DIGITIZATION, TRUST AND SMEs

Anna Wziątek-Staśko
and Karolina Pobiedzińska

ROUTLEDGE

Digitization, Trust and SMEs

This book exposes two inspiring research categories: digitization and trust. Digitization is a phenomenon that dynamically modifies the modern world in almost every area. Modern technologies, artificial intelligence and humanoid robots are instruments with an increasingly significant impact on the shape of the management process of modern organizations, including the way people are managed. Trust is a subtle concept, with a very different interpretation, influencing the behaviour of employees in a multifaceted way. A superficial look at the combination of both categories seems to see them as irrational. Upon closer examination, however, it exposes many interesting fields of scientific exploration. Trust, as a research category, has been included in three significant dimensions: in relation to co-workers, superiors and information technology, dominated by digitization. Each draws attention to different problems of priority importance for the organization. Asserting the idea that trust in the conditions of digitization becomes a category of timeless importance in the interdisciplinary dimension, this volume will be of interest to researchers, academics, practitioners and advanced students in the fields of management of technology and innovation, organizational studies and leadership.

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Introduction

Trust is a starting point for implementing various management methods and techniques. Trust is a key issue in 21st-century organizations, hence the need to manage it. Trust management is

> a set of activities used to create systems and methods that allow dependent entities to make assessments and make decisions regarding the reliability of risk-bearing activities relating to other entities (assessment of the credibility of other entities), as well as enabling those entities to develop and appropriately represent their own credibility and the credibility of their systems (building their own credibility).
>
> (Grudzewski et al. 2009, 67)

Trust is a positive concept. It is the expectation of something positive from a trusted object. In other words, trust is the expectation in relation to a given trusted object that it will have the property we want or behave as we expect from it (Jøsang 1996, 119–131). Trust is considered a key condition for the development of the social economy, as well as an essential element of social capital (Rapacz and Jaremen 2015, 247–258). Trust is one of human needs, and on the contrary, it is an element of cultural assumptions that influence organizational culture and personnel management (Karczewski 2003, 217–229). Trust in management means trust in the management function, as well as in the management processes, in the decisions made, arrangements or contracts concluded, but above all in the stakeholders, in their competences, behavioural intentions, plans and attitudes (Bugdol 2010, 16). In an organization based on trust, it is understood as a valuable resource that should be managed, taking care of its development and accumulation (Grudzewski et al. 2009, 68). Trust is the reduction of uncertainty and risk (Domański 2014, 8–17). It usually concerns the future and cooperation (Shneiderman 2000, 57–59). Trust is the willingness to take risks (Mayer et al. 1995, 709–734). Trust is built over time (Grudzewski et al. 2009, 35). Trust is a hybrid phenomenon that must be placed somewhere between calculation,

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predictability and good will and the voluntariness of exposure to the risk that the trustor may break the trust (Grudzewski et al. 2009, 35).

Digitization is having a profound impact on the way work is done and accelerating the pace of change organizations face. These two main implications require the acquisition of new skills and competences, new forms of leadership and organizational efficiency, which will result in the evolution of an organizational culture oriented towards a digital way of thinking (Kohnke 2016, 89). The scale of the dynamics of changes taking place in the area of digitization at an alarming speed results in the obsolescence of existing competences, as well as the tools used to identify and improve them. A number of changes that modern times imply undoubtedly influence the shape of values, attitudes and perception of reality specific to individual employees. The author points out the emergence of many significant questions about the significance and nature of the relationship between the cyber world and interpersonal trust, ethics, human sense of identity, sense of security and so on (Wziątek-Staśko 2019, 247). New technologies have revolutionized the internal and external processes of organizations (Valdez-Juárez et al. 2023, 15). Digitization refers to the philosophy of operation of the organization, and not only to individual digital technologies. Digital technologies are only tools enabling the implementation of a business digitization strategy (Łobejko 2018, 641–644). Nowadays, market success is increasingly determined by ethical and social categories. Trust plays an essential role in business relationships, and it influences, among others, transaction costs (Paliszkiewicz 2011, 227–232). Trust has typical features of a strategic resource. Therefore, it can be a starting point for most management concepts (Kwiecień 2011, 268), and, as a result, it is a current and interesting research area. In accordance with the Digital Agenda for Europe, which is one of the seven pillars of the Europe 2020 Strategy developed by the European Commission, universal access to digital goods is a priority to support the economic and social development of the country and minimize the phenomenon of digital exclusion.

Changing employee attitudes and improving their skills are crucial to the digitization process of the organization. Traditional ways of thinking and practices must evolve towards a digital way of thinking, digital practices at every organizational level and within every function. Digital organizations do rely on human capabilities—motivation, engagement, collaboration and entrepreneurship—for continuous digital development. The strong relationship between digital capital and human capital in an organization is the basis for the development of Digital Dexterity that is necessary to achieve enterprise success in a dynamic digital reality (Soule et al. 2016, 22). Digitization of processes taking place inside the organization enables, among others, the following: opening new opportunities in creating business models, supporting human intellect, creativity and innovation, increasing the level of innovation of the organization, increasing competitiveness and efficiency, providing new opportunities to generate value and transforming the organizational structure.

The aim of this book is to present the determinants of trust, their structure and the level of trust in the organization of the SME sector in the conditions of digitalization.

The structure of this book suits its intended purposes. The study consists of six chapters. The first chapter entitled: "Digitization in contemporary organizations" focuses on explaining the concept of digitization, the essence of digitization and its dimensions. An attempt was made to present the conditions in which organizations currently operate and what challenges resulting from digitization they have to face. Technology acceptance models were presented, and opportunities and threats for organizations resulting from the ongoing digitization process were identified. Then, the structure of determinants of the level of digitization of enterprises was identified and determined. Based on the literature, our own definition of digitization was developed. It was assumed that digitization is one of the stages of organizational development. Digitization is a continuous process of adaptation, design and implementation of organizational processes using and optimally utilizing the potential of modern technologies and anticipating the effects of their use because of intelligent IT solutions.

The second chapter, entitled "Operationalization of the concept of trust", reviews the definition of trust and its sources. Types of trust and its dimensions were presented, as well as the understanding of trust as social capital. The chapter presents methods for measuring organizational trust. Based on the literature, our own definition of trust was proposed, treating trust as a positive belief of a trusting entity in relation to a trustee (an entity or an object) regarding their competences, credibility, motives and intentions, in a specific context, under conditions of uncertainty and risk. According to the author, trust is an expectation of cooperation, a mutual belief that the trusting party's weaknesses will not be exploited by the trustor, and the trustee will behave in a manner consistent with the expectations placed on them. Their own definition of interpersonal trust was also proposed. According to the author, interpersonal trust is not only the belief but also the expectation of an individual in relation to the entity trusted on the basis of direct contacts, as to their reliability, trustworthiness and competences. Interpersonal trust is also the belief of the trusting individual as to the degree of the trustor's readiness to cooperate. Then, an own definition of trust in technology was proposed, according to which trust in technology is the relationship between an individual and technology relating to the degree of the individual's readiness to rely on technology. According to the author, trust in technology is an individual's positive expectation towards technology regarding its properties: predictability, reliability and usefulness, as well as the belief that technological solutions will work in accordance with the individual's expectations.

In the third chapter, entitled "Determinants of trust and their structure", based on the analysis of literature, the structure and characteristics of factors positively and negatively influencing the level of trust in an organization are determined. Factors shaping intra-organizational trust, factors maintaining the level of trust

in the organization and factors that influence the erosion of the level of trust among employees are presented. The correlation of trust with other organizational values is also presented. The final section refers to the importance of trust management in an organization. The ongoing changes resulting from digitization are also presented, relating them to the goals of human resources management.

The fourth chapter, entitled "Trust dysfunctions and the process of rebuilding trust in the conditions of digitization", is an attempt to systematize knowledge in the area of organizational trust dysfunctions. The concept and essence of distrust, organizational cynicism and employee anomie are presented, along with the consequences of their occurrence for the entire organization. Then, the essence of the process of rebuilding trust in the organization is presented.

The fifth chapter, entitled "Diagnosis of the level of trust in organizations of the SME sector—research methodology", is a presentation of the methodological assumptions adopted as part of the research undertaken.

In the sixth chapter, entitled "Diagnosis of the structure of trust determinants and the level of trust in organizations of the SME sector—synthesis of empirical research results", the identification and categorization of factors determining the level of trust in managers, co-workers and trust in technology in organizations of the SME sector in the conditions of digitization are made. The results from the conducted empirical research are presented. Then, conclusions and implications for management theory and practice are formulated.

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1 Digitization in contemporary organizations

1.1 The concept, essence and dimensions of digitization

"In our social system, 'knowledge is change'. Accelerating the process of acquiring knowledge, powering the great engine of technology with this fuel is tantamount to accelerating the process of ongoing change" (Tofler 1970, 41–42). We are at a moment of historical transformation at the turn of the millennium. Like all major changes in history, the transformation is multidimensional, that is, technological, economic, social, cultural, political and geopolitical (Castells 1999). The turn of the 20th and 21st centuries is a time of intensive development of electronics and computer science and an increase in the intensity of information flow. Information is, and will always be, the basis for the operation of the economy. Information reflects the realities of social life. The 21st century is a time of continued development of information technologies, that is, techniques of processing, collecting, storing, transmitting and receiving information. Information has always accompanied human beings, and its importance increased even more when in the 1970s it was included as a resource, next to resources such as land, finances and work. And for the market economy, information has become a commodity—it can be bought and sold. The 21st century is based on information and the means of its processing and transmission. Information is one of the significant components of the reality surrounding people. Developed civilizations have an increasing need for information. Information is, and undoubtedly will continue to be, the key to solving many problems and issues of modern civilization. Currently, information and knowledge have become a source of development strategies for societies and entire countries (Krztoń 2015, 101–112). The world is increasingly moving into the digital space (Telukdarie et al. 2023, 689–698). Business digitization is one of the driving forces in today's environment and seems to be an irreversible trend (Gaweł et al. 2023, 19–40). Digitization has changed the economy, space and time. They have lost their absolute paradigm. The availability of information and data processing has become as easy as never before. The world is no longer the same as it used to be 50 years ago—the conditions for doing business are difficult to compare even

to those at the end of the 20th century. Digitization has transformed every area of human life, thus bringing about the irreversible convergence of the virtual world with the real world (Laszczak 2019, 135–150). The foundation of social life stems from communication that is a process of exchanging symbolic signs. Development of the communication process, its complexity and efficiency influence the development of human personality, conditions of collective existence, culture, science and economy. From the dawn of human history until recent times, people have been limited to local and direct communication, that is, "face to face". Even though such natural communication is an excellent, basic and most human form of communication, it turns out to be insufficient for the collective action of the human race. After all, people carrying out various activities are not able to constantly stay within the range of their sight or hearing. For the group to exist and act together, it is necessary to have ways of convening information, notifying about the most important events and transmitting information remotely (Goban-Klas and Sienkiewicz 1999, 9). In the past, telephones were used to make phone calls, portable stereos were used to play cassettes and you certainly could not use a radio to view photos or make phone calls. That time has passed (Anderson, Lanzolla 2010, 75). The 21st century began in conditions of development of digitization, which can be described as a "metaphor of a fallow field full of weeds", because of a number of factors, among others:

- Mass trade of equipment, the so-called "assembled packages", with no prospects for sustainable development due to the lack of software and understanding of its role;
- A mentality that reduced Information and Communication Technologies (ICT) only to the role of electronic typewriters or calculators for counting, as well as combining the electronic work environment with entertainment;
- Lack of understanding of data management, especially in distributed processing conditions;
- Experimenting on a "living organism" of processed data, without maintaining the elementary principles of reliability or security;
- Shortages of management staff of enterprises and other organizations properly prepared for advanced applications of ICT;
- Not employing ICT specialists in micro and small enterprises, leaving all tasks to users with low digital competences (Sala and Tańska 2015, 623–632).

Digitization has transformed social interactions, empowered the creation of entirely new industries and weakened others and changed the ability of people—consumers, job seekers, managers, government officials and citizens—to access and use information (Greenstein et al. 2013, 110–121). Time and space are fundamental, material dimensions of human existence. Therefore, time and space are the most direct expressions of social structure and structural change. Technological change, and especially communication technology, has a critical impact

on spatial and temporal change, but the impact of technology does not operate in isolation from broader sources of change. Studying the structure and dynamics of the network society, as noted by Castells et al. (2009, 232), showed the emergence of new forms/processes of space and time: "The Space of Flows" and "Timeless Time". Simply put, the space of flows is the material organization of simultaneous social interactions at a distance through network communication with the technological support of telecommunications, interactive communication systems and rapid transportation technologies. The space of flows is not a space without foundations; it has a territorial configuration related to the nodes of communication networks. However, the structure and meaning of the space of flows is not related to any place, but to the relationships built in and around the network that process specific flows of communication. The content of communication flows defines the network and thus the space of flows and the territorial basis of each node. Timeless time refers to the de-sequencing of social activities, either by compressing time or by randomly ordering moments of the sequence, for example, the blurring of the life cycle in conditions of flexible work patterns (Castells et al. 2009, 232). The growing use of ICT also influences the greater digitization of interactions between people, as well as between people and organizations, which is implemented through augmented and virtual reality and digital platforms. Digitization permeates the modern socio-cultural world, and more and more often, users in the virtual space make purchases, make transactions, listen to music, contact friends and even undertake other activities such as looking for a new partner (online dating). The emergence of social media and other online services in the late 1990s and around the turn of the century had a profound impact on the way we communicate. Services provided via computer networks have become increasingly important in culture and in shaping identity. A significant example here is the use of smartphones, which create a kind of connection between the user's real world and the virtual world and have a huge impact on their life (Royakkers et al. 2018, 128). Information technology (IT) is not the cause of the changes we live in. However, without the existence of new ICT, nothing that changes our lives would be possible. Since the 1990s, the entire planet has been organized around telecommunications computer networks, at the heart of information systems and communication processes (Castells 1999, 40–15). Modern cooperation and competition between enterprises take place in two parallel spaces. The former space refers to the world of physical resources, while the latter is the virtual space created by information (Kijoch 2007, 41–46). J. Macias points to the integrative function of information. Information is the bond between individuals and the environment, because man, as a social being, sends and receives information, thus constituting an "information system" (Macias 2008, 11). According to P. Adamczewski, information and its effective management are one of the key factors in the development of modern enterprises in the information society. Advanced ICT solutions play a key role. The basis of the technology is the ideas expressed, among others, by A. Toffler

(1986) about the so-called third wave of the information revolution. The rapid development of ICT and management pragmatics has resulted in the time paradigm becoming equally applicable to the cost paradigm in enterprise operations in the era of the information society (Adamczewski 2018, 67–79). According to M. Macias (2008, 11), information is a basic factor in the development of the market system, and the state of the countries' information system is a good measure of the achieved socio-economic development and quality of life. Information resources are highly mobile and can be used simultaneously in different places by different users. Information is a new development paradigm in the information society and is an essential strategic resource for modern enterprises (Macias 2008, 11). The information society depends not only on information (information has always been important) but also on the means of collecting and transmitting information (Goban-Klas and Sienkiewicz 1999, 43). The connection between computers and means of communication is fundamental to the concept of the information society. This undoubtedly increases the productivity of intellectual work as well as the production and distribution of goods. Goban-Klas and Sienkiewicz (1999, 53) define the information society as a society that not only has developed means of information processing and communication, but also the society in which information processing is the basis for generating national income and where it provides a source of income for the majority of the society. The steam engine, the diesel engine and electronics, as well as the computers based on them, are the most important milestones that have changed, in particular, the processes of producing goods. It is customary to call them great industrial revolutions (Moczydłowska 2023, 4). Nowadays, new technologies, resulting from the high pace of scientific and technical progress, have an increasing impact on the economy. Developing ICT have created ways of collecting and analysing large sets of data (Big Data). New data mining algorithms are being created. Machine learning languages are also being created to support the development of artificial intelligence. The dynamically progressing robotization of simple activities previously performed by humans and artificial intelligence, which is more and more able to imitate the capabilities of the human mind, means that intelligent robots are increasingly replacing humans, performing complex activities for them, for example, autonomous surgical robots performing routine surgical procedures on their own. The development of the Internet of Things (IoT) provides completely new technological possibilities in the creation of autonomous and intelligent vehicles that communicate with each other via the technology of mobile industrial machines. Changes in the field of new technologies mean that we can talk about the beginnings of the fourth industrial revolution (Industrial Revolution 4.0), which—as it is expected—will result, among others, in the creation of smart factories. Dynamic technological changes have a strong impact on the modern economy and on organizations, presenting them with difficult decisions regarding the selection of development strategies. The ongoing globalization of the economy, as well as growing competitiveness,

intensifies the challenges faced by organizations. To cope with them, enterprises must change very quickly, taking advantage of new manufacturing and competitive opportunities, which are undoubtedly created by new technologies. The effect of the emerging fourth industrial revolution is the expectation of radical changes not only in terms of increasing operational efficiency or productivity of production factors but also in terms of new business models that bring economic benefits to organizations, the economy and the entire society. Their foundation is the increasingly faster digitization of enterprises and the economy. The modern economy is becoming an economy dominated by digital technologies. The current state is the result of a long journey from the first era to the now emerging fourth industrial revolution. The first industrial revolution was the use of water and steam energy in production processes and a major change in their nature. The first factories based on the operation of a steam-powered machine were established. The degree of human impact on the surroundings and the natural environment has intensified. Machines liberated people from performing heavy manual work and significantly increased work efficiency. The use of machines also had a negative effect. Unskilled workers kept losing their jobs. However, economic development soon accelerated. New, previously non-existent professions have been created and, as a result, new jobs have been created. The second industrial revolution was a time of many breakthrough discoveries and inventions in the field of wire communications, that is, telegraph, telephone, railway and so on. Mass production developed, and specialization and division of labour deepened. New professions have appeared, and there have been more jobs for skilled workers. The rapid development of industry, as well as the increase in expenditure on research and development, further accelerates scientific and technical progress, resulting in the third industrial revolution. The third revolution is a revolution based on computer technologies, ICT, initially wired, and now also wireless, and on computer networks. This development enabled the creation and implementation of information technologies supporting the automation of production processes. One of the important trends, observed since the first industrial revolution, was the increasingly rapid convergence of technologies. While technologies in the times of the first and second industrial revolutions were created and developed separately, in the third and fourth revolutions, they developed in strong interconnection. The essence of the fourth industrial revolution is the development of intelligent machines and devices that communicate with each other and can operate autonomously without human intervention (Łobejko 2018, 641–644). The spread of mobile communication technologies significantly contributes to the spread of spaces of flows and timeless time as structures of an individual's everyday life. Mobile communication devices connect, in terms of social practice, many places that suddenly interact with each other through the people who are there and communicate with other people at the same time. Even if most connections involve people living in the same city and often sharing nearby places, the space of social interaction is redefined by

creating a subset of communications between people who use their place to build networks of communication with other people from a specific place. As mobile communication constantly changes the reference to location, the interaction space is completely defined within communication flows. People are here and there, somewhere here and there, in an unyielding combination of places, but places do not disappear. Places exist, but as points of convergence of communication networks created and recreated by human purposes (Castells et al. 2009, 232). The understanding of the fourth industrial revolution as digital transformation is emerging. This is the result of centuries of civilization progress and the development of humanity, and the development of human knowledge is inextricably linked to it. Technical means play an essential role in creating, sharing and disseminating knowledge. The reason for the dynamic acceleration is digitization, the essence of which is the digital form of information, constituting information about human activity in a specific reality. Digital content (text and image), thanks to technical means and their software, can be quickly disseminated. It is possible to duplicate digital content and work on it interactively as a team. Digital content becomes available to devices that are a repository of specific data, information and codified knowledge. Activities based on digital content not only add dynamics to access to knowledge and the creation of new knowledge but also have a specific cost effect that is close to zero. New conditions conducive to innovation are emerging, and digitization and digital transformation are becoming determinants of innovation (Kowalczyk 2017, 9–46).

> Treating knowledge, the most valuable asset that humanity has, as something available to everyone without any restrictions is a concept that, I think, should be called revolutionary—it does not fit our, essentially capitalist, way of perceiving the world. But this is precisely the revolution that awaits people in the society of developed countries, a revolution that could be called digital.
>
> (Gawysiak 2008, 25)

Digitization, which is based on hardware and software, in the process of civilization progress, is a series of interdependent technological solutions, the manifestation of which are new technical and organizational solutions. At the same time, digital technologies are the basis for supporting human intellect, which determines creativity and innovation, while ensuring a specific organizational, legal and competence environment. Knowledge regarding the role of technical means, in particular digital technologies, in the progress of civilization is rich but also dispersed (Kowalczyk 2017, 9–46). The fourth industrial revolution, which is based on the previous three revolutions, uses the maximum potential of modern digital technologies, because of which both their advancement and dissemination are much faster than before (Schwab 2017, 22). The fourth revolution will undoubtedly use the solutions of the third one, implementing intelligent autonomous systems powered by machine learning and data collected in real

time because of sensors. And among others, IoT is the foundation of the revolu-
tion (Kobza 2019, 15). The fourth industrial revolution brings with it a com-
prehensive digital transformation of enterprises (Tryfon-Bojarska and Wińska
2019, 12–14).

