Publishing Limited	9	Transportation Research Part E: Logistics & Transportation Review	4
		Taylor & Francis Ltd	9	International Journal of Retail & Distribution Management	3
		Wiley-Blackwell	4	International Research Journal of Business Studies	3
		MDPI	3		
		Prasetiya Mulya Publishing, Universitas Prasetiya Mulya	3		

* *Includes publishers and names of publications found in at least three articles.*
Source: own study.

Table 1.14. Retail and consumers in the context of the COVID-19 pandemic – results of bibliometric analysis by keywords (thesaurus entries) in the studied articles (N=76, number)

Specification	Thesaurus terms	No.*
Pandemics	COVID-19 pandemic	48
	COVID-19	32
	pandemics	3
Consumer behavior	consumer behavior	18
	consumption (economics)	6
	consumers	5
	consumer attitudes	3
Retail	retail industry	15
	supply chains	5
	chain stores	4
	retail stores	3
	supply chain disruptions	3
	delivery of goods	3
	fashion merchandising	3
	retail banking	2
E-commerce	internet stores	7
	online shopping	7
	stay-at-home orders	7
	electronic commerce	5
Food	food supply	4

Table 1.14. (Continued)

Specification	Thesaurus terms	No.*
Food	food prices	2
	food safety	2
	food service	2
	grocery shopping	3
	spreads (food)	2
Business	quality of service	4
	service industries	2
	organizational performance	2
New technologies	contactless payment systems	2
	digital technology	2
	digital transformation	2
	near field communication	2
Others	sentiment analysis	2
	social impact	2

**Includes thesaurus entries found in at least two articles.*
Source: own study.

The topics described were discussed against the backdrop of 20 different countries and 49 NAICS industries. The NAIS industry-based analysis of the examined articles indicates that they focused on various types of stores and e-commerce. They have also covered the clothing industry and financial services (Table 1.15).

Table 1.15. Countries and NAICS industries analyzed in examined articles on retail and consumer behavior in the context of the pandemic (number)

Country	No.	NAICS Industry	No.
India	5	all other miscellaneous general merchandise stores	24
China	4	all other miscellaneous store retailers (except beer and wine-making supplies stores)	24
Germany	3	all other miscellaneous store retailers (except tobacco stores)	24
United Kingdom	3	electronic shopping	10
Myanmar	3	electronic shopping and mail-order houses	10
Poland	2	mail-order houses	7
Others (Albania, Belgium, Bulgaria, Czech Republic, Indonesia, Japan, Malaysia, Marocco, New Zealand, Pakistan, Romania, South Africa, Spain, USA)	14	commercial and institutional building construction	5

Table 1.15. (Continued)

Country	No.	NAICS Industry	No.
Others (Albania, Belgium, Bulgaria, Czech Republic, Indonesia, Japan, Malaysia, Marocco, New Zealand, Pakistan, Romania, South Africa, Spain, USA)	14	family clothing stores	5
		other clothing stores	5
		all other clothing stores	4
		clothing and clothing accessories merchant wholesalers	4
		financial transactions processing, reserve, and clearinghouse activities	4
		other financial transactions processing and clearing house activities	3

**Includes NAICS industries found in at least three articles.*
Source: own study.

Narrowing the search for publications to the keywords "pandemics," "retail," and "consumers" in the title reduced the number of articles covering the analyzed topic to 21. Table 1.16 presents selected articles and their topics covered.

Table 1.16. Selected scientific articles on retail and consumer behavior in the context of the pandemic

Article Title	Topics
Examining the global retail apocalypse during the COVID-19 pandemic using strategic omnichannel management: a consumers' data privacy and data security perspective. By: Chatterjee, Sheshadri; Chaudhuri, Ranjan; Vrontis, Demetris. *Journal of Strategic Marketing.* Oct 2021, Vol. 29 Issue 7, pp. 617-632. 16p.	COVID-19 pandemic; data security; supply chain management; supply chain disruptions; retail store closures; other computer-related services; computer systems design and related services (except video game design and development)
Understanding the customer psychology of impulse buying during COVID-19 pandemic: implications for retailers. By: Naeem, Muhammad. *International Journal of* ***Retail*** & Distribution Management. 2021, Vol. 49 Issue 3, pp. 377-393. 17p.	COVID-19 pandemic; Impulse buying; Consumer behavior; United Kingdom; All other miscellaneous general merchandise stores; All other miscellaneous store retailers (except beer and wine-making supplies stores); Commercial and Institutional Building Construction; All Other Miscellaneous Store Retailers (except Tobacco Stores); Impulse (Psychology); Retail store personnel
Changes In The Retail Market And Basic Customer Approaches As A Result Of The Covid-19 Pandemic. By: Slabá, Marie. *Young Science / Mladá Veda.* 2022, Issue 6, pp. 11-18. 8p.	Consumer Attitudes; Consumer Behavior; COVID-19 Pandemic; Social Impact
The effect of a partnership franchising model on consumer satisfaction for a large German cooperative retail chain before and during the COVID-19 pandemic: Die Auswirkung eines Partnerschafts-Franchising-Modells auf die Verbraucherzufriedenheit einer großen deutschen genossenschaftlichen Einzelhandelskette vor und während der COVID-19-Pandemie By: Bachmann, Severin; Reichel, Richard; Wrede, Matthias. *Zeitschrift für das Gesamte Genossenschaftswesen.* Jun 2023, Vol. 73 Issue 2, pp. 105-130. 26p	COVID-19, franchising, consumer satisfaction, retail chain

Table 1.16. (Continued)

Article Title	Topics
Stocking up and stocking out: Food retail stock-outs, consumer demand, and prices during the COVID-19 pandemic in 2020. By: McLaughlin, Patrick W.; Stevens, Alexander; Arita, Shawn; Dong, Xiao. *Applied Economic Perspectives & Policy.* Sep 2023, Vol. 45 Issue 3, pp. 1618-1633. 16p	COVID-19 pandemic; Food prices; Consumption (Economics); Prices; Inventory shortages; Dry, Condensed, and Evaporated Dairy Product Manufacturing; Butter, cheese, and dry and condensed dairy product manufacturing; Poultry and egg merchant wholesalers; Poultry Processing; Other Poultry Production; Poultry and Poultry Product Merchant Wholesalers; Poultry products

Source: own study.

The results of the bibliometric analysis indicated that relatively many articles on "retail" and consumers in the context of the pandemic concerned e-commerce (thesaurus term: internet stores, online shopping, electronic commerce, and stay-home orders). Restrictions on retail during the pandemic have inarguably resulted in the transfer/intensification of retail activity to the virtual sphere to ensure the continuation of retail in a crisis. Therefore, in the content analysis, it was also decided to separate "e-commerce" and "consumers" concerning the pandemic. This turned out to be the right choice, given the number of articles published on this topic that were found. We identified 117 publications on this topic in the databases. Furthermore, the substantial majority were written in English. Elsevier B.V., Taylor & Francis Ltd, and Mdpi published the bulk. They have been published in many scientific journals, including the Journal of Retailing & Consumer Services, Journal of Theoretical & Applied Electronic Commerce Research, Socio-Economic Planning Sciences, and Transport Policy (Table 1.17).

Table 1.17. E-commerce and consumers in the context of the COVID-19 pandemic – characteristics of the analyzed articles (N=117, in numbers)

Language	No.	Publisher	No.*	Publication name	No.*
English	101	Elsevier B.V.	21	Journal of Retailing & Consumer Services	6
Turkish	6	Taylor & Francis Ltd	9	Journal of Theoretical & Applied Electronic Commerce Research	5
Spanish	3	MDPI	8	Socio-Economic Planning Sciences	4
Indonesian	2	Springer Nature	5	Transport Policy	4
Portuguese	2	Emerald Publishing Limited	4	Cogent Business & Management	3
Others (Arabic, Persian, Polish)	3	Wiley-Blackwell	3		

* *Includes publishers and names of publications found in at least three articles.*
Source: own study.

The topics of the examined articles resulted from the search criteria and most often concerned electronic shopping, electronic commerce, internet shopping, and electronic sales. They also covered the following issues: stay-at-home orders, mobile commerce, internet marketing, and legal regulations regarding e-commerce (Table 1.18). Some publications also focused on online food shopping, customer satisfaction, and attitudes toward online shopping. A significant number of articles were dedicated to business in the areas of cost control, risk assessment, and business planning. The articles also concerned customer service, service quality, and product quality. Many articles also discussed methodological issues, including descriptive statistics, mathematical models, questionnaires, and statistical sampling.

Table 1.18. E-commerce and consumers in the context of the COVID-19 pandemic – results of bibliometric analysis by keywords (thesaurus entries) in the studied articles (N=117, number)

Specification	Thesaurus terms	No. *
E-commerce	online shopping	55
	electronic commerce	46
	internet stores	8
	internet sales	6
	stay-at-home orders	6
	electronic commerce laws	3
	mobile commerce	3
	internet marketing	2
	internet	2
	electronic books	2
	electronic services	2
Pandemics	COVID-19	37
	pandemics	4
	coronaviruses	2
	epidemics	2
	social distancing	2
Consumers	consumer behavior	30
	consumers	19
	grocery shopping	17
	customer satisfaction	11

Table 1.18. (Continued)

Specification	Thesaurus terms	No. *
Consumers	consumer attitudes	4
	consumption (economics)	3
	shopping	3
	young consumers	2
	food habits	2
Methodological issues	descriptive statistics	4
	mathematical models	3
	questionnaires	3
	statistical sampling	3
	structural equation modeling	2
	discrete choice models	2
	odds ratio	2
	data analysis	2
Business	quality of service	4
	cost control	3
	antitrust law	2
	business hours	2
	business planning	2
	businesspeople	2
	contracts	2
	customer services	2
	pilot projects	2
	product quality	2
	production scheduling	2
	research funding	2
	risk assessment	2
	infrastructure (economics)	2
	organic foods	2
	waste minimization	4

** Includes thesaurus entries found in at least two articles.*
Source: own study.

The analyzed articles concerned 18 countries (primarily China, Germany, Italy, and Indonesia). The articles referred to 49 different NAICS industries, most related to electronic shopping and mail orders (Table 1.19).

Further searches for articles clarified their number regarding the analyzed topic by narrowing the search to publications containing e-commerce, consumers, and pandemics in the article's title. We identified 21 articles. The most relevant of them, along with the subject matter, are presented in Table 1.20.

Table 1.19. Countries and NAICS industries analyzed in researched articles on e-commerce and consumer behavior in the context of the pandemic (number)

<table>
<tr><th>Country</th><th>No.</th><th>NAICS Industry</th><th>No.*</th></tr>
<tr><td>China</td><td>8</td><td>electronic shopping</td><td>91</td></tr>
<tr><td>Germany</td><td>5</td><td>electronic shopping and mail-order houses</td><td>91</td></tr>
<tr><td>Italy</td><td>4</td><td>mail-order houses</td><td>55</td></tr>
<tr><td>Indonesia</td><td>4</td><td>internet publishing and broadcasting and web search portals</td><td>5</td></tr>
<tr><td>Brazil</td><td>2</td><td>commercial and institutional building construction</td><td>4</td></tr>
<tr><td>India</td><td>2</td><td>investment banking and securities dealing</td><td>3</td></tr>
<tr><td>Japan</td><td>2</td><td rowspan="10">marketing research and public opinion polling</td><td rowspan="10">3</td></tr>
<tr><td>Kuwait</td><td>2</td></tr>
<tr><td>Poland</td><td>2</td></tr>
<tr><td>Saudi Arabia</td><td>2</td></tr>
<tr><td>South Africa</td><td>3</td></tr>
<tr><td>Spain</td><td>2</td></tr>
<tr><td>Turkey</td><td>2</td></tr>
<tr><td>Vietnam</td><td>2</td></tr>
<tr><td>Others (Azerbaijan, Belgium, Canada, Czechia)</td><td>4</td></tr>
</table>

**Includes NAICS industries found in at least three articles.*
Source: own study.

With a view to the analysis of the topic of retail and e-commerce in the context of COVID-19 in the scientific literature, it also turned out to be justified to recognize the area of delivery services, which had to develop as a result of the restrictions introduced in retail trade and the transfer of retail operations to the virtual sphere. Home deliveries, contactless service, parcel lockers, and contactless payments are the solutions developed during the pandemic. We identified 38 articles covering these topics, almost all published in English (Table 1.21). Most were published by Elsevier B.V and Taylor & Francis Ltd, mainly in the Journal of The International Aids Society and Transport Policy.

Table 1.20. Selected scientific articles on e-commerce and consumer behavior in the context of the pandemic

Article Title	**Topics**
Interactions between e-commerce users during the COVID-19 pandemic period: What came and what remained. By: dos Santos, Eduardo Ferro; de Carvalho, Paulo Victor Rodrigues; Gomes, José Orlando. Work. 2022 Supplement, Vol. 73, pS177-S187. 11p.	Electronic commerce; Consumer attitudes; Business; Questionnaires; Quality assurance; Descriptive statistics; Statistical sampling; COVID-19 pandemic; Customer satisfaction; Brazil
Typology of e-commerce shoppers: the case of COVID-19. By: Ramadan, Zahy; Farah, Maya; Abosag, Ibrahim; Sleiman, Alaa. Qualitative Market Research: An International Journal. 2023, Vol. 26 Issue 4, pp. 345-367. 23p	**COVID-19 pandemic**; Consumers; **Electronic commerce; COVID19; Electronic Shopping; Electronic shopping** and mail-order houses; Infectious disease transmission
Customer Behavioral Trends in Online Grocery Shopping During COVID-19. By: Chang, Victor; Liu, Ou; Barbole, Kiran Vijay; Xu, Qianwen Ariel; Gao, Xianghuaa Jason; Tabrizi, Wendy. Journal of Global Information Management. Jan-Mar 2023, Vol. 31 Issue 1, pp. 1-27. 27p.	**COVID-19 pandemic**; Grocery **shopping; Online shopping**; Consumers; Consumer behavior; Amazon.com Inc.; Mail-Order Houses; **Electronic Shopping**; **Electronic shopping** and mail-order houses
The Effects of E-Commerce Logistics on Customer Satisfaction and Repurchase Intention: Covid-19 Global Epidemic Period. By: KAZANCI, Umut; BAYARÇELİK, Ebru Beyza. Journal of Yaşar University / Yaşar Üniversitesi E-Dergisi. Jul 2022, Vol. 17 Issue 67, pp. 800-820. 21p	customer satisfaction; exploratory factor analysis; quality of service; customer services; regression analysis; statistical correlation; Turkey
Benchmarking sustainable E-commerce enterprises based on evolving customer expectations amidst the COVID-19 pandemic. By: Pratap, Saurabh; Jauhar, Sunil Kumar; Daultani, Yash; Paul, Sanjoy Kumar. Business Strategy & the Environment (John Wiley & Sons, Inc). Jan 2023, Vol. 32 Issue 1, pp. 736-752. 17p	**COVID-19 pandemic**; Consumers; **Electronic commerce; Customer** satisfaction; **Online shopping; Electronic shopping** and mail-order houses; **Electronic Shopping**; Mail-Order Houses

Source: own study.

Table 1.21. Delivery services and consumers in the context of the COVID-19 pandemic – characteristics of the analyzed articles (N=38, in numbers)

Language	**No.**	**Publisher**	**No.***	**Publication name**	**No.***
English	36	Elsevier B.V.	13	Journal of The International Aids Society	4
Korean	1	Taylor & Francis Ltd	8	Transport Policy	4
Turkish	1	Wiley-Blackwell	6	Bmc Health Services Research	3
		Biomed Central	5		

* *Includes publishers and names of publications found in at least two articles.*
Source: own study.

The issue of delivery service was most often discussed concerning local delivery services and delivery of goods (Table 1.22). It also referred to innovative solutions like drone aircraft delivery and contactless payment systems.

Delivery services were also examined in the context of medical care and telemedicine.

Table 1.22. Delivery services and consumers in the context of the COVID-19 pandemic – results of bibliometric analysis by keywords (thesaurus entries) in the studied articles (N=38, number)

Specification	Thesaurus terms	No. *
Pandemics	COVID-19 pandemic	35
	COVID-19	17
	pandemics	6
Delivery	local delivery services	17
	delivery of goods	10
	drone aircraft delivery	6
	contactless payment systems	4
	stay-at-home orders	2
	online shopping	3
Consumer	customer satisfaction	5
	consumer attitudes	4
	consumer behavior	4
	consumers	4
	customer experience	2
	customer loyalty	2
Medical/Health	medical care	6
	medical personnel	4
	pre-exposure prophylaxis	3
	telemedicine	2
	hospital personnel	2
	teaching hospitals	2
Methodological issues	thematic analysis	3
	interviewing	2
	research methodology	2
Business	hotels	2
	income	2
	quality of service	2
	perceived benefit	2
Others	occupational roles	2
	middle-income countries	2

* *Includes thesaurus entries found in at least two articles.*
Source: own study.

The analyzed topics concerned 12 countries, primarily Asian countries and Ghana. The examined articles covered 33 NAICS industries, mostly local messengers, local delivery, electronic shopping, and mail-order houses (Table 1.23).

Table 1.23. Countries and NAICS industries analyzed in the researched articles on delivery services and consumers in the context of the pandemic (number). The number of countries is 12, and the NAICS industries are 33.

Country	No.	NAICS Industry	No.*
Ghana	4	Local messengers and local delivery	17
Taiwan	3	Administration of public health programs	4
India	2	Other individual and family services	4
Indonesia	2	Electronic shopping	3
Others (Malaysia, South Africa, Canada, Turkey, Kenya, Romania, Pakistan, USA)	8	Electronic shopping and mail-order houses	3
		Mail-order houses	3

* *Includes NAICS industries found in at least three articles.*
Source: own study.

To specify further the articles on the researched topic, the search was narrowed down to publications with delivery service, consumers, and pandemics in the title. As a result, 11 items were identified. The most relevant articles and their topics are presented in Table 1.24.

Table 1.24. Selected scientific articles on delivery services and consumer behavior in the context of the pandemic

Article Title	Topics
Factors Affecting Customer Satisfaction and Loyalty in Online Food Delivery Service during the COVID-19 Pandemic: Its Relation with Open Innovation. By: Tri Prasetyo, Yogi; Tanto, Hans; Mariyanto, Martinus; Hanjaya, Christopher; Nayat Young, Michael; Persada, Satria Fadil; Ardiansyah Miraja, Bobby; Perwira Redi, Anak Agung Ngurah. Journal of Open Innovation. Mar 2021, Vol. 7 Issue 1, pp.1-16. 16p	COVID-19 pandemic; LOCAL delivery services; CUSTOMER satisfaction; CUSTOMER loyalty; PANDEMICS; OPEN innovation; INDONESIA; Local Messengers and Local Delivery
How Has COVID-19 Impacted Customer Perceptions And Demand For Delivery Services: An Exploratory Analysis. By: Kaplan, Marcella; Hotle, Susan; Heaslip, Kevin. Transport Policy. Apr2023, Vol. 134, pp. 217-230. 14p	COVID-19, Delivery Services, Customer Perceptions
A Study On Customer Complaints During The Pandemic Period in Food and Beverage Delivery Servıces. By: SARICA, Vildan; ÖZBAY, Gülçin. Journal of Management & Economics / Yönetim ve Ekonomi. 2022, Vol. 29 Issue 3, pp. 583-602. 20p.	COVID-19 pandemic; Consumer attitudes; Delivery of goods; International business enterprises; Consumers; Consumer complaints

Table 1.24. (Continued)

Article Title	Topics
A Comparative Study On The Motivated Consumer Innovativeness Of Drone Food Delivery Services Before And After The Outbreak Of COVID-19. By: Hwang, Jinsoo; Choe, Ja Young; Choi, Young Gin; Kim, Jinkyung Jenny. Journal Of Travel & Tourism Marketing. Jun 2021, Vol. 38 Issue 4, pp. 368-382. 15p. Doi: 10.1080/10548408.2021.1921671. , Database: Academic	COVID-19 pandemic; Local Delivery Services; Drone Aircraft Delivery; Structural Equation Modeling; Comparative Studies; Local Messengers And Local Delivery
Customers' response to online food delivery services during the COVID-19 outbreak using binary logistic regression. By: Mehrolia, Sangeeta; Alagarsamy, Subburaj; Solaikutty, Vijay Mallikraj. International Journal of Consumer Studies. May 2021, Vol. 45 Issue 3, pp. 396-408. 13p.	Local delivery services; Perceived benefit; Crisis management; India; Other Justice, Public Order, and Safety Activities; Local Messengers and Local Delivery; Logistic regression analysis; Health Belief Model

Source: own study.

The pandemic has adversely impacted health care and the medical services offered to patients. It forced the emergence of solutions that enabled, whenever possible, the continued use of health services, the provision of which was traditionally subject to restrictions. This concerned solutions using new technologies and broadly understood health information services. Therefore, it seemed reasonable to deepen knowledge about the state of scientific literature on health services and consumers/patients in the context of the pandemic. We identified 80 publications on this topic in Ebscohost databases; again, most were in English (Table 1.25). Most articles were published by Biomed Central, Taylor & Francis Ltd, and Elsevier B.V. Publications addressing this topic, most often by BMC Health Services Research and Plos One.

Table 1.25. Health services and consumers in the context of the COVID-19 pandemic – characteristics of the analyzed articles (N=80, in numbers)

Language	No.	Publisher	No.*	Publication name	No.*
English	77	Biomed Central	15	BMC Health Services Research	8
Others (Turkish, Portuguese, multiple)	3	Taylor & Francis Ltd	11	Plos One	6
		Elsevier B.V.	9		
		Public Library Of Science	6		
		Springer Nature	6		
		Wiley-Blackwell	4		
		American Psychological Association	3		
		John Wiley & Sons, Inc.	3		

* *Includes publishers and names of publications found in at least three articles.*
Source: own study.

The analysis of articles in the topic area indicates that many focused on mental and digital health services, access to medical services, medical staff, and the quality of services provided (Table 1.26). The topic of innovative solutions in health services, such as telemedicine and telepsychiatry, was also discussed. The articles also included issues related to quality of life and well-being. They also addressed issues related to recipients' attitudes toward solutions introduced in medical services. The published articles also addressed issues related to health information (health information systems, health libraries, and medical libraries). Many articles also discussed psychological problems.

Table 1.26. Health service and consumers in the context of the COVID-19 pandemic - results of bibliometric analysis by keywords (thesaurus entries) in the studied articles (N=80, number)

Specification	Thesaurus terms	No.*
Pandemics	COVID-19 pandemic	56
	COVID-19	18
	Pandemics	8
Medical care/services	medical care	30
	mental health services	29
	medical personnel	12
	health services accessibility	10
	community mental health services	7
	mental health personnel	6
	health facilities	5
	mental health	5
	quality of service	5
	child health services	4
	reproductive health	3
	digital health	3
	attitudes of medical personnel	3
	personal protective equipment	3
Consumers/patients	patients' attitudes	9
	older people	3
	quality of life	4
	well-being	4
	Experience	3

Table 1.26. (Continued)

Specification	**Thesaurus terms**	**No.***
Consumers/patients	stay-at-home orders	3
Telemedicine	telemedicine	9
	telepsychiatry	4
Methodological issues	descriptive statistics	11
	qualitative research	8
	interviewing	7
	research methodology	7
	content analysis	5
	scientific observation	3
	cross-sectional method	4
	data analysis software	4
	comparative studies	3
	experience	3
Health information	health information services	3
	health literacy	3
	medical libraries	3
Psychology	psychosocial factors	4
	psychological adaptation	3
	psychologists	3
	Psychology	3
Others	industrial safety	5
	social support	3

** Includes thesaurus entries found in at least three articles.*
Source: own study.

Health services in the context of the pandemic were described against the backdrop of 18 countries, most concerning the United Kingdom, Australia, and the USA (Table 1.27). The analyzed articles described 48 industries. They most often concern residential mental health and substance abuse facilities, offices of mental health practitioners (except physicians), and psychiatric and substance abuse hospitals.

Narrowing the search for publications to "health services," "consumers," and "pandemics" in the title of the article identified 19 publications on this topic. Table 1.28 presents the most relevant articles and their topics.

Table 1.27. Countries and NAICS industries analyzed in the researched articles on health services and consumers in the context of the pandemic (number)

Country	No.	NAICS Industry	No.*
United Kingdom	12	residential mental health and substance abuse facilities	34
Australia	8	offices of mental health practitioners (except physicians)	33
United States	7	psychiatric and substance abuse hospitals	30
Italy	5	other individual and family services	15
Nigeria	5	all other outpatient care centers	12
Ethiopia	2	community health centers	7
Bangladesh	2	outpatient mental health and substance abuse centers	7
Canada	2	other local, municipal, and regional public administration	6
Sierra Leone	2	administration of public health programs	3
South Africa	2	libraries and archives	3
Zimbabwe	2	offices of all other miscellaneous health practitioners	3
Others (Belgium, Cambodia, Chile, India, Lebanon, Portugal)	6	other justice, public order, and safety activities	3

* *Includes NAICS industries found in at least three articles.*
Source: own study.

The pandemic also severely affected the education sphere due to the lockdown and restrictions on interpersonal contact. Ensuring continuity of education at every level has become a key challenge for schools, universities, and other entities conducting educational activities. Therefore, it was also decided to analyze the state of scientific literature on educational services in the context of COVID-19. We identified 94 scientific articles – the vast majority were published in English (Table 1.29). Elsevier B.V., Taylor & Francis Ltd, Wiley-Blackwell, and Springer Nature were the most frequent publishers. The articles have been published in many scientific journals – the majority in Computer Law & Security Review, Expert Systems, Journal of Academic Librarianship, Journal of Nutrition Education & Behavior, and Library Philosophy & Practice.

Table 1.28. Selected scientific articles on health services and consumer behavior in the context of the pandemic

Article Title	Topics
Mental health service users' experiences of telehealth interventions facilitated during the COVID-19 pandemic and their relevance to nursing: an integrative review. By: bright, ann-marie; doody, owen. Journal of psychiatric & mental health nursing (john wiley & sons, inc.). Dec 2023, vol. 30 issue 6, pp.1114-1129. 16p.	Cinahl database; psychology information storage & retrieval systems; medical databases; nursing; medical information storage & retrieval systems; systematic reviews; patients' attitudes; nursing practice; descriptive statistics; data analysis software; medline; COVID-19 pandemic; telemedicine; mental health services; residential mental health and substance abuse facilities; psychiatric and substance abuse hospitals; offices of mental health practitioners (except physicians)
Evaluating A Pandemic Chat Service In A Consumer Health Library. By: Prilop, Valerie. Journal Of Hospital Librarianship. Jan-Mar2023, Vol. 23 Issue 1, pp. 21-28. 8p.	Computer software; medical libraries; internet; satisfaction; health information services; human services programs; learning strategies; interpersonal relations; text messages; stay-at-home orders; COVID-19 pandemic;
Mental Health Care Using Video During Covid-19: Service User And Clinician Experiences, Including Future Preferences. By: Samad, Lamiya; Teague, Bonnie; Elzubeir, Khalifa; Moreira, Karen; Agarwal, Nita; Bagge, Sophie; Marriott, Emma; Wilson, Jonathan. Mental Health Review journal. 2023, vol. 28 issue 1, pp. 93-111. 19p.	Physicians' attitudes; patients' attitudes; chi-squared test; content analysis; mental health services; COVID-19 pandemic; telemedicine; residential mental health and substance abuse facilities; psychiatric and substance abuse hospitals; offices of mental health practitioners (except physicians); offices of physicians; offices of physicians (except mental health specialists)
COVID-19 Patient Education And Consumer Health Information Resources And Services. By: Morgan-Daniel, Jane; Ansell, Margaret; Adkins, Lauren E. Journal Of Consumer Health On The Internet. Jul-Sep 2020, Vol. 24 Issue 3, pp. 302-313. 12p.	Books; health; information resources management; interprofessional relations; medicine information services; patient education; public health; video recording; information resources; occupational roles; information needs; health literacy; health information services; COVID-19

Source: own study.

The articles described various types of educational services in the context of remote teaching and learning (distance education, online education, stay-at-home education) and educational technology. They also discussed the issues of medical education, higher education, training, internships, conferences and seminars, teaching methods, and the learning management system. Most of the articles focused on information (information resources, academic libraries, general data protection regulation, access to information) (Table 1.30).

Table 1.29. Education and consumers in the context of the COVID-19 pandemic – characteristics of the analyzed articles (N=94, in numbers)

Language	No.	Publisher	No.*	Publication name	No.*
English	81	Elsevier B.V.	15	Computer Law & Security Review	4
Portuguese	4	Taylor & Francis Ltd	15	Expert Systems	4
Turkish	3	Wiley-Blackwell	7	Journal of Academic Librarianship	4
Persian	2	Springer Nature	5	Journal of Nutrition Education & Behavior	4

Table 1.29. (Continued)

Language	No.	Publisher	No.*	Publication name	No.*
Others (Arabic, Chinese, Korean, Spanish)	4	Library Philosophy & Practice	4	Library Philosophy & Practice	4
		Sage Publications Inc.	4	Journal of Social Work Education	3

** Includes publishers and names of publications found in at least three articles.*
Source: own study.

Table 1.30. Education and consumers in the context of the COVID-19 pandemic – results of bibliometric analysis by keywords (thesaurus entries) in the studied articles (N=94, number)

Specification	Thesaurus terms	No.*
Pandemics	COVID-19 pandemic	70
	COVID-19	21
	pandemics	4
	sars-cov-2	4
Distance education	distance education	11
	online education	11
	stay-at-home orders	5
	educational technology	3
	world wide web	3
Education	medical education	8
	higher education	5
	teaching methods	6
	conferences & conventions	5
	internship programs	5
	universities & colleges	4
	fieldwork (educational method)	4
	social work education	4
	nutrition education	3
	training	3
	students	3
	learning management system	3
	medical teaching personnel	3
Information	information resources	6
	academic libraries	5
	general data protection regulation	4
	access to information	3
Methodological issues	questionnaires	3

** Includes thesaurus entries found in at least three articles.*
Source: own study.

Educational services in the context of the pandemic were addressed in 18 countries from almost all regions of the world (Table 1.31). The articles referred to 33 NAICS industries, including administration of education programs, all other miscellaneous schools and instruction, colleges, universities, and professional schools, internet publishing and broadcasting, web search portals, and libraries and archives.

Table 1.31. Countries and NAICS industries analyzed in the researched articles on education and consumers in the context of the pandemic (number). The number of countries is 12, and the NAICS industries are 33.

<table>
<tr><th>Country</th><th>No.</th><th>NAICS Industry</th><th>No.*</th></tr>
<tr><td>India</td><td>7</td><td>administration of education programs</td><td>23</td></tr>
<tr><td>Georgia</td><td>3</td><td>all other miscellaneous schools and instruction</td><td>20</td></tr>
<tr><td>Pakistan</td><td>2</td><td>colleges, universities, and professional schools</td><td>13</td></tr>
<tr><td>South Africa</td><td>2</td><td>internet publishing and broadcasting and web search portals</td><td>9</td></tr>
<tr><td>Turkey</td><td>2</td><td>libraries and archives</td><td>9</td></tr>
<tr><td>Ukraine</td><td>2</td><td>educational support services</td><td>7</td></tr>
<tr><td>Brazil</td><td>2</td><td>convention and trade show organizers</td><td>5</td></tr>
<tr><td rowspan="5">Others (Argentina, Australia, China, Indonesia, Nigeria, Canada, Poland, Singapore, Spain, Taiwan United Arab Emirates)</td><td rowspan="5">11</td><td>libraries</td><td>4</td></tr>
<tr><td>other individual and family services</td><td>4</td></tr>
<tr><td>other local, municipal, and regional public administration</td><td>4</td></tr>
<tr><td>other provincial and territorial public administration</td><td>4</td></tr>
<tr><td>electronics stores</td><td>3</td></tr>
</table>

* *Includes NAICS industries found in at least two articles.*
Source: own studies.

Narrowing the search for articles on educational services in the context of the pandemic to keywords including educational services, consumers, and pandemics in the title identified 16 publications on this topic. Table 1.32 includes selected articles according to significance and topic.

Table 1.32. Selected scientific articles on education services and consumer behavior in the context of the pandemic

Article Title	Topics
Providing Information Resources To Remote Clients During The COVID-19 Pandemic: The Perspective Of The Distance Education Academic Libraries. By: Dube, Tinyiko Vivian. Library Philosophy & Practice. 2022, pp. 1-33. 33p.	Academic libraries; distance education; COVID-19 pandemic; information resources; library education
Teleworking And Clients' Perception Of Frontline Services: Evidence In Higher Education During The COVID-19 Pandemic. By: Zhang, Youlang; Hu, Wei. Public Performance & Management Review. 2023, Vol. 46 Issue 3, pp. 585-611. 27p	COVID-19 pandemic; Telecommuting; Public opinion; Bureaucracy; China; Psychology of students; Higher education;
The Deployment Of Chatbot To Improve Customer Service In Higher Education Institutions During COVID-19. By: Silva Gonçalves, Gustavo; De Luca Sant'ana Ribeiro, Thiago; Valladares Teixeira, Jose Eduardo; Kramer Costa, Benny. International Journal Of Innovation (2318-9975). Jan-Apr 2022, Vol. 10 Issue 1, pp. 178-203. 26p	Chatbots; universities & colleges; customer services; economic demand; COVID-19; colleges, universities, and professional schools
User Experience Of Distance Education In Online Learning Attitude, Perceived Value And Behavioral Intentions Of Taiwanese College Students During Covid-19. By: Long-Yuan, Lee. International Journal Of Organizational Innovation. Jan 2022, Vol. 14 Issue 3, pp. 10-26. 17p.	COVID-19 pandemic; administration of education programs; all other miscellaneous schools and instruction; distance education; online education; student attitudes; user experience; college students
Evaluating the Mobile Learning Quality for Promoting the User Needs in Taiwanese Higher Education During COVID-19. By: Lu, Ming-Tsang; Huang, Jui-Chieh; Wang, Ming-Hui. International Journal of Information Technology & Decision Making. Feb 2023, pp. 1-21. 21p.	Mobile learning, higher education, user needs, COVID-19

Source: own study.

The pandemic crisis and the related restrictions will also self-evidently affect the tourism industry. Therefore, it was decided to analyze the scientific literature in this area. We identified 63 articles covering tourism and consumers in the context of the pandemic. Again, the majority were published in English (Table 1.33). Most were published by Sage Publications Inc., Wiley-Blackwell, MDPI, Taylor & Francis Ltd, and Sciendo. They have been released in many scientific journals, mostly in the Journal of Travel Research and Scientific Papers Series Management, Economic Engineering in Agriculture & Rural Development.

Table 1.33. Tourism and consumers in the context of the COVID-19 pandemic – characteristics of the analyzed articles (2020-2023; N=63, in numbers)

Language	**No.**	**Publisher**	**No.***	**Publication name**	**No.***
English	51	Sage Publications Inc.	6	Journal of Travel Research	4
Portuguese	4	Wiley-Blackwell	6	Scientific Papers Series Management, Economic Engineering In Agriculture & Rural Development	3
Spanish	3	Mdpi	5		
Others (Hungarian, Persian, Slovak, Turkish, Ukrainian)	5	Taylor & Francis Ltd	5		
		Sciendo	3		
		University Of Agronomical Medical Sciences & Veterinary Medicine Bucharest	3		

* *Includes publishers and names of publications found in at least three articles.*
Source: own study.

The results of the bibliometric analysis indicate that the issue of tourist services during the pandemic was most often discussed in the context of domestic and international tourism, rural tourism, and medical tourism (Table 1.34). The issues of tourist attractions and recreational areas were addressed. The articles also touched on the issue of traveling in the context of pandemic restrictions, the automotive industry, and urban transport. Some of the articles concerned travel agents, tour brokers, and operators. The articles also included the topic of innovative solutions in tourism, such as the use of digital technology or virtual tourism.

The topic of tourist services was discussed against the backdrop of 20 countries, mostly European (Table 1.35). We identified 33 NAICS industries described in the researched publications. The most common were hotels (except casino hotels) and motels; all other amusement and recreation industries; all other traveler accommodations; bed-and-breakfast inns; casino hotels; convention and visitors bureaus; recreational and vacation camps (except campgrounds); RV (recreational vehicle) parks and campgrounds.