According to I. Hejduk (2018, 63–81), the contemporary information reality
is characterized by the following features:

• Information is the most important raw material;
• The effects of implementing new information technologies permeate all
  spheres of life;
• Systems using new technologies must function in accordance with the logic
  of the network;
• Flexibility, because of which not only processes are reversible, but also organ-
  izations and institutions can be modified or even fundamentally changed by
  reconfiguring their components;
• Convergence of separate techniques and technologies into one integrated sys-
  tem (microelectronics, telecommunications, optoelectronics and computers
  are now integrated to form information systems).

In accordance with the Digital Agenda for Europe, developed by the Euro-
pean Commission, the Europe 2020 Strategy, the following goals have been set
related to universal access to digital goods and minimizing the phenomenon of
digital exclusion:

• Supporting the creation of a cross-border, secure and highly trusted EU mar-
  ket for digital assets and online services;
• Creating the concept of global Internet governance;
• Increasing support in the area of ICT to highlight Europe's technology
  strengths in key strategic sectors;
• Creating conditions enabling fast-growing small- and medium-sized enter-
  prises to expand into emerging markets, as well as stimulating innovation in
  the area of ICT in all sectors.

The phenomenon of digital exclusion is becoming very important, primarily due
to the fact that, in the modern economy, it is access to content, and therefore
access to knowledge, that is a condition for economic development (Gawysiak
2008, 282). Technological development and digitization are strongly corre-
lated with the increase in wealth and competitiveness of economies. The richer
a society, economy and industry become, the more eagerly and quickly they
digitize. The digital revolution is progressing dynamically; in many industries,
"fight between the old and the new" is observed. Currently, traditionally func-
tioning organizations are even stronger, but this is a temporary state (Arak and
Bobiński 2016, 50). The digital revolution is creating radically new approaches

that are changing the way individuals and organizations interact and collaborate (Schwab 2017, 22). Globalization together with technological, social and cultural progress and the resulting fourth industrial revolution influence the shape of the environment of modern enterprises. They are called the environment of the era of Industry 4.0, 4th Revolution, IoT or SMART and Industry Revolution 4.0 (IR 4.0). The Industry 4.0 environment significantly determines not only the way organizations operate but also their competitiveness. The following two functional realities intertwine: physical reality and virtual reality (Adamik 2018, 82). Industry 4.0 is a collective term for "technical innovation" and the concept of value chain organization. Industry 4.0 is based on two basic foundations: the "Internet of Things", which enables global access to data and machines, and "machine intelligence", which makes it possible to achieve full autonomy of production processes (Gaweł et al. 2023, 19–40). Modern organizations still face the challenge of creating the basic conditions for Industry 4.0; therefore, the development path begins with digitization. Digitization in the sphere of economy and society is one of the most dynamic changes of modern times, which opens new opportunities in creating business models, while bringing with it uncertainty and various types of threats related to, among others, the social effects of automation of production processes, or broadly understood security. Digitization as a continuous process of convergence of the real and virtual worlds is becoming the main driver of innovation and changes in most sectors of the economy. J. Pieriegud (2016, 11) points to the following key factors currently driving the development of the digital economy:

- IoT and Internet of Everything;
- Hyperconnectivity;
- Applications and services based on cloud computing;
- Big Data Analytics and services that offer analysis of large or complex data sets (Big-Data-as-a-Service);
- Automation and robotization, multi-channel, omni-channel distribution models of products and services.

As J.M. Moczydłowska (2023, 12) points out, the issue of Industry 4.0 is gaining importance. In recent years, interest in this topic has been increasing in the world of science and business. To cope with the ongoing, highly dynamic changes, both individual organizations and entire sectors, public administration, society and national economies must make the so-called digital transformation. Manifestations of the adaptation of enterprises to functioning in the conditions of the digital economy and society in the sectors include, among others, the concepts of Industry 4.0 and Automotive 4.0. or Logistics 4.0 (Pieriegud 2016, 11).

The first use of the term "digitization", referring to changes in the environment caused by the increasing use of digital technologies, is attributed to R. Wachal, who in 1971 used the term "digitization of society". According to the

Oxford English Dictionary, the concept of digitization covers the adaptation and increase in the use of digital or computer technologies by enterprises, economic sectors, countries and so on. In Polish literature, the concepts of "digitization" and "digitalization" are often used interchangeably. In addition to the concept of Digital Economy, there are also several other terms that define the new economic model: New Economy, E-economy and Network Economy (Brennen and Kreiss 2014). According to the Dictionary of the Polish Language, digitization is giving various types of data a digital form (www.sjp.pwn.pl). S. Brennen and Kreiss (2014) point out that digitization can be understood in many ways. The development of computer techniques in the 1950s gave rise to the concept of "digitization", which means the processing of analogue materials into digital form by means of scanning or photography. L. Kowalczyk (2017, 9–46) points out that digitization and its implementation in the process of digital transformation opens up great opportunities for innovation in all spheres of socio-economic life. The basis of digitization is hardware and software. In the process of civilization progress, digitization is a sequence of interdependent technological solutions, and their manifestation is innovation. Undoubtedly, digital technologies support the human intellect in its creativity and innovation (Kowalczyk 2017, 9–46). J. Żabińska (2016, 14) assumes that digitization is giving digital form to various types of data or changing ordinary, written and spoken language into a digital language. A. Drewnowski and K. Małachowski (2018, 79) point out that digitization is a process of implementation and increasing use of digital technologies by society, enterprises, economic sectors, public administration and others. M. Rojek (2016) defines digitization as a strategy aimed at using the best IT solutions to optimally utilize the potential of the organization's digital resources. The author sees digitization as one of the stages of organizational development. M. Rojek also notes that the digitization stage is definitely much more complex than transferring selected elements of the organization to the digital world, for example, introducing an electronic document and mail circulation system. Additionally, the author sees digitization as a network of related, cooperating teams, so the "organization" is not only a department or an enterprise but also its environment, for example, customers, business partners or suppliers of services and products on which the enterprise is based. Digitization is an evolution in the computerization of an organization, integrating all its elements into one dynamically operating mechanism. According to CISCO, the essence of digitization is the use of technology to build new business models, processes, software and systems that bring more revenues, provide a competitive advantage and increase efficiency (www.cisco.com). Gartner defines digitization as the use of digital technologies to change the business model and provide new revenues and opportunities to generate value, the process of transitioning to a digital business (www.gartner.com). The fact that digital technologies are becoming ubiquitous, not only in developed countries but also in emerging economies. Individual

consumers and citizens increasingly assume that with a few clicks of the mouse, they can gain enormous and immediate power to know and act. Also, in the case of organizations, increasingly common digital technologies are changing customer experiences and business models (Soule et al. 2014, 2). Industry 4.0 era organizations create value and revenue from digital assets. They go beyond process automation to transform processes, business models and customer experiences by leveraging ubiquitous digital connections between systems, people, places and things. New technologies (i.e. smartphones, tablets, social media, big data, analytics, cloud computing, remote sensing, etc.) provide "raw materials" that can create new advantages (McDonald and Rowsell-Jones 2012, 7). New digital technologies are becoming commonplace and have radically redefined business processes and practices (Broccardo et al. 2023, 122–146). By the concept of digitization, R.G. Picard understands the process of changing the production, storage, distribution and consumption of content from an analogue to a digital base (Picard 2011, 6). R. Katz et al. (2014, 32–44) propose understanding digitization as the process of transforming analogue information into a digital format. In a broader social context, digitization is the economic and social transformation brought about by the mass adoption of digital technologies to generate, process, share and manipulate information. It is based on the evolution of network access technologies, semiconductor technologies and software engineering. It takes advantage of side effects resulting from their use (including common platforms for creating applications, e-administration of services, e-commerce, social networks and online information availability) (Katz et al. 2014, 32–44). T. Hess et al. (2016, 123–139) emphasize the important difference between defining digitization and the definition of digital transformation. Digitization, according to the authors, refers to the conversion of information from the analogue world to the digital world or to the automation of processes using ICT. The use of digital technologies may cause changes in the enterprise's business model, products, processes and organizational structure. The changes in question can be observed in individual and organizational contexts. The former is manifested, for example by the growing demand for online media. The latter is reflected in the change of entire business models caused by digital technologies. K. Dörner and D. Edelman (2015) believe that digitization should be seen less as a thing and more as a way of doing things. As O. Kohnke (2016, 69–91) points out, digitization is not only technology. Digitization affects not only all employees but also the entire organization. The success of an organization depends on carefully managing digital change during the transition period, as well as building organizational capabilities aimed at embedding change management skills and competence throughout the organization. People are the key element of this process and the most important decisions in the organization depend on them. Employees will determine areas of transformation and directions of further development of the enterprise (Pollak 2021, 44).

Industry 4.0 does not only concern technology and processes but also defines the role of people in the work environment. Even advanced technology cannot exist without human digitization (Moczydłowska 2023, 14).

For the purposes of this study, the following definition of digitization was developed: digitization is one of the stages of organizational development. Digitization is a continuous process of adaptation, design and implementation of organizational processes using and optimally utilizing the potential of modern technologies and anticipating the effects of their use because of intelligent IT solutions.

Based on the literature analysis conducted in this book, it was assumed that digitization includes the following:

- Changing the organization's business model;
- Searching for, skilful implementation and use of modern information technologies in intra-organizational processes to improve them;
- Changing the way of thinking—the philosophy of action;
- Optimal use of the potential of the organization's digital resources.

Moreover, it was assumed that digitization—in relation to intra-organizational processes—allows for the following:

- Opening new opportunities in creating business models;
- Supporting human intellect, creativity and innovation;
- Increasing the level of innovation of the entire organization;
- Merging all elements of the enterprise into a dynamically operating mechanism;
- Increasing competitiveness;
- Increasing efficiency;
- Providing new opportunities to generate value;
- Enabling the implementation of the business digitization strategy;
- Changing the organizational structure.

According to K. Sabbagh et al. (2012, 121–133), determining the level of digitization of a given enterprise requires taking into account many aspects of the enterprise's operations and their migration to the digital world. The level of digitization in a broad sense can be measured in six key attributes:

- Ubiquity—the extent to which consumers, enterprises and their employees have access to digital services and applications (e.g. the ratio of the number of enterprise employees using a given digital service/technology to the number of all employees, an example may be the use of internal communication in the enterprise using Voice over Internet Protocol—VoIP technology);

- Affordability—an attribute that determines the extent to which digital services are priced to be available to as many consumers and businesses as possible (e.g. average costs of implementing and maintaining a digital service in relation to all enterprise costs);
- Reliability—the quality of the digital services used (e.g. the number of failures of a given digital service per unit of time);
- Speed—an attribute defining the extent to which digital services can be available in real time (e.g. real availability of products or services offered by the enterprise on the Internet, or, e.g. technical aspect of the speed of the Internet connection used by the enterprise);
- Usability—ease of using digital services and the ability to accelerate the adoption of a given technology (e.g. the ratio of an enterprise's online retail sales to total retail sales, or, e.g. the average number of users visiting the enterprise's website per month);
- Skill—the ability of users to incorporate digital services into tasks carried out within the enterprise's operations (e.g. the number of employees implemented in new digital technology per employee with specialist knowledge, conducting training in the field of the implemented technology).

For typical manufacturing enterprises, an important aspect reflecting the level of digitization of the enterprise will be the numerical representation of the possibilities of designing products in digital form, assembling and manufacturing components virtually before the actual production of the product and maintaining relationships between the product, users and the production enterprise (Gray and Rumpe 2015, 1319–1320). Such a ratio may be expressed, for example in the ratio of the components of the final product designed and manufactured in digital form to the number of all product components. Another approach to the level of digitization of an enterprise is presented by T. Hess et al. (2016, 123–139) and A.W. Scheer (2015, 3), who point out that the level of digitization can be presented as the number of changes that digital technologies can cause in the enterprise's business model, products, processes and organizational structure. Another attempt to assess the level of digitization of an enterprise can be found in the work of D.A. Marchand and M. Wade (2014). The authors indicate four main levels of digitization in which an enterprise may be at a given moment of the digital transformation process. The indicated levels depend on the scale of use of modern digital technologies (AMPS: Analytics, Mobile, Platforms, Social Media; in particular, digital analysis tools, mobile devices, digital enterprise process management platforms and social media), in comparison with organizational changes that must take place in the enterprise during the digital transformation process. Enterprises in the first level of digitization are those that are just testing given digital solutions (experimental phase). They already use basic digital technologies such as websites and email communication. The management staff

takes into account increasing the level of digitization and takes part in identifying and testing new digital work technologies, but other employees do not take part in testing them at this stage. Enterprises at the first level of digitization may already at this stage experience minimal benefits from better work organization, but they do not have to risk a large number of changes in the management, organization and work model. Enterprises at the second level of digitization are those that have mastered and strongly developed advanced e-commerce capabilities at a high level (both production and services) and systems for ordering elements and semi-finished products needed for their own production or service activities. Senior management recognizes the importance of digitization in sales and marketing as particularly important, but the enterprise has not yet found the need to use the IoT, digital technologies for communication between production machines (greater automation of production or services) or in the human–machine relationship. Enterprises at the second level of digitization can use a large number of devices and technologies and experience tangible profits from it, but the need to make major changes in the organization of enterprise management has not been noticed. At the next—third level of digitization—enterprises use advanced digital data analysis and capabilities to improve their products, monitor customer behaviour on the Internet (both on their own websites and in social media) and also use modern digital technologies and applications to improve and increase innovation, in order to improve processes throughout the enterprise. These enterprises create specialized teams to improve virtual processes, have an internal Intranet network structure and use advanced dedicated campaigns in social media. The increasing level of digitization has resulted in greater changes in business management and work organization. The digital transformation process contributed to improved collaboration between local teams, as well as between teams working together remotely. Enterprises at the fourth level of digitization are those that have successfully combined the use of a large number of modern digital solutions with real, advanced organizational changes of the enterprise and continue to constantly develop in increasing the level of use of digital technologies. Achieving this level requires the greatest commitment of the management staff and all employees and effective implementation of changes at the organizational level, but, in the long run, it provides the greatest measurable financial benefits for the enterprise. K. Bartczak (2023, 38) presents the most important changes regarding the transformation of individual organizations from the model typical of the industrial era to the model of the knowledge era:

- Significant simplification of the organizational structure;
- Focus on processes, not functions;
- Focus on intangible resources rather than financial or physical goods;
- Dominance of teamwork and continuous implementation of innovative ideas and initiatives;
- Entrusting certain management functions to professional, external entities.

The changes taking place in organizations as a result of ongoing digitization are complex. These changes often result in a complete transformation of the enterprise's organizational structure.

1.2   Organization towards the challenges of digitization

When considering challenges arising from the digitization process in relation to organizations, it is worth starting with the thesis that digitization cannot be avoided (Owczarczyk 2017, 141–157). The use of IT and multimedia in enterprises and organizations is, of course, intensive, important and widespread. Currently, it is difficult to imagine the functioning of enterprises or households in economically developed countries without Internet technologies and multimedia. The media in question have not only become one of the most important elements of life but also play an important role in the functioning of the organization (Wąchol 2019, 68–79). Structures and hierarchies in organizations are blurring, and many of the functions traditionally assigned to them are disappearing. Design projects and projects are becoming more and more common, and there are fewer and fewer repetitive activities. Virtualization processes are transforming many areas of operations of organizations that are looking for sources of competitive advantage in areas such as access to information, knowledge and relationships with customers and business partners (Hejduk 2018, 63–81). Information resources are the most important element of the information systems of modern institutions and economic organizations. In every area of human activity, the amount of information processed is rapidly increasing (Sroka and Suchanek 2017, 29–44). Digitization has changed the concept of a network from a relatively small and interdependent circle of partners to a limitless, platform-like network of stakeholders (Gaweł et al. 2023, 19–40). Digitization and its implementation open wide perspectives for innovation and define a new nature of innovation in all areas of socio-economic life. Digitization is an integral part of civilization's progress, which is clearly accelerating in the 21st century. Acceleration entails the phenomenon of digital exclusion, which is interdependent with the social exclusion of individuals or social groups. This implies a danger of limiting access to certain goods enabling proper functioning in society and taking advantage of the opportunities of current civilization development (Kowalczyk 2017, 9–46). Technological innovations connect with the physical world, also through machine learning. This applies to machines, products, information and communication systems and people (Grass and Weber 2017, 7).

K. Nowicka (2019, 202–214) presents the following three aspects that characterize digital innovations:

- Digital innovations include a number of innovations, including new products, platforms or services, processes, as well as new customer experiences and other ways of providing value resulting from the use of digital technologies, while the effects/results of these innovations do not have to be in a digital form.

- Digital innovations are the result of the use of a wide range of digital tools and infrastructure, including cloud computing, blockchain, 3D printing, data analysis and mobile data processing.
- The effects of digital innovations can be disseminated, accepted or adapted to specific applications, for example, digital platforms.

Advanced IT technologies, such as ERP IT systems (Enterprise Resource Planning), Big Data (large, variable, diverse data sets), Cloud Computing (cloud computing, in the cloud) and the IoT, improve the availability of information and its subsequent transfer between individual organizational units of the organization. IT technologies reduce the time needed to perform specific activities by individual employees and enterprise decision-makers in terms of making decisions that are important from the point of view of achieving the goals included in the long-term development strategy (Francik and Pudło 2017, 21–32). Cloud applications offer many options. They enable communication between employees located in different time zones. Cloud computing also enables enterprises to move from a rigid traditional infrastructure to a scalable and flexible environment, which has a number of benefits. The use of cloud computing has increased with the emergence of new technologies and the benefits of digital transformation. Cloud technologies are most often used to provide application services, platforms and infrastructure (Khalil 2019, 28–35). S. Khalil (2019, 28–35), based on his analyses, states that it can be concluded that organizations do not use cloud services only to meet trends. Although cloud computing may indeed turn out to be a buzzword, raised on many blogs, websites and articles, managers emphasize that it has a deeper meaning, and enterprises find many valid motivations to use it. Some organizations adapt their strategies to a highly competitive market, while others are motivated by the need for innovation. Finally, as the author notes, most enterprises are adapting their strategies due to cost reductions associated with the use of cloud services. M. Iansiti and K.R. Lakhani (Iansiti and Lakhani 2014, 90–99) point out that, to understand why IoT is changing business models, it is necessary to indicate three basic properties of digital technology:

- Unlike analogue signals, digital signals can be transmitted without any loss and errors, for example: an enterprise's website will look exactly the same when it is downloaded and displayed in a user's browser at the organization's location as when it is viewed by a user located on the other side of the world.
- Digital signals can be replicated indefinitely—the same website of an organization can be displayed to a billion users without any degradation of the content or appearance of the website. In this case, the only limitations are the performance and availability of the entrepreneur's servers.
- After investing in server and network infrastructure, the content of an organization's website can be delivered to the user at zero (or almost zero) marginal cost. And it is almost certain that a digitally implemented task, performed at

zero or almost zero cost, will immediately replace any traditional, analogous task performed at a significant marginal cost (the result of which is the displacement of traditional correspondence by e-mail and social networks).

M. Paiola (2018, 11–22) believes that none of the digital transformations of enterprises implemented in the coming years will be possible without analysing and understanding the potentially huge flow of data that can be generated by IoT and Industrial IoT technologies. ICT solutions are revolutionizing models and business process flows. The ability to effectively use the potential of digital technologies, as well as the digital competences of organizations, turn out to be a source of competitive advantage for entire industries and economies (Adamczewski 2018, 67–79). Digital transformation, that is, the digitization of machine and service operations, organizational tasks and management processes that were previously implemented in an analogue way, is developing both established and emerging players from many industries to compete in new ways (Iansiti and Lakhani 2014, 90–99). S. Denecken (2015, 9) distinguishes four necessary and key components of digital transformation: cloud, mobile technology, data and networks. Collectively, these elements may contribute to the organization's transition to a new way of functioning. At the heart of digital transformation are new technologies that disrupt old ways of doing business with partners, suppliers and customers. Awareness of the ongoing digital transformation and possible threats associated with it is a difficult challenge for managers. A clear direction and the initiative of a competent leader can provide the organization with a significant impetus towards digital transformation (Denecken 2015, 9). K. Schwab believes that modern organizations will increasingly move from hierarchical structures to network structures. Motivation will be internal and driven by the collective desire of employees. Enterprises will be organized around distributed teams, remote workers and dynamic collectives, with the possibility of continuous data exchange and insight into information about the things or tasks they perform (McDonald and Rowsell-Jones 2012, 60). New technologies are revolutionizing the way organizations view and manage their resources as products and services are enhanced with digital capabilities that increase their value. For example, Tesla shows how software and connectivity updates can be made to improve the product after purchase, rather than allowing it to depreciate over time (McDonald and Rowsell-Jones 2012, 56). These changes are forcing organizations to re-examine the importance of talent and culture in relation to new skill requirements and the need to attract and retain the right human capital. As data become a key element of both decision-making and operating models across industries, employees require new skills, processes need updating and organizational cultures need to evolve (McDonald and Rowsell-Jones 2012, 57). The development of ICT has resulted in the fact that large industry in its original sense has lost its importance, giving way to organizations whose basis of operation is information and knowledge (Eisenbardt and

Ziemba 2012, 167). D. Soule et al. argue that advanced digital collaboration tools enable a variety of ways of interaction, which are the basis for the exchange necessary to establish reliable and effective working relationships, depending on location and differences resulting from the work performed. Business processes and physical operations are becoming more digitized and can be more fully presented and shared digitally, regardless of geographic or functional boundaries. Collaboration platforms supporting cross-border work through audio and video conferencing, document sharing, security and management have improved and spread just as much as virtual cross-border work has become standard practice. The rapidly falling costs and mobility-friendly nature of many technologies are expanding their potential for global use. Participation patterns in organizations are constantly changing as digital technologies enable individual members to access information, track conversations, discover needs, and transfer specialized knowledge—regardless of their formal organizational affiliations (Soule et al. 2014, 15). ICT have penetrated all areas of human resources management, taking on an increasingly complex form. They involve recruitment and selection, adaptation, development, competence management and control processes. The use of new technologies in enterprises in the area of human resources management is justified by the employer's interest. Enterprises strive to improve efficiency and productivity, optimize the use of resources and streamline processes. However, their use should definitely be considered in the context of the benefits and threats that flow not only for the organization but also for the individual (Mierzejewska 2017, 73–84). As noted by D.L. Stone et al. (2015, 216–231), employees prefer an interactive, interpersonal, information-rich approach to all areas of human resource management. Organizations using ICT technologies are definitely more development-oriented than analogue ones. The use of ICT technologies allows us to equalize development opportunities and build competitive advantage (Zaleski 2016). The development of ICT implies the need to have increasingly new competences in the field of modern technologies, also among employees in fields not directly related to the ICT sector (Eisenbardt and Ziemba 2012, 159–171). Skilful innovation management is currently a very important factor that determines proper functioning of an enterprise in the conditions of the market economy and achieving a competitive advantage. To develop or stay on the market, organizations are often forced to pursue a policy of development through innovation. An example is e-HR (Electronic Human Resources), which is a way of implementing human resources management strategies, policies and practices in an enterprise through conscious and targeted support with the full use of Internet technologies. e-HR is a business solution intended for specialists in the field of human resources management who need support in managing these resources, continuous monitoring of changes and receiving information necessary to make decisions. At the same time, e-HR enables all employees to track relevant information (Bator 2010, 95). Closing of organizations to global digitization results in digital exclusion, which is currently a direct path to

marginalization and exclusion in a general sense. Therefore, it is necessary to create appropriate conditions to support ICT development, in the sense of economy, infrastructure, education, legal and institutional regulations. The ICT development would be strongly limited if society and the business world were not willing to adapt them. It is worth noting that not only ICT have a huge impact on socio-economic transformations, but the development of technology and its use are also determined by economic and social conditions (Eisenbardt and Ziemba 2012, 159–171). In relation to the digital society, not only access to ICT but also the ability to use them plays a fundamental role (Radomska 2019, 121–122). The use of new technologies and acquiring knowledge through targeted information processing inevitably leads to the creation of new types of work and ways of performing it. This implies changes in the structures of enterprises and in the relations between them. Therefore, the ability to analyse the dominant organizational culture and existing thinking patterns becomes crucial (Schuh et al. 2017, 5). As noted by G. Schuh et al. (2017, 10), the only measures implemented in many enterprises nowadays involve occasional pilot projects that are actually more akin to technological feasibility studies. Such projects are unable to demonstrate the full potential of Industry 4.0 because they do not take into account key aspects of its implementation, that is, organizational structure and enterprise culture. As a result, changes are often purely evolutionary in nature. Unfortunately, they often do not reflect the organization's actual processes or meet real organizational needs. New technologies can fundamentally improve the functioning of Human Resources (HR) departments—from recruitment processes to talent management (www.pwc.pl).

The perception of communication within the organization, primarily in the context of the formalized flow of information between the employer, employees, teams and individual departments of the enterprise, is slowly losing its relevance. Communication within the organization is static, resulting from the hierarchical subordination of message recipients to their senders. The static nature of intra-organizational communication, which does not take into account the complexity of the processes that take place within the organization, which are, for example a consequence of its participation in a network of cooperating entities, is certainly not able to cope with the emerging challenges. The flow of information plays an unquestionable fundamental role in the management of every business entity at the levels of supporting the decision-making process, analysing the actions taken, their direction and control, and this is only one of the fragments of the intra-organizational communication process. Therefore, often identifying communication solely with the exchange of information is unjustified and even dangerous because it may lead to a weakening of employees' commitment and a lower sense of community with the organization. That is why, taking into account the contemporary needs of organizations and the need to ensure the effectiveness of communication, importance has been attached to IT systems that take into account, for example multitasking (employees performing many

tasks at the same time). The benefits of their use—for the organizations implementing them—are obvious, although there are also negative consequences of their implementation. Hence, they continue to raise a number of controversies. Internal communication systems functioning in Polish enterprises are one of the areas that are resistant to changes and the introduction of innovative solutions. There are many reasons for this state of affairs, but they should primarily be sought in human mentality and habits but also in financial constraints (Biesaga-Słomczewska 2015, 11–21). Modern market conditions pose increasingly greater challenges for enterprises in the area of mobility, flexibility and availability at any place and time. The answer to multitasking, which is seen as an opportunity to improve the quality of internal communication and play the role of integrating employees around the organization's goals, building its reputation and creating value, is the Unified Communications (UC) system. It is an innovative solution known as an integrated set of tools for multi-channel communication. The implementation of UC allows you to increase employee productivity, enable teamwork and, above all, improve internal business processes. The system allows access to all functions from any device with the simultaneous ability to communicate with many entities, group work via voice, video, text calls and telephone communication with numbers in the public telephone network via the Internet (Biesaga-Słomczewska 2015, 11–21). In recent years, IT has had a profound impact on human resources processes and practices, but relatively few studies present the real impact of their use on the effectiveness of management processes. Most existing research does not indicate the extent to which information systems enable organizations to achieve their HR goals of attracting, motivating, and retaining employees. There are many limitations with current systems due to the fact that the systems:

- use a one-way form of communication;
- are impersonal and passive;
- do not always allow for interpersonal interactions;
- often create artificial distance between individuals and organizations.

(Stone et al. 2015, 216–231)

1.3   Technology acceptance models in the conditions of digitization

Investing in computer tools that support planning, decision-making and communication processes in an organization is inherently risky. Unlike office document processing systems, end-user processing tools often require managers and professionals to directly interact with the hardware and software. Understanding why people accept or reject computers has proven to be one of the most difficult problems in information systems research (Davis et al. 1989, 982–1003).

W.J. Orlikowski (1996, 63–92) distinguished three perspectives that influenced research on technology-based organizational transformation:

• Planned change—Managers are the main impulse for organizational change. They intentionally initiate and implement changes in response to perceived options for improving organizational performance or adapting to the environment. This view has been criticized for treating change as a discrete event that must be managed, however, in isolation from the prevailing organizational processes, as well as for attaching too much importance to the rationality of managers leading change in the organization.
• Technological imperative—Limited freedom of managers or other organizational entities. Technology is perceived as a basic and relatively autonomous factor that stimulates organizational changes; therefore, the implementation of new technology causes expected changes in organizational structures and in work procedures, information flows and efficiency.
• Punctuated equilibrium—According to punctuated equilibrium models, change is rapid, episodic and radical. Point discontinuities are most often the result of modifications to environmental or internal conditions, for example, the use of new technology, process redesign or industry deregulation.

Z.S. Abdulhakovna and Z.U. Gulomovna (2020, 19–22) distinguish the following two strategies for developing the implementation of modern information technologies in management activities:

• Adapting information technologies to the organizational structure while maintaining its current form, as well as modernizing existing work methods;
• Modernization of the organizational structure in such a way that IT allows achieving the best possible result.

F.D. Dawis's TAM model (Technology Acceptance Model) is a theoretical model used to study the impact of the characteristics of a computer information system on its acceptance by users (Davis 1985). Ultimately, V. Venkatesh and F.D. Davis (1996, 451–481) assumed that the use of a technical system determined the relationship between the perceived ease of use/application and the usefulness of the system/technology. The TAM model was created based on the Theory of Reasoned Action (TRA) by M. Fishbein and I. Ajzen (1975). TRA posits that an individual's individual behaviour is driven by behavioural intention, where behavioural intention is a function of the individual's attitude towards the behaviour and the subjective norms surrounding the individual and their behaviour. In other words, TRA states that one's behaviour and intention to behave are a function of one's attitude towards the behaviour as well as one's perception of the behaviour. Therefore, behaviour is a function of both attitudes and beliefs (Masrom 2007, 81). As F.D. Davis points out, according to the TAM

model, it is assumed that the general attitude of a potential user towards using a given system is the main determinant of whether they actually use it. In turn, the attitude towards the use is a function of two main beliefs:

• Perceived usefulness;
• Perceived ease of use.

F.D. Davis's TAM model is shown in Figure 1.1. The arrows represent causal relationships.

According to F.D. Davis, *perceived ease of use* influences *perceived usefulness*. Construction features directly influence perceived usefulness and perceived ease of use. As noted by U.A. Yucel and Y. Gulbahar, the goal of the TAM model is to predict the acceptability of a tool and identify modifications that need to be made to the system to make it acceptable to users. TAM is about understanding how people "try" new technologies (Yucel and Gulbahar 2013, 89–109). The key goal of TAM is therefore to provide a basis for tracking the influence of external factors on internal beliefs, attitudes and intentions (Davis et al. 1989, 982–1003). V. Venkatesh and F.D. Davis (2000, 186–204) extended the TAM model to include additional key factors of perceived usefulness and technology use intention constructs. The purpose of extending the model was to identify external factors that influence perceived usefulness. The authors
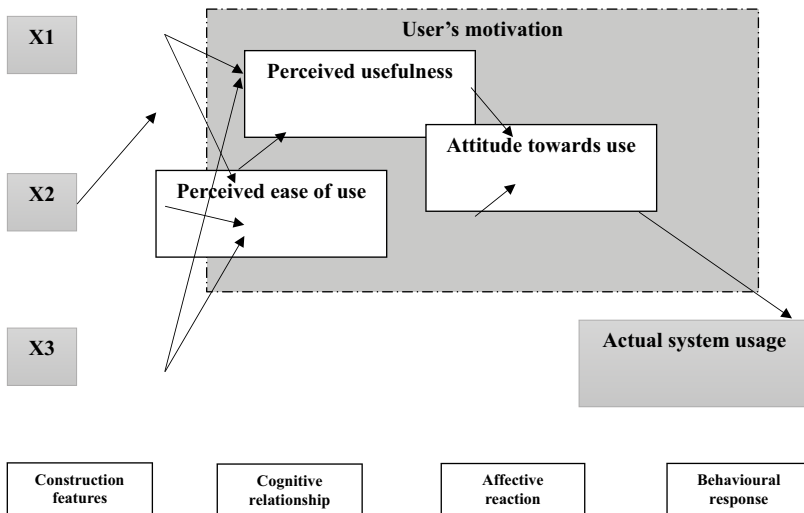
Figure 1.1 F. Davis' technology acceptance model

Source: Own elaboration based on.: F. Davis *A technology acceptance model for empirically testing New end–user information systems: theory and results*, PhD dissertation, Cambridge, MA, 1985, p. 24.

divided external factors into two groups as social influence processes (i.e. subjective norms, voluntariness and imagination) and cognitive-instrumental processes (i.e. suitability of work, quality of results, ability to demonstrate results and perceived ease of use). According to the TAM 2 model, both voluntariness (compulsory use) and experience (in early stages) have links between subjective norms and behavioural intention (Yucel and Gulbahar 2013, 89–109). Table 1.1 presents a summary of the constructs of selected technology acceptance models.

1.4 Digitization—opportunities and threats for organizations

The digital revolution and the development of modern technologies are the subject of research as separate scientific categories, but in dynamic interaction with many others, such as with the specificity of the organization management process and human capital management (Wziątek-Staśko 2022, 10–22). When an organization or its resources digitize, it triggers a number of problems and challenges for managing the transformation process (Janulek and Partyka 2019, 101–114). The key element of the economy was "efficiency". The era of efficiency, that is, management by cutting costs, is coming to an end. Currently, despite large expenditures, the increase in efficiency turns out to be lower and lower, while expectations are growing, and competition is escalating. Business models are changing, and the phrase "uberization" has entered common parlance (www. wsjp.pl). Digital transformation is changing the way work is done. There will be less and less human digitization in industry, but automation will not replace it. It will undoubtedly support it by providing the opportunity to increase productivity and safety (Kobza 2019, 4). The IT "revolution" undoubtedly—despite its enormous possibilities—in some sense can have double-edged effects. The advantages of a social revolution based on information technologies cannot be overestimated. Digitization has positive economic effects for both small- and medium-sized enterprises and large corporations. The most important benefit is easier and faster access to information, both that stored in the enterprise's internal systems and information obtained from online resources. IT systems that process and store information in digital form allow for much faster information retrieval and analysis. For some enterprises, IT systems and computer networks constitute an opportunity to expand the scope of their activities and be present in a wider market, including international ones, while for other enterprises, it is an opportunity to increase the efficiency of internal processes or optimize them. The authors emphasize that efficient access to information is today an important factor of production and a basic condition for the success of an enterprise. The development of information technologies and management systems favours saving labour or migrating it to other tasks. The authors predict that numerous technical specialties may become obsolete. Access to enterprise systems via the Internet may increase the tendency to work remotely from home, which again may create positive conditions for creative, inventive and intellectual work,

Table 1.1 List of constructs of selected technology acceptance models

Source/author	Model name	Constructs in the model	Comments
Davis (1985)	TAM	Perceived usefulness, ease of use, attitude towards use, actual use of the system	The first two determinants are influenced by the system features: X1–X3. These, in turn, shape the user's attitude towards using the system, which directly translates into its actual use
Davis et al. (2000)	TAM2	The features of the system were clarified—instead of X1–X3, the following were created: subjective norm, image, usefulness at work, quality of results, presentation of results	This version of the model retains three core constructs: perceived usefulness, ease of use, and actual use of the system. It modifies the intention to use by adding an element of behavioural acceptance Five new system features have been introduced, replacing the enigmatic ones X1–X3
Venkatesh et al. (2008)	TAM3	Additional constructs were added: computer skills, perception of external control, fear/reluctance to use a computer, willingness to interact with a computer, perceived satisfaction and objective usefulness	The authors found that those constructs were additional factors influencing perceived ease of use
Venkatesh et al. (2003)	UTAUT	The following constructs were included: expected action, expected effort, social influence and favourable conditions Moderating constructs: gender, age, experience and voluntariness of use Outcome constructs: behavioural intention to actually use the system	The model was created on the basis of eight previous models. The structure of UTAUT is similar to TAM2 with additional factors moderating the impact of the first four factors on the behavioural intention leading ultimately to the actual use of the system

DeLone and McLean (1992)	D&M IS Success Model	Qualitative features were introduced: system quality, information quality and resultant features: use, user satisfaction and additionally: impact on the individual and impact on the organization	The model originally assumed the influence of system features on its use and user satisfaction. A positive result would translate positively to the individual (user), who in turn would opt for the organization to use the system (impact on the organization)
DeLone and McLean (2003)	D&M IS Success Model (version 2)	Service quality was added to the two quality characteristics In addition, there were: intention to use, use, user satisfaction and net benefits	A loop was used indicating the mutual influence of the factors: intention to use, use and user satisfaction, and additionally the impact of use and user satisfaction on net benefits In the second loop of reciprocal influences, net benefits influence intention to use and user satisfaction

although remote work also means the possibility of establishing local and foreign branches. Widespread computerization will expand the reach of international corporations. Computerization of communication also means reducing street traffic congestion and, consequently, atmospheric pollution (Goban-Klas and Sienkiewicz 1999, 73).

L.A. Davidson (2005, 25–34) distinguishes the following benefits for the organization resulting from the digitization process:

- Data mining—Computers are faster than humans, at least in activities such as data retrieval, manipulation and comparison. For example, applying the power of computers to spreadsheet and database operations allowed an individual to replace literally hundreds of workers and produce virtually error-free results.
- Cost reduction—Including cloud storage, no need to set aside expensive real estate to store materials that are less used and can be easily stored off-site.
- Increased security: passwords and DRM (Digital Rights Management)— In the digital world, materials can be stored online, where they are always available and easy to search. At the same time, they can be secured behind password-protected gateways or in containers protected by DRM software.
- Data sharing enhanced—Digital information combined with network systems enables immediate sharing of materials not only locally but also with other users in any part of the world.

Further benefits resulting from the digitization process of enterprises are indicated by S. Qureshi et al. (2009, 117–140) emphasizing primarily the impact of information technologies on increasing the economic value of the organization by reducing costs related to both the optimization of intra-organizational processes and increasing profits through the differentiation of enterprise products and services. The authors point out that information technologies definitely increase the competitiveness of organizations because they influence changes in the structures of a given industry as well as cost strategies. IT systems reduce leadership costs, and the use of IT systems and technologies allows the production of products and services at a lower price than the competition while improving their quality. Additionally, the use of digital technologies has a positive impact on the differentiation and introduction of new products and services to customers. S. Qureshi et al. (2009, 117–140) indicate the possibility of using digital technologies (in particular the Internet) to concentrate the organization's activities in its own market niche to best reach the target group of buyers of products and services looking for precisely defined benefits. The authors also point to the area of application of IT systems to develop strong bonds and loyalty towards customers and suppliers. Digital transformation has a significant impact on facilitating communication, reducing operational costs, reducing geographical distances as well as supporting relational capabilities between various economic

entities. All this affects the organization's ability to transfer knowledge and use and reconfigure its resources to develop new business models in an international environment characterized by dynamics (Feliciano-Cestero et al. 2023, 113546). The use of digital technologies increases the efficiency of information processing, increases the capacity of communication channels (intra-organizational and external) and saves time and work through easier storage, searching and editing of digital data, as already pointed out by C.J. Hamelink (1997, 4–5). The benefits resulting from the digitization process are considered by the author as the main factors in increasing the economic efficiency of the enterprise. C.J. Hamelink also emphasizes the advantage of IT systems in terms of optimization and the ability to solve problems, which can, for example improve the efficiency of production processes, which previously seemed impossible. One of the most important properties of digital technologies is their ubiquity. Digital technologies have been used in almost every industry and area of an individual's life, in homes, offices, health care and defence systems. They are used for administrative and diagnostic purposes, in education, production and service activities, that is, banking, finance, travel and insurance. IT systems that both facilitate private life and support the activities of organizations are implemented not only in classic computer devices but also on various types of production devices, household appliances, mobile devices and IoT devices (Hamelink 1997, 4–5). Advances in technology have enabled enormous increases in the monitoring of individuals and groups, without the need for constant direct observation or the confinement of those monitored in particular spaces (Graham and Murakami Wood 2003, 227–248).

M. Castells and G. Cardoso (2006, 9) indicate three main characteristic features of the technology underlying the information and communication technology system, which distinguishes it from historical experiences:

- Self-evolving processing and communication capacity in terms of size, complexity and speed;
- The ability to recombine based on digitization and repeatable communication;
- Distribution flexibility because of interactive digital networks.