Table 1.34. Tourism and consumers in the context of the COVID-19 pandemic – results of bibliometric analysis by keywords (thesaurus entries) in the studied articles (N=63, number)

Specification	**Thesaurus terms**	**No.***
Pandemics	COVID-19 pandemic	42
	COVID-19	21

Table 1.34. (Continued)

Specification	Thesaurus terms	No.*
Pandemics	pandemics	9
	sars-cov-2	2
Tourism	tourism	30
	rural tourism	7
	tourist attractions	4
	international tourism	3
	sustainable tourism	3
	tourism impact	3
	domestic tourism	2
	recreation areas	2
	tourism economics	2
	medical tourism	2
Consumer	consumer behavior	11
	consumer attitudes	2
	consumer confidence	2
	customer satisfaction	2
	generation z	2
	millennials	2
	city dwellers	2
Hotels & Hospitality	hospitality industry	5
	hotels	3
	tourist attractions	4
	hospitality industry personnel	2
Travel	travel restrictions	4
	automobile industry	2
	urban transportation	2
	travel agents	2
	tour brokers & operators	2
	travel hygiene	2
Digital solutions	digital technology	2
	virtual tourism	3
Others	infrastructure (economics)	2
	rural geography	2
	service industries	2
	social impact	2
	suburbs	2

Table 1.34. (Continued)

Specification	Thesaurus terms	No.*
Others	sustainable development	2
	economic impact	2

* *Includes thesaurus entries found in at least three articles.*
Source: own study.

Table 1.35. Countries and NAICS industries analyzed in the researched articles on tourism and consumers in the context of the pandemic (number)

Country	No.	NAICS Industry	No.*
Ukraine	3	hotels (except casino hotels) and motels	32
China	2	all other amusement and recreation industries	30
Oman	2	all other traveler accommodation	30
Poland	2	bed-and-breakfast inns	30
Portugal	2	casino hotels	30
Slovenia	2	convention and visitors bureaus	30
Bulgaria	2	recreational and vacation camps (except campgrounds)	30
Others (Colombia, Greece, Hungary, Indonesia, Japan, South Africa, New Zealand, Norway, Papua New Guinea, Romania, Serbia, Spain, Vietnam)	13	RV (recreational vehicle) parks and campgrounds	30
		hotels	5
		commercial and institutional building construction	3

* *Includes NAICS industries found in at least three articles.*
Source: own study.

Narrowing the search for articles to those with the keywords tourism, consumers, and pandemics in the title allowed us to identify seven publications. Table 1.36 presents the most relevant of them and their subject matter.

Table 1.36. Selected scientific articles on tourism and consumer behavior in the context of the pandemic

Article Title	Topics
Firms' Responses To The COVID-19 Crisis In The Tourism Industry: Effects On Customer Loyalty And Economic Performance. By: Magno, Francesca; Cassia, Fabio. Anatolia: An International Journal Of Tourism & Hospitality Research. Jun 2022, Vol. 33 Issue 2, pp.263-265. 3p	Customer loyalty; COVID-19 pandemic; tourism; economic indicators; business enterprises; tourism marketing; cost control; tourism economics
The Impact Of Major Crises On The Behaviour Of The Consumer Of Tourism Services - A Perspective On The Impact Of The COVID-19 Crisis. By: Milos (Ilie), Constantina-Alina; Moraru, Andreea-Daniela. Ovidius University Annals, Series Economic Sciences. 2023, Vol. 23 Issue 1, pp. 696-702. 7p.	Consumer behavior; COVID-19 pandemic; socioeconomic factors; medical sciences; crises; international tourism

Table 1.36. (Continued)

Article Title	Topics
Enhancing Consumer Confidence and Response Efficacy in Tourism: Typology and Effectiveness of the Hotel Industry's Responses to COVID-19. By: Kim, Hyunsu; Li, Jing; So, Kevin Kam Fung. Journal of Travel Research. Apr 2023, Vol. 62 Issue 4, pp. 907-925. 19p.	Consumer behavior; consumer confidence; COVID-19 pandemic; consumer attitudes; protection motivation theory; hotels; food tourism
Changes in the Consumer Behavior of Tourism Participants under the Influence of the Covid-19 Pandemic. By: Šambronská, Kristina; Kačkošová, Daniela. Young Science / Mladá Veda. 2023, Vol. 11 Issue 3, pp. 105-115. 11p.	Consumer behavior; travel agents; COVID-19 pandemic; brand loyalty; consumers; travel agencies
Impact of Consumer Awareness and Behavior on Business Exits in the Hospitality, Tourism, Entertainment, and Culture Industries under the COVID-19 Pandemic. By: Okamuro, Hiroyuki; Hara, Yasushi; Iwaki, Yunosuke. Administrative Sciences (2076-3387). Dec 2022, Vol. 12 Issue 4, p.169. 19p.	COVID-19 pandemic; tourism cultural industries; hospitality

Source: own study.

A bibliometric analysis of articles on tourism in the context of the pandemic showed that many of them focused on travel. Therefore, it was decided to deepen the search for articles on travel and consumers in the context of the pandemic. We identified 38 publications, mainly in English. Elsevier B.V. and Taylor & Francis Ltd most often published them. The articles have been published in many scientific journals, most in Transport Policy (Table 1.37)

Table 1.37. Travel and consumers in the context of the COVID-19 pandemic – characteristics of the analyzed articles (N=38, in numbers)

Language	No.	Publisher	No.*	Publication name	No.*
English	34	Elsevier B.V.	22	Transport Policy	8
Turkish	3	Taylor & Francis Ltd	9	Cities	4
Spanish	1	Sage Publications Inc.	4	Journal Of Transport Geography	4
				Journal Of Travel Research	4
				Transportation Research Part A: Policy & Practice	4

* *Includes publishers and names of publications found in at least three articles.*
Source: own studies.

The topic of travel was most often addressed in the context of tourism, public transport, and the choice of means of transport (Table 1.38). Some articles focused on air transport, the automotive industry, and travelers. The issue of urban transport and transport costs was also discussed. The publications also referred to information technology and the application of smart cards, big data, data mining, and ICT. The topic of travel in the context of the pandemic also dealt with employees and covered telecommuting, employee vacancies, and attitudes toward work.

Table 1.38. Travel and consumers in the context of the COVID-19 pandemic – results of bibliometric analysis by keywords (thesaurus entries) in the studied articles (N=38, number)

Specification	Thesaurus terms	No.*
Pandemics	COVID-19 pandemic	35
	COVID -19	30
	pandemics	3
	sars-cov-2	2
Travel/transportation/transit/tourism	public transit	7
	choice of transportation	6
	tourism	5
	commuting	4
	air travel	2
	automobile industry	2
	transportation industry	2
	travel agents	2
	travel costs	2
	travel hygiene	2
	urban transportation	2
Consumer	consumer behavior	6
	consumers	4
	business travelers	3
	commuters	2
	intention	2
	consumer preferences	2
	risk perception	2
	decision making	2
Employees	telecommuting	5
	employee vacations	2
	attitudes toward work	2
Information technology	Smart cards	2
	big data	2

Table 1.38. (Continued)

Specification	Thesaurus terms	No.*
Information technology	data mining	2
	information & communication technologies	2
Others	organizational socialization	2
	central business districts	2
	economic policy	2
	hospitality industry	2
	subsidies	2

** Includes thesaurus entries found in at least two articles.*
Source: own study.

Travel in the context of the pandemic was described against the backdrop of 15 countries in different regions of the world (Table 1.39). The articles covered 39 NAICS industries, mostly mixed-mode transit systems and urban transit systems.

Table 1.39. Countries and NAICS industries analyzed in the researched articles on travel and consumers in the context of the pandemic (number); the number of countries is 15, and the NAICS industries are 39.

Country	No.	NAICS Industry	No.*
USA	5	mixed-mode transit systems	9
India	3	other urban transit systems	9
Germany	2	urban transit systems	9
Portugal	2	bus and other motor vehicle transit systems	7
Australia	2	other heavy and civil engineering construction	7
Norway	2	all other amusement and recreation industries	5
South Korea	2	all other traveler accommodation	5
Korea	2	bed-and-breakfast inns	5
Others (China, Denmark, Greece, Italy, Japan, Taiwan, Vietnam)	7	casino hotels	5
		convention and visitors bureaus	5
		hotels (except casino hotels) and motels	5
		recreational and vacation camps (except campgrounds)	5
		RV (recreational vehicle) parks and campgrounds	5

** Includes NAICS industries found in at least three articles.*
Source: own study.

Narrowing the article search to travel, consumers, and pandemics in the title identified 11 publications. Table 1.40 presents the most relevant ones and their subject matter.

Table 1.40. Selected scientific articles on travel and consumers in the context of the pandemic

Article Title	Topics
Changes In Tourist Decisions In The Shadow Of The Global Crisis - How Travel Preferences And Consumer Priorities Evolved During COVID-19 And Beyond. By: Behringer, Zsuzsanna; Kulcsár, Noémi; Hinek, Mátyás; Tevely, Titanilla. Marketing & Menedzsment. 2023, Vol. 57 Issue 2, pp. 61-70. 10p.	Consumers; COVID-19 pandemic; tourists, travel
A User Opinion Survey On The Probable Impact Of COVID-19 On Long-Distance Travel In India. By: Kamplimath, Hemanth; Shivam, Sheth; Goenka, Shubh. Transportation Letters. Jun 2021, Vol. 13 Issue 5/6, pp. 388-394. 7p.	COVID-19 ; choice of transportation; COVID-19 pandemic; wage decreases; unemployment; India
Explaining US Travel Behavior With Perceived Threat Of Pandemic, Consumer Sentiment, And Economic Policy Uncertainty. By: Chi, Junwook. Transport Policy. Jun 2023, Vol. 137, pp. 90-99. 10p.	Consumer behavior; consumers; air travel; United States; scheduled passenger air transportation; nonscheduled chartered passenger air transportation; scheduled air transportation
Determining The Opinions Of Travel Agency Customers In The COVID-19 Process. By: Mercanoğlu, Anıl Onur; Öztaş, Hilal; Adigüzel, Aktem. Yüzüncü Yil Üniversitesi Sosyal Bilimler Enstitüsü Dergisi. 2023, Issue 61, pp. 418-437. 20p.	Travel agents; pandemics; tourism; convention and visitors bureaus; recreational and vacation camps (except campgrounds); RV (recreational vehicle) parks and campgrounds; all other traveler accommodation; bed-and-breakfast inns; casino hotels; hotels (except casino hotels) and motels; all other amusement and recreation industries; travel agencies
The Effects Of COVID-19 Pandemic On The Aviation Sector: A Research On Consumers' Attitudes Towards Air Travel. By: Songur, Üyesi Ahmet. Visionary E-Journal / Vizyoner Dergisi. 2023, Vol. 14 Issue 39, pp. 787-803. 17p.	COVID-19 pandemic; structural equation modeling; coronaviruses; consumer behavior; consumers, air travel

Source: own study.

The tourism industry also includes accommodation services, which have also been subject to various restrictions during the pandemic. Therefore, it was decided to deepen the analysis of scientific journals in this area. We identified 64 articles on accommodation and consumers in the context of COVID-19; most were published in English (Table 1.41). The publications were released mainly by Taylor & Francis Ltd and Emerald Publishing Limited. The articles have been published in many scientific journals, predominantly in the International Journal of Contemporary Hospitality Management and the Journal of Quality Assurance in Hospitality & Tourism.

Table 1.41. Accommodation and consumers in the context of the COVID-19 pandemic – characteristics of the analyzed articles (2020-2023; N=64, in numbers)

Language	No.	Publisher	No.*	Publication name	No.*
English	61	Taylor & Francis Ltd	20	International Journal of Contemporary Hospitality Management	10
Others (Bulgarian. Turkish, Ukrainian)	3	Emerald Publishing Limited	12	Journal of Quality Assurance In Hospitality & Tourism	6
		Elsevier B.V.	5	Journal of Hospitality Marketing & Management	4
		Sage Publications Inc.	4	Anatolia: An International Journal Of Tourism & Hospitality Research	3

* *Includes publishers and names of publications found in at least three articles.*
Source: own study.

The results of the bibliometric analysis indicate that the topic of accommodation services in the context of the pandemic was described mainly from the perspective of hotel services. In addition, restaurant services and service quality were analyzed. Consumers were also considered in terms of their behavior, satisfaction, loyalty, attitudes, and trust (Table 1.42).

Table 1.42. Accommodation and consumers in the context of the COVID-19 pandemic – results of bibliometric analysis by keywords (thesaurus entries) in the studied articles (N=64, number)

Specification	Thesaurus terms	No.*
Pandemics	COVID-19 pandemic	41
	COVID -19	24
Hotels	hotels	25
	tourism	8
	hotel ratings & rankings	3
	hotelkeepers	3
	hotel employees	2
	hotel management	2
Consumers	customer experience	6
	consumer behavior	5
	customer satisfaction	5
	consumer attitudes	3
	customer loyalty	3
	consumer confidence	2
Services	quality of service	3

Table 1.42. (Continued)

Specification	Thesaurus terms	No.*
Services	restaurant customer services	3
	delivery of goods	2
	contactless payment systems	3
	local delivery services	2
	hotel restaurants	2
Others	employee psychology	2
	protection motivation theory	2
	risk aversion	2
	sharing economy	2
	small business	2
	user-generated content	2
	willingness to pay	2

* *Includes thesaurus entries found in at least two articles.*
Source: own study.

Publications on accommodation-related services concerned 12 countries and 37 industries (Table 1.43). Most articles focused on hotels (except casino hotels) and motels.

Table 1.43. Countries and NAICS industries analyzed in the researched articles on accommodation and consumers in the context of the pandemic (number).

Country	No.	NAICS Industry	No.*
China	6	hotels (except casino hotels) and motels	39
Spain	4	commercial and institutional building construction	29
India	2	hotels	29
Nigeria	2	all other amusement and recreation industries	8
Taiwan	2	all other traveler accommodation	8
Zimbabwe	2	bed-and-breakfast inns	8
Others (Lebanon, Greece, Kenya, USA, Thailand, Ukraine	6	casino hotels	8
		convention and visitors bureaus	8
		recreational and vacation camps (except campgrounds)	8
		RV (recreational vehicle) parks and campgrounds	8
		all other building equipment contractors	3
		full-service restaurants	3

* *Includes NAICS industries found in at least three articles.*
Source: own study.

Narrowing the search for articles on accommodation, consumers, and pandemic in the title led to 17 key publications on this topic. Table 1.44 presents the most relevant of them and their topics.

Table 1.44. Selected scientific articles on accommodation and consumer behavior in the context of the pandemic

Article Title	Topics
Exploring Dimensions of The Customer Experience at Budget Hotels During the COVID-19 Pandemic: A Netnography Approach. By: Girija, Smitha; Sharma, Devika Rani; Kaushal, Vaishali. Qualitative Market Research: An International Journal. 2023, Vol. 26 Issue 4, pp. 320-344. 25p.	COVID -19 pandemic; customer experience; hotels (except casino hotels) and motels; hotel guests; luxury hotels; two-dimensional bar codes; travel restrictions; thematic analysis
Understanding The Opaque Priority Of Safety Measures And Hotel Customer Choices After The COVID-19 Pandemic: An Application Of Discrete Choice Analysis. By: Park, Soona; Lehto, Xinran. Journal Of Travel & Tourism Marketing. Oct 2021, Vol. 38 Issue 7, pp. 653-665. 13p	COVID-19 pandemic; safety; COVID-19; willingness to pay; communal living; hotels; hotels (except casino hotels) and motels; commercial and institutional building construction; hotels
Enhancing Consumer Confidence and Response Efficacy in Tourism: Typology and Effectiveness of the Hotel Industry's Responses to COVID-19. By: Kim, Hyunsu; Li, Jing; So, Kevin Kam Fung. Journal Of Travel Research. Apr 2023, Vol. 62 Issue 4, pp. 907-925. 19p.	Consumer behavior; consumer confidence; COVID-19 pandemic; consumer attitudes; protection motivation theory; hotels; food tourism; hotels; construction; hotels (except casino hotels) and motels
Factors Influencing Choice of Accommodation During COVID-19: A Mixed-Methods Study of Italian Consumers. By: Del Chiappa, Giacomo; Pung, J. M.; Atzeni, M. Journal Of Quality Assurance In Hospitality & Tourism. 2022, Vol. 23 Issue 4, pp.1037-1063. 27p.	COVID -19; local delivery services; social distancing; consumer behavior; convenience sampling (statistics); room service; local messengers and local delivery
Social CRM: Linking the Dots of Customer Service and Customer Loyalty During COVID-19 in the Hotel Industry. By: Afaq, Anam; Gaur, Loveleen; Singh, Gurmeet. International Journal Of Contemporary Hospitality Management. 2023, Vol. 35 Issue 3, pp. 992-1009. 18p.	COVID -19 pandemic; customer loyalty; customer relationship management; customer services; hotels; hotel chains; customer relations; hotels; hotels (except casino hotels) and motels;

Source: own study.

Given consumer behavior in the context of the pandemic, it was also essential to identify scientific literature on catering services. We identified 90 articles dealing with this topic. Again, the vast majority are English-language publications (Table 1.45). The publications were primarily released by two publishers, Taylor & Francis Ltd and Elsevier B.V. The articles have been published in many scientific journals, predominantly in the Journal of Foodservice Business Research.

Table 1.45. Foodservice and consumers in the context of the COVID-19 pandemic – characteristics of the analyzed articles (N=90, in numbers)

Language	No.	Publisher	No.*	Publication name	No.*
English	83	Taylor & Francis Ltd.	38	Journal of Foodservice Business Research	18
Korean	2	Elsevier B.V.	12	International Journal of Contemporary Hospitality Management	4
Spanish	2	Emerald Publishing Limited	6	Journal of Hospitality Marketing & Management	4
Others (Portuguese, Spanish, Turkish)	3	Wiley-Blackwell	5	Journal of Quality Assurance In Hospitality & Tourism	4
		Sage Publications Inc.	3	Socio-Economic Planning Sciences	4

* *Includes publishers and names of publications found in at least three articles.*
Source: own study.

The results of the bibliometric analysis indicate that the articles most often described restaurants, food service, restaurant consumer service, and the quality of services. The articles also addressed food-related issues, such as food quality, safety, waste, and supplies. Issues related to consumer behavior and consumer satisfaction were also discussed. (Table 1.46).

Table 1.46. Food service and consumers in the context of the COVID-19 pandemic – results of bibliometric analysis by thesaurus terms in the studied articles (N=83, number)

Specification	Thesaurus terms	No.*
Pandemics	COVID-19 pandemic	44
	COVID-19	22
	Pandemics	5
Restaurants and food service	Restaurants	17
	food service	15
	restaurant customer services	10
	quality of service	5
	beverage service	3
	contactless payment systems	8
	hotel restaurants	2
	restaurant personnel	2
Consumers	consumer behavior	10
	consumers	7
	customer satisfaction	6

Table 1.46. (Continued)

Specification	Thesaurus terms	No.*
Consumers	consumer attitudes	4
	customer co-creation	3
	consumer contracts	2
	consumer preferences	2
	public opinion	2
	restaurant customers	2
Food	waste minimization	4
	food quality	3
	food safety	3
	food waste	2
Delivery	local delivery services	19
	drone aircraft delivery	4
Others	service industries	6
	patronage	4
	online shopping	3
	willingness to pay	3
	Hotels	2
	industrial hygiene	2
	perceived benefit	2
	protection motivation theory	2
	risk aversion	2
	risk perception	2
	social distancing	2
	value creation	2

* *Includes thesaurus entries found in at least two articles.*
Source: own study.

The topic of food service was discussed against the backdrop of 16 countries from various regions of the world. The articles described 37 NAICS industries, mostly full-service restaurants (Table 1.47).

By narrowing the search to articles with food service, consumers, and the pandemic in the title, we identified 29 critical publications on the researched topic. The most pertinent of them are presented in Table 1.48.

Table 1.47. Countries and NAICS industries analyzed in the researched articles on food service and consumers in the context of the pandemic (number)

Country	No.	NAICS Industry	No.*
India	5	full-service restaurants	29
Taiwan	4	all other building equipment contractors	26
Brazil	2	commercial and institutional building construction	26
Pakistan	2	local messengers and local delivery	19
Thailand	2	mobile food services	16
USA	2	service establishment equipment and supplies merchant wholesalers	6
Romania	2	marketing consulting services	4
Iran	2	electronic shopping	3
Others (Greece, Indonesia, Italy, Japan, Malaysia, Malta, Mexico, Turkey)	8	electronic shopping and mail-order houses	3
		hotels (except casino hotels) and motels	3
		mail-order houses	3
		marketing research and public opinion polling	3

* *Includes NAICS industries found in at least three articles.*
Source: own study.

Table 1.48. Selected scientific articles on food service and consumer behavior in the context of the pandemic

Article Title	Topics
Satisfactions (sic!) of Customers by Using Online Food Application Services During COVID-19 Pandemic. By: Rosa, Honeylyn R. Dela; Separa, Lenis Aislinn C. International Journal Of Multidisciplinary: Applied Business & Education Research. Sep 2022, Vol. 3 Issue 9, pp. 1765-1776. 12p	COVID-19 pandemic; customer satisfaction; local delivery services; quantitative research; Mann-Whitney U Test; local messengers and local delivery; snowball sampling
Understanding Restaurant Users' Attitudes Towards Self-Service Ordering via Kiosks During the COVID-19 Pandemic: An Application of the Theory of Anxiety. By: Kim, Gyunghoon; Park, Seo Ah. Tourism & Hospitality Research. Jan 2024, Vol. 24 Issue 1, pp. 80-94. 15p.	Interactive kiosks; COVID-19 pandemic; consumer attitudes; self-service (economics); restaurants; full-service restaurants; psychological factors
Key Factors Driving Customers' Restaurant Dining Behavior During the COVID-19 Pandemic. By: Jeong, Miyoung; Kim, Kawon; Ma, Forest; Dipietro, Robin. International Journal of Contemporary Hospitality Management. 2022, Vol. 34 Issue 2, pp. 836-858. 23p.	COVID-19 pandemic; restaurant customers; contactless payment systems; willingness to pay; full-service restaurants; meals; structural equation modeling

Table 1.48. (Continued)

Article Title	Topics
Service Innovation in the Restaurant Sector During COVID-19: Digital Technologies to Reduce Customers' Risk Perception. By: Esposito, Benedetta; Sessa, Maria Rosaria; Sica, Daniela; Malandrino, Ornella. Tqm Journal. 2022, Vol. 34 Issue 7, pp. 134-164. 31p	Consumers; digital transformation; restaurant customer services; organizational resilience; Italy; full-service restaurants; risk perception; digital technology
Post-COVID-19 Recovery for Independent Full-Service Restaurants Using the Salience Theory: What Will It Take to Get Customers to Return? By: Sun, Xiaodi; Ge, Li; Marvil, Charles. International Journal Of Contemporary Hospitality Management. 2022, Vol. 34 Issue 12, pp. 4609-4630. 22p.	Consumers; restaurants; consumer preferences; COVID-19; all other building equipment contractors; full-service restaurants;

Source: own study.

The analysis also included cultural and entertainment services in the context of consumer behavior and the pandemic. We only identified ten scientific articles on this issue – seven in English and one each in Spanish, Portuguese, and Turkish. The articles covered countries such as China, Saudi Arabia, Columbia, and Türkiye. They were related to NAICS industries, such as administration of public health programs, all other amusement and recreation industries, all other traveler accommodation, bed-and-breakfast inns, casino hotels, convention and visitors bureaus, hotels (except casino hotels) and motels, recreational and vacation camps (except campgrounds), RV (recreational vehicle) parks and campgrounds. Examples of articles and their topics are included in Table 1.49.

The results of the bibliometric analysis indicate that consumer behavior in the context of the pandemic covered consumption, shopping, and online shopping, consumption, and food waste. The analyzed articles also included many references to business and marketing, i.e., food prices, e-commerce, internet marketing, and technological innovations.

The issue of consumers and innovation in the context of the pandemic was described in terms of various types of technological, open, business, and social innovations and their diffusion. Digital transformation and digital technologies were also analyzed. The topic was also addressed from the point of view of business and marketing.

Table 1.49. Culture and entertainment in the context of consumer behavior during the pandemic – selected articles

Title	Topics
The Measurement of the Entertainment and Information Based Social Media Usage in Turkey During the COVID-19 Pandemic. By: Ayik, Yeliz. Istanbul Aydin University Journal Of Social Sciences / Istanbul Aydin Üniversitesi Sosyal Bilimler Dergisi. Jan 2022, Vol. 14 Issue 1, pp. 115-138. 24p.	quantitative research; social media; inferential statistics; demographic characteristics; statistical software; social informatics; Turkey
Understanding Entertainment Trends during COVID-19 in Saudi Arabia. By: Aldawod, Amaal; Alsakran, Raseel; Alrasheed, Hend. Information (2078-2489). Jul 2022, Vol. 13 Issue 7, pp. 308-308. 11p.	social media; sentiment analysis; COVID-19; COVID-19 pandemic; social contact; Saudi Arabia
Disrupted rhythms of life, work, and entertainment and their associations with psychological impacts under the stress of the COVID-19 pandemic: A survey in 5854 Chinese people with different sociodemographic backgrounds. By: Yang, Min; He, Ping; Xu, Xiaoming; Li, Dan; Wang, Jing; Wang, Yanjun; Wang, Bin; Wang, Wo; Zhao, Mei; Lin, Hui; Deng, Mingming; Deng, Tianwei; Kuang, Li; Chen, Dongfeng. PLoS ONE. 5/17/2021, Vol. 16 Issue 5, pp. 1-15. 15p.	COVID-19 Pandemic; pandemics; psychological factors; COVID-19; Chinese people; Psychological stress; China
Tourism for Entertainment: Using an Expanded Marketing Mix in a Post-Pandemic Situation. By: Hossain, Afjal; Easmin, Farjana. Abhigyan. 2023, Vol. 41 Issue 3, pp. 2-12. 11p.	Tourism, entertainment, marketing mix, post-pandemic situation
Face-To-Face Entertainment Activities and Traditional Contact with the Media vs. the Use of Streaming Platforms during COVID-19 in Colombia By: López Celis, Diana María; Eugenia Peñalosa, Mónica. Revista Face. 2022, Vol. 22 Issue 2, pp. 69-78. 10p	Face-to-face entertainment, traditional media, streaming platforms, COVID-19, Columbia

Source: own study.

In the context of the pandemic, articles on retail and consumers referred to the retail industry, retail chains, and retail stores. Many articles discussed e-commerce. Retail trade was also described in connection with food and new technologies. Publications on e-commerce and consumers in the context of the pandemic concerned electronic shopping, electronic commerce, internet shopping, and electronic sales. They were also related to stay-at-home orders, mobile commerce, internet marketing, and legal regulations regarding e-commerce.

The issue of delivery service was most often discussed in relation to local delivery services and delivery of goods. It also referred to innovative solutions such as drone aircraft delivery and contactless payment systems.

Analysis of articles on health services in the context of the pandemic indicates that many of them focused on mental and digital health services, access to medical services, and the quality of services provided. The topic of innovative solutions in health services, such as telemedicine and telepsychiatry, was also discussed.

The articles on educational services described various types of educational services in the context of distance teaching, learning, and educational technology. Most of the articles focused on information, including information resources, academic libraries, general data protection regulations, and access to information.

The issue of tourist services during the pandemic was most often discussed in the context of domestic and international tourism, rural tourism, and medical tourism. The problems of tourist attractions and recreational areas were covered. Travel was most often addressed in the context of tourism, public transport, and the choice of means of transport. Some articles focused on air transport, urban transport, the automotive industry, and transport costs.

Accommodation services in the context of the pandemic were mainly described from the perspective of hotel services. Restaurant services and service quality were also analyzed. Articles about catering services have most often described restaurants, food service, restaurant consumer service, and the quality of services.

The bibliometric analysis identified areas of research on consumer behavior conducted so far in the context of the COVID-19 pandemic. The results of the analysis inspired further research—direct research reaching out to consumers and experts as a source of information about the current and forecast consequences of the pandemic on the functioning of consumers and their households. The assumptions and results of this research are presented later in the book.

Chapter 2

METHODOLOGICAL ASPECTS OF EMPIRICAL RESEARCH ON CONSUMER BEHAVIOR IN A PANDEMIC SITUATION

To tackle contemporary economic or management problems effectively, relying solely on hard economic measures of the current situation and forecasts based on econometric models is insufficient. Especially in B2B or B2C relationships, with the growing importance of the Customer-Centric (Maciejewski et al., 2020, pp.42-49) or Customer Engagement concepts (Kucia, 2019, pp.40-55; Maciejewski & Krowicki, 2021, pp. 81-100). Therefore, it becomes necessary to interact with various groups of stakeholders, including cooperators, contractors, and, above all, consumers. Increasingly, only direct contact with these entities and conducting empirical research allow the organization to obtain knowledge that will enable it to solve the problem signaled by indicators and coefficients. The preventive measures imposed on societies to limit the spread of the SARS-CoV-2 virus have resulted in very stringent restrictions on conducting this type of activity. Researchers had to overcome many methodological problems to facilitate further research in a situation of limited contact with the subjects of this research – individuals.

2.1. Methodology of empirical research in a limited contact situation

First, it is necessary to refer to the division of science itself to show the position of empirical research and the research methods used in the social sciences methodology. The most appropriate criterion here seems to be the methods of justifying claims and building scientific theories. This criterion divides science into formal and empirical sciences (Nowak, 2008, p.20). When distinguishing formal and empirical sciences, as Apanowicz (2002, p.14) emphasized, differences in the subject of research and the method were taken into account, as well as in the type of formulation of statements and the way of justifying primary and derivative statements.

Formal sciences are based on the methodology of deductive sciences, i.e., deduction (synthesis – analysis – evaluation), and inference is based on the researcher moving from general to specific. The fundamental question in formal sciences is: What if? Formal sciences are, therefore, often referred to as rational, deductive, mathematical, or theoretical sciences. However, empirical sciences are based on the methodology of inductive sciences, i.e., induction (analysis – synthesis – evaluation) supported by experiment and/or observation. The researcher's way of reasoning is based on moving from the specific to the general. The basic questions in empirical science are about facts: What is it like? Questions about features: What is it? Questions about causes: What depends on what? How does it depend? (Apanowicz, 2000, pp.22-27). Empirical sciences are called inductive natural or applied (practical) sciences. Empirical sciences include all social sciences, including economics and finance, as well as management and quality sciences (Dz.U., 2018), for which the consumer is the most common market entity.

Each research problem, e.g., consumer behavior in a pandemic situation, in addition to adopting an appropriate research methodology at the level of philosophy science (Level I), also requires the selection of a proper general method and specific methods (Level II) together with research techniques and procedures (Level III), which result from them (Jagoda, Lichtarski, 2003, p.3; Lisiński, Szarucki, 2020, pp.53-56). Given the specific nature of social sciences and their practical side, it is assumed that it is most appropriate to solve problems in this field to use general methods, such as induction, hypothetico-deductive method, deduction, and abduction (Table 2.1).

Table 2.1. General methods applicable in social sciences

Induction method	Hypothetico-deductive method	Deduction method	Abduction method
Induction is the oldest of the reduction methods and the fundamental method of solving scientific problems. However, when analyzing the definitions of induction, even if the premises are true and accurate, there is no guarantee that the conclusions drawn will be valid. There are three known forms of this method: complete induction, incomplete induction, and eliminative induction.	It is otherwise called the method of empirical science. It refers to facts. Using this method, only somewhat probable statements are obtained. They are hypothetical in nature because they are only, to a certain extent, confirmed by the collected facts and events.	It is also called the method of formal sciences, the formalized method, or the axiomatic-deductive method. It does not refer to empirical facts but is based on logical facts. It is a process of reasoning moving from the general to the specific. These methods are reliable because the truth of the premises entails the truth of the conclusions.	It is used in heuristic processes, especially when formulating and verifying hypotheses. The strength of the abductive method is creativity, but its weakness is its unreliability, which is almost reduced to guessing solutions.

Source: own study based on: Such and Szcześniak (1999, p. 11); Apanowicz (2002, p. 25); Karpiński and Kojkoł (2002, p. 303); Hajduk (2012, pp. 74-75), Lisiński (2016, pp. 12-13); Lisiński and Szarucki (2020, pp. 99-103).

In many social science disciplines, attempts are made to formulate empirical laws that aim to determine the probability of events. This often involves the need to conduct empirical research (Lisiński, 2017, pp. 3-20), which should provide a statistical picture of the examined reality based on the researcher's contact with the study's subject and/or object. The researcher should have the opportunity to learn about the reality around them through sensory experiences, external or internal. For this reason, in most cases, the research process requires using a primary reduction method, such as the induction method, which is carried out based on the measurements taken. A properly organized and conducted measurement provides the basis for confirming the research hypotheses through their verification or confirmation (Rószkiewicz et al., 2013, pp. 7-9).

To make correct measurements during empirical research, it is also necessary to select detailed research methods and the research techniques and procedures that result from them (the previously mentioned Levels II and III of solving the research problem). When making decisions, one can use, among others, the division and description of the research methods of the previously mentioned Apanowicz, which are presented in Table 2.2 and then briefly characterized in terms of their usefulness in empirical research (Apanowicz, 2002, pp. 61-80).

Table 2.2. Specific methods applicable in social sciences and their usefulness in empirical research

Research method	Usefulness in Empirical Research
Statistical method	full
Diagnostic survey method	full
Monographic method	full
Individual case method	full
Heuristic (creative thinking) method	full
Projective method/projection techniques	full
Observation method	full
Experimental method	full
Computer simulation method	limited
Document examination method	negligible/not used
Literature (source) analysis and criticism method	negligible/not used
Analysis and logical construction method	negligible/not used

Source: own study based on Apanowicz (2002, p.61).

First, the statistical method, which is employed to collect and organize information and data regarding a given phenomenon, process, or system, should be mentioned here. It involves formulating conclusions based on specifically identified features of sets of statistical elements. Thanks to it, conclusions can be drawn about the characteristics of the entire community based on examining the characteristics of a limited but representative sample. This method may be qualitative or quantitative, which are not competitive with each other but complement each other.

The diagnostic survey method is similar to the statistical method. It involves a statistical method of collecting facts and data about structural and functional phenomena and the dynamics of their development. The collected data makes it possible to determine their scope, scale, level, and intensity. As a result, it allows for assessing the causes and consequences of these phenomena, leading to finding a solution to the examined problem. It is currently the most commonly used empirical research method in social sciences, especially in management and quality sciences, sociology, economics, and finance.

The researcher may adopt a heuristic method when statistical methods cannot be used for various reasons. It involves finding previously unknown solutions by revealing new facts and relationships between them in reality. It allows one to make the most appropriate decision in an unusual situation that requires examining available information. It is used to achieve a given result and transformed into the phase in which a solution is created. Heuristic methods include, among others, brainstorming, the Delphi method, the "pros and cons" method, and the expert assessment method. Some researchers also mention projective techniques when referring to heuristic methods. Others consider these techniques as a separate method. Projective techniques examine what is not conscious and has been reduced to the subconscious (Kędzior (ed.), 2005, p. 102). They are commonly used in psychology and psychiatry, management sciences, and quality in marketing research.

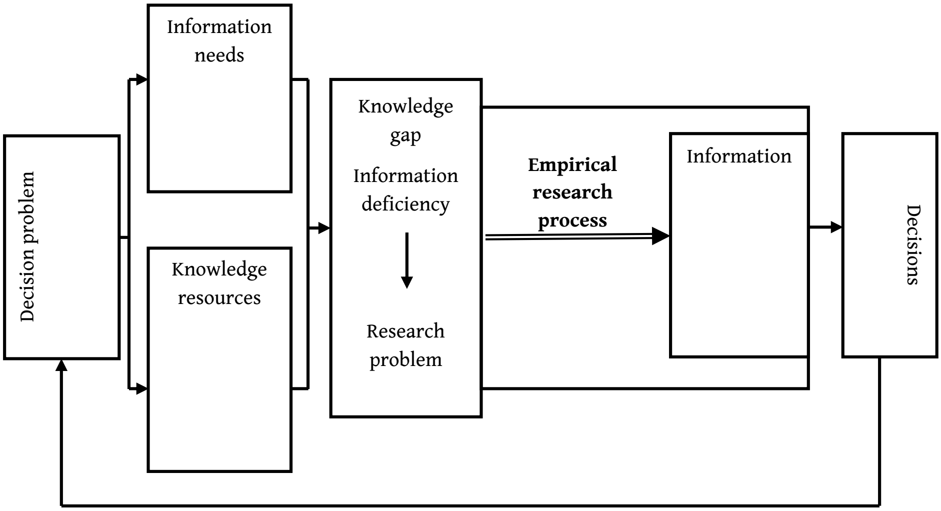
The following two methods that can be fully utilized in empirical research are the monographic and individual case methods. The first involves a detailed analysis of a specific case, i.e., a statistical unit (institution, enterprise, social group, household), i.e., a strictly defined community or population. It examines primarily the features and qualitative elements of a specific structure, system, or process, determines their nature and size, and characterizes their functioning and development. The second one involves examining particular isolated events and people. It can be used to study a specific person, event, phenomenon, or process related to them. Typically, unusual, irrational cases that deviate from generally recognized norms of conduct in a given organizational structure or social environment are investigated. These methods are pretty similar to each other, which is why they are referred to by some researchers as the case study method (Czakon (ed.), 2015, pp. 189-210).