M. Grewiński (2018, 22–24) draws attention to the social threats related to the widespread digital revolution. He indicates the problem of addiction to digital technologies, especially among people who have had those technologies with them almost since their birth. People who use the Internet for work and entertainment, who spend more than 4–6 hours a day using this medium, are particularly at risk. This may lead to addictions and also to the FOMO syndrome (Fear of Missing Out)—the fear of being "outside" (outside the network, outside the online community, or, for example, outside the access to information). M. Grewiński points out that these problems are accompanied by the ability to select information obtained from the Internet, as well as problems with

concentration, synthesis of the acquired information or combining them into a logical sequence. People who are used to being able to obtain information very quickly have the impression that they can get everything immediately, which leads to new health and psychosocial problems (lack of patience, lack of ability to analyse the situation and lack of ability to independently strive to solve the problem) (Grewiński 2018, 22–24). In addition to social problems related to the use of digital technologies, T. Goban-Klas and P. Sienkiewicz (1999, 66–68) point out that each IT system may be associated with specific threats and each may be susceptible to criminal activities. Numerous threats related to computer viruses and hacker attacks have made users aware of the need to make a fundamental change in the approach to the security of data stored on digital media. There is also a growing awareness that computer networks and new digital technologies also pose challenges in terms of legislation (both criminal and civil). In addition to "specialized" perpetrators of computer crimes, the number of perpetrators who are neither professional IT specialists nor have education in this field will increase. Computer crime is currently one of the most dangerous forms of crimes against information protection and electronic management of financial resources. K. Mączka and P. Peterek (2015, 140–145) indicate the technical and legal features of crimes defined in Polish law, consisting in unauthorized access to information stored in digital form. This practice is called hacking. Criminal law protects against unauthorized access to information, and a person who gains access to it by connecting to an IT network, or by breaking or bypassing electronic, magnetic, IT or other special protection of this information, or when using software spying is punishable by a fine, restriction of liberty or imprisonment for up to two years. The authors also point out the threats related to social engineering attacks involving misleading the information holder and refer to a number of technical possibilities of unauthorized access to digital information, such as the use of eavesdropping tools (e.g. keyloggers or sniffing), by cracking access passwords or by using malware to gain access to information (Mączka and Peterek 2015, 140–145). As it becomes possible to better secure digital materials, this technology opens up new security threats, including the presence of the operating system and web browser. Constant attacks by viruses, worms, Trojan horses and now spyware can make the digital world quite treacherous for those with proprietary or valuable data they need to protect. This is one reason why IT departments provide fairly stable job opportunities in most information-dependent enterprises. The proliferation of personal copying devices such as mobile phones, with their increasingly higher resolution cameras, also poses a serious security risk towards intellectual property theft. This is especially true when footage can be captured on a cell phone camera, instantly sent wirelessly to another location and then deleted locally. The fact that digital materials can be copied any number of times without suffering the deterioration introduced by copying machines and other outdated analogue devices makes it even more difficult to protect against intellectual property theft (Davidson 2005, 25–34). The

threats to digital data are not only those related to gaining unauthorized access to it. As A. Kisiel (2011, 123–124) points out, an equally great threat may refer to the destruction or change of data stored in the IT system, which may be the result of a system failure or intentional action of the attacker (a crime called data integrity violation, penalized under Article 268 § 2 of Kodeks Karny (the Polish Penal Code Act of 6 June 1997)). Such destruction may involve either the data medium (e.g. a hard drive) or the data itself (e.g. files or database records). A threat that may significantly reduce the enterprise's work efficiency is the very limitation of access to IT data as a result of a cyber-attack (the enterprise's digital data have not been affected, but the institution cannot temporarily gain access to it). K. Witek (2018, 39–47) also points to the issue of computer fraud, which involves unauthorized changes to the IT system, deletion of data or influencing the automatic processing of IT data to ensure that the perpetrator obtains a financial benefit or causes damage to the injured party. Abuse in this area is an extremely high threat to enterprises that base their operations on IT techniques. Computer fraud leads to unfavourable use of financial resources of the crime victim (enterprise) or its clients. Aspects of protection of digital data and computer systems therefore become crucial if an enterprise makes its business processes dependent on IT (Witek 2018, 39–47). Computer crime should be considered one of the links in the development of crime in the information society. An important event for the protection of digital data was the signing of the Convention on Cybercrime by the European Union member states (Convention on Cybercrime of the Council of Europe, signed in Budapest on 23 November 2001), in which the parties committed to introduce provisions introducing the protection of information stored in digital form against unauthorized access, destruction or blocking of access to it. T. Goban-Klas and P. Sienkiewicz (1999, 73) divide security measures in IT systems into technological security measures and administrative measures that apply to both computer devices and software and digital data used to protect the interests of enterprises and the confidentiality of natural persons. Confidentiality is the right to decide what information a given entity or person wants to share with others and what information they want to accept from them. Confidentiality, on the contrary, is an attribute of data that refers to the degree of protection that data may be subject to. Data are said to be integral if they are identical to the source data and if they have not been changed, disclosed or destroyed accidentally or intentionally (Goban-Klas and Sienkiewicz 1999, 73). Digital data security is not just a problem of the security of computer devices and the data stored in them. Reliable and realistic protection of digital data requires a complete approach to the protection of information stored in various forms, including physical form. Examples include passwords for computer systems or one-time access codes stored, for example in printed form. Even though the form of such data is not digital, if such data come into the possession of an unauthorized person, it may pose a real threat to the data stored in digital form. The same situation applies to analogous intangible information stored in the user's

memory (such as, e.g. system passwords). If the user provides such information to an unauthorized person, the latter may use it to gain access to the IT system (Peltier 2001, 180–181).

In addition to the aforementioned threats, there are also others related to the physical security of digital data carriers. M. Engelmann (2007, 14–16) points out that the threat of media theft is also common. Threats of this type cannot be underestimated. A person who comes into possession of the medium may gain access not only to the data stored on the medium but also to data that the user has previously deleted. It is possible to recover deleted data using specialized software. Today's data carriers have memory that allows large amounts of digital data to be stored on the carrier, which means that in the process of recovering deleted data, access to files deleted by the user can be obtained, even after a long time interval. Another problem related to the physical security of media is their failure rate. Like any technical device, digital data carriers may fail, which may lead to permanent loss of access to the data stored on them. If an enterprise stores key business data in digital form, it must regularly make backup copies of them to ensure that it can continue to use the data in the event of damage or theft of the medium. A. Kisiel (2011, 125) recommends that increasing the security of IT systems should be based on the use of strong passwords for IT systems (suitably long and frequently changed) and also recommends the use of additional user authorization methods based on tokens, identification cards or biometric data. She emphasizes the importance of regularly making backup copies of data and storing them on external data carriers, as well as monitoring the activity (observation) of system users' activities to detect any irregularities in their activities. G. Disterer (2013, 94–95) points out that ensuring the security of digital data is a continuous process and should be based on an information security management system (so-called ISMS). The author indicates the implementation of systematized security management of IT systems as the only correct way to ensure the security of key data for the enterprise. The continuity of this process should be carried out in accordance with the Deming cycle, according to which the following stages of building digital data security can be distinguished: plan, execute, check and correct. The "plan" stage means the need to develop a strategy for protecting data and IT systems, defining the resources that should be protected and indicating methods of their protection. The next step is to "execute"—the planned security measures should be implemented into IT systems. The "check" stage involves audit activities aimed at determining whether the planned security measures are working as intended. During the "improve" stage, improvements should be implemented based on the conclusions drawn from the control activities during the security audit. The continuity of this process is crucial—after the last stage, you should return to the "plan" stage and correct the IT systems security strategy in such a way that the deficiencies revealed during the last audits do not occur again (Disterer 2013, 94–95). As digitization continues to transform industries and societies, SME organizations must initiate digital transformation

to remain competitive and meet the increasing complexity of customer needs. Moreover, SME organizations usually do not fully realize the implications of digitization for their organizational structures, strategies and operations. Moreover, they have difficulty determining the appropriate starting point for taking appropriate initiatives (Imgrund et al. 2018). Micro, small-, and medium-sized enterprises are the backbone of many global economies, making their importance and value crucial. SME sector organizations are important in today's globalized world (Singh and Pruthi 2023, 201–212).

1.5   Structure of factors determining the level of digitization

Digitization is becoming an increasingly important problem for organizations. The integration of digital technologies requires investments and changes in the internal practices of the organization as a whole, which sometimes forces not only the implementation of new internal organizational strategies but also the development of new skills (Dethine et al. 2020). As R. Orłowska and K. Żołądkiewicz (2018, 94–109) point out, ICT increases the competitive advantage of the organization, and the benefits of their use are currently unquestionable. Digitization contributes to the optimization of processes of entering new sales markets as well as expanding existing ones and implementing new, innovative products. Digitization has become the most effective tool for managing business processes (Orłowska and Żołądkiewicz 2018, 94–109). The transformation of organizational culture includes, according to G. Schuh et al., two aspects: first, the degree to which employees are willing to continually review and adapt their behaviour in response to a changing environment. The ideal scenario is that you want to change your entire workforce. Moreover, the willingness to change should not be limited to situations where changes are already being implemented. Importantly, this also means that people should observe their surroundings and the organizational environment, recognize moments when there is an opportunity or need for change and should initiate appropriate actions themselves. Willingness to change is the first principle of work culture and a key factor in increasing organizational efficiency. Another important issue is the extent to which employees believe that their actions should be based on knowledge confirmed by data and facts. The ideal scenario assumes that employees' actions should be based solely on knowledge. An environment characterized by trust and social relationships provides the basis for open, unlimited knowledge sharing among employees. Therefore, the second principle of culture, social cooperation, helps accelerate knowledge sharing in the organization (Schuh et al. 2017). The increasing use of digital resources by enterprises causes their organizational structures and processes to evolve. Industrial-age organizational practices, skills and perspectives on organizing are giving way to digital organizational practices, new digital skills and new, digitally conscious views of how work can be done. Many organizations are in the process of digital transformation. Many have developed

digital capabilities to support various aspects of their businesses. This does not mean, however, that all of these organizations should be considered true digital organizations. A digital organization contains a unique set of characteristics that collectively enable both digital capability and digital dexterity. Employees employed in a digital organization are characterized by a clear way of thinking that reflects deep trust in digitization and a tendency to seek digital solutions. A digital organization reflects a set of beliefs about digital capabilities and the key practices, workforce characteristics and resources that can make these capabilities a reality. The authors indicate that a digital organization supports three groups of digital capabilities:

- Customer experience: using technology to meet customer expectations or integrating digital channels to communicate and interact with the customer;
- Operations efficiency: optimizing, automating or improving internal processes because of more precise data;
- Workforce enablement: using digital tools to facilitate collaboration across borders, develop skills or share knowledge across the organization.

D. Soule et al. assume that digital dexterity is the hallmark of a digital organization. Digital dexterity enables a digital organization to flexibly adapt its roles, responsibilities and relationships. With this dynamic feature, an organization can quickly leverage new digital capabilities in the face of changing customer expectations, industry changes or prospects for adapting internal strategies (Soule et al. 2016, 6). According to D. Soule et al., the distinguishing feature of a digital organization is the way of thinking according to the "digital-first" principle. This attitude, according to the authors, reflects a broad tendency to look for digital solutions first, to use technology as a tool of advantage and to systematically approach enterprise resources. D. Soule et al. (2016, 8–9) distinguish the basic norms of operation in digital organizations. These standards strengthen an organization's near-term digital capabilities while increasing its transparency, fluidity, adaptability and resilience in the long term:

- Digitized operations: relying on digital data to increase the accuracy of documenting, automating and monitoring organizational activities. Because of digitization, organizations are able to capture an overall picture of internal processes across the enterprise to ensure operational transparency and increase the ability to make good decisions.
- Collaborative learning: readiness and openness towards innovation, solving problems and discovering new information. This practice fosters teamwork and partnership, regardless of discipline, geography, status and so on.
- Data-driven decisions: the tendency to rely on digital information and its systematic analysis to make important decisions.

M. Rojek (2016) notes that the goal of digitization is not the implementation of information technologies, but their correct use. D. Soule et al. (2016, 9) indicate that digital organizations, striving to achieve their goals, often perceive their "workforce" in a broader perspective than traditional enterprises, recognizing the contribution of not only their own employees but also temporary workers, partners and customers. Three characteristics of this "extended workforce" play an important role in digital organizations as technology evolves:

- Technology experience: experience in digital technologies, that is, analytics, artificial intelligence, machine learning, social and mobile technologies and the IoT;
- Digital skills: broad knowledge of how and when to apply technology and management skills to support digital initiatives;
- High engagement: motivation, competences and entrepreneurial effort. To be successful in the long run, an organization requires more than just technological experience or digital skills from its employees. When an organization digitizes and automates routine tasks, it can better leverage experienced employees to solve remaining, usually more complex, problems that are not already automated (Soule et al. 2016, 9).

Computer programs and digital data are essential to the functioning of a digital organization. D. Soule et al. (2016, 10) distinguish three necessary resources enabling effective information processing. These resources enable increasing the efficiency and productivity of reasoning, based on a large number of input data, for the work of people and machines, as well as for creating social connections:

- Real-time customer data: availability of current and accurate customer data as well as external data (coming from other digital devices, servers and production machines), which constitute input data to analytical systems, which enables the establishment of even closer relationships with the customer, or better conclusions regarding needs and goals enterprises;
- Integrated operations data: access to integrated data on internal operations to continuously monitor, measure and improve their efficiency or optimize production by conducting continuous process improvement based on the analysis of real operational data (e.g. geolocation of employees, optimization of transport routes and operating parameters of production equipment);
- Collaborative tools: support in communication, organization of work and tasks, cooperation and quick feedback in the organization (Soule et al. 2016, 10).

Every enterprise can become a digital organization. Even enterprises that have already implemented and established digital processes in many areas of their operations can and should still benefit from increasing the level of digitization

and developing and building an organization capable of maintaining their "digital successes". D. Soule et al. (2016, 22) presented six characteristics of digital organizations:

- Digital dexterity—as a hallmark of a digital organization, the ability to quickly reorganize business processes to derive the greatest benefit from the digital technologies used;
- Joint effort and high employee commitment—a key factor driving the achievement of greater digital dexterity and the development of the digital organization;
- Combining the potential of digitization and human work—to achieve the greatest possible benefit from the technologies used;
- Digital skills—the basis for analysing customer needs and feelings, operational efficiency and increasing employee engagement. The use of digital capabilities in other organizational areas may be prioritized depending on the needs and possibilities of their application in a given area;
- Transformation to a digital organization typically follows an "S-curve" pattern—change begins slowly, followed by a stage of rapid improvement before moving on to a period of incremental growth at a new level of capability;
- Employees and management staff of an enterprise may experience a range of emotions and sensations during the transformation towards a digital organization. Real progress towards a digital organization is characterized primarily by stronger commitment and learning about digital technology as well as a decreasing perception of digitization as a threat.

The Industry 4.0 Global Expert Survey 2016 (www.mckinsey.com) conducted by McKinsey identified barriers that appear in the management area when trying to implement the Economy 4.0 transformation:

- Difficulties in coordinating the activities of many organizational units;
- Fear of transformation and change;
- Gap in the area of necessary talents;
- Difficulties in ensuring cybersecurity;
- Difficulties in investing in IT;
- Data ownership concerns when working with external providers;
- Uncertainty regarding outsourcing and lack of knowledge about suppliers;
- Challenges related to integrating data from various sources to enable Industry 4.0 applications.

The authors of the Gumtree Report "Aktywni+ Przyszłość rynku pracy" ("Active+. Future of the Labour Market") indicate that automation processes are penetrating the entire economy. Digitization affects all areas of human life, so there is no longer room for something like a separate IT industry. Without a doubt,

IT penetrates reality; hence, IT competences are very important (Rynkowska 2016, 31). Nowadays, enterprises rely on online services, advanced technology, robotics and process automation. This phenomenon concerns not only industrial and online organizations but also increasingly traditional ones, which have the opportunity to quickly improve their operating effects because of the implementation of technology in enterprise processes. The process of incorporating modern technologies into organizational processes cannot take place without the commitment of staff and experienced managers. The biggest challenge for entrepreneurs is the fight for talents, building an employer brand to retain specialists and management staff. Additionally, enterprises must create modern structures based on flexible management models that will connect business and IT (www. hays.pl). The importance of managers who will effectively and efficiently implement new technologies is growing. Industry 4.0 managers will have to constantly develop their skills to adapt to new trends (Warcholak and Dąbrowska 2018, 87–98). The competences most desired by organizations are the same as those most difficult to obtain in the current labour market. The shortage of competences is becoming more and more noticeable, which is why employers are resorting to visible and modern activities aimed at solving this problem. From the perspective of enterprises, managerial and technical (including IT) competences are the most difficult to acquire. Employers pay attention to the growing demand for soft skills, including proactive attitude, willingness to work, cooperation skills, communication skills and creativity. We are also looking for substantive competences—the ability to analyse and draw conclusions, as well as specialist competences directly related to the work performed (www.hays.pl). The labour market is very demanding for employers, and this poses many challenges for HR departments. The lack of available resources, the existing competence gap, the requirements of the millennial generation as well as the growing expectations of business mean that HR specialists must demonstrate an increasingly broader range of competences and skills, and finally—reach for more and more non-standard, innovative solutions (www.hays.pl). Automation, digitization and related phenomena will significantly redefine the understanding of work in the coming years. The authors signal that digital competences are fundamental for professional success in the new realities of the digital economy. Data analysis is the most promising direction of development, and the best-paid professions will involve Data Scientists (database management, knowledge of statistics, machine learning and distributed and parallel systems), DevOp Engineers (organizational skills, effective team management and programming/developer skills) and Data Engineers (ability to collect data and prepare it for processing, as well as the ability to implement technological solutions). Over the next 25 years, almost half (47%) of current jobs will be replaced by machines. It is estimated that in highly developed OECD countries, on average, 57% of all jobs are at risk of automation. For professions including agricultural workers, salespersons, receptionists, accountants, librarians, insurance agents and bank or postal clerks, the

risk of automation is over 90%. The low risk of automation—about 2%—applies to professions of psychologists, nurses, business analysts, IT specialists, clergy, lecturers and doctors. Creative professions that require unconventional action are a safe direction of development, unlike those professions that are based on repetitive and formulaic activities (Rynkowska 2016, 4). P. Diawati et al. (2019, 2277–3878) believe that fully effective digital transformations are generally rare but still possible. Attempting to carry out a transformation is noteworthy and involves changes in the organization's capabilities aimed at achieving significant improvements in results and motivation that the enterprise was previously unable to achieve. Such actions require committed leaders and cultural changes among all employees. P. Diawati et al. (2019, 2277–3878) believe that in order for the transformation of an organization to be as successful as possible, the following principles should be remembered:

- Treat your experiences and achievements as a resource. Do not change current practices that you think are best. Get rid of bad practices and habits. Use your earnings to fund your future.
- Design trust. Develop ways to strengthen the engagement of everyone involved in your organization—especially customers and employees.
- Master the pivot—from sprint to large scale. Test new practices in intense, bold and experimental ways. Choose methods that work and quickly implement them as part of a larger system.
- Create a strategic identity—create one clear goal for your enterprise and focus all your efforts on achieving it.

P. Diawati et al. (2019, 2277–3878) indicate six areas that influence the process of successful enterprise transformation:

- Talent: Skills, predispositions and the ability to organize the workforce are the basis of all enterprise's capabilities.
- Insight: The ability to choose, access to data and research results enable leaders to make informed and accurate decisions.
- Mission: The motivation underlying the enterprise's capabilities, which should result from its procedures, and a clear indication of the enterprise's mission allow these procedures to be improved.
- Processes: A coordinated and effective system of procedures aimed at achieving the best possible results.
- Integration: Using clear guidelines for employees, correct selection of tasks and encouraging work in teams composed of employees with different abilities.
- Technology: Necessary to activate enterprise capabilities through the use of tools, hardware and software.

S.J. Andriole (2017, 19–23) formulated the conclusion that for an organization to achieve technological transformation, it should first learn and understand the realities of digital transformation. The author identified five myths about digital transformation:

- Every organization should digitally transform—not every enterprise, process or business model requires digital transformation.
- Digital transformation uses new and breakthrough technologies—the fastest benefits of transformation are achieved by using "conventional" operational and strategic technologies, and not necessarily those from the area of newly emerging or so-called "disruptive" technologies.
- Profitable enterprises are more likely to achieve successful digital transformation—if everything goes well, there is less chance of significantly transforming anything.
- We need to disrupt the market before someone else does—breakthrough transformation rarely starts with market leaders whose business models have been defining industry categories for years.
- Management wants digital transformation—the number of executives who really want to transform enterprises is relatively small, especially in public enterprises.

Organizations in the conditions of increasing digitization must optimize their processes to redesign their products or services, as well as develop new business models (Möhring et al. 2023, 46). To fully meet the challenges of digital transformation, organizations must implement a digital strategy, increase digital awareness, adapt their thinking and define security standards:

- Digital strategy: Organizations need to develop a digital agenda that fosters innovation. Organizations must constantly question and innovate their business models.
- Digital awareness: To cope with digitization, organizations must constantly monitor their capabilities and business performance. By implementing comprehensive benchmarking mechanisms, organizations can assess and correct their market position and use the resulting implications to adapt business goals and strategies to customer preferences and market requirements.
- Mindset: In addition to adapting to organizational structures and strategies, digitization requires the existence of an open organizational culture that favours creativity and innovation. Organizational culture must promote risk-taking as well as facilitate realistic expectations so that organizations focus their available resources on the most feasible and beneficial projects and initiatives (Imgrund et al. 2018). Organizational culture has the character of common, solidarity-based sharing of views, reaction and empathy. Culture

gives a sense of belonging to a specific community and enables the integration of its members while stimulating employee loyalty (Kowalewski 2023, 24–41).

- Security: As digitization moves to digitize an organization's resources and operations, new IT and data security threats emerge that can hinder the adoption of digital strategies and negatively impact business success. Organizations must define policies and guidelines that address digital threats (Imgrund et al. 2018).

The lack of management resources and financial constraints faced by SME sector organizations hinder the implementation of digital technology. Moreover, even when financial constraints are removed, the adoption of digital technologies by SME organizations may still be hampered by a lack of clarity on the return on investment or partial ability to leverage and realize the radical digital transformation that Industry 4.0 represents (Telukdarie et al. 2023, 689–698).

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2 Operationalization of the concept of trust

2.1 The essence and meaning of trust

"When uncertainty, variability and risk cast a shadow on every decision, the irreplaceable panacea that allows you to continue functioning and look for the best solutions is trust in relationships" (Grudzewski et al. 2009, 163). Trust is the object of interest of representatives of many scientific disciplines, such as philosophy, sociology, economics, management sciences, psychology and political sciences, and increasingly disciplines of technical sciences, too. Different definitions of trust in psychology, sociology and management sciences particularly concern the measurement aspect (Ejdys 2018, 58). Trust has already begun to be emphasized to offer the basis on which most social relationships are based (Lewicka-Strzałecka 2007, 211–219). For psychology, the object of interest is the relationships between individuals, and the basic research problem will be formulated as the following question: does person X trust person Y and under what conditions? However, in sociology, the object of behaviour will more often be social groups, and research questions in relation to the issue of trust will be formulated as follows: what is the reason for the low level of general trust among Poles? An important need for management sciences is the measurement of trust, which is an important factor in the business decision-making process. From the perspective of trust in technology, it is important to integrate all the indicated approaches. The more and more frequent attribution of human characteristics to technologies or technological solutions reduces the relations between man and machine to relations that remain within the scope of interest of psychology. From a sociological point of view, general trust will influence trust in specific technological solutions. In the context of management sciences, the most important thing is the relationship between trust and the process of adaptation and implementation of new solutions that determine business decision-making (Ejdys 2018, 58). Trust is analysed due to the existence of many aspects, both regarding the organization (intra-organizational trust, e.g. between employees, employee's trust in the leader, etc.), as well as trust between organizations (inter-organizational), which is closely related to the idea of extended enterprise or virtual organization. Trust at the current stage of economic development is also

visible in the area of governance, where it includes not only concern for maximizing shareholder value but also respect for employees and the corporate environment (Hejduk 2009, 59–60). In understanding trust, the dominant approach is to define it as capital, a resource or a mental state (Moczydłowska 2012, 75–86). J. Ejdys points out that the reason for the lack of a clear definition of trust is primarily the multidimensionality, complexity and multi-aspect nature of the analysed concept (Ejdys 2018, 43). D.M. Rousseau et al. distinguish characteristics that determine the directions of research in the area of trust:

• Multi-level trust (individual, group, company and institutional);
• Intra-organizational and inter-organizational trust;
• Multi-disciplinarity of trust;
• Multifunctionality of trust in cause-and-effect relationships (trust as cause, result and moderator);
• Trust as a response to organizational changes;
• Evolution of trust—emergence of new forms of trust.

<div align="right">(Rousseau et al. 1998, 393–404)</div>

As D. Lewicka et al. (2016, 41–56) point out, in management sciences, trust is analysed according to four main trends:

• Intra-organizational interpersonal trust—a relationship of trust between superiors and subordinates as well as between co-workers;
• Personal, institutional and intra-organizational trust—employees' trust in the organization;
• Inter-organizational trust—trust in inter-organizational relationships;
• In the area of marketing—customer trust in the organization and in online shopping.

W.M. Grudzewski et al. (2009, 163) presented the following reasons for the increasing importance of trust in the modern world:

• Globalization;
• Networking;
• Specialization;
• The need for predictability;
• Increase in the number of choices;
• Failures of business practices;
• Increase in the amount of information;
• Virtualization;
• Anonymity;
• Interdependence;

- Knowledge workers;
- ICT;
- Uncertainty;
- Outsourcing.

Starting from Polish literature, this section presents the definition of trust—due to the importance of the topic discussed. According to the definition contained in Słownik Języka Polskiego PWN (PWN Dictionary of the Polish Language) (www.sjp.pwn.pl), trust is the belief that:

- A person or institution can be trusted;
- Someone's words, information and so on are true;
- Someone has certain skills and can use them appropriately.

W.M. Grudzewski et al. (2009) based on a literature review indicate that the most common characteristics of trust in definitions are as follows:

- Benevolence—concern and motivation to act in the interest of the other party, the opposite of opportunistic actions (Holmes 1991, 57–104);
- Integrity—concluding contracts in good faith, telling the truth and keeping promises made (Bromiley, Cummings 1989, 219–247);
- Competence—skills, the ability to do what is needed (Barber 1983);
- Predictability—a party's actions, desirable and undesirable, that are sufficiently consistent to enable predictions of future situations (Gabarro 1978, 290–303).

P. Sztompka (2002, 312) compares the objects of trust and distrust in the following manner:

- Personal trust/distrust—directed towards specific individuals;
- Positional trust/distrust—directed towards specific social roles, professions, positions or offices;
- Commercial trust/distrust—directed towards specific products;
- Technological trust/distrust—directed towards technological systems: communication, energy, IT and so on;
- Institutional trust/distrust—directed towards institutions: banks, organizations, schools, and so on;
- Systemic trust/distrust—directed towards the system: the political system, the economy and civilization.

P. Sztompka (2007, 72) defines trust as "a special human bridge to an uncertain future world in which other people play a central role".

M. Bugdol defines trust in management sciences as follows:

- Trust in management functions;
- Trust in management processes, that is, planning, organizing, leading and controlling;
- Trust in the decisions made;
- Trust in concluded arrangements and contracts;
- Trust in stakeholders, in relation to their competences, behavioural intentions, plans and attitudes.

According to M. Bugdol (2010, 16), trust should be understood as the main organizational value, the achievement of which requires strong ethical foundations, while in management practice, trust requires the determination of operational values. Trust treated as a value affects economic results and should be the subject of lasting efforts and actions. Trust is the belief that the actions taken will lead to the achievement of the set goals and to benefits for all stakeholders.

Trust cannot be defined with one selected statement, hence, according to M. Bugdol (2010, 18), trust in management is:

- The bond of social groups and networks, which is of great importance, for example, in virtual organizations, new forms of work, virtual project teams and so on;
- The purpose of the activity, such as customer trust, which is the goal of marketing activities;
- A means to achieve goals.

M. Bugdol (2010, 18) lists the following features of trust:

- Trust is risk-dependent—in a situation where the results of actions taken were known, trust would be unnecessary.
- Trust is related to the dependency of two people—in a situation in which this dependency did not exist, the need for trust would be lower.
- Trust is accompanied by vulnerability—risk and dependency contribute to vulnerability and defencelessness.
- Trust is related to expectations about the future—actors accept vulnerability in relationships with others when they have positive expectations about the future (other people can be trusted).
- Some types of trust are innate (part of the individual), while others are the result of contracts.

A. Sankowska (2011, 34) defines trust as the readiness of an individual to become sensitive to the actions of the other party, which is based on the assessment of its credibility in a situation of interdependence and risk. As W. Popczyk

(Popczyk 2011, 9–18) writes, trust is a mental state that consists of the readiness and will to accept the risk associated with uncertainty, based on expectations regarding positive intentions and behaviour of other individuals. Trust, as the author points out, is not a behaviour, but a psychological condition that leads to a specific behaviour. Expectations of positive intentions or behaviours may apply to individuals, groups of people (such as family), objects and organizations such as enterprises and the state. The readiness and will to accept uncertainty result from the predictability of behaviour of an individual who is trusted. It is widely accepted that interdependence between individuals (parties), along with uncertainty as to whether others intend to act appropriately, is the necessary condition for the emergence of trust. Trust is also a multi-level and dynamic phenomenon, which is reflected in the fact that it evolves over time. The literature identifies the micro level that includes interpersonal trust, and the macro levels of systemic trust: the organizational level, the inter-organizational level and the social level. A higher level of trust shapes the context for a lower level and determines its maintenance (Popczyk 2011, 9–18). As H. Domański (2014, 8–17) writes, broadly speaking, trust is the reduction of uncertainty and risk. It is therefore an important good, a condition for the functioning of individuals and social systems. B. Gajdzik (2012, 16–24) points out an important feature of trust, which is invisibility. Definitions of trust often emphasize that trust is a matter of faith (heart and emotions). J.S. Olson and G.M. Olson (2000, 41–44) write about trust as a delicate, sensitive emotion. D. Świercz (2003, 222) defines trust as a characteristic of a certain cooperation, the participants of which believe in their integrity, morality and familiarity, as well as in their abilities and characters. Trust is the degree of uncertainty and unpredictability in someone or something. According to W. Walczak (2013, 187–199), trust is faith, belief and certainty that the individual we trust will not disappoint us or betray us. Trust is a certain way of thinking, imagining and predicting the attitudes and behaviours of other individuals towards us. Often, a very strong binder of bonds that create mutual trust is the possibility of achieving measurable benefits, because of the fact that the individual who trusts us will be willing to make arbitrary decisions and actions, for example, obtaining financial resources, accelerating the career path, taking up a highly paid position, a prominent position or obtaining a lucrative order or contract (Walczak 2013, 187–199). W. Walczak emphasizes that trust is a subjective feeling of a given individual, which is a derivative of value judgements relating to the observed behaviour of other individuals in the context of specific events, which allows for comparison of the compliance of attitudes, values and declared norms with specific examples from everyday practice. As W. Walczak (2012, 187–199) points out, trusting someone is the result of our ideas about expected scenarios of behaviour of a given individual in specific situations that are important to us. An important element is the cause-and-effect relationship of our assessments with the actions of the trustee, not only hope but also a justified belief that we can count on their understanding, acceptance,

support or help, as well as favour in situations that require taking a clear position (Walczak 2012, 187–199). M. Piorunek (2018, 41–53) points out that trust is always associated with making choices as well as bearing risks, which may take various forms. First, it is related to the possibility of future unfavourable events that are independent of our trust (e.g. a psychologist may conduct therapy well or badly, regardless of the trust that the individual places in them). Second, as M. Piorunek (2018, 41–53) notes, we risk a number of negative psychological effects resulting from our disappointment due to trusting an individual who did not deserve it, especially in a situation when the other party is aware of this trust and should therefore feel obliged not to disappoint them. The risk is also related to fiduciary trust, when valuable goods that are valuable to us are entrusted to someone else's care (e.g. you entrust your child to a teacher, and the teacher will ignore the resulting obligations) (Piorunek 2018, 41–53). J. Paliszkiewicz (2011, 227–232), like P. Sztompka (2007, 72), proposes that trust should be considered as a "bridge" between past behaviour and the expected future.

J. Paliszkiewiecz (2011, 227–232) distinguishes the features of trust:

- Trust is interpersonal: it occurs between specific individuals.
- Trust is voluntary: it is the result of choice; you cannot force someone to trust you.
- Trust is related to concern about the honesty of both parties.
- Trust is dynamic and temporary, develops over time, grows or is broken.
- Trust is related to action.
- Trust is based on experience.

W.M. Grudzewski et al. (2007, 38–41) distinguish six principles relating to trust:

- Principle 1. The principle of transitivity of trust—it is recognized that the direct experience of the relying party in relations with the trustee is more important than second-hand information. As the authors point out, due to the lack of personal experience, trust based on references is crucial and most often takes the form based on reputation instead of history of cooperation. The principle of trust transitivity relies on dependencies, for example, if A trusts B and B trusts C, then A can measure trust in C.
- Principle 2. Trust is a function of risk perception—trust is the belief or prediction that we can rely on the other party and that this party will not take advantage of our vulnerable characteristics. Trust is a subjective reflection, a belief in conditions of uncertainty that the other party will behave in a specific way. Confidence also illustrates the observer's uncertain knowledge of the state of affairs.
- Principle 3. Trust depends on time—trust is perceived as a dynamic phenomenon, changing through processes that are related to cooperation with others

as a result of the accumulation of experience. However, the accumulation changes over time due to different types of activities undertaken by the parties as well as the effect of learning and forgetting. The dynamics of trust changes has an important characteristic, because over time, in the absence of interactions that refresh A's knowledge about B, as a result of the general tendency to forget, trust decreases.

- Principle 4. Trust is gradable—overall trust does not exist, and the level of trust is a function of subjective confidence in the relevant beliefs.
- Principle 5. Culture influences trust—the fundamental foundations of trust vary by culture at both the organizational and national levels.
- Principle 6. Formal and social control tools are important for the development of trust—formal control tools mean systems of codified rules, objectives, procedures and regulations that define expected patterns of behaviour. Social control uses cultural and organizational values and norms to encourage the manifestation of specific behaviours.

Trust is considered one of the basic psychological factors that guarantee the cohesion of social structures (Szynkiewicz 2014, 259–272). S. Szałach (2013, 177–183) points out that trust, to put it briefly, is about entrusting. G. Krzyminiewska (2003, 223) defines trust as the readiness to take action, based on the expectation that individuals and institutions will act in a way that is beneficial to us. H. Bulińska-Stangrecka (2018, 104–119) considers trust as predicting the behaviour of other individuals with the simultaneous adoption of certain presumptions that condition their further actions. The author defines trust as an assumption regarding the attitude of another person in conditions of uncertainty, which leads to specific behavioural consequences. Trust is conditioned by the individual taking specific actions based on assumptions regarding the possible behaviour of the other party in the future (Bulińska-Stangrecka 2018, 104–119). W. Grudzewski et al. (2007, 19) define trust as a belief based on which the trusting party (Trustor) in a specific situation agrees to remain dependent on the trusted party (Trustee) (person, object or organization), having a sense of relative security, even though negative consequences are possible behaviours. The multitude of definitions of trust and its multi-aspect nature make it difficult to adopt one appropriate definition. W. Grudzewski et al. (2007, 17) indicate that, in the literature, trust is defined as follows:

a) Disposition—the mental, subjective attitude of one party towards the other: assessment, prediction or expectation;
b) Decision—intention to rely, the relying party becomes dependent on the other;
c) Behaviour—results from the act of entrusting something to the other party behaviours.

According to W. Grudzewski et al. (2007, 17), trust can be understood as a combination of the above approaches (trust as disposition, decision and behaviour); therefore, it is a certain belief resulting from a decision that leads to specific behaviours. The authors signal the existence of at least four predicates:

- A (the trusting person) trusts;
- B (the trustee);
- In some respect C (scope of trust);
- Under conditions determined by the circumstances of the situation D.

Most often, in addition to the elements of trust, the definitions also include risk, expectations or beliefs, as well as the willingness to take risks, assuming and expecting that the other party will not harm the trusting party. Above all, trust exists in conditions of uncertainty and risk as well as interdependence and reciprocity. If the parties could conduct the transaction under conditions of high certainty, the existence of trust would turn out to be unnecessary (Grudzewski et al. 2007, 19). In a trust relationship, there is a general willingness to trust other individuals, called the Propensity of Trust. The tendency to trust is independent of conditions and affects the trust that an individual shows in relationships with others, without taking into account the trustee. Trust depends on many factors: childhood experiences, personality type and origin. The tendency to trust refers to the concept of General Trust, meaning the degree to which a person is convinced that people are generally worth trusting. As A. Drabarek (2014, 3–11) notes, trust is considered an essential factor in interpersonal relationships—not only in family life and face-to-face contacts, but also in economic, political and international life. As the author writes, it would probably not be an exaggeration to say that numerous psychological, sociological and ethical theories most often analyse the phenomenon of lack of trust in people, institutions and the state. According to J. Gagacki (2013, 65–72), trust is behaviour directed towards the future, because the results of achieved and unrealized goals are always later than the assumptions made about them. Trust is a more or less rationalized bet that refers to the future actions of individuals as well as social groups and national or supranational institutions. As noted by A. Weiss et al. (2022, 245–251), trust is variable and depends on social perception and mutual relations with the interaction partner. As A. Głos (2015, 82–106) writes, trust is a way of dealing with inevitable uncertainty regarding the future state of the world. Trust allows us to bridge the gap over fear and behave as if the future was not only known but, importantly, would go our way. As M.F. Boersma et al. (2003, 1031–1042) point out, trust motives can range from material benefits and fear of sanctions to an ethical stance based on superior goals or personal emotions. As T. Volken (2009, 45–77) points out, by building and enforcing favourable behaviours based on cooperation and sanctioning opportunistic behaviours, trust can significantly increase.

B. Shneiderman (2000, 58) points out that trust most often concerns the future and cooperation. R.C. Mayer et al. (1995, 709–734) define trust as the willingness to take risks. The authors list three components of trust:

- Ability—the belief that the party we trust is capable of taking the actions necessary to fulfil the expectations placed on them, as well as the belief that they have the appropriate resources and competences.
- Integrity—the party we trust has a fixed set of values: stability and repeatability of actions, which allows their predictability by the trusting party;
- Good will—the positive attitude of the trusting party.

J.D Lewis and A. Weigert (1985, 967–985) point out that the basic function of trust is sociological rather than psychological because individuals would not have the opportunity or need to trust in isolation from social relationships. The authors emphasize that, just like the function of trust, the foundations on which it is based are primarily social. This raises the question of how trust in other people and institutions is established, maintained and, if necessary, repaired and restored. J.K. Butler (1991, 643) points out two features of trust: the importance of the person trusted and the multidimensional nature of trust. However, N. Kumar (1996, 92–106) notes that what distinguishes trust from distrustful relationships is the ability of the trusting parties to believe. The parties believe that each has an interest in the welfare of the other and that neither will take action without first considering the impact of that action on the other. F. Fakuyama (1997, 38) defines trust as a mechanism based on the assumption that other members of a given community are characterized by honest and cooperative behaviour based on the norms they profess. According to D.M. Rousseau et al. (1998, 395), trust is a mental state reflecting the tendency to be influenced by other people and to believe in the expected positive intentions or behaviour on their part of the trust. N. Luhmann (1979, 121) defines trust as a mechanism by which actors simplify internal interaction systems and adopt specific expectations regarding the future behaviour of others, choosing them from available options (1979, 98). A. Jøsang emphasizes that a trust relationship requires the commitment of at least two parties (Luhmann 1979, 121). D. Gambetta (1988, 213–237) defines trust as the level of subjective probability according to which one of the parties (the trustor) assesses the performance of a specific action by the other party (the trustee) and also makes estimates regarding the effects of this action. Estimation of activities is made before there are opportunities to control the activity. Trust appears in an environment in which the probability of the other party performing specific actions is so high that a given individual or group decides to establish cooperation. R.J. Lewicki et al. (1998, 438–458) define trust as certain positive expectations regarding another person's behaviour in a specific context. According to P.H. Schurr and J.L. Ozanne (1985, 939–953), trust is

the belief in the credibility and responsibility of the business partner's words or promises, as well as in the fact that the obligations towards the contractor will be fulfilled. In turn, S.D. Boon and J.G. Holmes (1991, 190–211) define trust as a state associated with certain positive expectations as to the motives of other individuals towards themselves in conditions of uncertainty and risk. H.J. Lee (2004, 623–639) notes that researchers tend to divide the concept of trust into trust based on cognition and affect or trust based on competences and intentions, but sometimes, it is difficult to separate one form of trust from the other. J. Cook and T. Wall (1980, 39–52) understand trust as the trustor's belief in the competences or abilities of another entity to fulfil obligations. A.C. Costa (2002, 1–15) defines trust as a state that manifests itself in the behaviour of a trusting person towards a trusted person and is based on expectations regarding that person's behaviour and on perceived motives and intentions in situations involving risk to the trusting party's relationship with the trusted person. Q. Xu (2014, 136–144) defines trust as an important concept that is fundamental to positive interpersonal relationships. J.B. Barney and M.H. Hansen (1994, 175–190) define trust as a mutual belief that the weaknesses of one side will not be exploited by the other side. M. Siegrist and C. Cvetkovich (2000, 713–720) point out that one of the functions of trust is to reduce complexity by enabling the identification of people in the community who we consider trustworthy and, therefore, in whom we can place trust. C. Moorman et al. (1992, 314–328) claim that when an individual trusts another, they are confident and willing to believe in the partner who is participating in the exchange. According to T. Vance et al. (2008, 73–100), trust is the belief that the trustor has qualities that would benefit the trusting entity. These beliefs lead to trust, which is the willingness or intention of the trusting individual to rely on the trustor. Finally, trusting intention leads to trusting behaviour, which involves the trustor becoming vulnerable to the trustor in a situation of uncertainty. M.F. Boersma et al. (2003, 1031–1042) define trust as an individual's expectation that he/she can rely on the party to honour the contract, to perform their role competently (competence) and to behave honourably even if no promises or guarantees have been obtained from them to perform the task (good will). An individual's motivation to rely on another party is related to an increase in the ability to tolerate uncertainty as well as specific attributes of a person or thing (Sankowska 2011, 29). By trust, A.K. Mishra (1996, 261–287) means the willingness of one party to expose themselves to the risk of undesirable actions by the other party based on the belief that the other party is:

- Competent;
- Open;
- Interested;
- Reliable.