Methods that are highly useful in empirical research also include observation and experiment. Observation (observation method) involves recording specific facts and including them in mutual relationships and dependencies. The collected data are interpreted as phenomena affecting the elements and processes of a given system or a specific organizational structure. It allows investigators to narrow down the issues in a given research area. It is a continuous and deliberate process. Experiment (experimental method) involves intentionally introducing an experimental factor into the research process and observing changes that will arise under its influence. These changes constitute variables dependent on the experimental variable. In an experiment, selecting the appropriate experimental factor, determining the probable direction of changes, verifying the working hypothesis, and observing and recording the dependent variables, is essential.

The computer simulation method is also worth mentioning among the research methods discussed. Even though some researchers do not consider it an empirical method, it will enable us to shed more light on the examined issue in some cases. It involves exploring a model (mathematical or algorithm) of a given process, phenomenon, system, or device and identifying the parameters of this model. Once the model is known, a computer simulation program and input data are constructed. This method is used in cases where research on the actual process is too expensive and time-consuming or when the subject of study does not exist, is in the development phase, and a forecast is necessary at a given time.

Empirical research, part of applied research (Lisiński, Szarucki, 2020, p.124), is not the only way to solve scientific problems but also constitutes an integral element of economic activity based on free market law. Empirical research is necessary for every market entity that wants to compete effectively within its current domain and explore possible areas of diversification. The effectiveness and usefulness of empirical research are manifested during the decision-making process. In this case, empirical research aims to provide the decision-maker with information necessary for the decision-making process (Fig. 2.1).

Figure 2.1. Empirical research in a decision-making process



Source: own study based on Kędzior (ed.) (2005, p. 23).

When solving a specific decision-making problem, a decision-maker uses their knowledge resources (intellectual capital created by their knowledge and experience) and external knowledge (available internal and external information resources). When the information available is insufficient (gap/shortage of information), the problem of obtaining the missing information arises. For this purpose, a research process is launched to collect, analyze, and interpret data to make decisions.

Empirical research is supported by robust information bases and a correctly applied methodological procedure. The knowledge and skills of the research contractor provide considerable assistance to the decision-maker, measured, for example, by an increase in the profitability of the actions taken, improvement in the effectiveness of management activities, enhancement of the organization's image, or an increase in its value. They help detect relationships, causes, and regularities of emerging market phenomena and processes. Furthermore, they enhance comparative analyses of the identified states of affairs with the assumptions and the course of these phenomena and processes in previous periods or other conditions, as well as in formulating conclusions for further activities of the organization. Empirical research provides information about market phenomena and their internal and external relationships. They signal the need for specific decisions and are one of the bases for decision-making and one of the elements of assessing decisions' intended and unintended consequences. In economic practice, they most often take the form of market research (Kędzior (ed.), 2005) and marketing research (Mazurek-Łopacińska (ed.), 2016) based on the diagnostic survey method supported by the observational method and experiments (Czakon, 2009, pp.13-19), heuristic methods (Piech, 2003, pp. 83-98) or projective techniques.

Empirical research can be subdivided based on many criteria (Kędzior & Karcz, 2007, pp. 35-44). Given the considerations undertaken, we should focus primarily on the criterion of the nature of the information obtained. It divides empirical research into quantitative and qualitative research.

Quantitative empirical research, primarily aiming at establishing facts, adopts research methods, standardized techniques, and tools that allow for objective measurements on large, representative samples (Table 2.3). The etic approach dominates here, and the results are generalized to the studied population. The most frequently used methods in this case are interviews and surveys. The techniques include a direct interview and a distributed questionnaire. Amid the COVID-19 pandemic, quantitative research predominantly employed techniques and tools in the virtual environment (PTBRiO, 2020, p. 30). Today, online surveys are particularly frequently used, posted in the form of an electronic questionnaire on research platforms located on the websites of universities, research agencies, or enterprises themselves. Many studies use remote interview techniques, such as telephone interviews (CATI) and website-assisted interviews (CAWI), often mistakenly identified with a website survey.

Qualitative research, which primarily focuses on an individual's behavior, phenomena, and processes, resorts to methods and techniques that allow for deeper contact with the subject. The emic approach dominates here, and instead of trying to reach the objective truth, the researcher attempts to recreate the subjective reality described by the respondent. In this case, the most commonly used methods are interviews supported by projective techniques, observations, experiments, and heuristic methods (in particular, expert assessment). The rapid development of various types of instant messengers and internet communication platforms also results in implementing techniques enabling qualitative research on the internet. Increasingly often, individual in-depth interviews (IDI) are conducted on the internet, as well as dyads and triads, which are varieties of focused group interviews (FGI) conducted in groups of two and three people (Maciejewski, 2020, pp. 46-54). The internet has also become a place for conducting observations and netnography, a virtual form of ethnography (Jemielniak, 2013, p.98).

Table 2.3. Methods and techniques applicable in solving decision-making problems of researchers and practitioners

Methods	**Techniques**	**Measurement tools**	**Type of research**
Survey	publicly available, distributed, postal, press, auditorium, packaging, and internet (e-mail, web)	survey questionnaire (paper, electronic)	quantitative research
Interview	Paper Assisted Personal Interview (PAPI), Computer Assisted Personal Interview (CAPI), Computer Assisted Web Interview (CAWI); Computer Assisted Telephone Interview (CATI)	interview questionnaire (paper, electronic)	
	Individual in-Depth Interview (IDI)	list of thematic threads	qualitative research
	Focus Group Interview (FGI)	interview script, instructions, camera, voice recorder	
Observation	open/covert direct/indirect participating/non-participating controlled/uncontrolled	observation sheet, observation log, camera, voice recorder	
Experimentation	market experiment (field) artificial (laboratory)		
Projective	Individual: word association test, sentence completion test, drawing test, imagination test, personification, animalization, mirror technique Group: collage, psychodrama	answer cards, sheets, tests, photos, drawings	
Heuristic	expert judgments	questionnaire, sheet, script	
	Delphi		
	brainstorming	script	

Source: own study based on: Kędzior (ed), 2005, pp. 85-109; Kędzior & Karcz, 2007, pp 108-128; Jaciow & Maciejewski (ed.), 2013, pp. 57-99; Czakon (ed.), 2015, pp.167-242; Mazurek-Łopacińska (ed.) 2016, pp. 127-264.

In many cases, the research methods, techniques, and tools listed in Table 2.3 have become the foundations from which a number of new methods have emerged in response to the changing consumer. We can refer to neuromarketing, consumer trends, narrative, semiotics, UX, and behavioral research.

However, during the COVID-19 pandemic, online research communities have gained opportunities for rapid development.

As Idzik and Kicina stated, the online research community is a specific target group of participants gathered by researchers on one common online platform (Badanie rynku, 2021). Such a community may be established, depending on the purposes of the research, for a period from a few days to several or even several dozen months. Nothing is stopping such a community from being established indefinitely. Researchers-moderators encourage respondents registered there to express their own opinions and participate in various types of tasks using a broad, comprehensive, and engaging set of tools available on the platform.

Online research communities most often take the form of expert and advisory communities or thematic communities (Badanie rynku, 2021). In the first case, participants answered various questions posed by the moderator. Responses may be provided at times that are flexible for respondents but with a pre-determined frequency (e.g., three or four times a month). In the second case, communities are the research subject on various threads related to one topic. These may be community participants commenting on patterns of social media use, consumer trends among a given generational group, or ways of dealing with the pandemic. Regardless of the community type, in addition to moderators and respondents, there may be observers on the online platform, e.g., representing the entity commissioning the research. Therefore, we can talk about the existence of a specific "two-way mirror" used for FGI only in online form. The result, not to say "product," of online research communities is a continuous stream of data that responds to the decision-making needs of organizations commissioning research.

Consumer panel participants can also be considered a type of online community. These people register on unique research platforms and participate in studies on numerous topics commissioned by various types of organizations according to their knowledge, experience, and interests. Examples of such research communities include Nielsen México, the Ariadna National Research Panel, the Biostat Consumer Panel, and the Dympanel Panel de Consumidores.

The considerations presented in this section on the position and applicability of empirical research into consumer behavior study in a situation of limited contact caused by the COVID-19 pandemic constitute only a tiny fragment of the knowledge on this subject. Nevertheless, in the authors' opinion, they can inspire many people to use a wide range of empirical research instruments to solve problems that interest them, both in science and economic practice and in both instances simultaneously. For the authors of this monograph, they constituted a starting point for designing and conducting research that allowed them to identify changes in consumer behavior caused by the COVID-19 pandemic.

The indicated research was carried out in two stages. The first stage was quantitative research, and the second was qualitative. Therefore, a synergy of research trends was achieved here by adopting a mixed approach (Chlipała, 2018, pp. 113-118). The concept of mixed methods corresponds to methodological triangulation, as well as triangulation of sources and methods of obtaining information (Mazurek-Łopacińska & Sobocińska, 2018). Quantitative research was conducted following the ideas of functionalism and positivism. Qualitative research was based on the interpretive and constructivist paradigm. Therefore, the adopted research concept concerns two levels of cognition: general and specific (operational). The first covers ways of relating different ontological and epistemological assumptions in research. The second one concerns the use of various research methodologies' methods, techniques, and tools in the research procedure.

2.2. Characteristics of the quantitative research undertaken and description of the sample studied

The first stage of research was carried out in November 2022. The study was quantitative in nature. It was conducted using an original survey questionnaire and the internet survey technique in the form of a web survey.

A web survey is currently one of the most commonly used indirect research techniques. The researcher and the subject have no contact with each other. The respondents started the study by clicking on the link sent to them by the research organizer. When reading the questions on their own, they answer them individually. A web survey is often mistakenly associated with the CAWI (Computer-Assisted Web Interview) technique, which is a direct research and interview technique. When the CAWI technique is used in research, the researcher has contact with the respondent. After asking the respondents a question, the researcher writes down the respondents' answers in a questionnaire in the form of a script posted on the website. The answers entered there are automatically saved in the database, significantly reducing the time required for research. Contrary to CAWI, during a web survey, the researcher cannot scrutinize the respondents, e.g., verify whether they are the people they claim to be. On the other hand, in the case of the web survey, the research can be carried out much faster and at lower costs. The web survey technique is also well suited for research in situations of limited contact.

The survey questionnaire consisted of 18 substantive questions and seven specific questions. The substantive questions concerned changes in the behavior of consumers and enterprises operating in a pandemic situation. Demographic questions allowed us to determine the socio-economic and statistical characteristics of the respondents.

The part of the questionnaire used in the presented monograph included a ratio scale measuring the degree of satisfaction with basic and higher-level needs (Dalati, 2018, pp. 79-96), ordinal scales identifying changes that occurred in consumer behavior as a result of the outbreak of the COVID-19 pandemic (Maciejewski, 2023) and cafeteria questions, semi-open, aimed at identifying the most burdensome and most positive effects of the pandemic on consumers and their households. The monograph also uses data obtained using a bipolar scale measuring the reasons for the increase in individual groups of household expenditure incurred.

The reliability of the scales employed (tool internal consistency) was calculated using Cronbach's α coefficient. The obtained coefficient values for all scales used significantly exceeded 0.7. The scales used are, therefore, characterized by a high and very high level of reliability (Aron et al., 2013). Another coefficient for estimating reliability is the McDonald's ω coefficient. It is based on the internal consistency method, like Cronbach's α. The literature points out its advantages compared to the commonly used Cronbach's α (Ciżkowicz, 2018). Omega is indicated by some researchers as a better indicator of internal consistency not only compared to Cronbach's α but also to other coefficients (Graham, 2006; Revelle, Zinbarg, 2009). This is especially visible in the case of multidimensional scales (Osburn, 2000). Therefore, using both α and ω seems most reasonable, especially when developing a research tool. It is assumed that McDonald's ω, like Cronbach's α, should reach values between 0.70 and 0.95 (Moumni et al., 2016, p. 910). The scales used in the research were within the designated range, with values slightly lower than the α coefficient. For example, for the scale of changes in consumer behavior during the COVID-19 pandemic, the value of Cronbach's α was 0.856, and McDonald's ω was 0.852. In the case of the scale of behaviors developed during the pandemic, Cronbach's α was 0.829, with a value of 0.821 for McDonald's ω.

Since, at the time of the study, the state of the pandemic had not yet been canceled (WHO did so only on May 5, 2023), it was decided to survey one of the previously mentioned online research communities. The respondents were permanent, registered participants of the National Ariadna Research Panel. The socio-demographic profile of people registered in the panel is consistent with the profile of Poles using the internet (Ariadna, 2023). A research sample was randomly selected among 300,000 panel members (Dobór próby..., 2021). The sample size was set so that the maximum measurement error at a confidence level of 95% and a fraction size of 0.5 was no more than 3% (acceptable error in social research). As part of the project funded by the Ministry of Education and Science of the Republic of Poland, the research design considered the costs incurred using public funds. It is also essential to mention the key role of population homogeneity, rather than size, in determining sample size. The sample may decrease as the population becomes more homogeneous based on its selected characteristics (Pietrucha & Maciejewski, 2020).

A link with an invitation to participate in the research was sent to 8,046 adult panel members. 1,439 respondents replied to the invitation, and 1,208 of them completed the survey. The study also accounted for the length of time the respondents devoted to completing the questionnaire. While testing the tool, researchers found it impossible to read the entire questionnaire and complete it reliably in less than 10 minutes. Therefore, it was decided that all questionnaires that were completed in less than 10 minutes would be removed from the database. As a result, 1,100 completely and correctly completed questionnaires were obtained and qualified for further analyses. The obtained data were analyzed using the IBM SPSS Statistics 28 statistical package.

Table 2.4. Characteristics of respondents participating in the quantitative survey (N=1100)

Specification		**Research sample**	
		in no.	**in %**
Gender	Females	569	51.7
	Males	531	48.3
Age	Generation Z (18-24 years old)	275	25.0
	Generation Y (25-39 years old)	275	25.0
	Generation X (40-59 years old)	275	25.0
	Generation BB (60-80 years old)	275	25.0
Education level	basic	45	4.1
	vocational	115	10.5
	high school	506	46.0
	tertiary	434	39.4
Place of residence	rural areas	280	25.5
	cities with up to 50,000 inhabitants	275	25.0
	cities with 51 – 200,000 inhabitants	265	24.0
	cities with over 200,000 inhabitants	280	25.5
Self-defined financial situation	very bad	26	2.4
	bad	121	11.0
	satisfactory	628	57.0
	good	289	26.3
	very good	36	3.3
Number of persons in the household	1 person	144	13.1
	2 persons	368	33.4
	3 persons	239	21.7
	4 persons	223	20.3
	5 or more persons	126	11.5

Source: own study.

The study was conducted under ethical standards and in accordance with the International ICC/ESOMAR Code (ESOMAR, 2016). The research also received a positive opinion from the Human Subject Research Ethics Committee at the University of Economics in Katowice (No. 001/11/2022). The survey was anonymous, and the collected data did not contain any identifying features of the respondents.

Therefore, despite the still limited contact, researchers managed to reach consumers from all regions of Poland using the Ariadna Nationwide Research Panel and the web survey technique. The characteristics of the sample are presented in Table 2.4.

The research sample of 1,100 respondents is characterized by the respondent gender distribution that exactly corresponds to the distribution of Polish residents according to Central Statistical Office data from the National Census 2021 (Central Statistical Office, 2022). The respondents' subsamples were equal due to consumers' adopted age ranges (generations) and almost equal in their place of residence – 25% each. The sample was dominated by people with secondary (46.0%) and higher education (39.4%). Respondents most often described their financial situation as average (57.0%) or good (26.3%) and represented two- and three-person households (33.4%) and (21.7%), respectively – Table 2.4. The age median of the respondents was 39.5 years of age, and the median number of people in their households was three persons.

2.3. Characteristics of the qualitative research undertaken and description of the study participants

The second stage involved qualitative research that complemented and deepened the quantitative research. It was conducted in June 2023 using the Individual In-Depth Interviews (IDI) online technique.

IDI is a research technique that involves a detailed, in-depth conversation with the respondent without the participation of third parties. This type of interview aims to obtain in-depth, precise information that expands knowledge about the research undertaken. IDI is most often carried out when a specific type of respondent is not readily available or when the issues raised are sensitive, controversial, confidential, or intimate (Jaciow & Maciejewski, eds., 2013).

Compared to quantitative research, it is carried out in two situations (Nikodemska-Wołowik, 2008). The first situation occurs when the researcher cannot precisely define the study's subject and has difficulties recognizing the phenomenon and formulating hypotheses. The interviews then allow the researcher to prepare an accurate and reliable tool for quantitative research. This research is exploratory in nature. The second situation occurs when the researcher has already conducted quantitative research but wants to better understand and explain the obtained results. During the interview, questions are asked to clarify/understand the phenomena, motivations, attitudes, and behaviors identified during quantitative research. This research is explanatory in nature.

This study belongs to the second described situation. The researchers wanted to better understand and explain quantitative research results by turning to experts in consumer behavior from science and practice. Therefore, the respondents were selected purposefully. Due to the limited time and space for experts, the internet was used to communicate with them. The study involved conversations with experts using commonly available instant messengers, such as Google Meet, MS Teams, Zoom, and Skype, offered by computer software developers and owners of social media platforms. For researchers, verbal and visual contact was important. The experts were academic workers and business practitioners recognized in their communities as experts in consumer behavior in a pandemic situation. It can, therefore, be stated that the qualitative research conducted was based on the methodology of in-depth interviews and the methodology of expert assessments.

Following the methodological guidelines, the interviewer's interference in the interlocutor's narrative was minimal. The interview was recorded openly using online links after obtaining the consent of the research participant. All interviews were conducted via online messengers, ranging from 45 minutes to less than an hour (Lutostański, Łebkowska, Protasiuk ed., 2021). The research tool was an interview script containing thematic threads creating the framework for a conversation with an expert and an interview participant card. The interviews were transcribed successively, and research material was collected under Silverman's instructions on ethnomethodological recording (Silverman, 2001). The obtained research material was written down, organized, and then subjected to qualitative analysis. The authors conducted all in-depth interviews using the qualitative research methodology (Konecki, 2018). The characteristics of people participating in IDI are presented in Table 2.5.

The study involved 14 experts from various Polish cities. The respondents included both women and men with various work experiences. The youngest participant had been working professionally for seven years, and the oldest for 43 years. The average work experience of the respondents was nearly 23 years. Therefore, the group of experts included very experienced people with many years of professional experience and people who started their professional careers relatively recently (Table 2.5).

Table 2.5. Characteristics of experts participating in the qualitative study (N=14)

Symbol	Experts' characteristics					
	Gender	Education	Professional status	Years of seniority	Area of scientific interest/sector	Position held
E1	Female	Higher. A professor	Researcher	43	Consumer behavior. Consumer trends. Consumer protection and education	University professor. Head of the Department.
E2	Male	Higher Post-doctoral degree	Researcher	31	Consumer behavior. Consumption. Consumer trends	University professor
E3	Male	Higher PhD	Researcher Practitioner	14	Consumer engagement. Marketing. Shopping malls	Assistant professor. Marketing Manager at Globalworth
E4	Male	Higher	Practitioner	12	Insurance	Owner of Insurance Office
E5	Female	Higher	Practitioner	12	Insurance	Employee of Insurance Office
E6	Female	Higher	Practitioner	27	Education	Psychiatrist
E7	Male	Higher	Practitioner	8	Health care	Owner of dental surgery
E8	Male	Higher PhD	Researcher	15	Tourism Management	Assistant professor
E9	Male	Higher PhD	Researcher. Practitioner	23	Healthcare Management	University professor. CEO of health center
E10	Male	Higher	Practitioner	7	Retailing	Manager of the discount shop
E11	Female	Higher Post-doctoral degree	Researcher	32	Marketing management. Marketing communication	University professor
E12	Female	Higher Post-doctoral degree	Researcher	35	Retailing. Behavior of market participants	University professor
E13	Male	Higher	Practitioner	30	Public sector	Chief tax expert
E14	Female	Higher PhD	Researcher	29	Consumer behavior. Marketing. Marketing communication	Assistant professor

Source: own study.

In the research undertaken, the scientific community was represented by six scientists. Six specialists also represented the community of economic practitioners. However, two experts combined both roles in their professional lives. Respondents from the academic community included specialists who have been researching consumer behavior, emerging trends in consumption, changes taking place in retail and services, and dealing with management, marketing, and marketing communication for years. Experts representing business practice operated primarily in retail trade and the professional services sector (health care, education, insurance), having daily contact with clients/stakeholders of their enterprises or institutions. The group of experts consisted of individuals representing various environments and industries and having various professional experiences (Table 2.5). This allowed researchers to obtain in-depth information on the impact of the COVID-19 pandemic on consumer behavior from very different points of view.

Chapter 3

CONSUMERS AND THEIR HOUSEHOLDS FACING THE COVID-19 PANDEMIC

3.1. The state of satisfying consumer needs and the pandemic

The category of needs is inextricably linked to humans, their functioning, and their development. All human activities involve the creation of needs and the pursuit of their satisfaction. Needs are also the starting point for all human consumption behavior. Needs are the primary factor in all activities related to purchasing. They trigger the entire process of consumer activity.

The concept of needs in science is defined and understood differently (Ward, Lasen, 2009, pp.137-155). This is because analyzing human needs is the subject of research in many scientific disciplines, such as psychology, sociology, philosophy, biology, medicine, and economics. Simply put, a need is nothing more than a state of awareness of the lack of something. At the same time, it is a factor that activates the functions of the motive to act towards an appropriate change in this state. The state of lack is experienced as unpleasant, prompting a person to take action to reduce it, i.e., satisfying the need (Rudnicki, 2012, p.27). A good (material or non-material) can fulfill a need that can reduce the felt desire, make life easier, solve a problem, or satisfy a whim (Światowy, 2006, p.29).

Economics often divides needs into primary (foremost, essential, lower-order) and secondary (higher-order). Primary needs are related to the individual's immediate survival and physical well-being. They concern general human existence and are related to satisfying the feeling of hunger and thirst, protection against unfavorable weather conditions, and hygiene. Secondary needs are defined as the desire for goods that can meet the needs that emerge after the primary needs are satisfied. They develop during life and result from interacting with the environment (Szczechowicz, ed., 2018, p.35). It is worth noting that the degree to which a given need is satisfied is influenced not by the good (product) but by its usefulness. Taking advantage of this utility is the essence of meeting needs. The utilities in each product can be divided into basic and additional ones. The primary product utility is its actual properties, which represent physical and technical parameters. This is, put most simply, the nature of the product. The additional product utility is usually its aesthetic features. These include color, size, shape, and smell. They give consumers additional satisfaction beyond just satisfying the paramount need (Rudnicki, 2012, pp. 37-38).

The most common need classifications in the literature include the hierarchy developed by A.H. Maslow (Numonjonovich, 2022, pp. 5-10). He made his division, starting from the primary (lower-order) needs and ending with those of the highest rank (higher-order). Basic needs include food, health, safety, and housing, while higher-level needs arise only when basic needs are met. Having provided an existential basis, a person can only think about education, self-fulfillment, participation in culture, forms of spending free time, etc. (Pilarczyk, Mruk ed., 2007, p.57; C. Bywalec, 2007, p.18).

From the viewpoint of the research subject described in our work, the need criterion should also be considered an important one for the division of needs (Burgiel, Zrałek, 2010, p.36). Adopting this criterion, needs can be separated into, among others, those related to:

- health care,
- food,
- leisure,
- education,
- culture participation,
- opportunity to spend time with family
- opportunity to spend time with friends,
- safety,

- self-fulfillment (professional career)
- housing conditions,
- physical or sports activity.

Need, a state of desire for something leads to unpleasant tension. It can be reduced either by satisfying the need or by silencing it. The need can be fulfilled through the acquisition and use of goods. The process of meeting the need begins when the consumer realizes what means can satisfy their need, has the opportunity to purchase these means, and makes a purchase (Wang, Ji, 2010, pp. 173-176). There are many ways to meet needs. The same need can be satisfied in a completely different way depending on the person who feels it. How to fulfill such a need may depend on variables such as tradition, culture, personality traits, education, or membership in social groups (Rudnicki, 2012, p.50).

However, it also happens that the consumer's needs cannot be met or are fulfilled to an unsatisfactory extent (Shahin & Salehzadeh, 2011, pp. 1-16). They may encounter numerous obstacles, i.e., so-called barriers. These barriers include, above all, (Niemczyk, 2002, p.31):

- price barriers (too high price for a good),
- supply barriers (lack of goods on the market),
- legal barriers (ban on the sale of goods, e.g., narcotic drugs),
- administrative barriers (regulations regulating, e.g., purchase volume),
- social barriers (lack of possibility of consumption by people of a specific race, nationality, or age),
- religious barriers (ban on consumption resulting from one's religion),
- health-related barriers,
- time barriers (the need to satisfy another need requires delaying the fulfillment of a given need).

When consumers encounter barriers, they can overcome them or look for ways to circumvent them (Harris et al., 2016, pp. 309-318). This is not always possible. In such a situation, the consumer tries to reduce the tension by silencing the need. This can be done by becoming aware of and justifying not taking actions that would satisfy the need. This particular need may be replaced with another one. A customer can also escape from reality into the realm of fantasy and dreams. One way is to push the need from the sphere of consciousness to the subconsciousness (Rudnicki, 2012, pp. 52-53).

Undoubtedly, the time of the COVID-19 pandemic and the numerous restrictions resulting from it have become a barrier that limits and, in some areas of life, even makes it impossible to meet the needs (Sheoran, Kumar, 2022, pp. 19-21). Therefore, one of the research goals was to diagnose the degree to which consumers' needs were met in this period. We selected needs and classified them according to the previously described need criteria for evaluation. In this study, respondents were asked to assess the degree to which their needs were met. Respondents made this assessment on a scale of 0% to 100%, where 0% meant their unmet needs, and 100% suggested that they were fully met. When using this type of scale, percentiles or arbitrarily designated ranges based on a standard distribution can be used to interpret the results obtained. In the analysis of our research results, we chose the latter solution. Therefore, we assumed that respondents' indications ranging from 100% to 81% mean that, in their opinion, a given need is met to a very high degree. Further ranges are the following: from 80% to 61% - to a high degree, from 60% to 41% - to a medium (average) degree, from 40% to 21% - to a low degree, and from 20% to 0% - to a shallow degree. The data obtained are summarized in Table 3.1.

Analyzing the collected research results, it can be concluded that respondents considered their needs to be met to a high or average degree during the pandemic. The groups of needs that are met to a high degree include, first of all, needs related to food (average degree of satisfaction at the level of 77.7%), housing conditions (70.7%), education (69.8%), and the ability to spend time with family (68.3%) and safety (63.7%). The remaining groups of needs can be considered to be met to an average degree. Nevertheless, groups of needs such as the ability to spend time with friends and needs related to physical/sports activity were on the verge of being met with a high degree of satisfaction (59.6% and 59.0%, respectively). This result should be considered very interesting. In many studies on the adverse effects of the COVID-19 pandemic, isolation and lack of mobility play a significant role. The results indicate that the surveyed consumers could find solutions to meet these needs. They could do this by overcoming the previously mentioned barriers (e.g., using means of distance communication) or bypassing them (e.g., non-compliance with the ban on gatherings and quarantine non-compliance) (Sheth, 2020). In turn, the groups of needs that are least satisfied, in the opinion of the respondents, include needs related to health care (54.6%) and leisure (57.5%). The relatively low level of satisfaction with healthcare needs should not surprise anyone. The COVID-19 pandemic carried the possibility of contracting a virus that sometimes led to death. The generally poor assessment of the health care system could also have contributed to the low level of satisfaction in this group of needs. The low satisfaction level of leisure needs is also not surprising. The threat of contracting the virus, concern for the health of loved ones, or the prolonged uncertainty negatively impacted the psyche of the respondents. Despite the forced lockdown, which resulted in more free time, it was difficult for them to forget about the situation they found themselves in and relax peacefully by practicing, for example, their favorite hobby (Haleem et al., 2020, pp. 78-79). The low level of satisfaction of needs related to leisure was probably also influenced by the forced need to stay in the place of residence and the inability to use the offer of tourist services.

Interesting information on the subjective assessment of the degree of satisfaction of selected groups of needs was also obtained by analyzing the research results through the filter of gender, generation (age), and respondents' place of residence (Table 3.1).

Generally, men rated the degree to which their needs were met higher than women. However, as a rule, these differences are slight, oscillating at 1-2 percentage points (pp.), hence on the verge of statistical error. More significant differences can be observed in the assessment of the degree to which needs such as health care (6.7 pp.), safety (6.4 pp.), and physical/sports activity and culture participation (4.3 pp. each) are met.

In the case of consumer generations, the most satisfied group of respondents seems to be represented by the BB generation. They assessed the degree of satisfaction of their needs as the highest among all age groups of the respondents. The only exceptions were the needs related to culture participation and, which is somewhat understandable, the needs related to health care. In these two cases, a slightly higher level of satisfaction was declared by consumers from Generation X. Consumers from Generation Y were relatively least satisfied with the degree to which their needs were met, followed by consumers from Generation Z.

Table 3.1. Assessment of the degree to which selected groups of needs are met by respondents by their gender, generation, and place of residence (average ratings, N = 1100)

Specification	Total sample	Respondents by									
		gender		generations				place of residence			
		F	M	Z	Y	X	BB	W	S	M	L
Food	77.7	77.5	78.0	75.7	75.1	76.2	84.0	77.1	77.5	76.6	79.6
Housing conditions	70.7	70.1	71.3	71.2	63.7	65.9	81.9	73.4	73.0	68.5	67.7
Education	69.8	69.6	70.0	68.9	66.1	66.8	77.3	70.6	69.8	68.4	70.3
Opportunity to spend time with family	68.3	67.5	69.2	66.4	66.3	66.4	74.2	70.5	68.4	68.7	65.7
Safety	63.7	60.6	67.0	60.6	61.8	65.1	67.2	64.7	62.6	62.7	64.7
Opportunities to spend time with friends	59.6	58.9	60.2	56.6	55.2	59.2	67.3	58.8	60.0	60.0	59.5
Physical/sports activity	59.0	56.9	61.2	57.0	57.7	59.4	61.7	60.3	59.9	58.4	57.3
Culture participation	58.1	56.0	60.3	56.6	56.9	61.2	57.7	59.1	59.5	56.4	57.4
Self-fulfillment/career	57.9	55.9	59.9	58.6	53.0	51.9	68.1	58.2	58.5	56.6	58.1
Leisure	57.5	55.8	59.3	54.8	52.2	53.0	69.9	59.1	58.3	54.6	57.7
Health care	54.6	51.4	58.1	51.0	53.8	57.1	56.6	55.9	54.1	54.2	54.2

Where: F – Females; M – Males; Z – Generation Z (people aged 18-24); Y – generation Y (people aged 25-39); X – generation X (people aged 40-59); BB – Baby Boomers generation (people aged 60-80); R – rural area inhabitants; S – inhabitants of small towns (less than 50 thousand inhabitants); M – inhabitants of medium-sized cities (from 50 thousand to 200 thousand inhabitants); L – residents of large cities (over 200,000 inhabitants). Research on a scale from 0% to 100%, where 0% meant that the needs were completely unmet and 100% meant that they were fully met.
Source: own study.

As for the respondents' place of residence, rural residents seem to be the most satisfied with the degree to which their needs are met. However, regarding city residents, these differences are not significant enough to assign any greater importance to them. They reach only 1-3 pp., reaching a maximum of 5.7 pp. (needs related to housing conditions)—Table 3.1.

The research results we describe are reflected in research by the Public Opinion Research Center (CBOS, 2021) and the Central Statistical Office (GUS, 2023a). The CBOS survey on life satisfaction in December 2020 showed that social and family relationships remain the most frequently indicated reasons for satisfaction. The vast majority of respondents declared satisfaction with friends and close acquaintances (85%), ¾ felt satisfaction with their children (74% of all respondents and 94% of parents), and ⅔ with their marriage or other stable relationship (66 % of all respondents, and 87% of those in a relationship). The vast majority of respondents (85%) were also satisfied with their place of residence. Declarations in this respect differ mainly in the respondents' living standards. Nearly ⅔ of respondents (65%) expressed satisfaction with the material conditions, e.g., apartment and equipment, while in total, about ⅓ rated them as average (28%) or negative (6%). Income is noticeably less likely to provide satisfaction. More than ⅓ of the respondents (36%) were satisfied with it, about ⅕ (21%) were dissatisfied, and just over ⅖ (41%) were moderately satisfied in this respect. Nearly ⅔ of respondents (64%) felt satisfied with their education and qualifications, and over half were satisfied with their professional career (56% and 70% of people who had ever worked). Lack of satisfaction in these areas was declared by 11% and 6%, respectively (and 7% of those with professional experience). Satisfaction in both these dimensions was expressed more often than others by respondents earning high income and assessing their financial situation well. Six out of ten adults (61%) declared they were satisfied with their health, and 17% were dissatisfied. About ⅕ (22%) expressed moderate satisfaction. Respondents under 45 years of age, especially those aged 18 to 34, expressed satisfaction with their health much more often than others, while those aged 65 and over who assessed their financial situation poorly were most likely to be dissatisfied with their health (CBOS, 2021, pp.1-2).

In turn, the 2021 Central Statistical Office research on the population income and living conditions showed that 88% of respondents declared satisfaction with relationships with other people, including acquaintances and friends (encompassing 11% who were very satisfied with maintaining such relationships). 73% of respondents declared satisfied with their material living conditions (including 6% very satisfied). 66% of respondents were satisfied with how they spent their free time (including 5% who were very satisfied). What is worth emphasizing is that even though 2021 was the year in which complete COVID restrictions were in force, 65% of respondents were satisfied with their health (including 7% who were very satisfied). Moreover, 47% of respondents were satisfied with their financial situation, including 3% who were very satisfied (GUS, 2023a, pp. 77-91).

The time of the COVID-19 pandemic and the accompanying restrictions should also be perceived as a barrier, or more precisely, as an aggregate of barriers limiting the ability to meet human needs. Lockdowns announced in individual areas of the globe disrupted the production and supply chains of many, even essential, goods. Forced isolation limited the ability to purchase material goods and use many services. Schools and universities were closed. Bans on meetings and gatherings were introduced. From one day to the next, many people were left without the means to continue their existence. Ignorance of an unknown disease increased the fear for the life and health of oneself and one's loved ones.

Restrictions and fear of infection also influenced consumer behavior. Many of them moved their shopping activity online, buying products purchased there previously and new ones, such as food and drinks. During the pandemic, the e-grocery market, i.e., platforms offering food online, has developed the most. According to research conducted in Poland, the growth of grocery stores in 2020 compared to 2019 was the largest in the e-commerce industry and reached as much as 112% (Shoper, 2021, p.6). However, could this type of remedial strategy allow consumers to meet their needs at least as high as before the pandemic? We looked for the answer to this question in the results of our research, analyzing respondents' answers regarding assessing the degree to which their needs were met during the COVID-19 pandemic compared to the prior period.

Analyzing the data on the total sample presented in Table 3.2, it can be concluded that the respondents most often described the degree of satisfaction of their needs compared to the period before the pandemic as "no change." This result is visible in all the groups of needs considered and most clearly in the case of needs related to education, food, housing, and self-fulfillment. Our results confirm P. Długosz's research from the second half of 2020 (Długosz, 2021, pp. 83-107). The groups of needs mentioned are those whose satisfaction has decreased the least in the respondents' self-assessments. This situation could be explained by the increased activity of consumers online during the pandemic, caused by the transfer of many everyday activities there, such as remote education, teleworking, and online shopping not only for durable goods and services but also for groceries. According to CBOS research (2022), during the coronavirus epidemic period, the percentage of internet users in Poland increased by nine percentage points. Today, over three-quarters of adults (77%) declare regular online presence(at least once a week).

Table 3.2. Changes in the degree to which selected groups of needs are met compared to the period before the COVID-19 pandemic – respondents' assessments in total (in %, N=1100)

Specification	Decrease	No change	Increase
Health care	27.5	57.7	14.8
Safety	24.5	64.0	11.5
Culture participation	22.9	66.6	10.5
Leisure	22.8	59.7	17.5
Opportunity to spend time with friends	22.0	61.4	16.6
Physical/sports activity	17.2	67.7	15.1
Opportunity to spend time with family	16.1	67.9	16.0
Self-fulfillment	15.8	72.0	12.2
Education	11.8	78.3	9.9
Food	11.8	76.4	11.8
Housing conditions	10.9	75.3	13.8

Source: own study.