B. Nooteboom (2006, 247–263), however, points to nine paradoxes of trust:

- It goes beyond self-interest but has limitations.
- It is not only a state of mind, but also a type of behaviour.
- It concerns competences as well as intentions.
- It is based on information and, at the same time, on its lack.
- It is rational and emotional.
- It is an expectation, but not a probability.
- It is desirable but may have undesirable effects.
- It can be destroyed but also deepened by conflict.
- It is both the base (foundation) and the result of the relationship.

For the purposes of this study, the following definition of trust was developed:

> Trust is the positive belief of a trusting individual in relation to a trustee (an individual or an object) regarding their competences, credibility, motives and intentions in a specific context, under conditions of uncertainty and risk. Trust is an expectation of cooperation, a mutual belief that the trusting party's weaknesses will not be exploited by the trustor, and the trustee will behave in a manner consistent with the expectations placed on them.

2.2   Sources of trust

J.D. Lewis and A. Weigert (1985, 967–985) distinguish three sociological bases of trust: cognitive, emotional and behavioural, which combine into one social experience. Table 2.1. presents the characteristics of each of the sociological foundations of trust proposed by J.D. Lewis and A. Weigert.

W.M. Grudzewski et al. (2009, 27–28) indicate the existence of a relationship between trust and the levels that create it:

- Shared meanings—trust may be initiated by shared meanings; both the trusting entity and the trustee accept a certain pattern, allowing the parties to interpret the social environment more easily in terms of the decision to trust; this pattern may concern personality, social structures as well as specific organizational practices.
- Authority—it may be a source of trust, which in a certain area determines the abilities, resources and reactions of the trustee.
- Legitimization—it is achieved because of social norms (including openness, honesty and tolerance), which not only sanction the behaviour of individuals within the network but also constitute an element that maintains relationships.

W.M. Grudzewski et al. (2009, 28–29) based on a literature review compile sources of trust according to selected authors. An overview of the sources of trust is presented in Table 2.2.

Table 2.1 Sociological foundations of trust according to J.D. Lewis and A. Weigert

Foundation of trust	Characteristics
Cognitive	• The cognitive element distinguishes trustworthy, distrustful and unknown people and institutions • Based on the cognitive dimension, individuals choose who they will trust, in what respects and in what circumstances • Individuals base their choice on what they consider a "good reason"—evidence of credibility • Trust at the cognitive level is built when social actors no longer need or want any further evidence or rational reasons for trust in the objects of trust, • "Everyone trusts assuming that others trust"
Emotional	• Emotional bond between all participants in the relationship • Similarly to the case of emotional bonds: friendship and love, trust creates a social situation in which intense emotional investments can be made; hence, the betrayal of personal trust arouses strong emotions. A betrayal of trust is a deadly blow to the very foundation of the relationship • The emotional element is present in all types of trust but is usually most intense in interpersonal trust in close relationships • The emotional element of public trust is visible in the outpouring of resentment and anger we feel when we learn about, for example corrupt politicians and judges who condone illegal action. When individuals trusted by the public turn that trust into personal monetary gain, they do serious damage to the heart of civil society • The abuse of trust, much more than the simple illegality of individuals' actions, provokes our emotional anger • The emotional element of trust complements the cognitive "platform" in which trust is built and maintained. This contribution has its sources in the awareness of individuals that a breach of trust may cause severe emotional pain for all participants bound by the relationship of trust, paradoxically also the violators themselves
Social	• The practical significance of trust lies in the social activities it guarantees • Behaviour involves taking actions as if the uncertain future actions of other individuals were actually certain in circumstances in which the violation of these expectations has negative consequences for the individuals involved. It is taking a risky action based on certain expectations that all people involved in the action will behave competently and conscientiously • The behavioural element of trust is interconnected with cognitive and emotional aspects • By noticing that others act in a way that suggests that they trust us, individuals become more willing to reciprocate, trusting them more, similarly in the case of distrust • Trust-based actions help establish or strengthen the emotional sense of trust because positive influence circulates among those who express trust behaviourally, and negative influence circulates among those who betray or act distrustfully towards each other

Source: Own elaboration based on: J.D. Lewis, A. Weigert, *Trust as a Social Reality*, Social Forces, no. 63/4, June 1985, pp. 967–985.

Table 2.2 Sources of trust based on the review by W.M. Grudzewski, I.K. Hejduk, A. Sankowka M. Wańtuchowicz

Author	Sources of trust
Blomqvist and Ståhle (2004)	• Abilities • Good will • Behaviour • Self-reference
Six (2003)	• Abilities (competences) • Kindness • Dedication (commitment) • Ethics
Dyer and Chu (2000)	• Reliability • Justice • Good will
Jordan and Michel (2000)	• Responsibility • Availability • Accuracy • Honesty • Safety • Completeness • Timeliness of activities
Sako and Helper (1998)	• Good will • Contract • Competences
Zacheer et al. (1998)	• Reliability • Predictability • Honesty
Doney and Cannon (1997)	• Credibility • Kindness
Smith and Barclay (1997)	• Honesty • Dependency • Responsibility • Probability • Judgement
Lewicki and Bunker (1996)	• Calculation • Knowledge • Identification
Mishra (1996)	• Competences • Openness • Reliability • Care
Mayer et al. (1995)	• Skills • Competences • Kindness • Honesty
McAllister (1995)	• Cognition • Affect

(*Continued*)

Table 2.2 (Continued)

Author	Sources of trust
Butler (1991)	• Availability • Competences • Consequences • Discretion • Justice • Honesty • Loyalty • Openness (honesty) • Keeping promises • Openness (opposite of dogmatism)

Source: W.M. Grudzewski, I.K. Hejduk, A. Sankowska, M. Wańtuchowicz, *Zarządzanie zaufaniem w przedsiębiorstwie*, Oficyna Wolters Kluwer business, Kraków 2009, pp. 28–29.

As Table 2.2 shows, the sources of trust most frequently mentioned by the authors include the following:

* Competences (abilities);
* Kindness;
* Honesty;
* Reliability.

2.3 Types and dimensions of trust

P. Sztompka (2002, 312) distinguishes the following types of trust:

* Personal trust—towards specific individuals;
* Positional trust—in relation to specific social roles, professions or positions;
* Commercial trust—in relation to goods: products, brands or companies;
* Technological trust—the issue will be described later in this subchapter;
* Institutional trust—relating to complex organizations involving numerous, anonymous participants, for example, a bank, stock exchange or university;
* Systemic trust, the most abstract type—in relation to the entire social system and its participants: the political system, civilization or economy.

P. Sztompka (2002, 74–78) classifies activities based on trust and distinguishes the following types of trust:

* Anticipatory trust—actions oriented towards other people; it is based on the belief that their actions will also be beneficial for the trusting individual;
* Fiduciary trust—actions involving entrusting something of particular value to another individual (with their consent);

- Obliging trust—activities involving provoking credibility; giving trust is intended to oblige the other party to adopt a similar attitude; actions involving entrusting "ourselves", our health, life, freedom or salvation to another person;
- Provoked trust—activities involving the demonstration of trust in the other party not only to oblige the partner to be trustworthy but the demonstration is also intended to induce reciprocity.

Moreover, P. Sztompka (2002, 74–78) also distinguishes the following:

- Mutual trust—a relationship between the trustor and the trustee, in which each party is both the expressor and recipient of the partner's trust, and thus each party demonstrates credibility towards the other;
- Trial trust—the first act of trust characterized by a low degree of risk. Trial trust opens the possibility of a sequence of subsequent acts of trust and its escalation;
- Interpersonal trust—the issue will be described later in this subchapter;
- Social trust—expectations towards categories, groups and social roles, regardless of the individual characteristics of specific individuals;
- Public trust—expectations towards public figures, institutions, organizations or regimes with which an individual has only indirect contact, usually through the media;
- Anonymous trust (generalized)—a priori beliefs about the trustworthiness of strangers and all people;
- Procedural trust—the individual's expectations that the use of certain practices, procedures and rituals will bring positive, beneficial results;
- Consumer trust—an individual's expectations regarding the good quality of goods and services;
- Auxiliary trust—an individual's belief in the credibility of other people, certificates and institutions that provide indirect information about the relationship partner;
- Targeted trust—focused on specific trust recipients or specific types of recipients;
- Distributed trust—consisting in the spread of trust from one addressee to other addressees and also from one type of addressee to others;
- Existential trust—unreflective assumption of order or continuity and consistency in the actions of other individuals or the functioning of institutions;
- Instrumental trust—an individual's expectation of the competence, effectiveness and rationality of the other party;
- Axiological trust—expectation of the partner's ethical behaviour;
- Demanding trust—expectation of selflessness, care, help, concern or kindness from a partner;
- Exclusive trust—a relationship that, by nature, can bind only two individuals;

• Ecumenical trust—strong bonds of trust felt by an individual with their own group, accompanied by openness, tolerance and readiness to trust members of their groups.

D. McAllister (1995, 24–59) distinguishes between cognition-based trust and affect-based trust. Cognitive-based trust is described as a rational assessment of an individual's ability to perform responsibilities and therefore reflects a belief in the individual's trustworthiness, reliability and competence, while affect-based trust reflects emotional attachment resulting from the care and relationships that exist between individuals. As noted by R. Pučėtaitė et al. (2010, 197–217), cognition-based trust is associated with rational judgement that helps parties not to trust anybody or anything unreasonably. However, it is assumed that cognitive-based organizational trust works best only in short-term and contingent matters.

D.M Rousseau et al. (1998, 393–404) distinguish three types of trust:

• Trust based on the deterrent factor—It is a reference to utilitarian considerations that allow one party to believe that the other party will turn out to be trustworthy because costly sanctions for violating trust exceed the benefits of opportunistic behaviour.
• Relational trust—results from repeated interactions between the trustee and the relying party and the information available to the trustee from the relationship itself are the basis for. Emotions also come to the fore as frequent, long-term interactions lead to bonds based on reciprocated interpersonal care.
• Institution-based trust—it is related to institutional factors, such as legal forms, networks and social norms.
• J.B. Barney and M.H. Hansen distinguish three types of trust (1994, 175–190).
• Weak trust: limited opportunities for opportunism—one of the reasons why exchange partners can trust each other, trusting that others will not exploit their weaknesses, is that they do not have significant vulnerabilities, at least within a specific exchange. If there are no vulnerable points from unfavourable choices, moral abuses or other sources, then the credibility of exchange partners will be high, and trust will be the norm in exchanges. This type of trust can be called weak trust because its existence does not depend on the establishment of contractual or other forms of exchange management. The existence of trust does not also depend on the parties' obligations to exchange for trustworthy standards of behaviour. In this type of exchange, trust tends to emerge because the opportunities for opportunism are limited. The parties to the exchange will receive all the benefits of the exchange without significant management or other costs.
• Medium trust: trust through governance—when there are significant vulnerabilities in the exchange (adverse choices, moral abuses or other sources), trust can still arise if the parties to the exchange are protected through various governance mechanisms. Governance mechanisms impose various types of

costs on exchange parties that behave opportunistically. If appropriate management tools are used, the costs of opportunistic behaviour will outweigh the benefits, and the rational self-interest of exchange partners will be to behave in a trustworthy manner. In this context, the exchange parties will have mutual trust that their weaknesses will not be exploited because this would be irrational.

• Strong trust: unshakable credibility—trust arises in the presence of significant weaknesses in the exchange, regardless of whether there are extensive social and economic governance mechanisms because opportunistic behaviour would violate the values, principles and standards of conduct that have been internalized by the parties to the exchange. Strong trust can also be called principled trust because trustworthy behaviour arises in response to a set of rules and standards that guide the behaviour of exchange partners. Exchange partners are trustworthy regardless of whether exchange vulnerabilities exist or not, regardless of whether governance mechanisms exist.

A. Ardichvili et al. (2003, 64–77) distinguish trust into:

• Institutional trust—consisting in the belief that the structures guarantee the reliable behaviour of individual members and that they will protect them from negative consequences;
• Trust based on knowledge—is present when actors learn each other's behaviour, and this is the basis for predicting the other party's behaviour.

J.M. Leimeister et al. (2005, 101–131) distinguish the following types of trust:

• Interpersonal trust—the issue will be described later in this subchapter;
• System trust—a type of trust based on the perception of a system or institution as reliable;
• Dispositional trust—the general tendency of a given individual to perceive the trustworthiness of other people; it is also called basic trust.

M. Sako (2006, 267–294) distinguishes three types of trust:

• Contractual trust—it is based on a shared moral standard of honesty and keeping promises. The parties of trust adhere to the same norms and standards and have the same understanding of the principles of professional behaviour.
• Competence trust—it is related to the tendency to act in accordance with the promises made; it is the ability of the parties to actively participate in business operations.
• Trust of good will—it is the result of the commitment of business partners who expect mutual benefits from this relationship. It only exists in conditions of an achieved consensus regarding fairness.

D.L. Paul and R.R. McDaniel Jr (2004, 183–227) distinguish the following types of trust:

- Calculative trust—it is based on the conceptualization of trust as a form of economic exchange. The motivation is economic benefits.
- Integrated trust—this is an integrated perspective of interpersonal trust; according to the authors, it seems important that in a specific relationship, various types of trust may occur and intertwine.
- Relational trust—it is the degree of feeling of personal attachment to the other party and striving for the good of the other party, regardless of the motives.

R. Galford and A.S. Drapeau (2003, 88–95) distinguish the following types of trust:

- Strategic trust—it is the trust that employees have in the organization's management. It includes, among others, properly made decisions in accordance with the designated mission and allocated resources.
- Personal trust—it is the trust of the organization's employees towards their direct superiors. It takes into account, among others, honesty, competence and intentions.
- Trust in the company—it is the trust in the organization as a whole. It takes into account, among others, the efficiency of the organization, consistency and fairness of applicable procedures.

R.J. Lewicki and C. Wiethoff (2006, 92–119) distinguish two types of trust:

- Calculus-based trust (CBT)—it is most often related to the workplace, the tendency of individuals to operate in a system of rewards and punishments. The value of accomplishing a task or goal is not viewed from the perspective of personal satisfaction, but rather because of the consequences of failure to accomplish it. This type of trust is built very slowly, step by step. However, if one mistake occurs, the individual can take several steps back at a time and start rebuilding trust again.
- Identification-based trust (IBT)—it is seen more in the personal arena, although it may come into play to some extent in professional relationships. The parties get to know each other and understand each other's expectations. Over time, they develop the ability to know what someone else would want in a given situation and take the initiative to act for each other in certain situations. These people often share common values and a mutually beneficial perspective, and over time, they are able to develop a common identity. If those types of relationships can develop in the workplace, it will be much easier for parties to work as a team while understanding each other's expectations, goals and needs.

R.J. Lewicki and C. Wiethoff (2006, 92–119) point to the diversity of inter-personal relationships. Hence, as the authors claim, there may be elements of both trust and distrust in all relationships. Over time, the basis of trust changes, which results in a change in the type of trust. In the initial phase of the relation-ship, trust becomes calculative and evolves towards emotional trust (Świątek-Barylska 2013, 261–270. They refer to CBT and IBT. There are four possible attitudes that individuals can exhibit:

- CBT—it is based on impersonal interactions in which a person displays high positive expectations of others.
- Calculus-based distrust—it finds its foundation in impersonal interactions, but the individual in this case has high negative expectations towards others.
- Trust based on identification—it is not only based on perceived compatibility, common goals and positive attachment to the other party but also character-ized by a high degree of trust in positive expectations towards others.
- Identification-based distrust—it is based on perceived incompatibility, differ-ent goals and negative emotional attachment to the other person, character-ized by high confidence in negative expectations towards others.

E.M. Uslaner (2008, 182–223) distinguishes the following types of trust:

- Strategic trust—based on knowledge, assuming a certain degree of risk in advance, it applies to individuals we know and enables cooperation in a spe-cific group of co-workers;
- Normative trust—it is founded on the individual's value system. It is related to an individual's belief that others share his or her moral values, which bind them to the community in which they participate, as well as constitute the basis for solving problems affecting the community. Normative trust refers to people in general and is related to the principles of treating them positively, even when we do not count on reciprocity.

Intra-organizational trust, as B. Józefowicz (2012, 96–104) points out, is charac-terized by complexity. They can be considered in several aspects, depending on the entities that participate in the trust relationship:

- Mutual trust in the relationship between employees and co-workers;
- Trust in the relationship between employees and supervisors;
- Rust in the relationship between superiors and subordinates;
- Trust in the relationship between the organization (represented by the man-agement board) and employees;
- Trust in the relationship between employees and the organization (trust in the management board).

P. Sztompka (2007, 135–147) distinguishes four dimensions of trust:

- Trust as a relationship—trust is a feature of a relationship, even if, at the beginning, it expresses only one-sided expectation and action based on it, the result is always a relationship: direct or indirect exchange. The exchange may be direct when the act of trusting someone results in a reciprocal reaction, reciprocation of trust. Indirect exchange—when trust is an attitude that exists only in the individual's mind or imagination towards people whose actions are important to that individual. An exchange that requires trust is accompanied by elementary risk, uncertainty and, above all, incomplete information regarding the future actions of the trustee.
- Trust and cooperation—the most complex trust systems begin to exist when there is cooperation between individuals. Individuals typically act in the presence of others and in conjunction with the actions undertaken by multiple individuals. Cooperation occurs when individuals, acting together, move towards a goal that would be impossible to achieve alone. The success of an individual depends on the actions of other individuals. Trust is related to "betting" on each partner, whom the individual expects to perform part of the task.
- Trust as a personality tendency—an approach typical of social psychology expressing a personality tendency, an attribute of an individual trusting rather than a relationship with a partner. It is assumed that there is basic trust, a trust impulse (i.e. a personality tendency to express trust in others a priori) or fundamental trust, manifesting itself as an effect of successful socialization in an intimate, cordial and friendly atmosphere of a healthy family.
- Trust as a cultural rule—understanding trust as a cultural rule is the domain of the cultural approach. Trust is a property of social wholes rather than relationships or individuals. Once the culture of trust emerges and takes root in the normative system of society, it turns out to be a powerful determinant of decisions to trust or express distrust, as well as decisions to reciprocate or use trust made by entities in various social roles or situations.

Building trust between business partners requires time and resources, that is, joint investments of a material and intangible nature. According to B. Gajdzik (2012, 16–24), trust in business means belief in the validity of concluded transactions, and more and more often, it is trust that is not supported by any forms of control or supervision (e.g. the development of virtual organizations). According to L. Jabłonowska (2012, 70–80), trust is an effective alternative to time-consuming and expensive control processes, as well as a necessary condition for efficient communication processes in a modern organization. Members of the organization not only exchange dry information but also react by sending and receiving messages and influence each other. Organizational participants also improve and correct their activities; they coordinate joint efforts—they cooperate with each

other, thus creating relationship capital. As A. Rudzewicz (2017b, 291–304) points out, trust is the key to motivating people, mobilizing them to work and achieving common goals. Organizations should influence employee relationships and job satisfaction, which will result in an increased level of efficiency of the entire organization. Trust between superior and subordinate should be based not only on words and declarations but also on actions. Employees' contribution to achieving set goals should be appreciated and respected and their personal and professional development should be supported. Efficiently functioning organizations do not accept competition based on negative emotions, but, on the contrary, they promote cooperation. Organizations within which the level of trust is high are fair and ethical. Enterprises cannot function properly without trust among their employees. Employees who trust their leader believe that the existing strategy is a beneficial and appropriate course of action for all parties. If employees do not trust the leader or manager, the team will not achieve long-term success. The trust deficit increases staff turnover and reduces the productivity and ultimately the profitability of the organization. In the process of building trust, the example and initiative of the process should come from the top management, and all employees are responsible for this process. The efficiency of the process will depend on the extent to which the organization's employees are characterized by such character traits as honesty, fairness, justice and openness. B. Gajdzik (2012, 16–24) points out that trust encourages organizations to cooperate. A. Rudzewicz 2017a (293–305) points out that trust is the basic organizational bond in modern business. Lack of trust is a barrier that prevents the company from operating effectively (Rudzewicz 2017a, 293–305). According to W. Grudzewski et al. (2008), trust is the belief that the employer will not take advantage of the employee, will treat them fairly and will take care of the employee's interests and well-being, which is a prerequisite for strengthening commitment and defining a psychological contract. As A. Rudzewicz (2017a, 293–305) writes, a consequence of the fast pace of the modern world is the lack of time to get to know each other. Building trust is most effective when contacts are conducted face to face, and anonymity increases the feeling of uncertainty. M. Chrupała-Pniak and M. Sulimowska-Formowicz (2016, 119–137) assume that trust is the result of individual characteristics of people (readiness to trust), as well as situational judgement, the result of affective-cognitive mechanisms developed during the functioning of people in an organization with specific trust-building procedures and through experiences acquired in previous inter-organizational and interpersonal relationships. D. Lewicka (2012, 12–13) points out that trust undoubtedly influences the way teams function and the results they achieve. Cooperation may, of course, occur under conditions of coercion, but there is a fundamental difference between voluntary and forced cooperation, especially with regard to the long-term perspective. D. Świercz (2003, 222) emphasizes that trust in an organization is a basic element that enables taking any action.