The decline in the satisfaction of needs was most felt by respondents in health care, safety, culture participation, leisure, and the ability to spend time with friends. It is, therefore, clear that despite the introduction of telephone or online medical consultations, respondents experienced a deterioration in the degree to which their healthcare needs were met. The lack of direct contact with another person – in this case, a doctor – was a vital issue for some respondents, both for their health, well-being, and safety (28% and 25%, respectively). In turn, for over 20% of respondents, even the best instant messengers or online presentations did not replace direct contact with other people, works of art, or nature.

Interestingly, the degree of satisfaction of the needs previously assessed by the respondents as least satisfied decreased the most, and those that, according to their declarations, were satisfied the most decreased the least (Table 3.1). However, it cannot be said that the pandemic meant stagnation or a decline in the degree to which needs were met for all consumers. Some respondents showed an increase in the degree to which their needs were met. These declarations were most visible in the case of such groups of needs as leisure or the ability to spend time with family and friends (Table 3.2). The explanation for these results should be sought based on the preferences of individual respondents. Indeed, the pandemic was not a good time for supporters of active leisure or distant travel. Restrictions related to barriers to free movement resulted in a decline in the degree to which these consumers' recreational needs were met. On the other hand, for people who were previously busy or preferred passive recreation (e.g., in front of the television or computer), lockdown or quarantine created some leisure opportunities, even if forced.

The observed diversity of the obtained assessments prompted us to analyze the results of our research in terms of selected characteristics of the respondents, such as gender, generation (age), and place of residence.

Table 3.3. Changes in the degree to which selected groups of needs are met compared to the period before the COVID-19 pandemic – respondents' assessments by gender (in %, N=1100)

Specification	Decrease		No change		Increase	
	F	M	F	M	F	M
Health care	30.6	24.1	54.8	60.8	14.6	15.1
Safety	29.7	19.0	59.4	68.9	10.9	12.1
Culture participation	25.8	19.8	62.2	71.4	12.0	8.9
Leisure	27.2	18.1	56.8	62.9	16.0	19.0
Opportunity to spend time with friends	24.8	19.0	59.1	63.8	16.2	17.1
Physical/sports activity	18.8	15.4	67.1	68.4	14.1	16.2
Opportunity to spend time with family	20.4	11.5	63.8	72.3	15.8	16.2
Self-fulfillment	17.2	14.3	71.5	72.5	11.2	13.2
Education	13.5	10.0	76.4	80.2	10.0	9.8
Food	13.4	10.2	74.9	78.0	11.8	11.9
Housing conditions	13.2	8.5	73.1	77.6	13.7	13.9

Where: F- females, M -males.
Source: own study.

Thus, female respondents more often than males indicated a decrease in the satisfaction of their needs compared to the period before the pandemic (Table 3.3). This situation was observed in each group of analyzed needs, especially in the areas related to safety (difference of 11 pp.), leisure, and the opportunity to spend time with family (9 pp. each). In turn, men more often than women declared an increase in the degree of satisfaction of their needs or maintaining them at an unchanged level. Regarding the status quo, the differences amounted to a maximum of approximately 9 pp. (safety, culture participation). In the case of increases, they reached a maximum of 3 pp. (leisure). Therefore, the differences were not very distinct.

Considering the data obtained by the generation represented by the respondents, one immediately notices that the generation in which the degree of meeting their needs has increased the most compared to the period before the pandemic seems to be Generation Z (Table 3.4). The youngest respondents, most often among the surveyed age groups, declared that the degree to which their needs were met increased during the pandemic. This result is visible in each group of analyzed needs, especially in areas related to physical activity (10 pp difference compared to the second generation Y), the ability to spend time with friends (9 pp compared to the second generation X), and health care (7 pp compared to the second generation BB in this respect).

Looking at the research results regarding the deterioration of the satisfaction of one's needs, one can also conclude that Generation Z respondents are the most polarized group of consumers. Respondents from Generation Z also indicated a deterioration in the satisfaction of their needs more often than other respondents. This was especially visible in areas such as leisure (26% of the youngest respondents indicated a decline), self-fulfillment (20%), physical activity (19%), housing conditions (18%), opportunities to spend time with family (18%) and education (15%). Interestingly, among the most significant declines is the need to spend time with friends. A more significant decline in the degree to which these types of needs are met was more clearly visible in the case of the oldest groups of surveyed consumers, Generations X and BB. Therefore, we can conclude that Generation Z, also known as the Zoomers, is much better off without the possibility of direct contact with friends than people over 40. In turn, for Generation Y, the pandemic resulted in a more significant decline in meeting safety needs (26%) and opportunities to participate in culture (24%) than in other generations. It is also worth noting that the age of the respondents differentiated the assessment of the degree to which healthcare needs were met. The older the generation is, the greater the percentage of people who believe that the degree to which their healthcare needs are met has decreased compared to the pre-pandemic period.

A similar relationship can be observed in the case of assessments of the status quo. The older the respondents were, the more often they indicated that compared to the pre-pandemic period, the degree to which their needs were met remained unchanged. The only exceptions here are the needs related to health care and the ability to spend time with friends (Table 3.4).

Table 3.4. Changes in the degree of satisfaction of selected groups of needs compared to the period before the COVID-19 pandemic – respondents' assessments by the represented generation (in %, N=1100)

Specification	Decrease				No change				Increase			
	Z	Y	X	BB	Z	Y	X	BB	Z	Y	X	BB
Health care	22.5	26.2	30.2	30.9	56.0	60.0	60.0	54.9	21.5	13.8	9.8	14.2
Safety	23.6	26.2	24.4	24.0	60.7	61.5	65.8	68.0	15.6	12.4	9.8	8.0
Culture participation	21.1	24.4	23.6	22.5	63.3	65.5	68.0	69.8	15.6	10.2	8.4	7.6
Leisure	25.8	23.3	24.0	18.2	50.5	57.8	61.5	69.1	23.6	18.9	14.5	12.7
Opportunity to spend time with friends	20.4	18.5	26.9	22.2	54.9	66.5	57.5	66.5	24.7	14.9	15.6	11.3
Physical/sports activity	18.5	18.5	17.5	14.2	57.1	66.5	70.5	76.7	24.4	14.9	12.0	9.1
Opportunity to spend time with family	17.5	16.7	16.4	13.8	61.8	69.5	69.5	70.9	20.7	13.8	14.2	15.3
Self-fulfillment	19.6	17.5	16.0	10.2	58.2	67.3	74.9	87.6	22.2	15.3	9.1	2.2
Education	15.3	14.5	9.5	8.0	61.1	76.4	84.7	90.9	23.6	9.1	5.8	1.1
Food	12.0	11.6	12.7	10.9	69.1	73.5	79.6	83.3	18.9	14.9	7.6	5.8
Housing conditions	18.2	10.9	8.7	5.8	60.4	72.7	79.6	88.4	21.5	16.4	11.6	5.8

Where: Z – Generation Z (people 18-24 years old); Y – Generation Y (people 25-39 years old); X – Generation X (people 40- 59 years old); BB – Baby Boomers generation (people 60- 80 years old.)
Source: own study.

Analyzing the obtained research results by the place of residence of the surveyed consumers, it is worth noting that the registered assessments vary only to a minimal extent, which is essential information (Table 3.5).

Rural residents seem to be a group that, more often than others, declared that the degree to which their needs were met has not changed compared to the pre-pandemic period. The exceptions here are health care, safety, and the opportunity to spend time with friends. In the mentioned areas of need, the answer "no change" was often given by medium-sized city residents.

Table 3.5. Changes in the degree to which selected groups of needs are met compared to the period before the COVID-19 pandemic – respondents' assessments by place of residence (in %, N=1100)

Specification	Decrease				No change				Increase			
	R	S	M	L	R	S	M	L	R	S	M	L
Health care	26.8	27.6	27.9	27.5	57.1	56.4	58.9	58.6	16.1	16.0	13.2	13.9
Safety	22.9	25.8	22.3	27.1	64.6	61.8	67.2	62.5	12.5	12.4	10.6	10.4
Culture participation	19.6	22.5	24.2	25.4	70.7	67.3	67.9	60.7	9.6	10.2	7.9	13.9
Leisure	18.9	22.2	24.2	26.1	66.1	61.5	58.1	53.2	15.0	16.4	17.7	20.7
Opportunity to spend time with friends	22.1	22.2	21.9	21.8	63.6	59.3	64.5	58.2	14.3	18.5	13.6	20.0
Physical/sports activity	15.7	13.8	20.8	18.6	72.5	69.8	64.5	63.9	11.8	16.4	14.7	17.5
Opportunity to spend time with family	12.9	18.5	13.2	19.6	71.1	65.1	69.4	66.1	16.1	16.4	17.4	14.3
Self-fulfillment	15.4	16.4	16.2	15.4	73.6	73.1	73.2	68.2	11.1	10.5	10.6	16.4
Education	9.6	12.4	13.2	12.1	81.4	77.5	78.5	75.7	8.9	10.2	8.3	12.1
Food	10.0	12.4	13.6	11.4	77.9	77.1	76.2	74.3	12.1	10.5	10.2	14.3
Housing conditions	8.6	12.0	9.8	13.3	80.7	71.3	76.6	72.5	10.7	16.7	13.6	14.3

Where: R – rural residents; S – residents of small towns (less than 50,000 inhabitants); M – residents of medium-sized cities (from 50,000 to 200,000 inhabitants); L – residents of large cities (over 200,000 inhabitants).
Source: own study.

Residents of large cities indicated a decline in the degree of satisfaction with their needs relatively more often than respondents from other towns (Table 3.5). A similar situation can be observed in the case of an increase in the degree of satisfaction of needs. Here, too, residents of large cities indicated an increase in the degree to which their needs were met more often than respondents from other towns. Therefore, there is considerable polarization within this group of consumers. However, it is not as large as in the case of the previously described Generation Z consumers. Moreover, it should be emphasized once again that the differences in the assessments between individual groups of residents of the analyzed types of towns are minimal. This proves that the place of residence did not significantly influence changes in the degree to which the analyzed needs groups were met compared to the period before the COVID-19 pandemic.

The COVID-19 pandemic was a time like no other for modern consumers. Fear of an unknown disease, infection, fear for loved ones, about one's workplace, forced isolation, struggling with suddenly emerging difficulties that have not been a problem before, such as shopping or going to the cinema, theater, or museum, have left their mark on mental (Di Crosta et al., 2021) and physical well-being of people during the pandemic (Yin et al., 2021). Some people adapted to the situation better and faster; others adapted worse or slower. The difficulties experienced during the pandemic were reflected in the respondents' assessments of the degree to which their needs were met. They show that, despite the health hazards and restrictions, surveyed consumers most often considered their needs to be met to a high or average degree during the pandemic. The groups of needs that are met to the highest degree include food, housing, education, time spent with family, and safety. The results indicate that the surveyed consumers could implement appropriate coping strategies to adapt to the situation. The implemented strategies were so effective that they allowed the vast majority of respondents to maintain the level of fulfillment of their needs at the level experienced before the pandemic. Some respondents even believed this degree had increased, although not as much as those who thought it had decreased.

The pandemic's effects also impacted the differences in assessments of the degree to which respondents' needs were met. In our opinion, in addition to the negative, often very painful consequences, the pandemic has brought many new, beneficial solutions and opportunities (Hesham et al., 2021; Sayyida et al., 2021). We described both of them in the next part of the work.

3.2. Consumer effects of the pandemic

The emergence of the SARS-CoV-2 virus has caused many unpredictable and unexpected effects – not only health-related but also socio-economic. The pandemic has influenced changes in the behavior of economic entities (Zioło, 2022, pp. 7-26), including, for example, the transition to a hybrid mode of operation (Koszewska, 2022, pp. 51-64) as well as changes in entire sectors of economies (Dominiak 2022, pp. .126-136). It also increased the risk in the operation of individual entities (Mishchuk et al., 2023, pp. 201-216).

On the one hand, the COVID-19 pandemic was a time in which entire societies lived in fear of possible infection with a new virus and the consequences of this infection (Grajek et al., 2023, pp. 297-309), but also limited by the measures, regulations, restrictions, and prohibitions introduced by governments of countries around the world. This situation had an impact on the standard of living of societies as well as individual people. Some people felt a loss of control in their lives (Maison et al., 2022, pp. 4-26). However, everyone felt it differently, depending on their profession, level of wealth, place of residence, and age.

Respondents indicated various effects of the pandemic, which they considered most painful for themselves and their households (Table 3.6).

Most often, they indicated the deterioration of their mental health (over 40%), as well as the loss or limitation of interpersonal relationships (39%). At least every third respondent also indicated a deterioration in their financial situation and physical fitness. We observed relatively significant differences between respondents of different genders. Women (47%) were much more likely than men (33%) to talk about the deterioration of their mental health. However, we should mention that research by other authors indicated that men are relatively reluctant to indicate the deterioration of their mental health (Stradomska et al., 2020, pp. 196-201); therefore, these results should be treated with some caution. Men also indicated fewer adverse effects, and most often, they considered the loss and limitation of interpersonal bonds, deterioration of their physical fitness, and deterioration of their financial situation.

We can notice apparent differences in the case of representatives of different generational groups. The deterioration of mental health was indicated primarily by the youngest respondents of Generation Z, as well as representatives of Generation X (on a par with the deterioration of their financial situation). The oldest respondents (the Baby Boomer generation) indicated the loss of interpersonal bonds and the deterioration of their financial situation. This is also the group that most often indicated a permanent deterioration of health, which could be caused, on the one hand, by the significant healthcare needs of this group and, on the other, by limited access to health services during subsequent waves of the COVID-19 pandemic.

Table 3.6. The effects of the pandemic considered by respondents to be the most severe for them and their households (in %, N = 1100)

Specification	Total sample	Respondents by									
		Gender		Generation				Place of residence			
		F	M	Z	Y	X	BB	R	S	M	L
Mental health deterioration	40.2	46.9	33.0	46.5	37.1	41.5	35.6	35.0	39.3	43.0	43.6
Loss/limitation of bonds and interpersonal relationships	39.1	41.1	36.9	33.8	37.8	40.4	44.4	39.3	40.4	36.2	40.4
Own financial situation deterioration	37.2	39.9	34.3	37.5	35.3	41.5	43.5	39.3	36.4	40.8	32.5
Physical fitness deterioration	34.4	33.7	35.0	33.1	28.7	34.9	40.7	33.2	33.5	35.8	35.0
Permanent health deterioration	20.7	22.5	18.8	19.3	14.5	22.2	26.9	20.0	21.1	20.4	21.4
Deterioration of working/ learning conditions	18.9	19.3	18.5	27.3	19.6	22.5	6.2	17.1	16.4	17.0	25.0
Loss of loved ones	15.5	16.5	14.5	17.1	13.3	14.5	15.3	15.7	17.1	15.1	14.3
Loss of work	8.8	9.1	8.5	9.5	10.9	13.1	1.8	8.2	8.7	9.1	9.3
Others	6.5	4.7	8.3	4.0	9.5	3.6	8.7	7.5	5.1	6.8	6.4

Where: F – females; M – males; Z – Generation Z (people 18-24 years old); Y – Generation Y (people 25-39 years old); X – Generation X (people 40-59 years old); BB – Baby Boomers generation (people 60-80 years old); R– rural residents; S – residents of small towns (less than 50,000 inhabitants); M – residents of medium-sized cities (from 50,000 to 200,000 inhabitants); L – residents of large cities (over 200,000 inhabitants). Respondents could indicate a maximum of 5 answers.
Source: own study.

Interestingly, the smaller the place of residence, the less often the deterioration of mental condition was indicated. This may be because, e.g., the travel restrictions could be less severe for residents of villages or small towns than for residents of large agglomerations, who were often confined to relatively small apartments or had to move their professional activity there while working remotely.

However, respondents also indicated those effects of the COVID-19 pandemic that could be considered beneficial and positively impacted their quality of life. We present indications of the positive effects of the pandemic in Table 3.7.

Respondents considered the ability to handle most matters online to be the most significant positive effect of the epidemic situation. This was indicated much more often by female respondents (44%) and the youngest respondents (Generation Z – 46%). The number of indications also increased with the increase in the size of the respondent's place of residence. Another effect directly related to the previous one was the possibility of telephone medical consultations and, thus, obtaining prescriptions.

Table 3.7. The effects of the pandemic considered by respondents to be the most positive for them and their households (in %, N = 1100)

Specification	Total sample	Respondents by									
		gender		generation				Place of residence			
		F	M	Z	Y	X	BB	R	S	M	L
Possibility to handle most matters without leaving home	38.7	44.3	32.8	45.8	40.7	35.6	32.7	34.3	37.1	40.4	43.2
Possibility of doctor's teleconsultations, obtaining prescriptions, etc.	34.6	41.8	26.9	32.4	34.9	32.0	39.3	31.4	33.1	36.6	37.5
Saving money	26.7	27.1	26.4	31.6	24.4	28,7	22.2	26.4	29.1	26.8	24.6
Saving time	24.0	26.5	21.3	40.0	24.0	17.8	14.2	20.7	24.0	21.5	29.6
Possibility of working from home	23.1	22.0	24.3	24.7	29.8	22.9	14.9	21.1	20.7	23.0	27.5
Slowing down the pace of life	21.5	22.5	20.5	18.5	22.5	24.4	20.7	18.6	22.2	22.3	23.2
Possibility of learning from home	16.7	19.2	14.1	44.0	12.7	8.4	1.8	11.4	22.2	14.3	18.9
Increased ability to shop online	16.5	16.7	16.4	14.2	14.5	16.4	21.1	17.9	19.6	16.6	12.1
Possibility of isolating oneself from the environment	16.2	16.2	16.2	22.9	17.1	13.1	11.6	15.0	13.1	17.7	18.9
Increased IT skills	11.3	11.2	11.3	12.0	7.6	9.8	15.6	13.6	12.4	9.8	9.3
Increased social media skills	8.6	8.6	8.7	9.1	6.2	7.3	12.0	10.0	10.9	5.7	7.9
Others	0.6	0.5	0.8	1.1	0.7	-	0,7	0.4	-	0.4	1.8
No positive effects	22.2	20.2	24.3	13.8	21.1	22.5	31.3	27.5	22.5	20.0	18.6

Where: F – females; M – males; Z – Generation Z (people 18-24 years old); Y – Generation Y (people 25-39 years old); X – Generation X (people 40-59 years old); BB – Baby Boomers generation (people 60-80 years old); R– rural residents; S – residents of small towns (less than 50,000 inhabitants); M – residents of medium-sized cities (from 50,000 to 200,000 inhabitants); L – residents of large cities (over 200,000 inhabitants). Respondents could indicate a maximum of 5 answers.
Source: own study.

Every fourth respondent indicated saving money, which may be related to the possibility of dealing with many matters remotely and the possibility of working from home or in a hybrid formula. Moreover, during the pandemic, many tourist trips were canceled, others were limited or shortened, and places related to broadly understood entertainment were closed, such as restaurants, clubs, pubs, cinemas, and theaters, which could also translate into the issue of respondents' savings. Interestingly, the effect of saving money was most often mentioned by representatives of Generation Z and least often by the oldest ones.

Nearly every fourth respondent also considered saving time a positive effect, which is also related to the previous benefits. Here, the youngest respondents talked about it most often; as many as 40% of respondents under 25 years of age drew attention to this issue.

We must note that over 22% of respondents indicated that the pandemic had no positive effects. This opinion was expressed more often by males than females and by rural residents. Almost every third representative of the Baby Boomer generation could not indicate any positive effect of COVID-19.

The pandemic and post-pandemic periods are times when prices increase in many countries. Europe was particularly affected by inflation, with the European Union at the forefront (Żukrowska, 2023, pp. 19-37). It was no different in Poland (Hoffmann, 2022, pp. 47-61). In 2020, the average annual inflation in Poland was 3.4%, 5.1% in 2021, and 14.4% in 2022, a level not seen since 1997 (GUS, 2023b). In August 2023, the Polish Economic Institute forecast inflation for 2023 at 12.6%, and in 2024 it would drop to 7.9% (PIE, 2023).

These years are not only a time of pandemic crisis, but, especially in the case of Poland, it is a time of war in Ukraine, which the Russian Federation started on February 24, 2022, and Poland has become, on the one hand, a country engaged in the material and military assistance to Ukraine, and on the other, it accepted large groups of war refugees. Therefore, it is difficult to separate the impact of the pandemic and Russian aggression against Ukraine on price increases. The respondents' opinions on this subject are presented in Table 3.8. In principle, most believe both factors' impact was similar, although with a specific advantage in favor of the war in Ukraine. It should be noted, however, that in February 2022, i.e., in the month of the outbreak of the war, inflation in Poland amounted to 8.5% year on year. Thus, it is difficult to explain this level of inflation in any way by the situation in our eastern neighbor.

Table 3.8. Reasons for the increase in household expenditure in the opinion of respondents (in %, N=1100)

Specification	Definitely the COVID-19 pandemic	Rather the COVID-19 pandemic	Hard to say/ both factors to a similar extent	Rather the war in Ukraine	Definitely the war in Ukraine
Maintenance (rentals, electricity, gas, water, etc.)	2.7	5.7	42.4	26.6	22.5
Food	3.2	7.9	53.5	22.3	13.1
Pet maintenance	2.3	8.4	73.5	10.5	5.3
Health care	9.8	21.7	53.2	9.6	5.6
Education	6.3	13.1	69.5	7.5	3.6
Commuting to work, school, shops, offices	3.5	10.6	58.2	17.1	10.5
Vacation/holiday trips	6.6	16.8	59.0	11.8	5.7
Spending free time/pursuing hobbies/interests	6.0	14.0	64.3	11.2	4.5
Car maintenance/use	2.5	7.5	50.5	23.5	15.9
Renovation and construction works	3.5	10.7	60.0	16.9	8.9

Source: own study.

According to respondents, the increase in living costs, including electricity and gas, was caused mainly by the war in Ukraine. Moreover, the influx of refugees from Ukraine undoubtedly significantly impacted the housing market's costs (Gołąbeska, Tymiński, 2023). There was also a rise in the costs of maintaining a car, in particular, fuel costs and the hike in food prices (Bułkowska, 2022, pp.2-7), which is usually also influenced by the increase in fuel prices, and therefore, their transport costs (Górecka, Zych-Lewandowska, 2016, pp.53-63). There was also a shock in international markets (Drożdż, Mroczek, 2022, pp. 14-22).

Respondents also mentioned increases in expenditures triggered by the COVID-19 pandemic, primarily medical services, education, vacation trips, hobbies, and spending free time. Healthcare costs grew significantly during the pandemic and before the outbreak of the war, which was caused by extensive requirements and guidelines regarding the conditions for admitting patients during the epidemic (Obrębski et al., 2021, pp. 327-334; Rybarczyk-Szwajkowska et al., 2021, pp.591-604; Brzozowska-Mańkowska et al., 2021, pp.209-218). In the first phase of the epidemic, respondents, in effect, waived the opportunity of holiday trips, especially abroad, which was particularly difficult for enterprises operating in the tourism market. Despite some support for these entities, both direct (Borzyszkowski, 2022, pp.25-36; Kowalczyk-Anioł 202, pp.203-222) and indirect in the form of the Polish Tourist Voucher, which was supposed to drive demand for domestic tourism in Poland (Borek, Wyrwicz 2021, pp.70-81), these corrective actions were insufficient in the opinion of entrepreneurs (Gruszka, Manczak, 2021, pp.71-89). This led to profitability problems and price increases in the long run. Of course, other factors were also impactful, especially in the case of trips abroad, such as the decline in the value of the Polish currency against the US dollar and euro (Pawłowicz, Mrowiec, 2022, pp. 74-90) or the increase in aviation fuel prices, primarily caused by the war situation in Ukraine (Fikus, Skórnóg, 2022, pp.92-108; Elak et al., 2022, pp.63-74).

We observed some differences in responses between females and males, although they were small. Table 3.9 presents the informants' opinions on the increase in expenditure on particular categories of needs by the gender of the respondents.

Women more often indicated that the pandemic increased the prices of healthcare services, education, holiday trips, entertainment services, and renovation and construction works. Men were more likely to indicate that the pandemic had caused an increase in the costs of living.

Relatively minor differences can be observed between the responses by different age groups. Interestingly, in the case of each type of cost, representatives of Generation Z indicated more often than others that the outbreak of the COVID-19 pandemic caused the cost increase.

Table 3.9. Reasons for the increase in household expenditure in the opinion of respondents by gender (in %, N=1100)

Specification	Definitely the COVID-19 pandemic		Rather the COVID-19 pandemic		Hard to say/ both factors to a similar extent		Rather the war in Ukraine		Definitely the war in Ukraine	
	F	M	F	M	F	M	F	M	F	M
Maintenance (rentals, electricity, gas, water, etc.)	2.3	3.2	4.2	7.3	39.9	45.0	29.7	23.4	23.9	21.1
Food	2.5	4.0	8.3	7.5	50.3	57.1	24.6	19.8	14.4	11.7
Pet maintenance	1.6	3.0	9.0	7.7	73.5	73.6	11.1	10.0	4.9	5.6
Health care	10.5	9.0	25.0	18.3	49.9	56.7	9.3	10.0	5.3	6.0
Education	6.7	5.8	14.8	11.3	67.8	71.4	8.3	6.6	2.5	4.9
Commuting to work, school, shops, offices	3.7	3.4	10.5	10.7	57.8	58.6	17.8	16.4	10.2	10.9
Vacation/holiday trips	6.7	6.6	18.3	15.3	57.3	60.8	12.1	11.5	5.6	5.8
Spending free time/ pursuing hobbies/interests	5.8	6.2	15.8	12.1	64.3	64.2	10.5	11.9	3.5	5.6
Car maintenance/use	1.6	3.6	7.0	7.9	49.0	52.2	25.0	22.0	17.4	14.3
Renovation and construction works	2.5	4.5	12.0	9.4	58.9	61.2	18.1	15.6	8.6	9.2

Where: F – females, M – males.
Source: own study.

3.3. Sense of threat and adaptive behavior

The COVID-19 pandemic has forced many people to look at their lives and immediate and distant surroundings from a slightly different perspective. The time of lockdowns, remote work, limited contact, and constant information about subsequent infections and deaths have increased the sense of threat among residents of virtually all countries of the world. This phenomenon has impacted the healthcare sector, including public health, the environment, the human psyche, and education (Miyah et al., 2022).

Such a broad impact of this event allows us to conclude that the emergence of COVID-19 was a catalyst for changes in health care and, directly or indirectly, in other areas of life and branches of the economy.

Table 3.10 presents respondents' opinions regarding the current risk of unfavorable events compared to the situation before the COVID-19 pandemic.

Table 3.10. Respondents' declarations on the threat resulting from the selected unfavorable events in the environment compared to the situation before the COVID-19 pandemic (in %, N=1100)

Specification	Threat has definitely increased	Threat has rather increased	Threat has neither increased nor decreased	Threat has rather decreased	Threat has decreased
Job loss	16.8	35.2	41.0	5.2	1.8
Terrorist attack	13.7	33.5	45.5	5.3	1.9
Cyberattack	19.4	40.6	35.9	3.0	1.1
War outbreak	27.3	37.6	29.2	4.6	1.3
Deepening economic crisis	41.0	36.3	18.2	3.4	1.2
Outbreak of another pandemic	9.9	28.4	46.8	11.5	3.4
Collapse of the pension system	17.4	32.0	44.2	4.8	1.6
Healthcare system failure	27.5	37.1	26.1	7.3	2.1
Banking system failure	16.2	30.2	47.2	4.7	1.7
State failure	34.4	34.0	25.2	4.8	1.6
Climate crisis	19.5	34.5	37.7	6.3	2.0
Energy crisis	37.7	38.0	19.7	3.6	0.9
Restrictions on civil rights	20.3	32.5	38.7	6.4	2.1
Household overconsumption	9.3	21.6	51.3	15.5	2.3

Source: own study.

In the case of many threats, respondents often indicated that they saw no difference between the current situation and the one before the outbreak of SARS-CoV-2. Still, if they decided to make a specific declaration regarding the direction of changes in the situation, they indicated an increase in the threat.

As we presented in Table 3.10, more than half of the respondents indicated that the threat of job loss had increased, of which less than 17% believed that it had grown significantly, and over 35% that it had instead stepped up. Only 7% believed this threat had decreased, and 41% said it had not changed.

The threat of a terrorist attack was assessed similarly, but the increase in the threat of a cyber-attack was more frequently indicated. As much as 60% of respondents noticed an increase in the threat, and only 4% believed it was lower than before the pandemic. Other researchers also pointed out the threat of cybercrime in the government and local government sphere (Chodakowska et al., 2022, pp. 161-192).

The risk of war breaking out was rated even higher, with an increase indicated by 65% of respondents. This result is not surprising, given that the study was conducted after the Russian Federation's aggression against Ukraine in 2022.

The vast majority of people surveyed (76%) indicated an increased risk of a deepening economic crisis, and as much as 41% believed that this risk had significantly increased. Only less than 5% of respondents had the opposite opinion. These answers may result from the considerable impact of the pandemic on the operation of national economies (Anh et al., 2022, pp. 1-8).

The risk of another pandemic was mentioned relatively rarely. Almost half of the respondents said that the threat level had not changed, 28% thought it had somewhat increased, and only one in 10 said it had decidedly increased. Nearly 15% of respondents noted the decreased risk in this area. This is quite interesting, taking into account also the analysis of other researchers in the context of the ongoing war in Ukraine and the influx of refugees from this country to Poland (Malchrzak et al., 2022, pp. 1-7), as well as the existing risk of the emergence of new factors indicated by researchers as pathogenic (Morganstein, 2022, pp.191-205; Abdelaal et al., 2022, pp.1-10), and even indicate specific dangers for economies (van Bargeijk, 2022, pp.27-49).

Almost half of the respondents indicated a growing risk of a collapse of the pension system, which is evident from its deficit (Malinowska-Misię, Miciąg, 2022, pp. 25-51), and two out of three similarly assess the risk of failure of the health care system, which was one of the critical areas during subsequent waves of COVID-19 (Jaroszewska-Ołdak, 2022, pp. 29-56). Less than half believed that the risk of failure of the banking system had increased, and almost seven out of ten respondents also pointed to the failure of the state apparatus, of which every third believed that this risk had increased significantly.

Nearly 20% of respondents stated that the threat of the climate crisis has increased significantly. Every third said that it has somewhat increased, which confirms the conclusions of other researchers that the sense of threat from this side is at least ambiguous, especially in the countries of Central and Eastern Europe (Zaremba et al., 2022, pp. 1-19). More noticeable to respondents was the increased threat of an energy crisis, indicated by as much as 75% of respondents.

Restrictions related to the COVID-19 pandemic also turned out to reflect the threat related to the possibility of restrictions on freedom and civil liberties

(Bałgorajski, 2022, pp. 53-64). More than 100,000 respondents drew attention to the rise in this threat, and every fifth respondent considered this increment significant. Interestingly, the threat related to excessive household consumption was rated relatively low. Less than a third of respondents believed this threat had increased, but only one in eleven said it had risen significantly. This may be related to opinions about the risk of deepening the economic crisis, which may translate into declining household consumption. On the other hand, other research showed that consumers at least try to be aware of how much they actually need (Kamińska, Krakowiak-Drzewiecka, 2023, pp. 46-63).

Some differences were observed in the respondents' answers between females and males participating in the study. The results by gender are presented in Table 3.11.

Table 3.11. Respondents' declarations on the risk resulting from the selected unfavorable events in the environment compared to the situation before the COVID-19 pandemic by gender (in %, N=1100)

Specification	Definitely increased		Rather increased		Neither increased nor decreased		Rather decreased		Definitely decreased	
	F	M	F	M	F	M	F	M	F	M
Job loss	18.1	15.4	36.2	34.1	39.5	42.6	4.6	5.8	1.6	2.1
Terrorist attack	15.5	11.9	36.7	30.1	42.2	49.2	4.2	6.4	1.4	2.4
Cyberattack	20.9	17.7	42.4	38.8	33.9	38.0	1.9	4.1	0.9	1.3
War outbreak	30.8	23.5	41.5	33.5	23.2	35.6	3.2	6.2	1.4	1.1
Deepening economic crisis	42.9	39.0	39.2	33.1	15.5	21.1	1.8	5.1	0.7	1.7
Outbreak of another pandemic	10.5	9.2	31.1	25.4	44.1	49.7	11.6	11.5	2.6	4.1
Collapse of the pension system	16.5	18.3	35.3	28.4	43.9	44.4	2.8	7.0	1.4	1.9
Healthcare system failure	30.8	23.9	38.8	35.2	23.2	29.2	5.4	9.2	1.8	2.4
Banking system failure	18.1	14.1	33.0	27.1	42.7	52.0	4.2	5.3	1.9	1.5
State failure	35.9	32.8	37.6	30.1	22.5	28.1	3.0	6.8	1.1	2.3
Climate crisis	22.1	16.8	38.8	29.8	32.5	43.3	5.6	7.0	0.9	3.2
Energy crisis	40.4	34.8	40.1	35.8	17.2	22.4	1.9	5.5	0.4	1.5
Restrictions on civil rights	21.1	19.4	34.8	30.1	37.6	39.9	4.9	7.9	1.6	2.6
Household overconsumption	10.9	7.5	23.4	19.8	48.5	54.2	15.6	15.4	1.6	3.0

Where: F – females, M – males.
Source: own study.

Female participants were slightly more likely to indicate an increase in the risk of most unfavorable events, including job loss, terrorist attacks, cyberattacks, an outbreak of war, failure of the health care system, failure of the banking system, state failure, climate crisis, energy crisis, restrictions on civil rights, and excessive household consumption.

Women are also more likely to notice this danger in the event of another pandemic threat. Similarly, representatives of both genders often indicated the threat related to the inefficiency of the pension system; however, a more significant percentage of men than women indicated that this threat had significantly increased. It was the only such threat identified.

More significant differences were observed in the case of specific age groups, which were the generations identified in the scientific literature. The results in individual age groups are presented in Table 3.12.

Nearly every fourth representative of Generation Z indicated that the risk of losing their job had significantly increased. In the case of the Baby Boomers (BB) generation, it was only 10% of respondents.

The oldest more often indicated an increase in the threat of terrorist and cyberattacks, the outbreak of war, and the deepening economic crisis. They were also more likely to answer that the threat of another pandemic had increased, as had the threat of failure of the healthcare system. This difference is not surprising, given that age was one of the factors that influenced the risk of death or severe complications of COVID-19 disease. Generation X and Generation BB were also significantly more likely to point out the risk of an energy crisis.

Younger respondents were likelier to point out the risks associated with the banking system and excessive household consumption. Interestingly, they were less likely than the BB generation to share their opinion on the increasing threat of the climate crisis.

We also noticed relatively small differences in the case of residents of different sizes of towns. The cross-section of answers by the respondent's place of residence is presented in Table 3.13.

In this case, the most significant differences were observed in opinions about the risk of losing a job. Rural residents, followed by residents of large cities, most often indicated the lack of changes in the level of job loss risk. The greatest differences were observed among residents of small towns (up to 50,000 inhabitants).