B. Józefowicz (2012, 96–104) distinguishes two main types of trust in relation to an enterprise:

- Passive trust—relating to the situation in which the organization is trusted;
- Active trust—means a situation in which the organization itself, represented by specific people, plays the role of trustor.

As B. Nooteboom (2006, 247–263) writes, trust in people or organizations is called behavioural trust. Behavioural trust has many aspects: trust in competence, intentions, honesty or truthfulness, availability of resources and robustness, that is, limited sensitivity to external disturbances. Competence confidence refers to technical, cognitive and communication competences. At the organizational level, it includes technological, innovative, commercial, organizational and management competence. Intentional trust refers to a partner's intentions for the relationship, especially the presence of opportunism. Opportunism can be not only passive or weak but also active or strong. The passive and weak form involves a lack of dedication or effort when carrying out activities in accordance with one's competences. A passive or weak attitude implies a lack of dedication or effort to perform to the best of one's competence. Devotion entails active participation, attention and refraining from chaotic activities. An active or strong form of opportunism involves "seeking by deception" self-interest, which, according to O.E. Williamson's (1975, 316–325) practice, involves lying, stealing and cheating to obtain an appropriate benefit from a partner. The absence of such strong opportunism is called benevolence or good will. So, intentional trust has two dimensions: trust in sacrifice and trust in kindness (Nooteboom 2006, 247–263).

P. Shockley-Zalabak and K. Ellis (2006, 44–55) defined five dimensions of organizational trust:

- Competence—it is the perception of co-workers and leaders as effective and the organization as a whole. Competence reflects how strongly employees believe that the organization will be able to compete and survive in the market.
- Openness and honesty—this dimension includes not only the amount and accuracy of information shared but also the way in which it is communicated.
- Concern for employees—concern for employees includes such aspects as eliminating the feeling of fear and ensuring a sense of empathy, tolerance and security, which are manifested when individuals are sensitive to business activities. Honest attempts to understand feelings contribute to high levels of trust in any relationship.
- Reliability—credibility depends on whether management, co-workers, teams, suppliers or organizations perform consistently and reliably. In other words, can we count on them to do what they say they will do? Is there any consistency between their words and actions?

• Identification—identification reflects the degree to which we maintain common goals, norms, values and beliefs related to our organization's culture. This dimension indicates how connected we are with management and co-workers.

H.J. Lee (2004, 623–639) points out that creating a climate of trust and promoting strong organizational identification among employees may require significant effort and may take a long time but will undoubtedly prove to give companies a distinct advantage. According to B. McEvily et al. (2003, 91–103), trust affects the organization through two aspects: structuring and mobilizing. The level of trust in organizations varies, as does the way of organizing and coordinating activities. From a structuring perspective, trust shapes relatively stable and enduring patterns of interaction within and between organizations. For example, by influencing the status and reputation of some actors, trust affects their position in the social network and changes not only the shape but also the structure of the network itself. Moreover, violations of trust initiate a reorganization of the social system, for example, some ties are abandoned, and others are created. Some organizations become more central in the social hierarchy, while others are pushed towards the margins and disconnected from the rest of the network. From a mobilization perspective, trust motivates organizations to contribute, pool, and coordinate resources for collective development. For example, by increasing the openness of knowledge transfer and accelerating its flow, trust facilitates cooperation and joint problem-solving. H. Bulińska-Stangrecka (2018, 104–119) considers organizational trust as an element determining desired behaviour. B. Gajdzik (2012, 16–24) adds that the basis of trust is also the credibility of business partners, which can be reliably verified—trust based on the assessment of the partner's credibility or unverified—"blind" trust). P. Shockley-Zalabak and K. Ellis (2006, 44–55) point out that organizational trust covers a wide range of organizational relationships. It covers not only both relationships but also various environmental influences and basic organizational competence. Trust influences almost everything that happens in an organization. Trust is believed to be the basis of cooperation and the basis of stability both in organizations and in markets. Trust is linked to the diverse behaviours of customers and shareholders. It is related to employees' overall job satisfaction and the level of communication in the organization. High levels of trust in both face-to-face and virtual teams result in higher levels of performance than moderate and low levels of trust. High levels of trust contribute to open communication, high-quality decision-making, improved risk-taking, low employee turnover and overall organizational commitment. According to H. Bulińska-Stangrecka (2018, 104–119), organizational trust is an element that determines desired behaviour. M. Chrupała-Pniak and M. Sulimowska-Formowicz (2016, 119–137) assume that organizational trust is a specific, trusting attitude of the company, which is a manifestation of organizational competence in building

trust. The authors indicate that organizational trust consists of the following elements of relational competence:

- As calculated trust, through organizational procedures, it results in providing the organization with such a level of knowledge and security that it has reasonable grounds to trust the partner based on general experience and rational premises.
- As relational trust, it results in the creation of inter-organizational bonds, including at the level of teams and individuals (Actor Bonds), as well as the application of reciprocity norms at the organizational level.

Organizational trust, according to M. Chrupała-Pniak and M. Sulimowska-Formowicz (2016, 119–137), is both relational trust and calculated trust, and together it supports the credibility of the company as a partner while providing the parties to the relationship with the basis for their future calculated and relational trust. The level of trust between partners changes over the course of the relationship and depends on the dynamics of behaviour related to the implementation of one's own goals as well as the goals of the partnership.

M. Bugdol (2010, 23–30) distinguishes six dimensions of trust (faith, credibility, reliability, competence, predictability and kindness). Table 2.3 presents the characteristics of each dimension.

The dimensions of trust according to K.D. Paine (2003) include:

- Competence: the belief that the organization is capable of doing what it says it will do. It includes the extent to which we perceive the organization as effective; that it can compete and survive in the market.
- Integrity: the belief that the organization is honest and fair.
- Reliability/integrity: the belief that the organization will do what it says it will do; that it works consistently and reliably.
- Openness and honesty: this dimension covers not only the amount and accuracy of information shared, but also how honestly and accurately it is conveyed.
- Susceptibility: the readiness of an organization, based on its culture and communication behaviour in relationships and transactions. It is the willingness of an organization to be appropriately vulnerable to threats based on the belief that another individual, group or organization is competent, open, honest and credible and that it identifies with common goals; it is also about norms and values.
- Care for employees: includes a sense of concern, empathy, tolerance and safety.
- Identification: the degree to which we share common goals, norms, values and beliefs related to the organization's culture. This dimension indicates how closely individuals are connected to management and co-workers.

Table 2.3 Dimensions of trust according to M. Bugdol

Dimension	Characteristics of dimension
Faith	• Faith in certain undertakings—in business activities, it is manifested by a boundless belief that the intentions will be realized and that these undertakings will bring specific benefits • Belief in the assurances of employees, managers and owners • Losing faith in employers actually means losing trust • Belief in the organization's ability to achieve quality goals—related to quality motivation, but also depends on the competences of the entire organization • Faith of some people may arouse surprise or even loss of trust on the part of other people • Faith—it is a dimension of trust; however, in everyday language, it is also assumed that ours or someone else's faith in trust increases or decreases • Management is based on plans, joint setting of goals, forecasts, knowledge, market research and so on, but this does not exclude the fact that some actions or decisions are based on faith and intuition. Implementing large international projects means that managers must rely on assumptions that are more or less unrelated to knowledge • The literature on the subject describes the functioning of faith-based organizations, both business ones, which are profit-oriented, and non-profit organizations, focused primarily on the promotion and propagation of a certain religion or ideology and sometimes ethical behaviour in business
Credibility	• Credibility is based on the ability of the interacting party to keep promises • Credibility takes into account the predictability of behaviour and the reliability of an individual • Employees are considered credible when they are truthful, do not lie and do not cheat. Such people can be trusted to a large extent, but credibility alone does not guarantee trust. An individual may be reliable, but it may turn out that he or she is unable to build a relationship based on trust • Credibility is an external image of trust, but it happens that, in the marketing game, striving for it does not go hand in hand with building trust. In companies, trust is often associated with emotional leadership, with the ability to influence others • A loss of credibility is most often a loss of trust
Reliability	• Employees trust those individuals who know that they can be counted on and will not fail, especially in situations of threat, risk or change • Reliability means there is no room for shortcomings or errors • A reliable individual is not without flaws but is able to overcome them in situations that require reliable behaviour • A reliable employee has the necessary competences needed to adapt to new challenges and to provide help to other units that need it or expect some reactions. We return to reliable and "safe" units when other units fail. However, reliable individuals cannot count on loyalty, employees seek impressions and they are guided by various goals, needs and expectations • Reliability, like trust, is built and strengthened

(*Continued*)

Table 2.3 (Continued)

Dimension	Characteristics of dimension
	• Reliability may be lost • The concept of reliability is close to credibility • A reliable unit provides a guarantee for other units to feel safe, and in extreme situations, it reduces the feeling of threat • In people management, recruitment, employee assessment and training systems must be reliable, and in some situations, both equipment and co-workers must be reliable
Competence	• Competence and integrity are the main determinants of trust • Integrity and honesty enhance the development of moral trust • Competences intensify the development of practical trust, which is expected by managers • The level of trust depends on, among others, the type of competences you have. The level of trust is different in the case of professional competences and different in the case of political competences, which are also found in the organization. Their manifestations are hidden motives, a high need for achievement, but above all, the ability to gain power through alliances, intrigues or political games. It happens that an individual endowed with such competences destroys the trust of the entire organization, especially when he/she takes advantage of the trust they are given • Competences are supposed to guarantee reliability, which is why organizations try to diagnose them at the recruitment stage and later. These efforts do not always take into account the existence of group competences, which results in employment processes turning out to be ineffective • To properly use employee competences, organizations are increasingly trying to manage competences
Predictability	• The effectiveness of prediction depends on the individual's personal experience, the complexity of behaviour and external conditions • Management strives to predict the development of markets, changes in the environment as well as the development of new competitors and products, and predictability is to be strengthened by the tools used in financial and strategic management • Predictability of organizational behaviour may not be such an important issue for some managers because they tend to formalize the social system • Frequent organizational changes, sometimes revolutionary globalization or increasing competition, make it difficult to predict anything • Employees are lost in the thicket of uncertainty—such a situation is not only not conducive to trust (employees are looking for new objects of trust) but may also reduce employee commitment
Kindness	• Friendly employees are individuals who have a favourable attitude towards others, provide help and are individuals on whom you can rely • The components of credibility are competence, reliable and predictable behaviour • Kindness is also treated as one of the factors influencing credibility. Competences can therefore be considered the core of trust. In the background, we can place predictability, reliability and responsibility

Source: Own elaboration based on: M. Bugdol, *Wymiary i problemy zarządzania organizacją opartą na zaufaniu*, Wydawnictwo Uniwersytetu Jagiellońskiego, Kraków 2010, 23–30.

- Mutuality of control: the degree to which parties agree which entities have the right to influence each other.
- Satisfaction: the degree to which one party is favourable towards the other as positive expectations about the relationship are reinforced.
- Commitment: the degree to which one party believes the relationship is worth devoting energy to maintaining and promoting it. The two dimensions of commitment are continuance commitment, which refers to a certain line of action, and affective commitment, which is an emotional orientation.

F.R. Dwyer et al. (1987, 11–27) distinguish five phases of the development of business relations:

- Awareness—it refers to party A's recognition that party B is a viable exchange partner.
- Recognition—it refers to the phase of exploration and testing in relational exchange; a business partner searches for and tries to make a transaction. In this phase, potential exchange partners first consider the benefits and risks of the business relationship. The scouting phase may be very short or may involve a longer period of testing and assessment. It consists of five stages:

  - Attraction;
  - Communication and negotiation;
  - Development and use of power;
  - Development of standards;
  - Development of expectations;

- Expansion—permanent efforts of business partners to increase the benefits achieved, leading to the satisfaction of each partner;
- Commitment—an explicit or implicit commitment that ensures the continuity of the business relationship, associated with solidarity regarding future cooperation, coherence, durability and consistency in action;
- Durability of the business relationship over time—partners' perception of the benefits resulting from continuing the relationship.

P. Sztompka (2007, 147) defines interpersonal trust as expectations towards specific individuals with whom we enter into direct contacts. S. Szałach (2013, 177–183) points out that, in interpersonal relationships, trust is a function of the individual's character and competences. As J. Paliszkiewicz (2011, 227–232) writes, trust is interpersonal, which means that it occurs between specific individuals. J.M. Leimeister et al. (2005, 101–131) define interpersonal trust as the type of trust that a party places in another, at the level of personal relationships. McAllister (1995, 24–59) defines interpersonal trust as the degree to which a person is confident and willing to act on another person's words, actions and decisions. J. Cook and T. Wall (1980, 39–52) point out that interpersonal trust in

an organization is a very important component of the long-term stability of the organization and the well-being of its members. As K.T. Dirks (1999, 445–455) points out based on the definition of trust presented by R.C. Mayer et al. (1995, 709–734), most published measures and/or empirical studies have used operational definitions that are consistent with this definition but focus on what individuals think about their partner (i.e. why they are willing to take risks and trust). In particular, most operational definitions examine trust as:

- Belief in whether the partner is reliable, for example, D. McAllister (1995, 24–59);
- Whether your partner cares about your interests, for example, J. Cook and T. Wall (1980, 39–52);
- Whether the partner is competent, for example, Mishra (Dirks 1999, 445–455, after: Misha 1993);
- Partner will act honestly, for example, Robinson (1996, 574–599.

K.T. Dirks (1999, 445–455) defines interpersonal trust as the belief in a partner's reliability and the degree to which the partner cares about the interests of the group. As the author writes, it should be noted that the conceptual definition suggests that the level of trust varies depending on relational variables, such as:

- Cohesion and attractiveness of the group for its members (Dirks 1999, 445–455, after Goodman et al. 1987, 121–173);
- Friendship, close pre-existing bonds between individuals (Jehn and Shah 1997, 775);
- Familiarity, specific knowledge about others (Goodman and Leyden 1991, 578).

Interpersonal trust, as noted by L. Górniak (2015, 95–108) in simple terms, can be defined as the willingness to expose oneself to the risk of harm from another entity. Trust is an extremely important value in the social environment of every effectively operating organization. First of all, trust enables and determines cooperation without the need to determine in detail organizational obligations and dependencies. Trust allows you to make quick decisions. A. Zaheer et al. (1998, 141–159) perceive interpersonal trust as composed of three elements: reliability, predictability and honesty—but with the individual as the reference as well as the source of trust.

For the purposes of this study, the following definition of interpersonal trust was developed:

> Interpersonal trust is the belief and expectation of an individual towards the individual trusted in direct contacts, as to their reliability, trustworthiness and

competences. Interpersonal trust is also the belief of the trusting individual as to the degree of the trustor's readiness to cooperate.

Technology is typically defined as the use of scientific knowledge to establish performance procedures in a reproducible manner. It evolves in interaction with other dimensions of society but has its own dynamics, related to the conditions of scientific discovery, technological innovation and application, and spreads throughout society. The availability and use of information and communication technologies are a necessary condition for economic and social development in the world at that time. Econometric studies show a close statistical relationship between IT diffusion, productivity and competitiveness in countries, regions, industries and organizations (Castells 2004, 8). M. Szynkiewicz (2014, 259–272) points out that trust may be based on various premises, among which factors such as knowledge, faith or habit play a dominant role. The recipients of trust may also be different: another person, a social group, an institution, a material object, a supernatural being or a specific technology, as well as science as a specific cognitive method. As J. Ejdys (Ejdys 2017, 20–27) initially points out, relationships based on trust were referred to as interpersonal relationships, that is, those occurring in contacts between two or more individuals (Interpersonal Trust). Over time, however, the concept of trust was also applied to institutions (Institutional Trust) or organizations (Organizational Trust), things, devices and technologies (Technology Trust). P. Sztompka (2007, 148) defines technological trust as a type of trust that refers to various types of technical systems: communication, energy and IT. We are surrounded on all sides by, among others, telecommunications systems, water and electricity networks, transport systems and so on. The principles and mechanisms of their operation remain unclear and mysterious to ordinary users. People usually take them for granted without realizing how versatile they are. However, a high degree of reliance on systems turns out to be a disaster when they fail (Sztompka 2007, 108). As X. Li et al. (2012, 18–38) write, although technology is widely used in various contexts to mediate communication, complete tasks or build relationships on behalf of individuals, it is important to understand how trust in technology relates to traditional trust. As the authors point out, it can be speculated that trust in technology should replace interpersonal trust in cases where technological artefacts completely replace human work and human presence. It is difficult, if not impossible, to build trust with human actors who are not visible or physically present in the relationship. Instead, technology should be a more direct and more competent fiduciary that the creditor evaluates to create a trusting relationship. For example, when people withdraw money from a cash machine without human interaction or assistance, they have no one to trust except the machine to complete the transaction. On the contrary, technology has been created to support human activities. The cash machine is developed, operated and managed by people. So, on the contrary, it can be argued that we still need faith in people in connection with technology

and that our trust in technology should coexist with trust in people in building such a relationship. Referring to the example mentioned by X. Li et al. (2012, 18–38), the use of cash machines by individuals may be driven not only by the machine's ability to complete transactions but also by their faith in the organization (the bank) and its employees that transactions are processed properly.

J. Xu et al. (Xu et al. 2014, 1495–1503) indicate that, in socio-technical systems, there are three types of trust that are crucial for optimal system results:

- Interpersonal trust—trust between two or more people;
- Institutional trust—a person's trust in an organization;
- Technological trust—a person's trust in a technology or device.

As noted by J. Xu et al. (2014, 1495–1503), technology trust is the attitude that a technology or device will help achieve an individual's goals in a situation characterized by uncertainty and vulnerability. Research on trust in technology continues to expand within the field as it plays an important role in human inter-action with technology (Xu 2014, 1495–1503). The problematic nature of trust in technology becomes apparent with the spread of information and communication technologies, as well as the subsequent information revolution, in which information artefacts are no longer used mainly to perform physical tasks but are also being used by intellectual workers (Floridi 2008, 651–655). M. Taddeo (2010, 243–257) points out that research on trust and e-trust management is aimed at identifying the necessary parameters for the creation of trust and defining an objective method for assessing the level of trust and e-trust existing between two or more agents. As M. Szynkiewicz (2014, 259–272) points out, personal trust is usually associated with the trait of honesty, that is, a trait based on the moral beliefs of an individual. And trust in any system, for example, a specific technology, is more instrumental in nature. Trust in the entire system or in a single technology is based on the belief that a given technical solution, device or program, procedure or other type of abstract system will work in accordance with the individual's expectations. The most common form of trust in a system or technology is the demand for reliability and, in the case of computer programs, also the expectation of their stability. M. Bugdol (2010, 32) emphasizes that technological trust is trust in the manufacturers of devices and systems and in the people who integrated those devices with the existing system, as well as in those who manage them. One type of technological trust is trust on the Internet. M. Bugdol (2010, 32) notes that the term "technological trust" covers extensive issues relating to trust in transactions made, communication (negotiations), cooperation between various entities, integration and so on. Scientists use the concept of technological credibility, which is identified with institutional trust, technological trust, e-trust (including trust on the Internet) and technical trust. Trust in human–technology relations is basically enforced by technology. By popularizing certain techniques, individuals become dependent on them and

ultimately condemn themselves to the coercion to which they submit. The development and dissemination of information technologies means that the process of building trust is carried out to a significant extent through technically mediated communication (IoT and new media) (Kiepas 2020, 155–157).

J. Ejdys (2017, 20–27) points out that the issue of trust in technology becomes particularly important in two situations:

- Emergence of new technologies (Emerging Technology);
- When technologies used so far do not work as expected and/or when they become a source of threat to humans and society.

J. Ejdys (2017, 20–27) distinguishes two characteristic features of trust in technology:

- Related to the features of the technology and its functionalities perceived by potential users;
- Related to the declared willingness to rely on technology (to be dependent), which results from the desirable features of technology.

J. Ejdys (2017, 20–27) defines trust in technology as the tendency to rely on technology, resulting from the perceived properties of technology and environmental factors, in conditions of potential risk associated with the use of technology, determining intentions regarding the future use of technology. The expected functionality, reliability and support system of the technology results in a tendency to rely on it. As J. Ejdys (2017, 20–27) notes, the category of trust is increasingly often referred to as the socio-technological system in which relationships between people are usually replaced by relationships between humans and technology, and the technologies on which humans become dependent. Focusing trust on technical objects has caused researchers to become interested in the term "Technology Trust" and in attempts to operationalize it. J. Ejdys (2017, 20–27) points out that the tendency to rely on technology results mainly from its functionality, reliability and support system. The main factors that determine the scale and strength of relationships based on trust in the human–technology relationship include risk and the degree of human dependence on technology. Without trust in technology and without trust in other people, it is difficult to imagine that new technologies entering the market will gain social acceptance and, after being introduced to the market, become common. It is therefore necessary to understand the role of trust in models of technology acceptance and use (Ejdys 2018, 111).