Table 3.12. Respondents' declarations on the risk resulting from the selected unfavorable events in the environment compared to the situation before the COVID-19 pandemic by generations (in%, N=1100)

Specification	Definitely increased				Rather increased				Neither increased nor decreased				Rather decreased				Definitely decreased			
	Z	Y	X	BB	Z	Y	X	BB	Z	Y	X	BB	Z	Y	X	BB	Z	Y	X	BB
Job loss	23.6	18.2	15.6	9.8	35.3	35.6	41.5	28.4	33.1	39.3	37.8	53.8	6.2	5.8	3.3	5.5	1.8	1.1	1.8	2.5
Terrorist attack	11.6	14.5	15.3	13.5	26.2	30.5	35.6	41.6	51.6	45.5	45.1	40.0	7.6	6.9	3.6	2.9	2.9	2.5	0.4	1.8
Cyberattack	15.3	21.1	22.5	18.5	34.5	34.9	41.8	51.3	44.0	38.9	33.1	27.6	4.7	2.9	2.2	2.2	1.5	2.2	0.4	0.4
War outbreak	27.3	27.6	26.2	28.0	33.5	32.4	42.2	42.5	29.5	34.2	28.0	25.1	8.5	4.7	3.6	3.6	3.3	1.1	0.0	0.7
Deepening economic crisis	38.2	39.6	42.2	44.0	33.1	36.7	39.6	35.6	21.8	18.9	15.6	16.4	5.5	3.3	2.2	2.5	1.5	1.5	0.4	1.5
Outbreak of another pandemic	9.8	10.2	12.4	7.3	25.8	27.6	25.1	34.9	48.4	43.3	49.8	45.8	12.4	13.5	10.2	10.2	3.6	5.5	2.5	1.8
Collapse of the pension system	16.0	23.6	14.5	15.3	32.0	28.4	36.7	30.9	42.5	41.5	44.0	48.7	5.8	5.5	4.0	4.0	3.6	1.1	0.7	1.1
Healthcare system failure	29.2	29.5	25.1	29.1	33.8	35.3	38.2	41.1	28.4	25.8	27.3	22.9	9.5	6.2	7.6	5.8	2.2	3.3	1.8	1.1
Banking system failure	18.2	19.6	14.2	12.7	29.5	30.2	33.1	28.0	45.5	43.6	45.5	54.2	4.4	5.1	5.1	4.4	2.5	1.5	2.2	0.7
State failure	28.4	33.8	34.9	40.4	39.6	31.3	36.7	28.4	26.2	26.5	23.6	24.4	4.0	5.8	4.4	5.1	1.8	2.5	0.4	1.8
Climate crisis	20.0	16.4	17.8	24.0	34.2	31.3	36.7	35.6	36.0	43.6	38.9	32.4	7.6	6.2	4.4	6.9	2.2	2.5	2.2	1.1
Energy crisis	30.9	37.1	41.5	41.5	37.5	36.4	38.2	40.0	27.3	18.5	18.5	14.5	2.9	6.5	1.8	3.3	1.5	1.5	0.0	0.7
Restrictions on civil rights	20.7	22.2	17.5	20.7	31.3	31.3	35.3	32.4	37.8	37.8	40.7	38.5	8.0	5.8	5.1	6.5	2.2	2.9	1.5	1.8
Household overconsumption	12.7	11.3	7.3	5.8	24.7	21.8	22.2	17.8	44.7	50.9	51.3	58.2	14.9	14.2	16.4	16.7	2.9	1.8	2.9	1.5

Where: Z – Generation Z (individuals aged 18-24 years), Y – Generation Y (individuals aged 25-39 years), X – Generation X (individuals aged 40-59 years), BB – Baby Boomers generation (individuals aged 60-80 years).
Source: own study.

Table 3.13. Respondents' declarations on the threat resulting from the selected unfavorable events in the environment compared to the situation before the COVID-19 pandemic by place of residence (in %, N=1100)

Specification	Definitely increased				Rather increased				Neither increased nor decreased				Rather decreased				Definitely decreased			
	R	S	M	L	R	S	M	L	R	S	M	L	R	S	M	L	R	S	M	L
Job loss	13.9	18.5	17.7	17.1	34.6	35.3	34.3	36.4	45.7	38.2	37.4	42.5	3.9	5.8	8.3	2.9	1.8	2.2	2.3	1.1
Terrorist attack	14.3	13.8	14.0	12.9	37.1	32.0	34.3	30.7	43.2	45.5	44.9	48.6	2.9	5.8	5.3	7.1	2.5	2.9	1.5	0.7
Cyberattack	17.9	22.9	17.4	19.3	43.6	32.0	46.0	41.1	35.0	40.7	31.3	36.4	2.1	3.3	3.8	2.9	1.4	1.1	1.5	0.4
War outbreak	27.9	27.6	25.3	28.2	43.2	31.6	38.5	37.1	25.7	33.1	26.3	29.6	2.1	5.8	6.0	4.6	1.1	1.8	1.9	0.4
Deepening economic crisis	38.9	42.2	39.2	43.5	37.5	31.3	38.1	38.2	20.7	20.0	17.7	14.3	1.8	4.7	3.4	3.6	1.1	1.8	1.5	0.4
Outbreak of another pandemic	10.0	10.9	9.1	9.6	27.9	26.5	30.6	28.6	48.9	46.5	46.0	45.7	8.9	12.0	11.3	13.9	4.3	4.0	3.0	2.1
Collapse of the pension system	15.7	21.1	15.5	17.1	35.4	29.8	32.8	30.0	45.4	40.7	43.0	47.5	1.8	6.9	6.8	3.9	1.8	1.5	1.9	1.4
Healthcare system failure	26.4	29.8	24.9	28.6	41.1	33.8	38.5	35.0	24.6	26.5	24.5	28.6	6.1	6.9	9.4	6.8	1.8	2.9	2.6	1.1
Banking system failure	13.6	18.2	17.0	16.1	29.3	30.2	32.5	28.9	52.5	45.1	42.6	48.2	3.6	4.0	6.8	4.6	1.1	2.5	1.1	2.1
State failure	33.6	34.5	35.5	33.9	36.4	31.3	33.2	35.0	25.4	26.9	24.5	23.9	3.9	4.7	5.3	5.4	0.7	2.5	1.5	1.8
Climate crisis	16.8	21.1	20.8	19.6	35.7	32.4	36.6	33.2	41.1	35.3	35.1	39.3	5.0	7.6	5.3	7.1	1.4	3.6	2.3	0.7
Energy crisis	36.8	37.8	38.5	37.9	41.8	39.6	32.5	37.9	18.2	17.1	22.3	21.4	3.2	4.4	4.9	2.1	0.0	1.1	1.9	0.7
Restrictions on civil rights	17.5	21.1	21.9	20.7	33.6	28.7	31.3	36.4	40.0	42.2	37.4	35.4	6.4	4.7	7.2	7.1	2.5	3.3	2.3	0.4
Household overconsumption	7.5	11.3	9.4	8.9	19.6	21.1	21.9	23.9	56.1	51.3	49.4	48.2	15.0	12.4	17.7	17.1	1.8	4.0	1.5	1.8

Where: R – residents of rural areas, S – residents of small towns, i.e., under 50,000 inhabitants, M – residents of medium-sized cities, i.e., from 50,000 up to 200,000 inhabitants, L – residents of large cities, i.e., over 200,000 inhabitants.
Source: own research.

Given the threats identified by respondents, they undertake various adaptive behaviors related to managing their financial matters, consumption of goods and services, or their professional competencies in the labor market. Consumers believe that some activities are now less profitable than before the pandemic, and others are more profitable. The obtained results are presented in Table 3.14. The findings by respondents' gender are shown in Table 3.15. The results by the age structure of the surveyed group are in Table 3.16, while those in terms of places of residence are in Table 3.17.

Table 3.14. Respondents' opinions on the cost-effectiveness of selected behaviors, compared to the period before the Covid-19 pandemic (in %, N=1100)

Specification	Definitely unfavorable	Rather unfavorable	Neither yes nor no	Rather favorable	Definitely favorable
Purchase of durable goods	9.3	21.9	48.5	17.2	3.1
Property purchase	22.0	23.5	36.5	13.5	4.5
Passenger car purchase	19.5	26.5	42.6	9.4	2.0
Forward buying	10.2	25.1	40.0	21.5	3.3
Buying on credit	39.3	27.9	28.2	3.8	0.8
Carrying out renovations	15.9	24.1	43.4	13.5	3.2
Upgrading or changing qualifications	4.5	9.0	42.2	33.8	10.5
Traveling	12.3	21.1	38.5	22.0	6.2
Saving money	11.3	15.7	30.0	28.6	14.4
Investing	12.5	18.0	43.3	21.2	5.1

Where: F – females, M - males.
Source: own study.

Nearly half of the respondents believed it was impossible to determine how the pandemic affected the profitability of purchasing durable goods. Of those who indicated some differences, more indicated that this cost-effectiveness had decreased, with women more likely to respond this way. Interestingly, representatives of Generation Z had the opposite opinion. However, the youngest respondents were slightly more likely to indicate that buying durable goods is currently more profitable.

Table 3.15. Respondents' opinions on the cost-effectiveness of selected behaviors compared to the period before the Covid-19 pandemic by gender (in %, N=1100)

Specification	Definitely unfavorable		Rather unfavorable		Neither unfavorable nor favorable		Rather favorable		Definitely favorable	
	F	M	F	M	F	M	F	M	F	M
Purchase of durable goods	9.3	9.2	24.6	19.0	47.3	49.9	16.0	18.5	2.8	3.4
Property purchase	21.6	22.4	24.8	21.8	35.3	37.9	13.9	13.2	4.4	4.7
Passenger car purchase	19.2	19.8	29.9	23.0	42.5	42.7	6.9	12.1	1.6	2.4
Forward buying	9.5	10.9	26.5	23.5	37.3	42.9	23.2	19.6	3.5	3.0
Buying on credit	39.2	39.4	29.5	26.2	28.1	28.2	2.6	5.1	0.5	1.1
Carrying out renovations	17.8	13.9	25.5	22.6	40.9	46.0	13.4	13.6	2.5	4.0
Upgrading or changing qualifications	4.7	4.3	7.6	10.5	39.2	45.4	37.3	30.1	11.2	9.6
Traveling	12.3	12.2	21.6	20.5	38.7	38.2	20.9	23.2	6.5	5.8
Saving money	10.0	12.6	16.2	15.3	27.4	32.8	31.1	26.0	15.3	13.4
Investing	13.4	11.5	17.9	18.1	42.7	43.9	20.9	21.5	5.1	5.1

Where: F – females, M – males.
Source: own study.

Almost half of the respondents stated that buying real estate is presently less profitable, and every third indicated that they could not precisely determine the degree of profitability (Table 3.14). Only 18% of respondents believed buying real estate is currently more profitable. Given the frequent financing of such purchases with loans, these opinions may be influenced by the relatively high interest rates of the National Bank of Poland in November 2022, i.e., at the time of the study, the reference rate was 6.75% (NBP, 2022). This level also affects the WIBOR ratio, which, together with the bank's margin, affects the cost of loans granted. Against this background, the responses of Generation Z representatives stand out as, more often than others, they indicated that it is worth buying real estate. Please remember that these people usually do not yet have their own place and often have to rent apartments. The cost of such rental may exceed the cost of the loan installment. Such answers were also frequently given by residents of small towns, where housing prices have not recently increased as rapidly as in the case of medium-sized and large cities.

Respondents expressed a similar opinion regarding buying a passenger car. Nearly half, 46%, believed that buying a car is presently less profitable, compared to only 11% of people who expressed the opposite opinion. It should be remembered that vehicles are often considered the most critical goods in global exports (Stryjakiewicz et al., 2021). The reasons for this approach may be similar to those in the case of apartments, i.e., an increase in the costs of borrowing (including leasing), which is a ubiquitous form of financing such purchases (Czechowska et al., 2022; Radło et al., 2022), but also a significant increase in car prices - both new and second hand, which in recent years, instead of losing value due to wear and tear, have been gaining, which is somewhat unique. Representatives of the youngest generation indicated the profitability of purchasing a car slightly more often (Table 3.16)—those who do not have their own vehicle and may need it to commute to work. Representatives of rural areas and smaller urban centers responded similarly, where having a car may often be necessary due to problems with access to public transport. These problems are usually not present to such an extent in large cities.

Furthermore, more people believe that it is less profitable to buy forward. However, the difference is unclear here; every fourth respondent had the opposite opinion. This may be related to a significant price increase in Poland, and inflation at the time of the study was 17.5% year on year (GUS, 2022). Women were slightly more likely to point out the profitability of forward buying.

High interest rates and credit costs meant that the vast majority of respondents (67%) indicated that buying on credit is currently unprofitable, of which nearly 40% believed that buying on credit is presently much less profitable. Almost 28% said that it is somewhat less profitable. If anyone indicated that the profitability had increased, these were more often men.

Economic uncertainty may also have influenced respondents' opinions on the profitability of renovating their houses or apartments. Only less than 17% believed it is more profitable to undertake such activities now than before the pandemic. However, less than half (43%) did not notice the difference. Women were more pessimistic about this issue. However, representatives of the BB generation, i.e., the oldest respondents, were relatively more optimistic about this issue.

The crisis epidemic and economic situation have also influenced Polish residents' professional development and retraining perspectives. Nearly 45% of respondents said that now, more than before the pandemic, it is worth improving or changing their qualifications. Only less than 14% of respondents had the opposite opinion. Women were much more likely to point out the profitability of professional development. Most often, these were people from the youngest surveyed generation, i.e., Generation Z. At the same time, these are people who are often still educating themselves and also have the most opportunities to do so. They were also often residents of large and small cities more than residents of rural areas and medium-sized cities.

Regarding travel, only slightly more people (approx. 33%) indicated it is less worth traveling now than before the pandemic. More than 28% of respondents were of the opposite opinion. Price increases undoubtedly influenced this, especially regarding accommodation services and transport (including air). On the other hand, borders closed and partially closed for over two years, travel restrictions, and the need for vaccination certificates have made some people feel the need to travel. Thus, the questions researchers ask regarding the development of virtual tourism (Junyu et al., 2022, pp. 441-457) remain unanswered, and it is challenging to consider the future of this innovation. No significant differences in behavior in this respect were observed between women and men; however, respondents from Generation Z and residents of small towns indicated travel cost-effectiveness. It should be remembered that tourism was one of the sectors of the economy that was most affected by the negative impact of the COVID-19 pandemic, as many researchers have already written about (cf. Yang, Zhang, Rickly, 2021). This impact and the sudden return to traveling in 2022 also force us to consider further developing the desired phenomenon of sustainable tourism (Archana et al., 2022). Moreover, sustainable development is often indicated as one of the most influential challenges of the post-COVID era (Barbier, Burgess, 2020).

The answers regarding saving and investing are worth noting. In a situation of significant inflation, which researchers in Europe wrote in 2021 (De Grauwe, 2021, pp. 220–222), savings clearly lose their value. Still, respondents showed a very cautious attitude to investments, and despite actual losses, they concluded that It is now more profitable to save than before the pandemic. As many as 45% of respondents had this opinion. Only 26% of respondents (Table 3.14) believed that it is profitable to invest now, more than before the pandemic. This shows the conservative attitude of Polish society towards investments. Women were much more likely to point out the profitability of saving, even though they were not prone to risk in the previously discussed issues. Regarding investment profitability, no significant differences between genders were noted. Interestingly, the youngest respondents most frequently mentioned the profitability of investing and saving, and the least frequently mentioned Baby Boomers. Residents of large cities also paid attention to the profitability of investments, while rural residents were the least likely to share such an opinion.

Of course, the results obtained and presented only reflect confident respondents' opinions. Still, they show that the sense of threat that emerged after the breakout of the COVID-19 pandemic influenced consumers' attitudes toward activities in consumer goods markets, financial markets, and the labor market. These attitudes allowed the respondents to adapt to the new socio-economic realities and meet the various needs that continue to appear. Perhaps consumers are unaware of some of the changes in attitudes, or their impact is so tiny that they consider it unnoticeable. It is also worth considering the answers of the youngest respondents, i.e., Generation Z. An essential part of their education, entry into the labor market, or simply into adulthood took place during the COVID-19 pandemic. The effects of this event may only be visible for some time, although significant differences in the behavior of these consumers compared to people from older generations can already be observed (cf. Wang et al., 2022; Uysal, 2022; Nguyen et al., 2022).

Table 3.16. Respondents' opinions on the cost-effectiveness of selected behaviors, compared to the period before the Covid-19 pandemic by age groups (in %, N=1100)

Specification	Definitely no				Rather no				Neither yes nor no				Rather yes				Definitely yes			
	Z	Y	X	BB	Z	Y	X	BB	Z	Y	X	BB	Z	Y	X	BB	Z	Y	X	BB
Purchase of durable goods	6.5	12.7	9.5	8.4	18.2	20.0	26.5	22.9	46.9	45.5	52.4	49.5	23.6	18.9	9.1	17.1	4.7	2.9	2.5	2.2
Property purchase	21.5	24.4	20.4	21.8	16.7	24.7	27.6	24.4	37.5	34.5	37.5	36.7	17.1	13.1	10.9	13.1	7.3	3.3	3.6	4.0
Passenger car purchase	17.1	23.3	22.5	14.9	24.0	25.1	29.8	27.3	43.3	40.7	40.4	46.2	12.0	9.8	5.5	10.2	3.6	1.1	1.8	1.5
Forward buying	11.3	12.0	8.4	9.1	21.1	24.4	26.2	28.7	40.7	34.5	40.7	44.0	22.2	24.7	22.2	16.7	4.7	4.4	2.5	1.5
Buying on credit	40.0	44.0	39.3	33.8	26.9	24.0	28.0	32.7	27.6	26.5	29.1	29.5	3.6	5.5	2.9	3.3	1.8	0.0	0.7	0.7
Carrying out renovations	16.7	17.5	13.8	15.6	24.7	23.6	23.3	24.7	41.1	44.4	46.9	41.1	12.0	12.0	13.5	16.4	5.5	2.5	2.5	2.2
Upgrading or changing qualifications	3.3	6.2	4.7	4.0	7.3	8.4	8.7	11.6	31.6	36.0	46.2	54.9	38.9	36.4	35.6	24.4	18.9	13.1	4.7	5.1
Traveling	8.7	16.0	11.6	12.7	17.5	19.6	25.5	21.8	38.5	36.0	41.5	37.8	25.1	23.3	16.7	22.9	10.2	5.1	4.7	4.7
Saving money	6.5	9.8	13.5	15.3	9.8	13.8	18.5	20.7	24.7	28.0	28.7	38.5	34.2	29.8	29.1	21.5	24.7	18.5	10.2	4.0
Investing	9.5	13.8	12.4	14.2	14.9	17.5	21.1	18.5	41.5	42.5	42.9	46.2	24.7	20.0	20.7	19.3	9.5	6.2	2.9	1.8

Where: Z – Generation Z (individuals aged 18-24 years), Y – Generation Y (individuals aged 25-39 years), X – Generation X (individuals aged 40-59 years), BB – Baby Boomers generation (individuals aged 60-80 years).
Source: own study.

Table 3.17. Respondents' opinions on the cost-effectiveness of selected behaviors, compared to the period before the Covid-19 pandemic by place of residence (in %, N=1100)

Specification	Definitely no				Rather no				Neither yes nor no				Rather yes				Definitely yes			
	R	S	M	L	R	S	M	L	R	S	M	L	R	S	M	L	R	S	M	L
Purchase of durable goods	8.9	10.2	7.5	10.4	19.3	22.2	25.7	20.7	51.4	46.9	44.9	50.7	18.2	17.1	18.5	15.0	2.1	3.6	3.4	3.2
Property purchase	17.9	21.1	24.9	24.3	27.9	20.4	22.3	22.9	40.7	36.0	34.7	34.6	10.7	16.0	14.0	13.6	2.9	6.5	4.2	4.6
Passenger car purchase	18.6	19.3	19.2	20.7	27.5	23.6	27.5	27.5	43.6	43.3	40.8	42.9	8.2	11.3	10.6	7.5	2.1	2.5	1.9	1.4
Forward buying	6.8	12.4	9.8	11.8	31.1	24.0	23.8	21.4	37.5	40.0	39.6	42.9	22.9	19.6	23.0	20.4	1.8	4.0	3.8	3.6
Buying on credit	35.0	39.3	43.0	40.0	28.6	29.5	23.8	29.6	32.5	26.5	26.0	27.5	3.6	4.0	6.0	1.8	0.4	0.7	1.1	1.1
Carrying out renovations	15.7	15.6	15.8	16.4	25.0	18.2	25.7	27.5	44.3	47.3	42.6	39.3	12.5	13.8	13.6	13.9	2.5	5.1	2.3	2.9
Upgrading or changing qualifications	4.6	4.7	5.3	3.6	11.4	10.5	6.0	7.9	45.7	38.2	46.4	38.6	29.6	33.5	32.8	39.3	8.6	13.1	9.4	10.7
Traveling	10.0	13.1	12.1	13.9	26.1	16.7	22.3	19.3	39.6	37.5	37.4	39.3	20.7	23.6	22.6	21.1	3.6	9.1	5.7	6.4
Saving money	9.6	12.4	12.5	10.7	18.6	14.5	14.3	15.4	34.3	28.4	29.1	28.2	24.3	28.0	31.7	30.7	13.2	16.7	12.5	15.0
Investing	12.9	14.9	12.1	10.0	22.1	16.4	17.0	16.4	44.3	41.5	43.8	43.6	18.2	21.1	21.9	23.6	2.5	6.2	5.3	6.4

Where: R – residents of rural areas, S – residents of small towns, i.e., under 50,000 inhabitants, M – residents of medium-sized cities, i.e., from 50,000 up to 200,000 inhabitants, L – residents of large cities, i.e., over 200,000 inhabitants.
Source: own study.

3.4. Behavior patterns developed during the pandemic

3.4.1. Consumer behavior developed during the pandemic

The COVID-19 pandemic was undoubtedly when consumers had to change their behavior. This was often the result of legally introduced restrictions (closed shopping malls, restrictions on providing many services, hours dedicated to seniors), but also from a particular atmosphere, fear for the health of oneself and one's loved ones, or awareness of how various diseases spread. Some changes in people's behavior occurred during the pandemic and have persisted.

Table 3.18. Respondents' declarations on maintaining behavioral changes in their households triggered by the COVID-19 pandemic (in %, N=1100)

Specification	Definitely disagree	Disagree	Neither agree nor disagree	Agree	Definitely agree
More exellent care for health and hygiene	2.5	6.8	33.4	44.2	13.2
More exellent care for environmental protection	5.2	12.4	39.9	34.1	8.4
More frequent use of payment cards	6.2	10.2	31.5	37.9	14.3
More frequent online shopping	2.5	9.5	28.6	41.5	17.9
Weaker sense of security	6.0	15.6	35.9	32.6	9.8
Limiting large expenditures (e.g., furniture, large household appliances, and electronics)	4.9	10.5	40.5	34.5	9.6
Limiting going out to cultural institutions (cinemas, theaters, etc.)	7.9	17.1	32.7	32.2	10.1
Limiting taking out loans and credits	3.7	6.9	35.0	32.1	22.3
Renting necessary items more often than buying them (e.g., drill, sewing machine, clothes, etc.)	15.5	27.7	41.1	12.5	3.1
Using the services of catering establishments less frequently	6.5	17.3	32.2	33.4	10.7
Shopping less frequently	8.1	25.8	35.5	26.5	4.1
Supporting charities and aid organizations to a lesser extent	4.5	17.5	49.8	22.1	6.0
Doing more things remotely	2.7	6.5	25.7	49.1	15.9
Doing more things oneself (e.g., painting one's room, cutting one's hair, getting beauty treatments, etc.)	5.3	15.3	33.4	36.4	9.7
Throwing away less food	2.6	10.0	38.3	38.0	11.1
Feeling tired, depressed	5.3	15.5	32.1	36.6	10.5

Source: own study.

Table 3.19. Respondents' declarations on maintaining behavioral changes in their households triggered by the COVID-19 pandemic by gender (in %, N=1100)

Specification	Definitely disagree		Disagree		Neither agree nor disagree		Agree		Definitely agree	
	F	M	F	M	F	M	F	M	F	M
More exellent care for health and hygiene	3.0	2.1	5.3	8.5	30.9	36.0	46.9	41.1	13.9	12.4
More exellent care for environmental protection	3.5	7.0	12.0	12.8	36.9	43.1	37.1	30.9	10.5	6.2
More frequent use of payment cards	5.3	7.2	9.5	10.9	27.9	35.2	40.4	35.2	16.9	11.5
More frequent online shopping	2.6	2.4	8.3	10.7	26.2	31.3	43.8	39.0	19.2	16.6
Weaker sense of security	4.9	7.2	14.6	16.8	31.8	40.3	36.7	28.2	12.0	7.5
Limiting large expenditures (e.g., furniture, large household appliances, and electronics)	3.9	6.0	10.0	10.9	37.3	43.9	36.6	32.4	12.3	6.8
Limiting going out to cultural institutions (cinemas, theaters, etc.)	7.4	8.5	18.6	15.4	29.9	35.8	33.4	30.9	10.7	9.4
Limiting taking out loans and credits	3.0	4.5	7.0	6.8	32.9	37.3	32.7	31.5	24.4	20.0
Renting necessary items more often than buying them (e.g., drill, sewing machine, clothes, etc.)	15.6	15.4	28.8	26.6	40.8	41.4	11.8	13.4	3.0	3.2
Using the services of catering establishments less frequently	6.5	6.4	17.6	16.9	28.6	36.0	33.9	32.8	13.4	7.9
Shopping less frequently	8.3	7.9	26.4	25.2	31.6	39.5	28.6	24.3	5.1	3.0
Supporting charities and aid organizations to a lesser extent	4.7	4.3	18.6	16.4	46.7	53.1	24.1	20.0	5.8	6.2
Doing more things remotely	2.3	3.2	6.0	7.2	20.7	31.1	52.5	45.4	18.5	13.2
Doing more things oneself (e.g., painting one's room, cutting one's hair, getting beauty treatments, etc.)	5.8	4.7	14.9	15.6	29.7	37.3	39.2	33.3	10.4	9.0
Throwing away less food	2.8	2.4	9.5	10.5	32.0	45.0	42.2	33.5	13.5	8.5
Feeling tired, depressed	5.3	5.3	14.9	16.2	28.1	36.3	40.6	32.4	11.1	9.8

Where: F – females, M – males.
Source: own study.

As part of verifying behavioral changes, we asked respondents to what extent, on a scale from 1 (strongly disagree) to 5 (strongly agree), they maintain behaviors resulting from the breakout of the COVID-19 pandemic. The results obtained are presented in Table 3.18, while the findings broken down by gender of the respondents are in Table 3.19. The answers by the age structure of the respondents are shown in Table 3.20, and those by place of residence are in Table 3.21.

Most respondents (57.4%) indicated that they currently care more about health and hygiene. Only less than 10% said they disagreed with this thesis. Females gave an affirmative answer more often than males and representatives of the oldest generation (BB). No significant differences were observed by place of residence. Interestingly, this type of behavior during the COVID-19 pandemic significantly decreased influenza cases (Lu et al., 2022). On the other hand, the autumn-winter season 2022/2023 in Poland was a period of a significant increase in influenza cases, which, contrary to the declarations obtained in the study, calls into question the further application of safety rules by Polish people.

More people also believe they pay more attention to environmental protection in their households (42.5%) compared to 17.6% of people who think the opposite. In this case, a preponderance of women was also observed among people who responded positively. Interestingly, this was also most often indicated by representatives of the oldest generation. No significant differences were observed by place of residence.

More than half of the participants also think they use payment cards more often; 16.4% of respondents had the opposite opinion. Again, in this case, women responded positively more often than men, with the representatives of the youngest and oldest generations (Generation Z and BB) and residents of small towns. As for the youngest, it should be remembered that before the pandemic, some of these individuals were not yet of legal age and may not have had a payment card, while the oldest may have been convinced by the promotion of cashless payments during lockdowns. On the other hand, younger generations are increasingly willing to use even newer cashless payment solutions that do not require payment cards, such as the Polish BLIK (Kaczmarek, 2023).

The respondents also feel less safe, and such a reply is more often given by women, the two oldest generations (Generation X and BB), and residents of medium-sized cities.

Respondents also noticeably reduce large expenditures (e.g., on furniture or electronic equipment). This was more often declared by females and representatives of Generations X and BB.

Visits to cultural institutions are also limited, although in this case, the predominance of affirmative answers was not as evident as in the previously discussed behaviors. Women indicated this slightly more often. Apparent differences were observed in age groups. The oldest respondents (BB) admitted to having enormous limitations in this respect. However, representatives of Generation Z took the opposite position in this regard.

More than half of respondents admitted to limiting taking out loans and credits, which is understandable given the high borrowing costs. Older respondents more often indicated them as members of Generation X and Generation BB. Given the place of residence, residents of small cities most often responded in this way. In this case, however, researchers point to the significant impact of the war in Ukraine on this phenomenon (Węgrzyn, Topczewska, 2023).

As a rule, the pandemic did not affect the frequent rental of various tools and other things. However, if they do, it is more likely to be done by representatives of younger generations – Z and Y, and partly also X. The least willing are Baby Boomers.

Due to the pandemic, the use of catering facilities was restricted. This constraint has continued to affect the behavior of respondents, with women being more often impacted. The oldest respondents were the most likely to indicate this, whereas Generation Z mentioned it occasionally, as they probably find it most difficult to part with a particular lifestyle.

Less than one in three respondents shop less often, usually women, representatives of Generation BB, and residents of medium-sized cities.

The study showed that respondents partially limited their support for charities and aid organizations. Representatives of Generation X and Generation BB mainly indicated this. Given the place of residence, they were rather inhabitants of rural areas and small and medium-sized urban centers.

The vast majority indicated that the number of things done remotely (e.g., using the phone or instant messaging) had increased – 65% compared to 9.2% of respondents with the opposite opinion. They were markedly more often women (71% women) and residents of large cities. Interestingly, no significant differences were observed between generations.

Some individuals also admitted that, due to the pandemic, they still do some things independently (e.g., painting the apartment and beauty treatments). This was overtly indicated more often by women and representatives of Generations X and BB. Residents of large cities were less likely to have this opinion than others, which may be related to the better accessibility of this type of service in such centers.

Nearly half of the respondents admitted throwing away less food (12.6% were of the opposite opinion). Among women, it was as much as 56%. Considering age, this was more often indicated by representatives of Generation BB (60.7%) and Generation X (52.8%). Interestingly, in terms of places of residence, residents of large cities were the least likely to indicate this behavior (41.8%). Food waste in developed countries is a problem often discussed by researchers (cf. Aschemann-Witzel et al., 2022). On the other hand, stockpiling during the COVID-19 pandemic, especially in its initial period, may have contributed to a significant increase in food waste.

Almost half of the respondents (47.1%) agreed with the statement that as a result of the pandemic, they felt more tired and depressed, and these changes became permanent. Only slightly more than 20% of respondents had the opposite opinion. Women and representatives of Generation X were more depressed. However, considering only the "strongly agree" answers, the youngest responded to this question positively more often than others, which may suggest some emotional problems caused by, among others, remote learning or work as well as entering adult life in the conditions of the epidemic and economic crisis. Interestingly, other researchers confirmed this phenomenon by conducting studies during the highest intensity of infections and the resulting restrictions (Cipora, Mielnik, 2021) and afterward (Marciniak, 2022). In this respect, school-age children were particularly at risk (Cichosz, 2023). However, they were not the subject of this study, but it is difficult to ignore this problem.

Table 3.20. Respondents' declarations on maintaining behavioral changes in their households triggered by the COVID-19 pandemic by generations (in %, N=1100)

Specification	Definitely disagree				Disagree				Neither agree nor disagree				Agree				Definitely agree			
	Z	Y	X	BB	Z	Y	X	BB	Z	Y	X	BB	Z	Y	X	BB	Z	Y	X	BB
Greater care for health and hygiene	1.8	5.5	2.2	0.7	6.2	9.8	6.5	4.7	35.3	33.5	34.9	29.8	43.3	41.1	45.5	46.5	13.5	10.2	10.9	18.2
Greater care for environmental protection	4.0	10.2	4.7	1.8	13.1	15.3	11.6	9.5	41.5	40.7	44.4	33.1	30.9	26.9	32.7	45.8	10.5	6.9	6.5	9.8
More frequent use of payment cards	5.1	9.1	5.5	5.1	7.3	12.0	11.3	10.2	31.6	29.1	34.9	30.2	36.0	36.7	40.0	38.9	20.0	13.1	8.4	15.6
More frequent online shopping	1.8	4.0	1.8	2.5	7.3	9.8	8.4	12.4	26.9	27.3	30.2	30.2	40.0	41.1	45.5	39.3	24.0	17.8	14.2	15.6
Weaker sense of security	6.5	8.4	5.1	4.0	21.5	13.8	12.4	14.9	39.3	38.5	33.8	32.0	25.5	26.9	41.5	36.7	7.3	12.4	7.3	12.4
Limiting large expenditures (e.g., furniture, large household appliances, and electronics)	5.1	8.0	4.7	1.8	14.5	13.1	5.5	8.7	41.8	38.9	40.4	40.7	30.5	30.5	41.1	36.0	8.0	9.5	8.4	12.7
Limiting going out to cultural institutions (cinemas, theaters, etc.)	12.4	11.6	2.9	4.7	22.2	18.9	16.0	11.3	35.6	30.5	35.6	29.1	23.6	28.4	35.3	41.5	6.2	10.5	10.2	13.5
Limiting taking out loans and credits	4.0	5.8	3.3	1.8	6.2	8.0	5.8	7.6	40.0	37.5	32.7	29.8	27.3	27.3	36.7	37.1	22.5	21.5	21.5	23.6
Renting necessary items more often than buying them (e.g., drill, sewing machine, clothes, etc.)	16.7	20.7	12.0	12.7	26.5	24.7	28.7	30.9	39.6	37.5	43.3	44.0	13.1	13.1	14.2	9.8	4.0	4.0	1.8	2.5
Using the services of catering establishments less frequently	10.2	10.5	2.2	2.9	19.6	17.5	19.3	12.7	38.5	32.7	32.0	25.5	22.9	30.5	36.0	44.0	8.7	8.7	10.5	14.9
Shopping less frequently	10.5	11.6	5.5	4.7	25.1	28.0	25.5	24.7	37.5	32.4	38.2	33.8	21.8	23.3	29.1	32.0	5.1	4.7	1.8	4.7
Supporting charities and aid organizations to a lesser extent	6.5	7.3	3.6	0.7	21.8	18.2	12.4	17.8	49.1	52.0	53.1	45.1	16.0	16.4	26.2	29.8	6.5	6.2	4.7	6.5
Doing more things remotely	2.9	4.0	2.2	1.8	4.4	7.6	6.5	7.6	26.2	24.7	26.9	25.1	44.4	46.2	52.7	53.1	22.2	17.5	11.6	12.4
Doing more things oneself (e.g., painting one's room, cutting one's hair, getting beauty treatments, etc.)	8.0	6.9	2.5	3.6	16.4	16.0	16.0	12.7	34.2	33.8	33.1	32.4	31.6	32.0	40.4	41.5	9.8	11.3	8.0	9.8
Throwing away less food	2.9	5.1	1.5	1.1	8.7	13.5	11.3	6.5	48.7	38.2	34.5	31.6	32.7	33.8	41.5	44.0	6.9	9.5	11.3	16.7
Feeling tired, depressed	5.1	7.6	3.6	4.7	16.4	16.7	10.9	18.2	33.8	31.3	31.3	32.0	30.5	31.3	45.5	39.3	14.2	13.1	8.7	5.8

Where: Z – Generation Z (individuals aged 18-24 years), Y – Generation Y (individuals aged 25-39 years), X – Generation X (individuals aged 40-59 years), BB – Baby Boomers generation (individuals aged 60-80 years).
Source: own study.

Table 3.21. Respondents' declarations on maintaining behavioral changes in their households triggered by the COVID-19 pandemic by place of residence (in %, N=1100)

Specification	Definitely disagree				Disagree				Neither agree nor disagree				Agree				Definitely agree			
	R	S	M	L	R	S	M	L	R	S	M	L	R	S	M	L	R	S	M	L
Greater care for health and hygiene	1.8	2.2	1.9	4.3	8.2	6.2	5.3	7.5	34.6	32.4	36.6	30.0	42.1	42.5	44.5	47.1	13.2	16.7	11.7	11.1
Greater care for environmental protection	3.9	4.7	5.3	6.8	13.9	8.0	12.1	15.4	38.2	42.2	39.6	39.6	35.4	34.9	35.1	31.1	8.6	10.2	7.9	7.1
More frequent use of payment cards	6.1	6.9	4.2	7.5	11.8	7.3	10.6	11.1	32.5	28.4	30.6	34.3	36.4	39.3	41.9	34.3	13.2	18.2	12.8	12.9
More frequent online shopping	2.9	1.5	1.5	4.3	7.9	11.3	7.9	10.7	30.7	27.6	30.9	25.4	44.3	37.8	43.4	40.4	14.3	21.8	16.2	19.3
Weaker sense of security	5.0	6.5	5.3	7.1	14.6	13.8	15.8	18.2	36.8	40.4	32.8	33.6	35.7	28.7	36.2	30.0	7.9	10.5	9.8	11.1
Limiting large expenditures (e.g., furniture, large household appliances, and electronics)	4.3	4.4	4.5	6.4	8.9	8.0	9.8	15.0	41.4	39.6	38.1	42.5	37.9	34.9	38.5	27.1	7.5	13.1	9.1	8.9
Limiting going out to cultural institutions (cinemas, theaters, etc.)	6.4	8.4	7.5	9.3	18.2	13.8	17.4	18.9	32.9	34.9	31.3	31.8	34.3	28.7	35.1	30.7	8.2	14.2	8.7	9.3
Limiting taking out loans and credits	4.3	2.9	4.2	3.6	8.6	5.1	6.0	7.9	33.2	33.2	34.3	39.3	33.2	32.0	34.3	28.9	20.7	26.9	21.1	20.4
Renting necessary items more often than buying them (e.g., drill, sewing machine, clothes, etc.)	14.3	15.6	15.8	16.4	29.6	23.6	26.0	31.4	41.4	45.1	40.4	37.5	11.8	11.6	14.0	12.9	2.9	4.0	3.8	1.8
Using the services of catering establishments less frequently	5.0	6.9	4.9	8.9	14.6	13.8	18.9	21.8	35.7	32.0	30.6	30.4	35.0	36.0	35.1	27.5	9.6	11.3	10.6	11.4
Shopping less frequently	6.8	9.5	4.9	11.1	24.3	22.5	27.5	28.9	40.0	37.5	33.6	30.7	24.6	25.8	29.1	26.8	4.3	4.7	4.9	2.5
Supporting charities and aid organizations to a lesser extent	3.6	5.1	2.3	7.1	18.9	15.6	16.6	18.9	47.9	50.5	50.9	50.0	25.7	19.6	22.6	20.4	3.9	9.1	7.5	3.6
Doing more things remotely	3.6	2.9	1.9	2.5	7.1	7.3	7.5	4.3	24.6	27.3	26.4	24.6	51.1	45.8	49.4	50.0	13.6	16.7	14.7	18.6
Doing more things oneself (e.g., painting one's room, cutting one's hair, getting beauty treatments, etc.)	2.5	5.1	5.3	8.2	13.2	12.7	17.0	18.2	35.0	32.0	33.2	33.2	38.6	40.4	34.3	32.1	10.7	9.8	10.2	8.2
Throwing away less food	2.5	2.2	1.1	4.6	9.3	9.1	9.8	11.8	36.4	37.5	37.4	41.8	41.1	37.1	40.4	33.6	10.7	14.2	11.3	8.2
Feeling tired, depressed	6.4	4.4	2.6	7.5	13.6	17.8	15.8	15.0	34.6	29.8	32.5	31.4	37.5	36.4	38.1	34.6	7.9	11.6	10.9	11.4

Where: R – residents of rural areas, S – residents of small towns, i.e., under 50,000 inhabitants, M – residents of medium-sized cities, i.e., from 50,000 up to 200,000 inhabitants, L – residents of large cities, i.e., over 200,000 inhabitants.

The described changes also influenced the development and maintenance of certain attitudes, actions, and behaviors. Table 3.22 presents opinions regarding those behaviors identified as developing during the COVID-19 pandemic. These findings are also presented by gender (Table 3.23), the age of the respondents (Table 3.24), and their place of residence (Table 3.25).

Table 3.22. Respondents' declarations on the scope of using selected solutions developed during the COVID-19 pandemic (in %, N=1100)

Specification	Use it to the full extent	Use it to a limited extent	Used it during the pandemic, but no longer	Never used it
Remote work/studying	9.1	25.4	26.1	39.5
Maintaining interpersonal relationships online	19.1	41.4	20.9	18.6
Maintaining distance in stores and other public places	10.7	37.5	37.1	14.6
Collecting the parcel at a parcel locker	57.3	26.0	7.5	9.2
Dealing with official matters online	20.5	45.4	15.8	18.4
Using apps to monitor physical activity	12.7	25.5	10.2	51.5
Shopping via the website	38.8	44.3	8.8	8.1
Shopping via the mobile application	25.2	38.5	10.0	26.4
Ordering meals with home delivery	11.5	40.3	12.4	35.9
Online learning for personal enjoyment (e.g., foreign language, cooking)	9.2	28.5	13.6	48.7
Planning tourist trips at short notice	18.5	39.6	9.8	32.0
Spending vacation/holidays in Poland	26.5	45.8	10.5	17.1
Using travel agencies' offers	6.5	27.1	7.7	58.7
Deciding on less frequent but longer tourist trips	10.5	36.0	10.2	43.4
Viewing interesting places around the world online (virtual travel)	8.8	29.2	10.3	51.7
Watching movies and series on streaming platforms, VOD	38,2	30,0	7,7	24.1
Watching concerts and performances online	6.8	27.0	16.2	50.0
Listening to music via streaming services	23.8	27.0	7.5	41.6
Listening to podcasts	14.2	25.9	10.2	49.7
Electronic payments	60.2	26.1	6.5	7.3
Medical advice by phone/online	15.7	42.8	25.2	16.3

Source: own study.

Table 3.23. Respondents' declarations on the scope of using selected solutions developed during the COVID-19 pandemic by gender (in %, N=1100)

Specification	Use it to the full extent		Use it to a limited extent		Used it during the pandemic, but no longer		Never used it	
	F	M	F	M	F	M	F	M
Remote work/studying	8.6	9.6	24.4	26.4	26.5	25.6	40.4	38.4
Maintaining interpersonal relationships online	21.1	16.9	40.6	42.2	20.9	20.9	17.4	20.0
Maintaining distance in stores and other public places	12.1	9.2	39.2	35.8	35.3	39.0	13.4	16.0
Collecting the parcel at a parcel locker	60.5	53.9	24.8	27.3	5.8	9.4	9.0	9.4
Dealing with official matters online	19.7	21.3	48.0	42.6	14.1	17.7	18.3	18.5
Using apps to monitor physical activity	14.4	10.9	23.7	27.5	9.1	11.3	52.7	50.3
Shopping via the website	42.4	35.0	42.9	45.8	6.9	10.9	7.9	8.3
Shopping via the mobile application	25.8	24.5	37.8	39.2	9.0	11.1	27.4	25.2
Ordering meals with home delivery	11.4	11.5	40.2	40.3	10.9	13.9	37.4	34.3
Online learning for personal enjoyment (e.g., foreign language, cooking)	11.6	6.6	27.9	29.0	11.6	15.8	48.9	48.6
Planning tourist trips at short notice	18.1	19.0	40.1	39.2	9.1	10.5	32.7	31.3
Spending vacation/holidays in Poland	25.8	27.3	47.6	43.9	9.8	11.3	16.7	17.5
Using travel agencies' offers	5.6	7.3	26.0	28.2	6.3	9.2	62.0	55.2
Deciding on less frequent but longer tourist trips	10.0	10.9	35.3	36.7	8.6	11.9	46.0	40.5
Viewing interesting places around the world online (virtual travel)	9.5	8.1	26.7	31.8	9.1	11.5	54.7	48.6
Watching movies and series on streaming platforms, VOD	40.4	35.8	28.1	32.0	5.8	9.8	25.7	22.4
Watching concerts and performances online	7.4	6.2	24.1	30.1	16.5	15.8	52.0	47.8
Listening to music via streaming services	25.3	22.2	23.2	31.1	6.7	8.5	44.8	38.2
Listening to podcasts	14.1	14.3	24.6	27.3	7.9	12.6	53.4	45.8
Electronic payments	65.7	54.2	22.3	30.1	5.3	7.7	6.7	7.9
Medical advice by phone/online	18.8	12.4	43.6	42.0	23.9	26.6	13.7	19.0

Where: F – females (n=569), M – males (n=531).
Source: Own study.

Nearly every tenth respondent stated that they still make full use of remote work or studying, with a quarter still using it to a limited extent, and a similar proportion used it during the pandemic but stopped. It may be surprising that as much as 40% of respondents did not use this option. However, it should be remembered that remote work is not possible and practical in every profession. This work mode was and is used slightly more often by men than women. This proportion also increases with each younger generation. Residents of large cities work remotely and used to work remotely overtly more often than residents of rural areas. This is an issue that researchers have been investigating almost from the very beginning of the COVID-19 pandemic, especially remote work arrangements (Ozimek, 2020), and also pointed out the impact of these solutions on the proper work and private life balance (Shirmohammadi et al., 2022).

Interestingly, individuals are more willing to maintain interpersonal relationships online than in the case of remote work. Over 60% use this possibility at least occasionally, and these Over 60% use this possibility at least occasionally, and these are more often women.

Less than 11% of respondents said they still maintain a safe distance from others while shopping or in public places, and over 40% said they do so at least to a limited extent. Women do it more often than men and also represent Generation BB. However, this does not have to result directly from the pandemic but also from the desire to maintain one's personal space while shopping or in another public place.

The most frequently chosen solutions include dispatches to parcel lockers. Almost 60% of respondents declare full use of this solution, most of whom are women, representatives of younger generations, and residents of large cities with better access to this type of device.

Every fifth respondent is still very willing to use the Internet to handle various official matters, and almost half declared that they do it occasionally. Interestingly, these are not the youngest who are most willing to take advantage of such possibilities but representatives of Generation X and Generation Y.

More than half of people have never used apps that monitor physical activity. Therefore, it is unsurprising that only less than 13% still use them regularly, and every fourth respondent declares that they use them occasionally. They are markedly most frequently used by representatives of Generation Z. Playing sports was one of the activities that, on the one hand, was stopped by the COVID-19 pandemic, and on the other, many people tried to stay fit and included new exercises or disciplines in their daily routines (cf. Lesser, Nienhuis, 2020; Dwyer et al., 2020; Hammami et al., 2022).

Over 80% of respondents do shopping via websites, at least to a limited extent. Women do it slightly more often than men. Interestingly, most individuals who use these possibilities to a limited extent are representatives of Generation BB.

The respondents were less confident in e-commerce, particularly in using mobile applications. Still, almost two-thirds of respondents use these solutions at least occasionally. As Table 3.24 demonstrates, representatives of Generation Z are most likely to use mobile shopping applications to their full extent.

Ordering meals with home delivery has also largely remained after the pandemic, but the most prominent group declares that they do it only to a limited extent. This seems understandable, considering that from a marketing point of view, a meal at a bar or restaurant and a meal delivered to one's home is an entirely different product that often meets a different set of consumer needs. Representatives of the youngest generation and residents of large cities, i.e., places where such possibilities exist in a wide range, are more likely to choose this solution.

During the pandemic, just over 50% took advantage of further education opportunities, but less than 10% do it regularly. These are primarily women; less than 30% use these possibilities occasionally. To this day, the representatives of Generations Z and Y and residents of large cities mainly focus on learning for pleasure.

During the COVID-19 pandemic, it was challenging to plan a tourist trip well in advance due to changing restrictions and entry conditions to various countries, such as vaccination certificates, tests for SARS-CoV-2, quarantine, flight cancellations, or closures of hotels and catering facilities. Hence, some people decided to plan their holidays "at the last minute." Nearly one-third of respondents said they had never used such a solution, even during the restrictions. Nearly 20% of respondents still plan their holidays with little notice, and almost 40% do it to a limited extent. Undoubtedly, countries where tourism plays a significant role in the national economy are aware of these challenges and are trying to prepare for them (Muragu et al., 2023; Seshadri et al., 2023).

Every fourth respondent still prefers to take domestic holiday leave, and almost half declare that they do so to a limited extent. Every tenth participant did so during the pandemic but no longer uses this solution. These are more often representatives of the oldest generation.

Only 6.5% of individuals said they use travel agencies to the full extent, and 27% stated they use them to a limited extent. These are more often women than men. However, almost 60% of participants have never used such services. The least willing to use travel agencies' services are representatives of Generation Z, for whom, on the one hand, this type of trip may be too expensive, and on the other, they can often prepare their holiday trips on their own.

Only every tenth respondent said they still decided to take longer, but less frequent trips and 36% do so to a limited extent. Every tenth respondent also used such a solution during the pandemic but gave it up. Over 43% have never planned their trips this way. In this way, representatives of Generation BB are more willing to spend their holidays this way than younger people.

More than half of the respondents have never used the possibility of virtual travel. Every tenth tried it only during the pandemic, and less than every third used these possibilities to a limited extent. Only 9% said they still use it to its full extent. These are more often representatives of Generations X and BB.

More than two-thirds of respondents still use the option of watching films and series on streaming services, of which 38% do so to the full extent. These are markedly more often representatives of Generation Z and Generation Y, as well as residents of large cities.

Few, less than 7% of respondents, take full advantage of the possibility of watching concerts or performances online, and 27% only partially. Half of the respondents never used these possibilities. Representatives of older generations of respondents and rural residents are more willing to use this type of service.

More than half of the respondents declared that they use streaming services to listen to music, at least to a limited extent, and every fourth respondent uses it fully. Representatives of Generations Z and Y (i.e., the youngest) predominate, and they are more often residents of large cities.

Listening to podcasts is less prevalent, being declared by only 15% of respondents, who do so to a full extent, and by every fourth respondent to a limited extent. In this case, representatives of the youngest generations and residents of large cities also predominate.

The most frequently used solution presented to the survey respondents was electronic payments. As much as 60% stated that they used electronic payments to the full extent, and among them dominated women. 26% said they used them to a limited extent, 6.5% said they used them during the pandemic but stopped, and only 7 % have never used this solution. Interestingly, electronic payments are not the domain of the youngest generations. Representatives of Generation BB and residents of large cities were more likely to declare their full use.

More than half of the respondents stated that they still use online or telephone medical advice, of which only 16% use it to the full extent. This is not a surprise, as not all situations allow for the effective use of this type of medical services. On the other hand, in some cases, telemedicine is not only a cheaper and faster option but also safer from a health and epidemic point of view. Women are more likely to use remote advice than men. Interestingly, representatives of Generation BB are very willing to use these possibilities to a limited extent. However, this may result from older people's relatively frequent use of health care services due to their more significant health needs.

Many solutions that flourished during the COVID-19 pandemic may stay with us for longer because the isolation period was also a chance to try specific innovations that had already existed before. However, we did not feel the need for their use. The most frequently used solutions include electronic payments, collecting parcels from parcel lockers, shopping via websites and shopping applications, and watching films and series on streaming services. Other solutions will remain at least partially functional, although they may not always be fully effective. These include choosing a holiday in one's own country, dealing with official matters online, listening to music via streaming services, or seeking medical advice remotely.

Naturally, the results of quantitative research do not make it possible to answer the question of whether the changes in consumer behavior that were triggered by the COVID-19 pandemic are permanent, whether all of them are already present on the market, and which of them may have the most significant impact on the economy and the operation of enterprises. Consumers may often not be aware of changes in their purchasing behavior, and sometimes they may not admit this fact, or if they consider a fact embarrassing, they do not want to disclose it. Therefore, it is essential to verify the data obtained through the survey with qualitative research among experts in the field of consumer behavior research or, more broadly, economics, as well as among business practitioners who directly experience these behavioral changes in their activities.

Table 3.24. Respondents' declarations on the scope of use of selected solutions developed during the COVID-19 pandemic by generations (in %, N=1100)

Specification	Use it to the full extent				Use it to a limited extent				Used it during the pandemic, but no longer				Never used it			
	Z	Y	X	BB	Z	Y	X	BB	Z	Y	X	BB	Z	Y	X	BB
Remote work/studying	12.0	10.9	6.5	6.9	33.1	28.7	24.0	15.6	42.2	26.2	24.0	12.0	12.7	34.2	45.5	65.5
Maintaining interpersonal relationships online	28.0	19.3	14.2	14.9	37.1	39.6	41.5	47.3	19.6	18.9	24.4	20.7	15.3	22.2	20.0	17.1
Maintaining distance in stores and other public places	8.0	11.6	9.5	13.8	30.2	30.2	40.7	49.1	41.2	36.4	39.3	30.5	19.6	21.8	10.5	6.5
Collecting the parcel at a parcel locker	64.4	61.8	57.8	45.1	24.4	20.7	28.4	30.5	6.9	9.5	5.5	8.4	4.4	8.0	8.4	16.0
Dealing with official matters online	17.1	24.7	22.2	17.8	42.9	43.3	49.5	45.8	17.8	14.5	14.9	16.0	22.2	17.5	13.5	20.4
Using apps to monitor physical activity	18.5	13.1	11.3	8.0	31.6	24.7	26.2	19.6	14.9	12.4	8.4	5.1	34.9	49.8	54.2	67.3
Shopping via the website	40.7	40.7	39.3	34.5	42.9	41.5	46.2	46.5	10.5	9.1	8.4	7.3	5.8	8.7	6.2	11.6
Shopping via the mobile application	36.7	27.6	21.8	14.5	33.8	42.9	43.6	33.5	13.5	8.7	9.8	8.0	16.0	20.7	24.7	44.0
Ordering meals with home delivery	19.3	15.6	6.9	4.0	46.2	46.9	42.5	25.5	12.4	13.1	13.8	10.2	22.2	24.4	36.7	60.4
Online learning for personal enjoyment (e.g., foreign language, cooking)	14.5	7.6	8.0	6.5	35.3	34.9	25.1	18.5	21.1	14.2	12.0	7.3	29.1	43.3	54.9	67.6
Planning tourist trips at short notice	19.6	19.3	18.9	16.4	40.0	36.0	40.0	42.5	13.1	9.1	10.2	6.9	27.3	35.6	30.9	34.2
Spending vacation/holidays in Poland	22.9	25.5	28.4	29.5	49.5	44.7	42.5	46.5	14.2	10.2	10.5	7.3	13.5	19.6	18.5	16.7
Using travel agencies' offers	6.2	7.6	5.8	6.2	19.6	28.7	30.2	29.8	10.9	6.2	7.6	6.2	63.3	57.5	56.4	57.8
Deciding on less frequent but longer tourist trips	9.5	10.5	9.1	12.7	36.4	32.0	37.5	38.2	15.3	11.3	8.7	5.5	38.9	46.2	44.7	43.6
Viewing interesting places around the world online (virtual travel)	6.5	7.6	11.3	9.8	23.3	26.2	29.5	37.8	17.5	9.1	7.6	6.9	52.7	57.1	51.6	45.5
Watching movies and series on streaming platforms, VOD	52.4	45.5	32.4	22.5	25.8	31.3	36.0	26.9	12.7	7.3	5.5	5.5	9.1	16.0	26.2	45.1
Watching concerts and performances online	7.6	4.7	6.2	8.7	26.9	20.7	30.2	30.2	18.9	16.7	15.3	13.8	46.5	57.8	48.4	47.3
Listening to music via streaming services	47.6	25.1	14.2	8.4	26.9	26.9	31.3	22.9	9.8	7.6	6.9	5.8	15.6	40.4	47.6	62.9
Listening to podcasts	23.3	17.5	9.5	6.5	29.5	26.2	24.4	23.6	11.3	13.1	10.5	5.8	36.0	43.3	55.6	64.0
Electronic payments	57.5	59.6	57.5	66.2	26.5	24.4	32.4	21.1	9.1	9.5	2.5	4.7	6.9	6.5	7.6	8.0
Medical advice by phone/online	14.9	18.5	15.6	13.8	36.7	36.7	47.6	50.2	28.4	25.5	22.9	24.0	20.0	19.3	13.8	12.0

Where: Z (n=275) – Generation Z (individuals aged 18-24 years), Y (n=275) – Generation Y (individuals aged 25-39 years), X (n=275)– Generation X (individuals aged 40-59 years), BB (n=275) – Baby Boomers generation (individuals aged 60-80 years).
Source: own study.

Table 3.25. Respondents' declarations on the scope of using selected solutions developed during the COVID-19 pandemic by place of residence (in %, N=1100)

Specification	Use it to the full extent				Use it to a limited extent				Used it during the pandemic, but no longer				Never used it			
	R	S	M	L	R	S	M	L	R	S	M	L	R	S	M	L
Remote work/studying	7.5	9.1	8.7	11.1	22.5	22.9	22.3	33.6	22.1	30.2	27.9	24.3	47.9	37.8	41.1	31.1
Maintaining interpersonal relationships online	18.2	17.8	18.9	21.4	40.4	44.4	40.4	40.4	21.8	20.4	20.0	21.4	19.6	17.5	20.8	16.8
Maintaining distance in stores and other public places	11.1	10.2	9.4	12.1	38.8	36.0	41.5	34.3	33.9	38.9	35.8	39.6	16.4	14.9	13.2	13.9
Collecting the parcel at a parcel locker	51.4	56.4	58.5	62.9	28.2	26.5	23.8	26.0	7.9	8.0	9.1	5.4	12.5	9.1	8.7	6.4
Dealing with official matters online	17.5	17.8	22.3	24.3	50.7	40.7	41.9	47.9	13.9	17.8	18.1	13.6	17.9	23.6	17.7	14.3
Using apps to monitor physical activity	11.8	14.9	13.2	11.1	24.3	22.5	28.3	27.1	8.2	9.5	10.2	12.9	55.7	53.1	48.3	48.9
Shopping via the website	37.1	36.4	38.5	43.2	46.8	43.3	43.0	43.9	7.5	11.3	9.4	7.1	8.6	9.1	9.1	5.7
Shopping via the mobile application	24.6	28.0	23.4	24.6	41.8	32.7	37.0	42.1	9.3	12.0	9.8	8.9	24.3	27.3	29.8	24.3
Ordering meals with home delivery	7.5	9.1	10.6	18.6	35.0	39.6	44.2	42.5	8.9	15.6	13.2	11.8	48.6	35.6	32.1	27.1
Online learning for personal enjoyment (e.g., foreign language, cooking)	9.6	6.9	7.9	12.1	26.4	25.5	28.7	33.2	12.1	16.4	14.0	12.1	51.8	51.3	49.4	42.5
Planning tourist trips at short notice	15.4	17.1	21.5	20.4	41.4	45.1	32.5	39.3	8.9	8.7	13.2	8.6	34.3	29.1	32.8	31.8
Spending vacation/holidays in Poland	25.4	26.0	28.3	24.6	47.9	43.3	43.0	48.9	7.5	12.7	12.1	10.0	19.3	16.0	16.6	16.4
Using travel agencies' offers	3.2	4.4	9.4	8.9	27.1	25.1	29.1	27.1	6.4	10.5	7.9	6.1	63.2	60.0	53.6	57.9
Deciding on less frequent but longer tourist trips	11.1	8.4	11.7	10.7	38.2	34.2	32.8	38.6	7.1	12.4	13.2	8.2	43.6	45.1	42.3	42.5
Viewing interesting places around the world online (virtual travel)	8.6	9.5	7.9	9.3	31.4	31.6	29.1	24.6	6.8	11.3	14.0	9.3	53.2	47.6	49.1	58.6
Watching movies and series on streaming platforms, VOD	36.1	33.8	38.5	44.3	29.3	27.3	31.3	32.1	5.7	12.0	6.8	6.4	28.9	26.9	23.4	17.1
Watching concerts and performances online	7.1	6.5	6.8	6.8	30.0	26.5	28.3	23.2	10.7	18.5	17.7	17.9	52.1	48.4	47.2	52.1
Listening to music via streaming services	18.6	22.9	19.6	33.9	25.4	28.4	28.3	26.1	6.8	9.1	7.5	6.8	49.3	39.6	44.5	33.2
Listening to podcasts	8.9	15.3	10.9	21.4	23.9	26.2	25.3	28.2	8.2	10.9	12.8	8.9	58.9	47.6	50.9	41.4
Electronic payments	55.7	57.1	58.9	68.9	32.1	25.5	26.0	20.7	4.3	7.6	7.5	6.4	7.9	9.8	7.5	3.9
Medical advice by phone/online	13.2	15.6	18.1	16.1	43.6	41.8	42.3	43.6	26.1	22.5	25.7	26.4	17.1	20.0	14.0	13.9

Where: R – residents of rural areas(n=280), S – residents of small towns, i.e., under 50,000 inhabitants (n=275), M – residents of medium-sized cities, i.e., from 50,000 up to 200,000 inhabitants (n=265), L – residents of large cities, i.e., over 200,000 inhabitants (n=280).

Source: own research.

3.4.2. Typology of consumers by behaviors developed during the pandemic

Consumers do not constitute a homogeneous group of market entities, as much evidence has already been published in the literature (Nikodemska-Wołowik et al., 2021; Ozimek et al., 2023). Their behavior developed during the COVID-19 pandemic may also be a diversification factor (Chlipała & Żbikowska, 2022).

Cluster analysis was employed to distinguish relatively homogeneous groups (types) of consumers, the numerous applications of which in consumer behavior research include, among others, Walesiak (2004, pp. 344-347). Work on the described typology was carried out based on three stages proposed by Kusińska (2009, pp. 88-89):

- Stage I – adopting typology criteria, i.e., selecting a set of diagnostic variables to allow a typology to be carried out.
- Stage II – delamination, involving grouping households based on the adopted diagnostic criterion through cluster analysis.
- Stage III – evaluation and verification of isolated clusters' results and profile development, including active and descriptive variables, i.e., social, economic, and demographic characteristics.

To carry out the typology itself, a scale of behaviors developed by consumers during the COVID-19 pandemic was used. It was a 21-item ordinal scale with no central value. Before starting the analysis, the scale's reliability was confirmed with Cronbach's $\alpha = 0.829$ and McDonald's $\omega = 0.821$.

Consumer types were distinguished in two steps. The first step was cluster analysis using the Ward method (hierarchical) with the square of the Euclidean distance, and the second was non-hierarchical cluster analysis using the *k*-means method. Both methods result from methodological limitations (Gatnar & Walesiak, 2009, pp. 407-421). The non-hierarchical analysis is less sensitive to abnormal observations and incorrect variables, which allows for better results. However, it requires specifying the target number of separate groups of units, which is not predetermined. To obtain this information, first, hierarchical cluster analysis is used (Köhn & Hubert, 2014). The analysis of the agglomeration coefficient and the dendrogram, obtained using Ward's stratified analysis, led to the selection of four types of consumers (the first clear jump in agglomeration distance, cut-off point 10). After conducting a non-hierarchical analysis, their centroids (centers of gravity) were finally determined, and each object was assigned to the group whose centroid was closest to it (Everitt et al., 2011). Then, the isolated types were given subjective names that best reflect the behavioral characteristics of the examined entities assigned to given types. All calculations were made using IBM SPSS Statistics 28 software.

The cluster analysis distinguished four relatively homogeneous types of consumers. Table 3.26 presents the size of the types, i.e., the number of observations in each type, along with their names.

Table 3.26. Types of consumers by behaviors developed during the pandemic (N=1100, in %)

Cluster/Type	Name	No. observations	% observations
I	Remote conformists	302	27.5
II	Returning to normality	294	26.7
III	Digital neophytes	297	27.0
IV	Passive conservatives	207	18.8
	Valid	1100	100.0
	Deficiencies	0	0.0

Source: own study.

The first separate cluster included consumers who, most often among the identified types, declared purchases via computer websites (e-commerce) while using mobile applications (m-commerce). They often paid for purchased products electronically and retrieved them from parcel lockers. They also regard the Internet as a good place to deal with different official matters. Of all the clusters, they most often declared the use of streaming or VOD platforms. Nevertheless, it cannot be said that they have withdrawn from the real world and moved their entire lives online. In many areas, the real world is still important to them. This is especially visible in the area of building interpersonal relationships. Among the distinguished clusters, they generally declared that they maintained interpersonal relationships online or kept social distance in stores and other public places only during the pandemic, but now, they no longer do it. Consumers of the first cluster are curious about the world around them and experience it realistically. Compared to all the distinguished types of consumers, they frequently declared that they had never taken virtual trips. Moreover, during the pandemic, they were the least likely to change their vacation/holiday spending behavior while deciding on its form or location (Table 3.27). The first cluster undoubtedly comprises young people, representatives of the screen generations (Generation Z) and millennials (Generation Y). In the surveyed sample, these are the most educated and in the best financial situation of all the identified consumer groups. They most often represent three-person households from large cities with over 200,000 inhabitants. Their household financial situation during the pandemic has deteriorated the least compared to households from other consumer groups. This cluster is dominated by women over men (Table 3.28).

Cluster I consumers could, therefore, be described as "**Remote Conformists**." Thanks to a good education and a satisfactory financial situation, they survived the pandemic without major financial losses, in many cases even improving their financial situation. They approached the necessary restrictions rationally, applying the recommended measures to prevent the spread of the pandemic. However, once the threat subsided, they tried to return to the style they had lived before the pandemic. In the collected sample, they constituted the largest group of respondents (27.5%).

In turn, the surveyed consumers in Cluster II could be described as "**Returning to normality**." These consumers, most often out of all the identified groups, answered the survey questions: "I used it during the pandemic, but I don't use it anymore." These behaviors are most visible in many areas, for example, maintaining social distancing, dealing with official matters online, ordering meals with home delivery, learning online for pleasure, traveling virtually, using streaming platforms (films, series, and also music), watching online concerts and performances, using applications monitoring physical activity, enjoying less frequent but longer tourist trips, listening to podcasts, or using remote medical consultations (Table 3.27). If the situation required, they could find their way into the new reality by following pandemic recommendations and restrictions. However, they have no intention of doing so when the threat has passed. They want to live the way they did before the pandemic.

The second identified type of consumers consists mainly of people aged 60-80 years from the Baby Boomer generation, although there are also people from Generation X in this group. Most often, they live in rural areas or medium-sized cities with a population between 50,000 and 200,000 inhabitants. Most of them have secondary education. They define their household financial situation as average. In their opinion, the pandemic neither improved nor worsened their economic status. Women are slightly more likely to be found in this cluster than men (Table 3.28). In the collected sample, they constitute the third largest group of respondents, representing 26.7%.

Table 3.27. Characteristics of consumer types by behaviors developed during the pandemic (N=1100, in %)

Specification	Response	Consumer types			
		I	II	III	IV
Remote work/studying	Use it to the full extent	10.3	4.4	17.2	2.4
	Use it to a limited extent	25.8	17.0	43.8	10.1
	Used it during the pandemic, but no longer	31.1	17.0	43.8	10.1
	Never used it	32.8	54.1	12.5	67.1
Maintaining interpersonal relationships online	Use it to the full extent	18.9	19.0	27.9	6.8
	Use it to a limited extent	37.4	46.6	49.8	27.5
	Used it during the pandemic, but no longer	22.5	22.1	17.2	22.2
	Never used it	21.2	12.2	5.1	43.5
Maintaining social distancing in stores and other public places	Use it to the full extent	5.6	10.9	19.9	4.8
	Use it to a limited extent	30.1	41.5	45.5	21.4
	Used it during the pandemic, but no longer	41.1	39.1	30.3	38.2
	Never used it	23.2	8.5	4.4	25.6
Collecting the parcel at a parcel locker	Use it to the full extent	81.1	50.0	65.0	21.7
	Use it to a limited extent	17.2	32.0	23.3	30.0
	Used it during the pandemic, but no longer	0.7	10.9	6.7	14.0
	Never used it	1.0	7.1	2.0	34.3
Dealing with official matters online	Use it to the full extent	23.5	16.3	32.3	4.8
	Use it to a limited extent	51.3	46.3	49.5	29.5
	Used it during the pandemic, but no longer	9.9	22.1	12.5	20.3
	Never used it	15.2	15.3	5.,7	45.4
Using apps to monitor physical activity	Use it to the full extent	14.6	3.1	26.3	4..3
	Use it to a limited extent	20.2	20.7	47.8	8.2

Table 3.27. (Continued)

Specification	Response	Consumer types			
		I	II	III	IV
Using apps to monitor physical activity	Used it during the pandemic, but no longer	8.3	12.2	11.1	8.7
	Never used it	57.0	63.9	14.8	78.7
Shopping via a website (e-commerce)	Use it to the full extent	50.7	33.7	50.5	12.1
	Use it to a limited extent	45.0	49.0	42.1	39.6
	Used it during the pandemic, but no longer	2.6	12.6	6.7	15.5
	Never used it	1.7	4.8	0.7	32.9
Shopping via a mobile application (m-commerce)	Use it to the full extent	34.1	13.9	40.4	6.3
	Use it to a limited extent	41.4	42.5	46.5	16.9
	Used it during the pandemic, but no longer	5.6	13.9	7.7	14.0
	Never used it	18.9	29.6	5.4	62.8
Ordering meals with home delivery	Use it to the full extent	17.2	4.1	19.5	1.9
	Use it to a limited extent	51.7	33.0	54.2	14.0
	Used it during the pandemic, but no longer	8.3	17.0	12.5	11.6
	Never used it	22.8	45.9	13.8	72.5
Online learning for personal enjoyment	Use it to the full extent	6.6	2.7	23.6	1.4
	Use it to a limited extent	27.8	21.1	49.8	9.2
	Used it during the pandemic, but no longer	12.3	16.3	13.5	12.1
	Never used it	53.3	59.9	13.1	77.3
Planning tourist trips at short notice	Use it to the full extent	14.6	22.1	30.6	1.9
	Use it to a limited extent	33.8	53.1	51.5	12.1
	Used it during the pandemic, but no longer	8.9	10.5	7.,1	14.0
	Never used it	42.7	14.3	10.8	72.0
Spending vacation/holidays in one's country	Use it to the full extent	31.1	33.3	27.3	9.2
	Use it to a limited extent	44.4	46.6	57.6	30.0
	Used it during the pandemic, but no longer	6.3	14.3	9.1	13.5
	Never used it	18.2	5.8	6.1	47.3
Using travel agencies' offers	Use it to the full extent	2.6	6.1	14.5	1.0
	Use it to a limited extent	15.2	37.1	44.1	5.8
	Used it during the pandemic, but no longer	3.3	10.9	6.7	11.1
	Never used it	78.8	45.9	34.7	82.1
Deciding on less frequent but longer tourist trips	Use it to the full extent	2.0	16.3	19.5	1.4
	Use it to a limited extent	21.2	48.0	56.6	11.1
	Used it during the pandemic, but no longer	7.6	11.9	10.4	11.1
	Never used it	69.2	23.9	13.5	76.3

Table 3.27. (Continued)

Specification	Response	Consumer types			
		I	II	III	IV
Viewing interesting places around the world online (virtual travel)	Use it to the full extent	2.3	10.5	19.2	1.0
	Use it to a limited extent	9.6	41.5	50.2	10.1
	Used it during the pandemic, but no longer	4.3	14.6	10.8	12.1
	Never used it	83.8	33.3	19.9	76.8
Watching movies, series on streaming platforms, VOD	Use it to the full extent	62.9	16.3	54.5	9.7
	Use it to a limited extent	27.2	32.0	37.4	20.8
	Used it during the pandemic, but no longer	5.0	11.6	5.1	10.1
	Never used it	5.0	40.1	3.0	59.4
Watching concerts and performances online	Use it to the full extent	1.7	6.1	17.2	0.5
	Use it to a limited extent	10.9	29.6	52.5	10.1
	Used it during the pandemic, but no longer	14.2	23.5	14.5	11.1
	Never used it	73.2	40.8	15.8	78.3
Listening to music via streaming services	Use it to the full extent	35.1	3.7	45.8	4.3
	Use it to a limited extent	27.5	22.8	41.8	11.1
	Used it during the pandemic, but no longer	3.6	11.6	5.7	10.1
	Never used it	33.8	6.9	6.7	74.4
Listening to podcasts	Use it to the full extent	15.6	5.1	30.3	1.9
	Use it to a limited extent	24.8	20.7	45.5	6.8
	Used it during the pandemic, but no longer	7.3	12.2	9.8	12.1
	Never used it	52.3	61.9	14.5	79.2
Electronic payments	Use it to the full extent	77.8	58.8	66.0	28.0
	Use it to a limited extent	19.5	26.2	28.3	23.4
	Used it during the pandemic, but no longer	1.3	11.6	4.0	10.1
	Never used it	1.3	3.4	1.7	29.5
Medical advice by phone/online	Use it to the full extent	15.9	12.2	25.3	6.8
	Use it to a limited extent	42.1	52.0	47.5	24.2
	Used it during the pandemic, but no longer	23.5	28.2	19.2	31.9
	Never used it	18.5	7.5	8.1	37.2

Source: own study.

The third type of consumers, distinguished as a result of the cluster analysis, are individuals for whom the pandemic has become a turning point in their lives. Despite the significant decrease in the risk of contracting the virus and the stabilizing epidemiological situation, these consumers, most often among the distinguished groups, still use the forms of behavior developed during the pandemic to a full or limited extent. Among all the surveyed consumers, people forming Cluster III most often continue to work/learn remotely, maintain interpersonal relationships via the internet, maintain social distance in various public places, settle official matters online, monitor their physical activity through applications created for this purpose, order home-delivered meals via mobile applications, study online for personal enjoyment, plan tourist trips at short notice, use the offers of travel agencies, travel less often but for longer, travel online, also watch concerts and performances online, listen to podcasts and music via streaming services, use remote medical consultations (Table 3.27).

Therefore, these individuals can be called "**Digital neophytes**" who have permanently changed their lifestyle by acquiring new, mainly digital, competencies. The respondents forming this cluster came from four-, five-, or more-person households more often than others. Most of them were from Generation Z and the least from Generation BB. The majority of them live in large cities with over 200,000 inhabitants, and the least of them are rural inhabitants (Table 3.28). In total, consumers in this group form a cluster constituting 27.0% of the respondents. This is the second largest distinct type of consumer.

The last of the identified clusters brings together consumers who, in the vast majority, did not develop new behaviors during the pandemic. Of the 21 types of behavior included on the scale, in 20 cases, these respondents answered most often, compared to consumers from the other three clusters, "I have never used it." Therefore, they can be described as "**Passive Conservatives.**" These individuals, most often among all respondents, did not comply with the orders resulting from the restrictions caused by the pandemic. These people, most often of all, admitted that they had not developed new competencies allowing them to use remote forms of work/education, dealing with matters in offices, purchasing goods and services, entertainment and recreation, or even the prescribed forms of maintaining interpersonal relationships (Table 3.27).

Table 3.28. Socio-demographic and economic characteristics of identified consumer types (N=1100, in %)

Specification	Response	Consumer types			
		I	II	III	IV
Consumers by gender	females	53.0	51.0	52.5	49.8
	males	47.0	49.0	47.5	50.2
Consumers by age	18-24 (Generation Z)	35.1	12.6	34.0	15.0
	25-39 (Generation Y)	29.5	17.3	27.6	25.6
	40-59 (Generation X)	25.8	28.9	21.9	22.7
	60-80 (Generation Baby Boomers)	9.6	41.,2	16.5	36.7
Consumers by place of residence	Rural area	20.2	30.6	22.6	30.0
	City up to 50 K	22.2	23.5	24.9	31.4
	City from 50 to 200 K	24.8	26.2	22.6	22.2
	City over 200 K	32.8	19.7	30.0	16.4
Consumers by their education level	Basic/ lower-high school	6.3	1.7	2.7	6.3
	Vocational	6.3	11.2	8.1	18.8
	High school	44.0	47.6	46.1	46.4
	Tertiary	43.4	39.5	43.1	28.5
Consumer households by number of persons	1 person	8.6	16.7	9.4	19.8
	2 persons	33.4	35.4	29.3	36.7
	3 persons	24.2	21.4	23.2	16.4
	4 persons	22.5	19.4	22.9	14.5
	5 persons and more	11.3	7.1	15.2	12.6
Consumer households by self-defined financial situation	Very bad (We cannot afford to cover our basic needs)	1.3	3.1	1.3	4.3
	Bad (We can afford only essential products)	9.6	9.9	7.7	19.3
	Average (We need to plan all more considerable expenses)	54.0	60.5	58.2	55.1
	Good (We can afford some luxury goods)	32.1	25.2	27.9	16.9
	Very good (We can afford everything)	3.0	1.4	4.7	4.3
Consumer households by self-defined financial situation compared to the situation before the pandemic	Definitely got worse	14.2	12.9	14.8	18.4
	Rather got worse	32.5	31.0	31.6	32.4
	Neither got worse nor got better	39.7	48.6	44.4	42.0
	Rather got better	10.6	6.8	7.4	5.3
	Definitely got better	3.0	0.7	1.7	1.9

Source: own study.

Consumers from Cluster IV came from rural areas and small towns (up to 50,000 inhabitants) more often than other respondents. Most of them include individuals with primary, lower-high school, and basic vocational education. They most often represented one- and two-person households in a bad or very bad financial situation. Most often, all respondents admitted that the financial situation of their households had worsened compared to the situation before the pandemic. This cluster comprises almost equal numbers of women and men of different ages (Table 3.28). In the collected sample, they constitute the smallest group of respondents (18.8%).

Chapter 4

CONSUMERS IN THE POST-PANDEMIC ERA

4.1. Back to the past or a new beginning?

The COVID-19 pandemic was an unprecedented event in modern world history. However, it was not the first or even the largest epidemic of an infectious disease in the history of humanity (Gliński & Żmuda, 2020). However, due to the globalization of today's economy, the rapid spread of the SARS-CoV-2 virus has become a process that has had a powerful impact on various aspects of human life and all sectors of the economy. This event was the so-called "black swan," i.e., an event that is impossible to predict due to the extremely low probability of its occurrence, which has an enormous impact on the functioning of the economy (Szczepański, 2020).

The world epidemic situation, temporary shutdown of economies, changes in consumer behavior, some indirectly forced by fear and others directly by law, along with technological and organizational innovations introduced, undoubtedly influenced the behavior of market entities at that time. However, the question arises whether these changes are permanent or whether they were only a temporary market adaptation to the non-standard situation.

It is difficult to ask consumers how they would behave in the future because they do not know it themselves. It is even challenging to precisely determine whether and when the COVID-19 pandemic itself ended because this phenomenon is not only of a formal and administrative nature. We left the consideration of the durability of changes caused by the virus's emergence to experts—scientists dealing with social sciences and economic practices from various industries.

Most experts recognized that currently (2023), we are already in post-pandemic times, although they gave different cut-off dates. Expert E1 drew attention to May 16, 2022, when the state of epidemic caused by the spread of the SARS-CoV-2 virus was canceled in the Republic of Poland after more than two years. However, he stated that it could not be said with certainty that the pandemic is over. Expert E2 found it even more challenging to predict the end of the pandemic due to the outbreak of the war in Ukraine. The war onset resulted in a continued situation of uncertainty and threat. Other experts (E3, E9, E10) pointed to March 28, 2022, when the obligation to wear masks in most public places was abolished, except for healthcare facilities. Additional experts (E4, E5, E7) could not indicate a specific date, but they concluded that it was the first half of 2022, i.e., spring, second quarter of the year. Another interviewee (E6) considered September 1, 2022, when schools returned to regular operation, as the symbolic date for the end of the pandemic. Expert E11 accepted the longer duration of the pandemic and drew attention to the abolition of the obligation to wear protective masks in healthcare entities. This decision entered into force on July 1, 2023 in Poland. Expert E13 concluded that this issue should be looked at more globally and pointed to May 2023, when the World Health Organization recognized that COVID-19 ceased to pose a global threat to public health, although from Poland's perspective, decided that it would be better to point to the first half of 2022 when most of the country's inhabitants had already been vaccinated with the second dose of the vaccine against this disease. Expert E14 also pointed to the WHO decision, stating, however, that administratively in Poland, it ended with the decision of the Minister of Health on July 1, 2023, to cancel the state of epidemic threat in the country.

However, the observations of two experts deserve special attention. Expert E8 stated that although formal and administrative issues are essential and directly affect the market and possible behaviors, the pandemic also occurred in people's psyches. Thus, the subjective time of ending the pandemic may differ for each human being. Some people have long since ended the pandemic in their minds, while others, often those more experienced by traumatic events, are still stuck in it. Expert E12, however, stated that it is impossible to indicate a single cut-off date because the end of the pandemic was a long-term process related to the gradual withdrawal of bans and restrictions in the socio-economic space and the abolition of restrictions on the market.

We decided to present them collectively in Table 4.1 to better illustrate the rather varied opinions of experts on the end of the pandemic, its end date, and related events.

Table 4.1. Expert opinions on the facts and date of the COVID-19 pandemic end and related events

Expert	The end of the pandemic	Cut-off date	Event
E1	Rather yes	May 16, 2022	The authorities canceled the pandemic in Poland.
E2	Yes	Hard to say	The pandemic crisis segued into the crisis related to the war in Ukraine.
E3	Yes	March 28, 2022	Lifting the obligation to wear masks in most public places.
E4	Yes	2nd quarter 2022	Not stated.
E5	Yes	Spring 2022	Not stated.
E6	Rather yes / depends on the individual	September 1, 2022	Full return to classroom teaching.
E7	Yes	1.5-2 years after the pandemic started	The typical duration of an epidemic in human history.
E8	Yes	Hard to say	The moment will be different for each individual.
E9	Yes	July 1, 2023	Lifting the obligation to wear protective masks in healthcare facilities.
E10	Yes	March 2022	Lifting the obligation to wear protective masks in most public places.
E11	Yes	July 1, 2023	Lifting the obligation to wear protective masks in healthcare facilities.
E12	Yes	At least several cut-off dates (ending as a process)	Lifting individual restrictions in public space.
E13	Yes	May 2023 (generally) 1st half of 2022 (personally)	WHO announcement that the disease no longer poses a global public health threat.
E14	Yes	July 1, 2023	Lifting the state of public health emergency in Poland.

Source: own study.

Although the pandemic is technically over, experts note that consumer behavior and the approaches taken by various entities, including enterprises, public and local government institutions, and social organizations, have changed. Many experts have pointed out the rapid development of digitalization and the information society, which was necessary during the most stringent restrictions and has now become a way for consumers and enterprises to save time and money, increase convenience, and limit unwanted face-to-face interactions.

As Expert E3 pointed out: *"I think that post-pandemic times are times of more frequent remote contactless because of the hazard, and more because of convenience and savings. More and more of us work from home and do not use office space. The house has become a complex space, also to some extent 'hybrid,' to which we invite not only our household members and friends but also our colleagues and clients."* He noted, however, that the pandemic times were characterized by greater vigilance among people, which ingrained in the population the awareness of risk and uncertainty. A similar opinion was expressed by Expert E5, who stated that "*post-pandemic times are characterized by better safeguard for the future - people do not make exaggerated investments, as was the case before the pandemic.*" A retail expert (E10) pointed out the increase in hygiene among individual customers during everyday shopping. It was also indicated that in the upcoming autumn and winter seasons, we will most likely observe more behaviors that minimize the risk of various infections (E12): "*In the so-called post-pandemic times, some habits remain. I think many people have acquired a habit of disinfecting their hands. It also seems that during the autumn and flu season, we will be more likely to see people wearing masks, e.g., on public transport. We can't compare ourselves to Japan, but I believe this trend will be more pronounced than before the pandemic. I guess we're also a bit more sensitive when someone is coughing or sneezing next to us.*" Generally, it is essential to prioritize health prevention and increase awareness around maintaining a healthy diet, physical activity, and mental health, not just in response to infectious diseases like COVID-19 (E13).

Another expert (E6) noted that technological development during the pandemic was so far-reaching in virtually all industries (or at least in the vast majority of them) that it is difficult to imagine going back in this respect: "*Certainly, various changes will take place resulting from what happened during the* *pandemic. Some things won't come back. They will develop in a direction they might not have developed if it hadn't been for the pandemic. For example, various IT tools are used. The second area is health care and people's contact with health care. Many things have changed and won't go back to what they were. Today, for example, keeping records, writing prescriptions, and ordering medical supplies is done electronically, and I don't think anyone wants it to go back to the old form. The electronic form is being developed further, and more and more new solutions are being implemented. Moreover, maybe it would have happened anyway, but the pandemic accelerated it. It also showed that it is a comfortable remedy and a good direction for change. The same applies to e-commerce; many people already shop online before the pandemic. Even those who were previously skeptical or unconvinced at all could experience that it was neither difficult nor risky. Now, they are more willing to make such purchases online. The same applies to grocery shopping, which previously was unimaginable to many people that it could be done online.*"

Subsequent interviewees (E7 and E9) pointed to changes in health care, an industry particularly affected by the pandemic: the development of telemedicine, reducing the need for direct contact, which makes it possible to help patients faster and without the need to visit a medical facility. However, the owner of the dental practice noted that post-pandemic changes are not only positive in the case of dental treatment, "*The waiting time for an appointment has also increased; I can see that in my office. Before the pandemic, I saw a patient every half hour. Due to restrictions on handling patient visits in the office, we spend more time disinfecting and sterilizing. Not so much that we put more effort into it, but it takes longer than before the pandemic. A standard visit now lasts 45-60 minutes. An increase also followed this in prices. Of course, this is not only the effect of the pandemic, but the prices of dental services have increased significantly.*" Expert E9, as the director of a healthcare center, also drew attention to the growing health needs of the population, which are most likely the result of the COVID-19 pandemic itself: "*People come in all the time with problems that they define as related to the pandemic.*"

Noteworthy are possible changes in sustainable development or eco-development, which, at least at the beginning of the pandemic, seemed to be on the decline (e.g., Leal Filho et al., 2020; Hisham et al., 2021). Developing a sustainable economy during the pandemic suddenly came under a huge question mark. In particular, environmental protection and ecological development issues were pushed out by the need to maintain hygiene and reduce infections at the beginning of the crisis. Hence, in the initial period, the degrading effects of the COVID-19 pandemic were pointed out (Pinkas, 2023). "*The SARS-CoV-2 virus and its effects have made activities related to sustainable development, the environment, society, and management even more important. We are increasingly talking about corporate and social responsibility and deconsumption. The pandemic has changed the lifestyle of many consumers*" (E1). This may be related, among other things, to scientific reports that the emerging zoonotic viruses in human populations are caused by excessive human interference in wild natural areas, including industrial development and excessive consumption in societies (Gliński & Żmuda, 2022; Jarosz et al., 2023; Sachs et al., 2023). Furthermore, purchasing behavior, or more broadly, consumer behavior, is becoming sustainable, which was also mentioned during one of the in-depth interviews (E2): "*Undoubtedly, one of the consumer trends in the virtual environment that has gained importance during the COVID-19 pandemic is social commerce, especially such forms as social shopping) or social offering. Moreover, the pandemic has accelerated the development of the e-commerce sector in many countries worldwide. New consumers have appeared online, especially representatives of the Baby Boomer and X generations. The pandemic has influenced consumers' purchasing choices during the COVID-19 pandemic and their future purchasing decisions. For example, the 'Consumer Pulse Survey' shows that respondents' opinions clearly indicated an increased preference for local products and brands during the pandemic and a decreased preference for recognized global brands. Local production and the approach of entrepreneurs supporting local communities were important determinants of choices for Polish consumers. This means an increase in the importance of the consumer trend of consumer ethnocentrism. (...) The pandemic has significantly impacted human interaction with nature. I believe that post-pandemic times will be characterized by greater concern among consumers for the natural environment, especially conscious ones representing Generation Z. The pandemic has made people aware of the power of nature but also exposed the weakness of modern societies (e.g., the collapse of the health care system in many countries in Europe and Asia). Moreover, as a result of the pandemic, more and more people have become interested in problems related to the natu-*

ral environment degradation and the need to protect it, issues related to global warming, and sustainable production and consumption."

Expert E8, a scientist who studies management sciences and the tourism economy, noted that it is still difficult to assess the durability of the changes initiated by the epidemic, and we will only be able to determine the final effects of the pandemic in the future.

It was also pointed out that these changes could be durable, but only for part of society (E4): "*The current time is characterized by the return of part of society to its pre-pandemic functioning, while the other part, using tools created during the lockdown, has not changed much their newly acquired habits*."

Only one of the 14 experts (E14) stated that the end of the pandemic actually resulted in a return to solutions well-known before 2020: "*Post-pandemic times are characterized by a return to the pre-pandemic situation - interpersonal relationships, meetings, shopping in stationery stores, personal participation in cultural, sports, family events, etc*." However, as Expert E13 pointed out, the relative return to normality or the desire to return to it resulted from the need to forget about the pandemic as an event quickly. This may be because (E9): "*In general, the pandemic has brought much harm from excessive deaths and problems that continue to affect society. The costs of patient service are much higher, and from the point of view of healthcare management, we are dealing with burnt-out staff*." This may cause far-reaching consequences we are unaware of today because they have not happened yet, but the processes leading to them have already started. Undoubtedly, however, adverse events, especially attempts to defend against the negative effects of the COVID-19 pandemic, have caused changes that may stay with us for the longest time. As Expert E11 mentioned: "*The virus has been tamed to some extent - almost everyone had it, most survived, and we need to move on. It remains like a gruesome memory. And some beneficial solutions that remain with us, e.g., long-distance errands, the ability to make appointments, and access to remote services*."

Continuous technological and organizational development and markets are facts, shown by scientific and research works, also from before the COVID-19 pandemic (e.g., Wywyk, 2009; Zaremba, 2011; Gutkowska, 2011). Therefore, one can ask whether the impact of the COVID-19 pandemic on the economy and society is not overestimated and whether a world in which the SARS-CoV-2 virus never emerged in the population would be not much different from the post-pandemic reality.

The experts we talked to had different opinions on this issue, although they assumed that this impact on changes in the socio-economic environment existed in principle. However, the question is how significant.

Expert E1 concluded that the COVID-19 pandemic is one of many challenges that the global economy, or the human population, had to cope with. He stated, "*The pandemic is just one of many crises. We are currently experiencing a war in Ukraine, high inflation, falling living standards, falling real consumption, etc. We have disrupted supply chains and experienced full shelves not being available to us once and for all. Would the world be better? Maybe it wouldn't have experienced the effects of the pandemic, but would it have been better? Probably not.*"

However, some interlocutors argued that it is inappropriate to solely consider the impact of the pandemic from the perspective of specific technological, organizational, or managerial accomplishments. Expert E11 said: "*Looking at the balance of benefits and losses, I believe it would be better if there were no pandemic. Let's not forget how many people died and those who will suffer the effects of the pandemic for many years to come. These pandemic changes would happen anyway, but over a longer time. We would be dealing in many cases with evolution, not revolution.*" Expert E9 working in the public health care system went even further on this topic and pointed out the far-reaching and rather adverse effects of the COVID-19 pandemic, which will ripple through the population for decades to come: "*In my opinion, the impact of the pandemic was huge and even greater than we might think. I look from the perspective of a person involved in the health care system. We've gone through the pandemic, and we'd like to say it's great now. We still carry within us the experiences of the pandemic. Someone who claims, as I do, that the pandemic has had a huge impact on the economy, on the psyche, and the world is considered to be exaggerating. I've heard this many times. However, this influence was not only positive. If we had the option, it would be better if we hadn't gone through all this. The world did not become better because we went through a pandemic. This generally applies to any conflicts or other misfortunes. These are negative experiences.*"

As a rule, experts and practitioners indicated that the currently observed changes would have occurred anyway, but the pandemic became a catalyst (E3) or a stimulant (E7) of new solutions. We are dealing with the revolutionary nature of these innovations, especially with their sudden mass scale (E4): "*It was not due to the pandemic that modern solutions appeared, but it enabled their introduction very quickly and on a massive scale. Without the pandemic, this pace would not be possible.*"

It was also pointed out (E6) that the pandemic itself did not trigger any new trends but, at most, developed those that could already be observed. However, it showed problems that we previously did not want to talk about too often, or did not consider significant enough, or did not even know that they were so big, "*for example, the condition of the Polish health service, even the condition of Polish families, or even the condition of interpersonal bonds as such. We are already very dependent on all distance communication tools, the internet, and computers. If all these solutions were to be turned off in one day, I think many people would struggle to come to terms with the new reality. The pandemic has shown us even more how dependent we are on them. It also showed that despite some sense of agency, despite being such a modern society, suddenly all this may have no meaning when faced with something we have no control over. That there are things that human beings cannot control. Despite how convinced they are of their power, infallibility, and agency.*"

Expert E8 concluded that although changes would occur anyway, they would be evolutionary by nature. The pandemic has become a kind of shock therapy for societies and economies: "*These processes would be spread over time, but this, in turn, would make us gradually get used to them. However, I think that what the pandemic has significantly influenced is planning, looking at what is here and now and what will be in the future, in the sense that what will happen seems much more complex. This world was more orderly and predictable before the pandemic than now. First, a pandemic, then a war breaks out beyond our borders – something that few people expected would happen in the 21st century, a traditional war, with a front line and tanks.*" This also shows that it is difficult to separate the consequences of the pandemic and the war in Ukraine, which partly occurred in parallel, and their effects may be long-term. The experts we talked to, while unable to separate the effects of these events, clearly point to the importance of the pandemic as a catalyst for changes, including economic development.

It can be said that the COVID-19 pandemic is not so much the beginning but a critical point in developing a digitized society. Virtually all experts – both scientists and practitioners from various industries – pointed to the increasing role of e-consumers on the market and the increase in remote communication at the economic and interpersonal levels. The topic of remote work and remote customer service was also frequently discussed. It was said (E4) that "*the transfer of many services to digital channels (information, service, payments) as well as changes regarding employees (Home Office, online training instead of stationary training, transfer of part of the operating costs, such as energy, computer, etc., to the employee), under normal conditions, would certainly cause much tension and significantly delay the process*." Another health care expert (E7) stated that the pandemic "*was an incentive to accept the cyber world to be the future. If there had not been a pandemic, we would have lived in a certain idyll. We would still live well but wouldn't necessarily be as technologically advanced now in this e-world*."

The changes we are writing about and our interlocutors talked about are not things that have already happened. We can talk about ongoing processes, and it is difficult to determine the final effects of the COVID-19 pandemic. It seems that today's world is less predictable and less confident. As Expert E12 said: "*I have the impression that the world without the pandemic would be more peaceful because there certainly wouldn't be such a scale of negative health consequences, including those in the long term. For many people, on the other hand, the pandemic turned out to be a turning point of sorts. It allowed them to think about what is important. This reflection has come, at least, for a while*."

The future projection of ongoing changes in consumption is even more complicated because it will be based mainly on Generation Z, who suddenly had to face the COVID-19 pandemic when entering adult life and who are just entering the market as full-fledged consumers with appropriate financial resources, allowing them to meet their needs better. As Expert E2 said: "*There will probably be changes in consumer behavior among representatives of Generation Z. These shifts will consist in rationalizing consumption, changing its structure, and evolving toward pro-ecological trends expressed, among others, by greater care for the natural environment, reduction of post-consumer waste, rational use of limited natural resources, etc.*"

Although we cannot confidently state that the COVID-19 pandemic triggered economic changes, including in consumption in various markets, it was undoubtedly a driver for existing solutions and ideas, determining their development and implementation. However, further questions arise as to whether the outcome of the pandemic outbreak can be said to be positive. The human tragedies associated with the disease itself or limited access to health care in the case of other diseases are undoubtedly the dark side of these events. Also, the impact on the economy was not only positive. The pandemic has caused problems with supply chains, the collapse of many enterprises, and severed interpersonal bonds.

4.2. COVID-19 pandemic: profit and loss statement

The pandemic, as numerous studies indicate, has influenced the functioning of economies and societies, changed everyday life, and influenced consumer market behavior (Amirova, 2021; Chlipała & Żbikowska, 2022; Dąbrowska & Janoś-Kresło, 2022). As D. Maison noted about the shopping behavior of Poles: "*Shopping behavior during the epidemic depends to a large extent on the internal sense of risk associated with the coronavirus. People more afraid of the epidemic bought more and made larger purchases. Their behavior was usually explained by the need to prepare for the outbreak of a real epidemic when they could not leave the house. These behaviors were also based on an attempt to gain control over what is unknown and uncontrollable for people*" (Maison, 2020). When writing about the COVID-19 pandemic and its impact on the behavior of consumers and business entities, it is time to answer whether the pandemic was only a negative phenomenon or whether there are also positive sides to it.

Nevertheless, let us start with the losses that no one doubts. Experts participating in the study indicated several entities and even entire industries that suffered or lost the most due to the pandemic. We have presented their summary in Figure 4.1 using a tag cloud. Given the rules for constructing this type of result visualization, the larger the font is, the greater the number of experts indicating a given industry or type of entity.

The crisis spurred by the pandemic has affected many areas of life and the entire economy. Recovering from it will be a long-term process. First of all, the experts mentioned service entities in the catering industry (bars, restaurants, cafes, pubs), cultural institutions, enterprises in the tourism and transport industries, companies providing personal services (hairdressing, beauty treatment, massage, etc.), or professional services (architectural and design studios, photo studios, media houses, etc.). They also pointed to industrial production, especially the closure of large production plants, such as the FCA passenger car factory of the Stellantis concern in Tychy (Poland). According to experts, many manufacturing companies suffered "*due to problems in the transport industry or broken international supply chains*" (E13).

During the pandemic, the safety of purchases has become a priority for many consumers, especially older ones afraid of contracting the coronavirus. This issue has become a great challenge for all trades, especially retailers (Krowicki & Maciejewski, 2024, pp. 188-197). According to experts, the heaviest losses were incurred by owners of small physical stores, enterprises using business models based on direct customer and supplier contact, and owners and tenants of shopping centers. "*The liquidation of operations and bankruptcies of smaller shopping center tenants and the failure to renegotiate contracts caused some tenants to leave shopping centers. Today, shopping centers are confronted with increasing empty shop spaces*" (E2). Especially during lockdowns, these enterprises experienced hardships and struggled to survive. The pandemic period also saw considerable losses for many outsourcing companies serving other enterprises. First, we should mention catering, cleaning, service companies, etc., serving offices closed and their employees transferred to remote work in their homes.

Lockdowns and fear of being infected caused significant losses in the broadly understood event industry: "*(...) it is also worth mentioning music clubs, bars, discos (...)*" (E3). Some of these entities managed to cope by preparing takeaway meals, and there were also companies offering home discos via online channels. Many theater and music artists also followed this path, organizing concerts, recitals, and performances. Many training companies have moved their operations online. Those "*that stuck to face-to-face learning and did not introduce the possibility of remote learning, or even webinars or online training, disappeared from the market*" (E6). In addition to the previously mentioned entities from the catering, entertainment, and tourism industries, we should also mention swimming pools, gyms, wellness and SPA facilities, bowling alleys, billiard rooms, and all other sports and recreation facilities. Therefore, those industries and companies whose activities were based on direct interpersonal contact with customers suffered the most. Those that *"(...) could not or were unable to switch to online or hybrid work and encourage customers to do so."*

Figure 4.1. Market entities that suffered/lost the most due to the pandemic. Expert ratings (N=14).

Source: own study.

Not all companies could move their activities online, following the path opened up by their customers. Therefore, the entities that suffered/lost the most due to the pandemic also included hotels, especially those focused on business customers, and transport companies offering carriage of passengers (airlines, airports, railways, and bus transport services). In the opinion of some experts, the war in Ukraine also had and continues to have a negative impact on the industries mentioned here. This is the second black swan that landed almost at the same time as the COVID-19 pandemic on the lake of the global economy. Other experts also drew attention to the significant strain or even inefficiency of the health care system: "*I wouldn't say that the system coped well with the challenges of the pandemic. It swept over us. Whoever was supposed to die died, and now we are after the pandemic, and we can say that we have succeeded. We just lived through it. I haven't noticed any additional management activities that could have improved the health care situation better*" (E9).

As a result of the pandemic, those who also suffered, and perhaps suffered above all, were consumers *"(...) who had to comply with the restrictions introduced during the pandemic, had to limit interpersonal contacts, lost the ability to use many services, from hairdressing to transport, hotel, cultural, and catering services*" (E14).

Many experts also pointed out the losses of loved ones and friends suffered by consumers as members of their families and communities. Therefore, in the next part of our interviews, we asked respondents to comment on the survey results in which consumers indicated the most severe and burdensome effects of the pandemic for them and their households. Let us recall that these were: deterioration of mental/physical condition, loss/limitation of bonds and interpersonal relationships, and deterioration of one's financial situation.

The experts participating in our interviews were not surprised by the results of quantitative consumer research. Primarily, the participating scientists emphasized that the findings presented by us are consistent with their research in this area (international research results of the Department of Behavior Research at the Warsaw School of Economics, research by the Department of Family Studies and Social Pathology at the University of Warsaw, research by the Department of Market and Consumption at the University of Economics in Katowice, and CBOS research). "*The mental and physical effects are still felt by many people today. The demand for the services of psychologists and psychiatrists continues to increase. These are long-term effects and are difficult to predict. We felt the loss/limitation of bonds and interpersonal relationships very severely, also due to the restrictions resulting from the lockdown. Remember that it was also the Easter period, and many of us have unpleasant memories. I think this phenomenon also has long-term consequences. Interpersonal relationships have not always been rebuilt. The financial situation was changing in various directions; some consumers indicated it was improving, but naturally, they constituted a distinct minority. Those who experienced a deterioration in their financial situation usually lost their jobs or businesses or experienced serious perturbations. It should be remembered that health expenditure has increased*" (E1).

In the opinion of experts, the deterioration of the financial situation reported by some of the surveyed consumers was a consequence of their professional activities. Enterprises that managed to transfer their operations to the Internet maintained employment; what is more, they took over customers of companies that had not done so. In this case, not only was the situation getting worse—quite the contrary. Unfortunately, where remote work was impossible, there were often very drastic layoffs, either due to limited operations or even bankruptcy (e.g., hotel and tourism, catering, entertainment, sports, and recreation industries). Many people lost their jobs, hence their financial situation deteriorated. "*People were laid off from various companies. They had to look for new jobs, and many people who had successful businesses in pre-pandemic times suddenly had to suspend their operations and look for other means of living or change their industry*" (E10).

The consequences of the pandemic seem to be closely correlated with the demographic and social characteristics of respondents. This can be seen in the experts' statements, both in commenting on the deterioration of the financial situation, as well as the weakening of family and social ties and the deterioration of the mental condition of the respondents: "*Undoubtedly, the deterioration of the financial situation was felt by people from industries that, due to the lockdown, were closed or whose activities were very limited. In turn, in the case of some professions where work can be performed in a hybrid mode (e.g., programmer, IT specialist, translator, etc.). The remuneration of employees in these industries has increased significantly during the pandemic. Although with the outbreak of the coronavirus pandemic, the increase in remuneration in the IT industry has slowed down significantly, already in the third quarter of 2020, the rates began to exceed those from before the pandemic several times, while in 2023, the remuneration of IT employees increased by an average of 30-37%. The pandemic has had a definitive impact on society. Of course, the age variable differentiates views on the consequences of the pandemic. Due to staying at home, young people could notice an improvement in family relationships but a deterioration in direct face-to-face contact with friends and acquaintances (young people's contacts were practically limited to online conversations). However, as expected, older people stressed the deterioration of family ties and contacts with friends (...).*" (E2). The expert's views are confirmed by Kwak (2022), who showed that when examining changes in internal relationships, respondents most often indicated strengthening relationships and improving family ties, justifying this with more frequent conversations, spending longer time together rather than passing each other, and getting to know each other better. Furthermore, the weakening of interpersonal bonds during the pandemic was felt most strongly by the lonely, primarily older adults and those who were digitally excluded people. It is also worth mentioning the loosening of interpersonal relationships at the workplace, as employees stopped communicating directly or even meeting each other. This was especially visible in education, consulting and insurance companies, etc.

Experts' opinions clearly show that the pandemic has had a substantial impact on the mental condition of society. "*Depressive disorders are evident among the youngest and oldest people. Stress, uncertainty, sense of threat, symptoms of increased anxiety, and depression have accompanied many people since the beginning of the coronavirus pandemic. During the first lockdown, those most at risk for mental health problems were those already struggling with mental health problems. Moreover, the negative consequences of the pandemic could be observed among young people. The limitation of peer contact, indispensable at this age, resulting in loneliness, unsatisfactory online contacts, and hate, easier on the internet, are the most frequently visible problems teenagers had to struggle with during the pandemic. The pandemic has had a negative impact on older people living in care facilities. In some cases, testing was not provided in nursing homes, while in others, appropriate care, including transfer to hospital, was denied. During the epidemic, there were reports of residents being locked in their rooms to protect them from the virus, and other people were abandoned and neglected. In many countries (e.g., Italy and France), a strict no-visitor policy was introduced in all nursing homes for several weeks or months. The stress caused by such policies led to mental and physical decline, and cases of depression or refusal to eat were reported*" (E2). One expert even used the phrase that "*in parallel with the COVID-19 epidemic, we were dealing with an epidemic of depression*" (E3). Some consumers found isolation from the rest of society very difficult. The term "COVID bubble" has begun to be used in everyday language as a synonym or shorthand term regarding the imposed restrictions and the need to isolate oneself and close oneself off from others. "*The physical condition was certainly influenced by limited access to sports and recreation centers, the transition to remote work, and staying home. The mental condition was influenced by the daily overload of information about deaths, fear of infection, fear of vaccination, loss/limitation of face-to-face interpersonal relationships, inability to organize joint events with family and friends, isolation from co-workers, as well as a 24-hour stay of all household members in one house/apartment (in some cases) due to remote learning and work*" (E14). Experts also emphasized that the deterioration of mental health is also related to the age of the respondents. The pandemic was a different burden for mature people than for young people just starting their lives: "*The effects* *will be especially severe for young generations. For a young person, the share of pandemic time in their life was significant in terms of the share of pandemic years in total years of life. Moreover, the pandemic affected young people in very important, even crucial years of their lives - adolescence. They may feel the consequences throughout their lives. Older generations can more easily make up for these losses – it's a matter of rebuilding, not building [relationships*]" (E11).

Some experts pointed out that the issue of relationships and family ties seems to be the most complex of the three mentioned most burdensome, severe effects of the pandemic. For some people, the time of the pandemic *"(...) showed the need for these bonds, showed how important family, loved ones, friends are (...)*" (E3); for others, in turn, it was a painful time to face the truth about relationships in their family: "*In my opinion, the pandemic was such a litmus test. If family ties had not been disturbed before the pandemic and everything was functioning properly, the pandemic would not have significantly worsened these ties. It exposed some situations that the families may not have been aware of. Maybe they didn't know how it was actually between them. The same applies to peer relationships; those who had those friends found a way to communicate with them, meet them, and make arrangements, even sometimes against the recommendations of higher authorities. They met secretly somewhere, and those who didn't have friends, well, the pandemic exposed their loneliness even more. So, I am not entirely inclined to, nor am I a supporter of, the view that the pandemic was the main cause or caused any crises somewhere. It was more of a catalyst, perhaps, for the problems to arise that would only have occurred later, for example, or in a different form*" (E6).

Therefore, as already indicated at the beginning of this subsection, it is difficult not to notice the losses caused by the COVID-19 pandemic. Can it be said that anyone gained in this situation? If so, who? Which groups of enterprises and which industries? Which consumer groups? So, we asked experts about these issues. Their opinions are presented in Figure 4.2. as a tag cloud. Let us remind you that under the rules for constructing this type of result visualization, the larger the font, the greater the number of experts who indicated a given industry or type of entity.

In the experts' view, the medical and pharmaceutical industries have undoubtedly benefited, especially companies that produce personal protective equipment, such as masks, gloves, and disinfectants, not to mention vaccine producers and entities dealing with their distribution and vaccination of the population. "*People were buying medicines, dietary supplements, protective products in bulk*" (E1).

During the first phase of the pandemic, the food industry benefited to a large extent. Consumers stocked up on food out of fear of an unknown threat. Pasta, flour, sugar, and, in short, any food with an extended shelf life were disappearing from store shelves. However, experts rank the e-commerce industry and the related Courier, Express, and Postal services (CEP) industry among the biggest beneficiaries of the crisis spurred by COVID-19. The e-grocery industry attracts attention in this case, too. Before the pandemic, online food shopping induced relatively little interest. Consumers feared purchasing food online (Asti et al., 2021). During the pandemic, especially during lockdowns, the internet has become the leading food distribution channel (Yelamanchili et al., 2021; Akhtar & Farooqi, 2022).

Figure 4.2. Market entities gained the most due to the pandemic. Expert ratings (N=14).

Source: own study.

During the pandemic, development was also observed in the IT industry: "*The companies that gained primarily were those that provided communication to people forced to stay in their homes. Those that made working, learning and all other communication possible remotely*" (E4).

Almost all experts agreed with this opinion. Some of them also pointed to training companies that moved their activities online, developing various forms of distance learning, companies providing entertainment via the internet (streaming platforms, computer game producers), and producers and sellers of computer hardware, software, and peripheral devices (printers, scanners, etc.).

Some consumers used involuntary homestay during lockdowns or recommended quarantine to renovate and refurbish their apartments and houses. Therefore, experts also included construction, renovation, and furniture companies among the beneficiaries of the pandemic.

Looking further at consumers, in the opinion of experts, "all those who, regardless of age, actively use the internet and the entire range of applications when making consumption decisions, benefited. Undoubtedly, older consumers have also benefited, as the pandemic forced them to become familiar with using computers and various applications when shopping (E2). Another expert also emphasized the benefits for the older generation during the pandemic, pointing out that especially people who had limited access to a computer had to get used to it: *"(...) the pandemic times forced them to enter the world of cybertechnology. It can be said that this period opened an additional window of opportunities for them. It forced development"* (E7). Consumers' mass interest in online shopping resulted in the development of showrooming and webrooming trends, i.e., the opposite of showrooming (Sahu et al., 2021; Goraya et al., 2022). Moreover, although it was a big challenge for online stores and their logistics, it was worth trying new solutions. We can cite the statements of two experts as an example. "*An interesting phenomenon that became very popular online during the pandemic (and is still doing well) is sales broadcasts organized by clothing boutiques. These broadcasts turned out to be a great way to acquire completely new customers and, as a result, increase sales not only during the pandemic but also now. This idea has worked well and is best proven by the fact that this type of broadcast has become a permanent element of contact with customers*" (E12). "*Virtualization of customer service enabled continued operation despite the pandemic*" (E14). Hybrid consumers have appeared on the market, i.e., people who perform legal transactions not directly related to their business or professional activity to meet their needs and purchase goods and services both stationary and via the internet, thus combining offline and online shopping (Dąbrowska et al., 2022). "*In general, all consumers benefited. They were locked in their homes, and it was up to companies to get to them. The winners were those who could do it, those who managed to do it*" (E6). This confinement at home has often resulted in the deterioration of mental health, as has already been mentioned. One of the experts drew attention to this problem, looking at it from the other side and pointing to another group that could benefit (if one can say so) during the pandemic and now: "*I have the impression that psychologists and therapists also have more work. For many of us, the pandemic meant free time, loneliness, and negative thoughts. This is where soul specialists had to come in*" (E3).

To sum up this part of the analysis of the IDI results, it can be stated that the industries for which the pandemic became a driving force are primarily those that were able to effectively adopt modern forms of communication with consumers, electronic sales channels, and conduct their business in a remote work system: "*Entities meeting these criteria were more resilient to the adverse effects of the pandemic and were often able to use the pandemic as an opportunity for development. The pandemic has accelerated many existing trends in digitalization and remote access to products and services*" (E13). Almost all experts agreed with this thesis. However, not all of them would use such a strong term as the "driving engine" of an industry or company. "*The pandemic was a time when industries were able to generate more profit. However, was the pandemic a driving force for them? A certain catalyst, yes, but a driving force is an exaggeration for me*" (E3). Nevertheless, there was a consensus among experts that remote work and multi-channeling (including communication) allowed companies to stay in the market and even increase their shares in it. After the hybrid consumer followed hybrid companies, the hybrid work mode enabled employees to remotely perform their professional duties in whole or in part from their homes (Moczydłowska, 2021; Bernacka, 2023). According to some experts, this form of employment has already permanently entered the labor market. "*Over time, hybrid work and hybrid consumers were created, which brought hope for many companies for the future. Besides, the hybrid mode has probably settled into the new reality for good*" (E1). Therefore, despite the end of the pandemic, many employers will continue to offer such conditions to their employees, who willingly accept them and even require such solutions from companies. "(...) *Many are* *very often satisfied with remote work and are more effective. They don't waste time commuting and can work from home. Thanks to this solution, employers also cut costs at their premises*" (E7).

Experts also included the medical services market among the industries for which the pandemic has become a driving force. "*For example, e-advice has emerged in the medical services market. Patients can make an appointment with a physician who can consult them online. Is this a good solution? It depends on what we eed because if it is to issue a prescription for a drug that we are taking anyway. So why not do it online or issue sick leave, for example?*" (E6). The pharmaceutical market has also leaped at the opportunity "(...) *likewise the pharmaceutical sector, although here, of course, it was not without considerable controversy and doubts among part of the society, especially regarding the vaccination campaign*" (E8).

Numerous solutions were developed to address various challenges during the COVID-19 pandemic. However, the question of how long-lasting these solutions are remains unclear. Upon analyzing experts' opinions, it is evident that there is a lack of consensus about the durability of some solutions, while others are considered more viable.

The former include hybrid work, which allows individuals to perform some of their professional duties without leaving their homes; remote training that improves employee qualifications and does not require practical training with the assistance of an instructor (soft skills); hybrid learning, which has undoubtedly become a permanent part of higher and postgraduate education; development of e-commerce and multi-channel sales solutions, as well as some solutions in the medical and pharmaceutical industries (e-prescriptions, e-referrals). The continued availability of solutions developed during the pandemic should also be expected in public administration (e-offices).

In turn, according to experts, the solutions that will disappear or be marginalized include online food shopping; medical advice via telephone or the internet; learning and training of hard skills, requiring the involvement of participants and direct control of their progress by the trainers; remote participation in cultural events (e-concerts, e-discos, e-performances), remote participation in tourism or remote interpersonal contacts, especially social ones.

Concluding the topic of losses and gains that the COVID-19 pandemic has brought to consumers and enterprises, we asked experts to comment on our study results, in which surveyed consumers were asked to indicate the most positive effects of the pandemic for themselves and their households. Let us point out once more that these were the ability to handle most administrative matters without leaving home, the possibility of telephone medical advice, obtaining prescriptions, etc., and savings in money and time.

Most experts agreed with the quantitative research results: "*It doesn't surprise me. Indeed, we have become accustomed to purchasing goods and services online. We have become a digital customer, a digital citizen, and finally a digital patient (...)*" (E3). Moreover, another opinion: "*Like the study participants, I see the positive effects of the pandemic (...). I believe the pandemic has spurred accelerated progress in technologies related to remote communication and procedure changes while dealing with administrative matters, medicine, and education. Remote access to services in these areas has now become the norm*" (E13). Agreeing with the research results, one of the experts also drew attention to the inevitability of the processes taking place in the world: "*These responses are not surprising, but it should be noted that the above changes were only accelerated by the pandemic, and it can be assumed that they would have been introduced anyway*" (E4). Another one, in turn, focused on solving problems that previously seemed unsolvable, namely accelerating access to specialized doctors or settling many administrative matters without leaving home: "*And I will refer to my medical industry again – the development of telemedicine. There were always long queues at health centers, and older adults often came to get prescriptions – this was the most common medical counseling, re-issuing prescriptions. E-prescriptions are a great solution. This increases access to primary health care. Remote work in institutions and the possibility of handling many official matters online have developed greatly. Often, having specific devices and an electronic signature is enough, and we save time*" (E7). Another expert, in his statement, pointed out the creative destruction of COVID-19, thanks to which humanity has overcome the barriers of impossibility in many areas of life: "*Undoubtedly, it was a technological leap for many consumers who had to adapt to new technologies and new solutions. This lesson may have been tough for them, but they will be able to benefit from its results for a very long time. Without the pandemic, many changes in consumer behavior would be impossible. The pandemic forced the* *use of modern information technologies and contributed to crossing a certain barrier of 'inability.'* As *'creative destruction,' the pandemic triggered many innovative solutions on the part of enterprises/institutions but also caused many changes in consumer behavior regarding acceptance and use of these solutions. I think the pandemic has made consumers want solutions that reduce pandemic restrictions, and companies have met these expectations. Today, consumers and enterprises cannot probably imagine giving up these solutions, which is best evidenced by their perception of them as post-pandemic benefits*" (E11). However, another expert, agreeing with the research results, pointed out the development of individual members of society that might never have happened without the COVID-19 pandemic. "*These results do not surprise me. I think the pandemic has also resulted in a significant increase in the digital competencies of consumers and, thus, employees of various types of companies and institutions. To continue functioning, they had to implement virtual solutions, which they would not have had to use, and perhaps would never have used, were it not for the pandemic*" (E14).

An issue that surprised some experts was the savings in money and time reported by some surveyed consumers. One of the experts explained the financial savings this way: "*It is probably related to the fact that we used catering and entertainment services to a lesser extent and worked remotely. However, I have the impression that in post-pandemic times, we work more (the employee's market has changed into the employer's market), and the financial situation of many people has significantly worsened*" (E3). Another one, in turn, referred to time savings: "(...) *I wouldn't necessarily agree with this time saving, in the sense that my observation shows that when it comes to professional issues, the possibility of organizing online meetings has created significantly a lot more meetings than before, which also created a work-life imbalance. So here, on the one hand, perhaps this time is better used economically, but not necessarily from a mental or psychological standpoint*" (E8).

Some experts did not comment directly on the presented results. The issue raised in this interview became an opportunity for them to express an opinion summarizing the positive effects of the pandemic they had observed. "*The COVID-19 pandemic has become a catalyst accelerating the development of online commerce and contributed to an unprecedented boom in the e-commerce sector. From a social point of view, the beneficial effects of the pandemic are new activist models. Postulates and demands are being made, and social and democratic solutions are* *emerging that can be used to create a different policy. Whether progressive changes will be introduced depends largely on properly identifying problems, filling programs with content, and consistently implementing them. Moreover, the pandemic creates an opportunity to revive localism and strengthen previously loose ties. The pandemic encouraged entrepreneurial activities. Internet users, having more free time, became more creative and more willing to take on new activities, which over time also became a new way of earning money (e.g., handmade jewelry, floriculture, sewing masks from colorful materials, tutoring, etc.). Such behaviors, which take into account the possibility of more effective use of existing resources (food, clothing, books, toys, vehicles, etc.), direct access to organic food, or reducing CO2 emissions into the atmosphere and reducing congestion in cities, are characteristic of people with pro-ecological attitudes*" (E2). Another statement: "*The pandemic was a kind of crisis, and every resolved crisis brings both positive and negative effects, or vice versa - both negative and positive. And I think there are many such positive effects of the pandemic. This means dealing with things remotely as much as possible. I think it would have happened anyway, but maybe much later. Suddenly, it turned out that many previously unthinkable things to do from home were now possible. Settling taxes with the tax office and sending a tax return is possible. People can get an ID card, an EHIC card (European Health Insurance Card), and many other things online. Previously, this required filling out some appropriate forms and standing in queues. Well, now there is no need to do all that. There is certainly such a positive change in people's hygiene habits. Thanks to the fact that instructions on how to wash your hands were posted everywhere. Well, many people know now that it is not enough to turn on the water and stick your hands in it. You also need to perform other activities. The same applies to wearing protective masks. Even now, when there is no longer such an obligation, in fact, nowhere except in the health service, people still put on masks in stores. Older adults or people undergoing cancer treatment use these masks. Thanks to this, they know that they are protecting themselves, or when they are sick, they wear them to protect others. I think it's a change of consciousness, so when someone sneezes, for example, they sneeze into their elbow, not their hands. So, these hygiene habits, everything ingrained in us and shown in all the spots, videos, and other leaflets, somehow got into people's consciousness, and they started to behave like that. Also, for example, using various antibacterial gels – everything is still used when traveling or when there is no possible washing. So, these hygiene habits, in my opinion, have improved here thanks to the pandemic.*

It turned out that interesting classes and lessons can be conducted using the internet and various such tools. Classes that appeal more to young audiences brought up on games and various activities on consoles and mobile phones, and for them, this form of learning is more familiar and more effective" (E6).

Let us not forget, however, that every fifth respondent could not point to any positive effects of the pandemic. Referring to this result, one of the experts explained it this way: "*Every phenomenon and situation has its positive and negative sides and effects. Given the tragedy of the pandemic, it is easier to point to the negative. A new situation has probably arisen in health care: modern technologies have allowed for remote contact with a physician or obtaining a prescription. However, it should be emphasized that, based on my research on e-health, the tendency to accept and use teleconsultation decreases when the patient feels the need to contact a physician face to face*" (E1). Another expert interpreted the difficulty of pointing out the positive effects of the pandemic in a similar way: "*I think it may be related to the fact that, in general, as people, we focus more on what is wrong than on what is right. It's easier to point out what we don't like than what we like, and if someone lives like that and focuses on what isn't there or what is bad, then it's hard for them to start thinking differently*" (E6). The third expert pointed out slightly different reasons for consumers not noticing the positive effects of the pandemic: "*Of course, the advantages will be seen by people who are familiar with using online solutions or have never had a problem with them. People who were technologically excluded or did not feel confident in these matters did not see the advantages because the inconveniences outweighed them. Failure to indicate the advantages could also be related to deterioration of health or sad events among family or friends. Looking at the positive economic effects of the pandemic, we can certainly see the emergence of innovative solutions and the improvement of existing ones to meet new challenges*" (E12).

To sum up, this specific profit and loss account is seen through the eyes of the experts participating in our study, and we should ask ourselves whether the changes resulting from the pandemic will turn into new purchasing behavior and consumption trends.

What direction will the supply-side development of the market take? Who will create these new trends, and who will follow them? We tried to find answers to at least some of these questions in the next section of our book.

4.3. New trends in purchasing behavior and consumption

The concept of trend is used to define many other concepts or phenomena in the socio-economic environment, but there are problems defining it (Sierocki, 2018). Researchers have tried to adopt a specific understanding of this word, indicating that it is "*the direction of development in a given field at a given moment*" (Tkaczyk, 2012). Hence, this concept can function in very diverse topics. Looking at the economy, a trend is "*a development trend associated with a long-term course of changes*" (Šmid, 2000). Thus, trends in purchasing behavior, or more broadly, consumer behavior, can be defined as the direction of change in the consumer's lifestyle resulting from the impact of the economic, demographic, social, legal, and technological environment (Dybka, 2017).

Events with extremely deep and wide-ranging effects nationwide, internationally, or even globally can undoubtedly trigger far-reaching changes. Such an event is, without any doubt, the COVID-19 pandemic. It caused specific changes in consumer behavior during the health crisis, but it also seems to have triggered new trends in this area.

On the one hand, possible new trends may be caused by the reality of the legal and health environment. However, they may also result from the adjustment activities of enterprises operating in markets during the pandemic. These activities may have been innovative in nature and, consequently, may have been recognized by consumers as acceptable and desirable.

Virtually all experts we talked to in in-depth direct interviews concluded that the operations of entities involving direct contact with customers or the movement of people required significant changes to adapt to this extraordinary situation, which was the breakout of the COVID-19 pandemic. Noteworthy is a quote from one of the practitioners (E6), who stated, "*those who have not embraced the internet have lost.*" Another expert (E12) stated that "*entities had to modify their operating formula if they wanted to survive quickly.*" He considered the catering industry and the broadly understood cultural sector among the most affected industries, both organizers of cultural events (expert E14 also mentioned event companies) and stationary cultural institutions, such as museums.

Expert E1 indicated that the pandemic "*meant severely weakened interpersonal contacts, company-customer relations, and the incapability of traveling or fear of contact with another person, a larger group of people. This is a major problem for service companies. It is worth mentioning educational and medical services, which seem to have permanently changed their way of operating, building relationships, and providing services. There has been an indisputable acceleration in the digitization of this economy sector, in creating new marketing 4.0 and even 5.0.*" Thus, an additional challenge for the seller was not only to maintain the level or even the possibility of sales but also to build customer loyalty to the brand, which was difficult when interpersonal contacts, which are the basis of customer engagement with the company, were significantly limited. To retain customers accustomed to on-premises customer service, innovations in e-commerce were often necessary, and those already operating in dual capacity had to prove to their customers that their service delivery processes could be trusted. As one of our interlocutors (E2) pointed out: "*The biggest changes during the pandemic were observed in the e-commerce industry, especially in companies from the e-grocery sector and companies offering food home delivery. Both industries responded very quickly to the changing conditions and adapted their services to the new reality. Since the beginning of the pandemic, companies selling and delivering groceries home, household chemicals, or cosmetics have quickly introduced numerous preventive measures to limit the spread of the virus, including contactless deliveries, online payment options, and increased disinfection of boxes and delivery vehicles, health checks of warehouse employees or an increased number of delivery dates.*"

Dramatic declines in mobility, at least in the traditional sense, were also pointed out, as the development of innovative personal transport equipment, such as electric scooters, was noticed. According to a tourism economy researcher (E8), the COVID-19 pandemic significantly impacted the tourism industry. However, it is difficult to talk about it as a whole because some of its branches have suffered more severe blows. This type of activity was considered coach transport, quite popular among Polish consumers before 2020, which lost consumers to air transport. Entrepreneurs in the coach transport industry concluded that the Polish government's aid received as part of protective measures was inadequate and not tailored to their business. However, the expert pointed out that, looking at tourist trips as a whole, public transport had limitations, but consumers were quite willing to replace it with personal (private) transport.

An interesting observation was shared by Expert E13, who stated that although the changes in industries involving direct interpersonal contacts and passenger transport can be considered the most spectacular, he drew attention to sectors related to the movement of goods: "*The coronavirus has interrupted global supply chains. This often resulted in the need to interrupt production, close production plants, increase unemployment, or increase consumer prices. This was particularly visible in the automotive sector, which is based on the just-in-time production system and was not prepared for a shortage of components.*"

The outlook on health care merits consideration (E7). Although this sector was highly affected by the pandemic because, after all, the crisis was primarily of a health nature, it was not subject to significant prohibitions. The restrictions were rather prescriptive and related to ensuring safe patient service and support conditions. Not only was this related to the problem of limiting consumption in this area, but actually to the increase in society's healthcare needs.

It was also pointed out that although the significant impact of the pandemic on industries related to direct customer service or the movement of people is evident, it cannot be considered exclusively in these sectors. Primarily due to the often long-term effects of the events discussed that cannot be resolved today (E9): "*We would probably need to do some statistical analyses to see if there are any industries that we don't see or feel, but they died in silence. Several industries could have quietly died out. These effects can have a very delayed onset. The pandemic has hit many things – not only the economy but also the psyche and relationships. I see this trend now: our managers at the headquarters, as well as the clients, say, ok, there was a pandemic, and it was difficult, but now it's over, so speed up. You can't do that. It's like telling a marathon runner: you have run over 40 kilometers, have a great run-up, and now take a jump high. You can't do that. We have been through something that has weakened us. Surviving it is a success, but now we need time to recover – economically, mentally, and physically. And we are expected to say that we are now beyond the pandemic and can only do more. And that creates frustration.*"

Similarly, Expert E11 warned against such a generalization of effects, giving as an example the operation of entities such as shopping malls or shopping centers, as well as cinemas and theaters, for which the only change during the pandemic was their temporary closure. However, none of the relatively minor innovations in organizational structures have actually survived to this day. However, this observation can be disputed when looking at shopping centers from the point of view of the entities creating them, which have often developed multi-channel sales activities during the pandemic (e.g., Majchrzak-Lepczyk, 2022).

Undoubtedly, going through a difficult and perhaps even traumatic period as the COVID-19 pandemic has resulted in societal changes, including consumer behavior and preferences. Although only a few years have passed, the profile of such a typical consumer has changed significantly.

Each expert who participated in the study drew attention to the importance of these changes that have occurred and are still occurring. Interestingly, some of them pointed out that it is challenging to classify a post-pandemic consumer as more rational or emotional. On the one hand, they try to think better about their purchasing choices. On the other, they are afraid that another unforeseen event will occur and, thus, would rather not postpone their dreams and future intentions following the Carpe Diem motto – seize the day, which is also mentioned by other researchers referring to various branches of the economy (e.g., Wu et al., 2023; Neri, 2023; Kolaj, 2022; Sun et al., 2022). Therefore, it can be said that "*the post-pandemic consumer is still a consumer full of contradictions. On the one hand, they will try to protect themselves in the event of similar situations that disrupt their relatively stable life. On the other hand, it is consumers who will make greater use of what they have – live 'here and now' – and the future is uncertain; therefore, plans cannot be postponed. To a greater extent, they are already more concerned with current problems – war, inflation, the political and economic situation of the country, Poland's relationship with the European Union, etc., and, above all, the effects of inflation on their households than the pandemic. The post-pandemic consumer also struggles with the psychological consequences of pandemic isolation*" (E11). The possibility of adverse events in the national and international environment only reassures the post-pandemic consumer in this approach, and "*they are more determined to act here and now, they don't postpone things for later because 'later' is uncertain. They are more willing to learn new things because they are aware that they make sense and may turn out be* *necessary (e.g., learning new skills online)*" (E5). At the same time, they are not without a rational approach to life, because "*they are more aware of what they need, what is necessary for them, and what they can do without (things once thought to be necessary)*" (E5). This is also related to the significant decline in the value of money in recent years and even several percent inflation in Poland and other European countries. "*I believe that such a consumer will buy more sensibly. Especially since we live in uncertain times, they won't necessarily spend less but will think more about it. From a rational perspective, it is difficult to talk about saving now with this high inflation when the value of money is falling. I like to spend what I earn, and I like to use it. My financial situation improved during that time*" (E7). Thus, after the COVID-19 pandemic, the consumer will most likely feel a sense of uncertainty for the years to come: "*They may feel frustrated due to the difficulties in taking real care of their health, which may have suffered in one form or another (physically or mentally). Some anxiety about the future is coupled with the desire to enjoy life, including, for example, tourist offers that could not be used during the pandemic. When shopping and fulfilling various obligations, the post-pandemic consumer pays more attention to convenience and economy*" (E12).

Although rationality in consumer choices appeared very often in our conversations with scientists and practitioners, it was frequently in line with the consumer's interest and even the general interest, particularly in the natural environment interest: "*The post-pandemic consumer is more rational in their purchasing decisions, caring about their health and appreciating a healthy lifestyle, moving away from consumerism in favor of more sustainable consumption, caring more about the quality of purchased products, checking the exact product formulation and its expiry date, where it was produced and more willing share with others. This consumer pays attention to the condition of the natural environment and natural resources. These changes are certainly going in the right direction; they prove the growing competencies of consumers and their awareness*" (E1). Thus, although the post-pandemic consumer will not necessarily want to give up satisfying their needs, they will "*be more sensitive to environmental protection and will make decisions consistent with the idea of broadly understood pro-ecological consumer trends, such as 1) eco-consumption, which involves reducing the negative impact on the natural environment, taking into account clean production, minimizing post-production and post-consumer waste. The determinants of eco-consumption include high con-*

sumer competencies, i.e., positive consumer attitudes toward the natural environment and growing ecological awareness; 2) prosumption; 3) homocentrism; 4) virtualization of consumption; 5) collaborative consumption; and 6) consumer ethnocentrism" (E2). Moreover, from a broader perspective, socially responsible and pro-ecological activities are increasingly indicated to determine purchasing behavior and create a positive image of brands (Machnik, 2022).

Access to information will be somewhat challenging for the consumer. Alternatively, there is not so much access as the ability to use and filter information. The pandemic itself has shown how easy it is, especially in times of crisis, to spread fake news and use unsuspecting social media users to spread such fake news virally (e.g., Balakrishnan et al., 2022; Bieniek, 2020; Schneider, 2021; Subocz & Solarska, 2023): "*An increasing part of society cannot determine whether this information is true, separate reliable information from such fakes. The pandemic has greatly accelerated these information changes and information overload, and many people cannot assess what is true and what is not. A bit of methodology of scientific research should be employed, the so-called horse sense*" (E8). The shifting of the solicit information burden toward electronic sources, often unverifiable, poses a particular threat here: "*This is a customer who is not afraid of electronic tools, prefers contact via instant messaging, and often makes decisions based on opinions on the internet. They don't look for information about the product from the seller but rely on knowledge obtained, for example, on YouTube*" (E4).

The tremendous increase in the use of online information is primarily due to the significant shift of the pandemic and post-pandemic consumers to the internet, where they purchase more and more goods for their own use. "*A post-pandemic consumer is a person who more often uses remote forms of services and making purchases*" (E13), as well as "*more often buys online, more often makes cashless payments, more often uses contactless payments, more often orders to a parcel locker*" (E14).

Although the changes we are talking about took place before the pandemic (e.g., Kołasińska-Morawska, 2016), digital consumers from younger generations were joined by also slightly older ones under the pressure of the pandemic: "*Middle-aged and older consumers are getting used to it, or will soon familiarize themselves with the computer and the internet and the possibilities they offer. Young con-*

sumers increase the intensity of online contacts, including social ones" (E12). "*Older e-consumers have emerged*" (E7).

Nevertheless, some experts (E6) view the pandemic as not the beginning or the end of brick-and-mortar business, especially regarding services. "*It's hard to imagine it being otherwise. For example, getting your hair done online or, I don't know what else, getting a tattoo? However, arranging services via the Internet will develop. Many companies now offer the option of making appointments online. There is no need to call or communicate via chat; there is just a form that you need to fill out, and the visit is scheduled. This also applies to private visits to the physician, for example. You sign in and then confirm the date of your visit, so perhaps this form of making appointments is to stay.*"

Direct customer service may also be an increasing challenge for enterprises because "*the customer is more pretentious, more demanding*" (E10), especially since a possible loss of social competencies is also indicated, which is related both to the development of electronic media, but also relatively few opportunities to develop these skills during distance learning: "*I wonder what kind of consumer they will be in the context of such interpersonal interactions. What I am afraid of is the issue of distance learning. At the university, however, we traditionally try to provide this education, but I know that distance or virtual education is desirable to many people. But what is the university for? This involves not only the acquisition of competencies related to knowledge and certain skills but also social competencies. A post-pandemic consumer may move away from a humanistic approach related to contact with others. Everything is also caused by what is happening in society in general. I mean hate fostered by social media and how we easily judge others. There will be people with very high IT competencies, but I often see that they don't have skills for enquiring, asking questions, and looking for appropriate information. This is a problem*" (E8). A similar assessment, especially in health care and higher education services, was made by Expert E9: "*The post-pandemic client/patient is more demanding, more related to the virtual situation. I assume that the same situation applies to our students when contact with other people is minimized, when they choose an online supervisor, when they send texts via the internet, etc. There is no such contact anymore. This is the case in these, let's say, medium-prestigious faculties. Besides, the academic market has been spoiled by the pandemic. I observe all kinds of online postgraduate studies. Professional licensing that can be obtained* *without leaving home. This is pure pathology. They are obtaining a psychology diploma in two or two and a half years based on previous master's studies. This is horrendous. This shouldn't be there at all. Now, we are opening medical studies all over Poland, where students will probably have worse access to contact with teachers, online contacts, and inferior learning. Of course, there is a shortage of doctors, but it is like shortening the driving license course from 20 contact days to three just because we need drivers. The consequences will be obvious. Moreover, in this case, I would point out that to train the appropriate number of doctors, the number of instructors must be increased, and we still have the same number of instructors. The same number of academic teachers will not suddenly, by the minister's decision, train three times as many or five times as many doctors. Either they will train doctors head over heels, or they will not train them because this resource is limited. Alternatively, it will be done by someone less competent and unsuitable."*

However, the question remains whether the changes that have taken place in consumers due to the pandemic are permanent, especially since "*the post-pandemic consumer also struggles with the mental consequences of pandemic isolation*" (E11).

New trends in purchasing behavior and consumption have prompted, but at the same time, often resulted from innovative solutions that emerged during the COVID-19 pandemic and were intended to improve the level and quality of life of societies (e.g., Zdun, 2022; Damrath, 2023; Amankwah-Amoah, 2021; Mierzejewska & Dziurski, 2021). These innovations were and are mainly possible thanks to technological progress, which suddenly had to accelerate during the pandemic. "*Innovative solutions are intended to give consumers greater comfort and safety and guarantee a personalized offer. All this is possible thanks to personalized two-way communication. This feedback aspect is important for companies as they gain invaluable information from the consumer and the consumer in question. The possibility of expressing opinions and knowing that one is heard stimulates many consumers' activities (the willingness to share their opinion with the company, but also with other consumers)*" (E12). At the same time, these tools help organizations conduct market research and better adapt their offer to consumers' constantly changing and evolving needs.

The COVID-19 pandemic "*was a big impulse and influenced the development of the cyber world as a certain innovation*" (E7). Undoubtedly, crises "*release the lay-*

ers of innovation" (E9). However, it was also emphasized that these innovations are still underway, and it is difficult to determine whether the long-term effects for the consumer will be permanently positive. "*In hindsight, we may look at it differently, but certainly, when it comes to the digital availability of certain services, it increases our quality of life. On the other hand, what I said can be said about the abuse of these solutions. Generally speaking, I would be very reserved about such unambiguous assessments*" (E8). Some people directly point out possible dangers that are actually already observed today: "*The physical condition suffers here. Mental too. The lack of opportunities to practice in direct social relationships means that critical skills in reading body language are not developed. Reading the correct facial expressions and responding to the other person's body language and facial expressions are areas of the brain that will not develop if there is no direct contact*" (E6). Attention was also drawn to the extraordinary pace of changes and innovations that have taken place: "*However, I am not convinced that innovative solutions always have a positive impact on the quality of life of consumers. There are, of course, positive aspects, but various shopping applications, QR codes, and lack of contact with other people can cause a feeling of loneliness and isolation. Combined with the post-pandemic sense of threat, this does not positively impact the quality of life*" (E3).

One of the experts (E1) who participated in the study stated that the concepts of level and quality of life are challenging to consider in general terms for the entire society, especially in the case of an event as traumatic but also diverse for individuals as the COVID-19 pandemic: "*The pandemic probably contributed to innovative solutions, as I mentioned earlier. Could the pandemic improve the level and quality of life? During the pandemic, we experienced many tough situations – many people experienced the death of loved ones. The standard of living, i.e., satisfaction, varies greatly and is influenced by many socio-economic factors. During the COVID-19 pandemic, the quality of air and water has probably improved, but the availability of services and the financial conditions of part of the population have worsened. Nevertheless, the CBOS survey on the life satisfaction of Poles in 2022 shows that 75% are satisfied, although to a moderate extent, with their life in general and with its dimensions for individuals, such as professional work, marriage, children, friends, financial situation, place of residence or prospects for the future. This result indicates a downward trend. In turn, the quality of life is the degree to which* *material and non-material needs are met. If this were applied to the pandemic period, many Poles would probably point to the inability to meet these needs sufficiently.*"

The COVID-19 pandemic has undoubtedly significantly influenced changes in purchasing behavior and societal consumption trends. An event that reached so deeply into the human psyche must have caused a reaction from consumers - their priorities, needs, and even dreams changed. Organizational or technological innovations, especially related to new technologies that appeared during, and often as a result of, the pandemic, obviously affect consumers' quality of life. However, assessing whether they will positively impact their level and quality of life is impossible. Undoubtedly, thanks to these solutions, functioning on the market or using goods may be easier, but this does not mean that life will be more straightforward. Living in an increasingly dynamic environment to which you must constantly adapt, unexpected changes and uncertainty in the labor market (Stolarczyk, 2022) negatively impact people's well-being. Often, they can also cause mental health crises (e.g., Sokół-Szawłowska & Mierzejewski, 2023). This, in turn, may negatively affect the quality of life or simply general satisfaction. It is difficult today to make a final assessment of the impact of the pandemic on the level and quality of life of societies. Innovations triggered by the emergence of the virus are still being developed and improved, and their actual effects are yet to be known.

Conclusions

From the standpoint of a 21st-century human being, the emergence of the SARS-CoV-2 virus was unexpected and unprecedented. Today's individual, a consumer taking advantage of a globalizing world, open borders, unrestricted flow of goods, and far-reaching personal freedoms, suddenly had to deal with a crisis. A situation over which they had no influence spurred far-reaching limitations, including those related to the ability to meet their needs and access to products, but also general fear for their health, loved ones, interpersonal relationships, changes in the labor market, or even jeopardizing their future. We had no idea when we would meet our loved ones, whether our work would ever be back to normal, whether we would go on a dream vacation, and whether our children would go to school not only to learn about the world around them but also to acquire competences in creating interpersonal relationships. The event put a strain on the majority of the world's population and profoundly affected our psyche. We could say that it has even left a lasting impression on our souls.

The effects of the pandemic have undoubtedly also triggered changes in the functioning of economies. Market entities, representing the supply and demand sides, had to adapt to the new environmental conditions.

In our book, we assumed that the COVID-19 pandemic may have catalyzed market changes. Particular reference is made here to changes in consumer behavior, which were a reaction to the need to find oneself in a new situation.

Similarly, enterprises and other organizations had to adapt to many restrictions, especially legal ones. Limited direct interpersonal contact, restrictions, and the need to extensively develop activities on the Internet required specific actions. However, we decided that although it is difficult to consider the pandemic itself as something positive, its consequences can be examined in the context of positive changes in the behavior of market entities that enabled them to adapt to the pandemic operating conditions. Among them, a special place is taken by innovative solutions of enterprises/institutions that allow consumers to meet their various needs in the online space. To ensure better quality research results, we decided to employ triangulation of research methods, which allowed us to take a broader look at the analyzed issues and achieve a synergy effect thanks to various data collection techniques. The COVID-19 pandemic, due to its global reach, has become the leading topic of many research and scientific works in the last few years. Hence, we started our analyses with a broad literature inquiry. Thanks to this, we could refer to research, assumptions, and conclusions proposed by other scientists. Based on analyses of available scientific publications on the COVID-19 pandemic and its implications for social sciences, as well as experiences from previous consumer research carried out by members of our team, we have prepared a quantitative and qualitative research project employing two research tools: an online survey questionnaire and an in-depth interview scenario.

The quantitative study included a sample of 1,100 inhabitants of Poland—consumers who were asked about their behavior and attitudes following the COVID-19 pandemic outbreak. To explain the results and determine the durability of changes caused by the pandemic, qualitative research was carried out among 14 experts, who were scientists and business practitioners.

Consumer needs were not fully met during the COVID-19 pandemic. Respondents gave the highest ratings on food, housing needs, education, and spending time with loved ones. The relatively most minor met needs were those seen mainly as the domain of the industries most affected by the crisis, i.e., health care, tourism, and culture. This resulted in the deterioration of mental and physical condition, deterioration of one's financial situation, or permanent health decline. Nevertheless, faced with numerous restrictions, enterprises tried to fill the deficiencies and gaps resulting from the crisis. Hence, many technological and organizational innovations were introduced to facilitate purchasing goods and using services and increasing consumer satisfaction in this challenging time. As the most positive effect of these solutions, consumers mentioned the ability to handle most matters without leaving home, receive medical advice by phone and obtain prescriptions remotely, save money and time, and work remotely or study from home. At the same time, it has been established that these changes in consumption are likely to become permanent and that their pace is unprecedented. The pandemic also generated an enormous boost, even an admission to the cyber world. Although there were also opinions that it was difficult to assess that these solutions had and will have a positive impact on people's quality of life, these voices tried to balance the positive and negative effects of the health crisis, which undoubtedly deteriorated the mental health of societies, but the proposed adaptation measures tried to mitigate losses. Thus, we can conclude that the pandemic has stimulated innovative solutions that improve consumers' standards and quality of life.

During the COVID-19 pandemic, consumers had to adapt to the conditions around them. They focused primarily on improving their qualifications and tried to save their money, but interestingly, they also pointed out the increased importance of traveling. We can assume that it resulted from being confined at home and unable to visit new places and get to know new cultures.

Some solutions and implemented actions remained with society even after the pandemic. Respondents take better care of their health and hygiene, shop online more often, and focus on remote activities. They also consider themselves more economically rational, especially when buying in installments and on credit.

During our research, we observed that internet activities and remote channels have become more critical. Those who did not use the internet during the pandemic suffered losses, and businesses had to adapt their profiles quickly. Our conversations with various stakeholders revealed that the mobility bans and social distancing measures had a significant impact, especially on industries that require in-person interactions. Sectors such as catering, tourism, and coach transport were particularly affected. However, it was interesting that healthcare did not suffer as much as other industries. While it was a period of increased profitability for healthcare companies, the industry incurred considerable costs, including burnout and mental health crises among staff. The pandemic brought about significant changes in the operations of entities that require direct contact with customers and the mobility of people.

The changes affected retail trade in particular. We can talk about transferring many activities to the internet, or at least to omnichannel activities. Shopping centers faced specific problems, as they had to adapt to operating restrictions or even bans for many months. The catering industry had to focus on home deliveries to operate at all. The most challenging situation was faced by entities that did not have much opportunity to change their mode of operation. This applies especially to the hotel industry, the premise behind which is, however, inextricably linked to the mobility of people and on-location activities. It can be said that the crisis has become a driving force for entities using modern technologies. At the same time, such solutions on the supply side are coupled with the behavior of entities on the demand side, and we can talk about the increased importance of digital technologies in the functioning of organizations and households and how they have accelerated the development of infrastructure, tools, and skills necessary to conduct remote activities.

Statements regarding the inevitability of changes that emerged during the pandemic are noteworthy. There are many indications that they would have taken place anyway, but certainly not at such a pace that would be impossible in a world without the pandemic. However, it was necessary in this situation, and we can consider these innovative activities as elements of implementing the strategy for dealing with the unexpected pandemic crisis.

The COVID-19 pandemic can be considered traumatizing for 21st-century societies. However, the adaptive actions of enterprises and consumers allow us to call the passing crisis a catalyst for change. Entities could verify the new possibilities in practice and thus retain those they found beneficial and reject the remaining solutions. The durability of these changes and the final effects of the pandemic remain a great unknown. Some effects will likely only become visible, and their emergence may occur over the next dozen or even several years.

We are convinced that the impact of the COVID-19 pandemic on societies and economies will continue to be an essential area of research. We do not know the psychological costs of lockdowns, remote work and learning, and severed family and friendship ties. Therefore, a similar study should be conducted shortly, which will also help verify our results and provide a more comprehensive picture of reality.

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Figures and Tables

Figures

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The COVID-19 pandemic has radically altered the functioning of modern societies and economies, causing a global crisis on an unprecedented scale. This book considers whether the end of the pandemic has marked a new beginning or a return to the pre-pandemic reality. It identifies diverse changes in consumer and organizational behavior during the pandemic, discussing both the negative and positive influences of the pandemic on consumers. Moreover, it explores areas of the economy (industries), that have either suffered the most due to the pandemic or, on the contrary, have experienced the crisis as the driving force for development. The study also determines the relationship between the pandemic and the innovative activities of market entities (organizations, consumers, and their households), identifying specific changes in their behavior.

The conclusions are based on the analysis of the authors' original quantitative and qualitative research, which allowed to determine the perspective of market entities' functioning after the pandemic's end. The bibliometric analysis, based on numerous secondary sources, helped in recognizing consumer needs during the pandemic, with particular emphasis on diagnosed deficits and the areas where the practice of meeting these needs has increased.

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