J.D. Lee and K.A. See (2004, 50–80) point out that individuals with a high level of trust are not naiver than those with low trust, while the tendency to trust is not correlated with measures of intellect. Individuals with a high degree of trust are perceived by others as being more trustworthy and exhibiting more

genuine behaviours. In fact, individuals with a high propensity to trust are better at predicting the trustworthiness of others than individuals with a low propensity to trust. Similarly, low-trust and high-trust individuals respond differently to opinions about co-workers' intentions as well as to situational risk.

J. Ejdys (2018, 98) indicates two categories of objects that provide trust in the relationship between humans and material objects and technologies:

- Technology creator—believing that the technology they have designed will fulfil specific functions or social roles;
- Technology user—having faith and belief that the technology will meet their expectations.

J. Ejdys (2018, 98) also points out that, from a sociological perspective, we can only talk about people's "apparent trust" in technology.

P. Ratnasingam et al. (2002, 384–398) define technology trust as the subjective likelihood that organizations believe that the underlying technology infrastructure can facilitate transactions in line with their expectations. S.K. Lippert and P.M. Swiercz (2005, 340–353) define trust in technology as an individual's readiness to rely on technology based on specific expectations regarding predictability, reliability and usefulness, moderated by the individual's predisposition to trust technology. It is the degree to which an individual is willing to trust IT (Lippert 2007, 468–483).

It is assumed, as K. Blomqvist (2002, 6) points out, that both competence and a level of good will are needed to develop trust. Appropriate competence (i.e. technological knowledge, skills and know-how) is an essential antecedent and basis for trust in professional relationships, especially in creating an asymmetric technology partnership in which complementary technological knowledge and resources are key drivers of cooperation. Signs of good will (i.e. moral responsibility and positive intentions towards the other person) are also necessary for the relying party to accept risk and a potentially vulnerable position. Positive intentions appear as signs of a partner's cooperation and proactive behaviour.

As N. Lankton et al. (2014, 128–145) write, most previous research on trust in information systems has focused on trust in people or human organizations, such as an e-commerce retailer, virtual team member or business partner. However, despite the differences between human–technology exchanges and interpersonal exchanges, more and more researchers admit that many people also trust the technological artefact itself—and this is how the authors understand trust in technology. D.H. McKnight (2005, 329–331) points out that trust in IT is an important concept because people use it now and more than ever before. Trust in IT has to do with reliance or dependence on infrastructure systems such as the internet or reliance on specific IT systems. N. Lankton and D.H. McKnight (2006, 128–145) point out the differences between trust in technology and trust in people. First, humans can reciprocate trust, but machines or technology

cannot. Second, the attributes of trusted technology do not encompass the full range of attributes of trusted people.

For the purposes of this work, the following definition of trust in technology was developed:

> Trust in technology is a relationship between an individual and technology that refers to the degree to which an individual is willing to rely on technology. Trust in technology is an individual's positive expectation towards technology regarding its properties: predictability, reliability, usefulness, as well as the belief that technological solutions will work in accordance with the individual's expectations.

2.4 Trust and social capital

The term "social capital" was first used by L.J. Hanifan (1916, 130–138) in 1916, relating it to rural centres. In his work, he drew attention to the fact that neighbourly cooperation in rural areas by reducing costs facilitates the production of goods and generating income, a similar relationship, but in different contexts, was observed in urban centres. The term "social capital" became popular in the 1980s, because of the sociologist J. Coleman and the political scientist R. Putnam, and later P. Bourdieu and F. Fukuyama (Sierocińska 2011, 69–86). J. Coleman introduced the topic of trust as an important element that increases the value of social capital resources understood as a network of social connections. When casual contacts turn into more regular ones, while mutual obligations are respected, personal trust is born between the parties to the interaction. In a stable social system, trust is confirmed in subsequent interactions and thus extends to all contacts, including potential contacts. This type of trust is called Generalized Trust or Social Trust (Działek 2011, 100–118). P. Bourdieu (1986, 241–258) defines social capital as

> a set of actual and potential resources associated with having a lasting network of more or less institutionalized relationships based on mutual knowledge and recognition—or in other words, membership in a group—which provides each of its members with support in the form of the capital held by the collective, the credibility that gives them access to credit in the broadest sense of the word.

According to F. Fukuyama (2000), social capital is a specific informal norm that promotes cooperation between two or more individuals. The norms that constitute social capital can range from the norm of reciprocity between two friends to complex and intricately formulated doctrines such as Christianity or Confucianism. These norms must be embodied in an actual interpersonal relationship: potentially the norm of reciprocity exists in my contacts with all people, but it is only actualized

in contacts with friends. According to this definition, trust, networks, civil society and so on, which have been associated with social capital, arise because of social capital but do not constitute social capital itself. Not just any set of embodied norms constitutes social capital; a necessary condition is that they must lead to cooperation in groups, and therefore are associated with traditional virtues such as honesty, keeping commitments, reliable performance of duties or reciprocity and so on. As J. Żukowska (2011, 203–209) points out, according to the theory of social capital, it is emphasized that resources (social capital) are rooted in networks of human relationships. The first concepts of social capital focused on individual economic and human resources, as well as on the possibility of using them more effectively because of networks of social connections. Attention was drawn to the fact that even the best-educated individuals who have financial resources can achieve less if they remain isolated and do not establish contacts with individuals with whom they could share knowledge or conduct financial transactions. It was hypothesized that networks of connections and social norms regulating interpersonal contacts may determine other spheres of life (Działek 2011, 100–118). P. Sztompka (2007, 263) defines social capital as resources and benefits resulting from a specific location in social networks. As P. Sztompka (2007, 243) points out, social networks constitute not only a resource of individuals but are also an attribute of entire communities or societies. The proportion of circles of trust and distrust, trustworthiness and untrustworthiness typical of a given society, in short, "positive" social networks and "negative" social networks that bind people together or push them away from each other—is one of the criteria that distinguish "high trust societies" from "low trust societies". In high-trust societies, a "culture of trust", that is, the normative ideal of trust, is created and strengthened. Individuals are under social pressure to trust others and to be credible to them. As the author points out, the circles of trust and credibility are expanding, and the circles of distrust and unreliability are reducing. The opposite occurs in low-trust societies, where a culture of cynicism dominates, and therefore the acceptance or even rationalization of distrust and suspicion. In this case, individuals are under social pressure not to trust anyone and to feel free from trustworthiness obligations because others are waiting to deceive them, plotting conspiracies and setting traps. P. Sztompka (2007, 263) defines the culture of trust as "normative rules widespread in the community, requiring trust and credibility, enforced by social sanctions". According to P. Sztompka (2007, 268), within the culture of trust, there are two main principles:

- Other individuals should be trusted, assuming they are reliable until the contrary is proven.
- You should take seriously the trust shown to us by other individuals and meet their expectations until it turns out that the trust is fake.

Basically, the concept of social capital refers to the quality of interpersonal relationships, how cultural, structural and institutional factors of groups or

communities interact with each other, as well as the political and economic conditions in which those groups function (Kostro 2005, 1–28). In some studies, trust is often deliberately separated from the concept of social capital, for example, to determine the role of trust in the formation of interpersonal relationships. The main elements of social capital include trust, sense of community and belonging, unlimited communication, democratic decision-making, sense of shared responsibility and social norms (Bugdol 2010, 38). With regard to the theory of social capital, J. Żukowska (2011, 203–209) emphasizes that trust is the belief that the intended action of other people will be appropriate from our point of view. Trust indicates the desire of individuals to be susceptible to other individuals, due to the existing belief in their good intentions and caring, competence, ability or reliability. The main benefit resulting from the existence of high social capital is the reduction of transaction costs, including costs related to concluding contracts (Sierocińska 2011, 69–86). J. Czapiński (2008, 5–28) defines social capital as social networks regulated by moral norms or custom, binding an individual to society in a way that enables him to cooperate with others for the common good. As J. Czapiński (2008, 5–28) points out, not every system of norms creates social capital, and not every social capital is beneficial to the entire community.

Three dimensions of social capital have been distinguished:

- Structural—properties of the social system and networks and ties as a whole;
- Relational—refers to personal relationships developed as a result of a specific history of contacts, that is, trust, credibility, norms and sanctions, obligations and expectations and identity and identification;
- Cognitive—aspects characterizing the shared reality, interpretations or systems of meaning between entities (Skrzypek 2015, 154–167).

2.5   Measuring organizational trust

W.M. Grudzewski et al. (2009, 82) distinguish the following methods and tools used in trust research:

- Psychological games—role-playing standard situations occurring between employees in the organization that reflect conflicts of interest. The use of interpersonal games in trust research dates back to the 1950s. The most widely known game is the "prisoner's dilemma", where confrontational strategies are the most profitable. However, achieving the optimal result, that is, maximizing economic profits, is possible using a cooperation strategy. In this game developed by M. Deutsch (1960, 123–139), it is assumed that interpersonal trust is the basis for variants of cooperation between participants.
- Questionnaire methods—used to measure an individual's expectations in social situations containing clear messages. Respondents refer to specific situations, opinions and so on.

- Behavioural measures of trust—these are distinguished, observable behaviours of the examined individuals, based on which the researcher concludes about the level of trust revealed during the experimental situation (staged or spontaneous). There are two main behavioural scales that are used to assess employee behaviour: Behaviourally Anchored Rating Scale—BARS and Behavioural Observation Scale—BOS.
- Measuring inter-organizational trust—it basically involves assessing the credibility of the interaction partner, an example of which is the use of the "mind shift" instrument. Using this method, it is possible to assess organizational trust in cooperation.

D. Lewicka et al. (2016, 41–56) emphasize the difficulties that researchers dealing with the phenomenon of trust must face:

- Defining trust—difficulties due to the multitude of contexts and levels at which it is examined;
- Nature of trust—trust is a cognitive and subjective construct, which makes both quantitative and qualitative comparisons of results difficult;
- Correlations occurring between different types of trust, making it difficult to precisely define the research area and operationalize the variables.

Measures of trust in co-workers according to B. Józefowicz (2012, 96–104) are as follows:

- Employees are willing to share knowledge.
- Employees boldly express their own, even critical, opinions.
- Employees talk to each other honestly.
- Employees say what they really think, even when they disagree with other employees.
- Employees believe that other co-workers are well-qualified.
- Employees do not have to worry about whether their co-workers will keep their promises.
- Employees do not fear that their co-workers will use the information provided against them.
- Employees willingly undertake tasks that require cooperation.
- Employees act honestly even when competing with each other.

According to B. Józefowicz (2012, 96–104), employees have a clear trust in their direct superiors when:

- Employees are willing to freely admit their ignorance or mistakes;
- Employees believe that their superior takes care of their interests when making decisions;

- Employees feel comfortable performing tasks requiring creativity;
- Employees convey bad information to their superiors without personal fear;
- Employees entrust complete control over their career to their superiors;
- Employees do not want to disappoint their superiors.

Trust between superiors and subordinates occurs when:

- The manager freely agrees to the independence of their subordinates;
- The manager allows for the possibility of making mistakes in tasks that require creativity;
- The manager expresses their opinions and assessments honestly;
- The manager controls the work effects of subordinate employees in a previously agreed manner;
- The manager is willing to delegate responsibilities and authorities without fear.

(Józefowicz 2012, 96–104)

B. Józefowicz (2012, 96–104) assumes that the organization's (management's) trust in employees is manifested in:

- Using employee participation methods;
- Informing employees about the condition of the organization;
- Fully informing all employees regarding the adopted strategy and planned changes;
- Using methods of expressing appreciation to employees;
- Encouraging employees to present proposals for innovations and improvements, as well as using them in practice;
- Using methods of personal development of employees;
- Enabling employees to gain promotions and internal recruitment.

Employees' trust in the organization (management) occurs when (Józefowicz 2012, 96–104):

- Employees speak with pride about the organization in which they are employed;
- Employees identify with the organization (they feel part of the organization);
- Employees believe that the organization in which they work is able to achieve its goals and fulfil its obligations well;
- Employees willingly participate in additional activities related to the organization;
- Employees do not leave the organization when crisis situations occur (assuming the possibility of changing jobs);
- The level of employees' commitment to their duties does not decrease in difficult moments for the organization.

The trust measurement scale developed by A.K. Mishra and K.E. Mishra (1994, 261–279) includes 16 statements that are a continuation of the following theorem: *I trust that my superiors* . . .

 1) are completely honest with me;
 2) put the organization's interests ahead of their own;
 3) keep the promises they make;
 4) are competent in their work;
 5) always express true feelings on important issues;
 6) care about my well-being;
 7) contribute significantly to the success of the organization;
 8) I can rely on my superiors;
 9) take actions that are a consequence of previous declarations;
10) share important information with me;
11) care about the future of the organization;
12) help solve important problems in the organization;
13) have specific expectations of me;
14) are able to sacrifice themselves personally for the organization;
15) are willing to admit their mistakes;
16) will help the organization survive (e.g. in a crisis situation).

K.D. Paine (2003) presents the main elements of measuring and assessing trust:

- Define the recipients between whom the trust relationship exists—trust is an element of the relationship; it is necessary to specifically identify the parties to the trust relationship (groups or individuals). Once you have identified your audience, you can start creating a system to measure the relationship between your audience.
- Set specific, measurable goals and tasks—it is impossible to effectively measure anything without first determining what exactly will be measured.
- Determine what you want to compare the results with—measurement is essentially a comparative tool, and therefore a comparative element is necessary with which the results of the research can be compared. It is necessary to provide a point of reference and context for research results.
- Select a measurement instrument and/or tool—there is no single, simple, comprehensive research tool, technique or methodology that can be relied upon to measure and assess trust. Most often, a combination of different measurement techniques is needed. Some of the tools and techniques for measuring trust include surveys, focus groups, before and after surveys, ethnographic studies, experimental or quasi-experimental designs, multivariate analysis designs and model building.
- Analyse results, recommend and re-measure.

- Determine trust values for public relations and the organization—good relationships between employees also increase the likelihood that they will be satisfied with the organization and the work they do, which makes them more willing to support and interfere less with the organization's mission.

According to G. Dietz and D.N. Den Hartog (2006, 557–588), the measurement of trust in an organization stems from the adopted definition of trust and may also include various concepts. The authors point out that there are many factors that should be taken into account in the case of multidimensional measurement of trust, and they indicate five research questions as the most important issues requiring clarification:

- Which form of trust is measured—belief, decision or behaviour based on trust?
- What are the components of trust: honesty, predictability, kindness and competence?
- What are the sources of the belief in trust (characteristics of the parties: trustor, trustee, their relationship and broader situational context)?
- Who we trust?
- Additional methodological observations.

D.J. McAllister (1995, 24–59) developed and presented the following measures of interpersonal trust:

- Affect-based trust:

  - We have a sharing relationship. We are both free to share our ideas, feelings and hopes.
  - I can freely talk to this person about the difficulties I am having at work, and I know that he/she will not argue.
  - We would both feel a loss if one of us was transferred and we could no longer work together.
  - If I shared my problems with this person, I know they would respond constructively and caringly.
  - I must say that we both made significant emotional investments in our collaboration.

- Cognition-based trust:

  - This person approaches their work with professionalism and dedication.
  - Considering this person's achievements, I see no reason to doubt their competences or preparation for work.
  - I can count on this person not to hinder my work through careless actions.
  - Most people, even those who are not close friends with this person, trust and respect them as a colleague.

- My other co-workers who need to interact with this person find them trustworthy.
- If people knew more about this person and their background, would they be more concerned and monitor their performance more closely?

L.L. Cummings and P. Bromiley (1996, 302–330) developed the Organizational Trust Inventory scale that the organization "possesses". The authors presented a 62-item extended version of the scale—Organizational Trust Inventory—Long Form:

1) We believe that people in _____ negotiate with us fairly.
2) We believe that _____ is a fair representation of their capabilities.
3) We intend to monitor changes in the situation because _____ will benefit from such changes.
4) We believe that _____ is taking advantage of our _____.
5) We feel like _____ is taking advantage of us.
6) We are going to check whether _____ is meeting their obligations to our _____.
7) We believe that _____ misrepresents their demands during negotiations.
8) We believe that people in _____ manipulate others to gain personal advantage.
9) We believe that _____ keeps their commitments.
10) We plan to monitor _____'s compliance with our contract.
11) We believe that _____ is misrepresenting their negotiating capabilities.
12) We are going to monitor _____ closely so that they do not take advantage of us.
13) We believe that _____ takes advantage of ambiguous situations.
14) We believe that _____ behaves in accordance with their obligations.
15) We believe we can rely on _____ to negotiate fairly with us.
16) We think _____ is trying to take advantage of us.
17) We intend to negotiate carefully with _____.
18) We believe we can rely on _____ to implement our joint projects.
19) We believe that people in _____ use confidential information for their own benefit.
20) We believe that _____ is taking advantage of the changed situation.
21) We believe that _____ is reliable.
22) We believe that we cannot rely on _____ to fulfil their obligations to us.
23) We do not plan to check _____.
24) We are going to check the progress of _____ on our project.
25) We believe that _____ negotiates contracts fairly.
26) We are going to question _____'s statements about their capabilities.
27) We intend to be on the lookout for misleading information from _____ in our negotiations.

28) We are going to misrepresent our options in negotiations with _____.
29) We feel they are okay with us.
30) We believe that people in _____ tell the truth in negotiations.
31) We believe that _____ is meeting their negotiated obligations to our _____.
32) We believe that _____ is reliable.
33) We believe that people in _____ keep their promises.
34) We are concerned about the success of joint projects with _____.
35) We think that people in _____ succeed by trampling on other people.
36) We believe that _____ maintains the spirit of agreement.
37) We believe that _____ negotiates important project details fairly.
38) We feel that _____ is trying to gain the upper hand.
39) We believe that _____ is taking advantage of our problems.
40) We feel that _____ negotiates honesty with us.
41) We believe that people in _____ interpret ambiguous information to their advantage.
42) We feel that _____ will keep their word.
43) We are confident that _____ will not take advantage of us.
44) We feel uncomfortable with _____'s desire to stick to a schedule.
45) We believe that _____ openly describes their strengths and weaknesses in negotiating joint projects.
46) We believe that _____ negotiates realistically.
47) We believe that _____ does not mislead us.
48) We intend to be open in our negotiations with _____.
49) We believe that _____ exploits our weaknesses.
50) We are going to test the reasoning given by _____ during the negotiation.
51) We intend to monitor _____'s behaviour for timeliness.
52) We feel that _____ is trying to get out of their obligations.
53) We believe that the commitments we make to our _____ will be honoured by the people in _____.
54) We feel that _____ fairly negotiates shared expectations.
55) We think that _____ is failing us.
56) We are concerned about _____'s commitment to achieving the agreed goals.
57) We intend to cooperate openly with _____ because they will not take advantage of us.
58) We intend to share information carefully with _____ to avoid it being used for our own advantage.
59) We plan to openly share information with _____ because they are not taking advantage of us.
60) We plan to document all aspects of our negotiations with _____.
61) We are going to check the activities of _____ to avoid exploitation.
62) We believe that _____ takes advantage of vulnerable people.

A shortened version of the scale is more commonly used, a 12-item Likert scale used to assess three dimensions of trust: reliability, honesty and faith in the other party that the other party will fulfil their obligations. The Organizational Trust Inventory-Short Form is presented in the following:

1) We believe that people in _____ tell the truth during negotiations.
2) We believe that _____ is meeting their negotiated obligations to our department.
3) In our opinion, _____ is credible.
4) We believe that people in _____ succeed by "leading" others [the opposite meaning].
5) We think that _____ is trying to gain an advantage [the opposite meaning].
6) We believe that _____ benefits from our problems [the opposite meaning].
7) We believe that _____ negotiates fairly.
8) We think _____ will keep their word.
9) We believe that _____ does not mislead us.
10) We believe that _____ is trying to back out of their commitments [the opposite meaning].
11) We believe that _____ negotiate common terms fairly.
12) We think that _____ take advantage of vulnerable people [the opposite meaning] (Grudzewski et al. 2009, 83).

To measure the level of trust, D.L. Reina (2007, 36–41) proposed using ten questions regarding employees' behaviours and attitudes:

1) Do people in your organization honour commitments or renegotiate them when they cannot keep them?
2) Do people in your organization have clear and distinct expectations for measurable results and goals?
3) Do people in your organization act without any hidden agenda, driven by the desire to help?
4) Do people in your organization share work-related information necessary to get it done?
5) Do people in your organization say what they really think, even if they disagree with others?
6) Do people in your organization openly admit and take responsibility for the mistakes they make?
7) Do people in your organization avoid gossiping and participating in unfair criticism of other people?
8) Are people in your organization confident in their abilities and able to keep up with changing job demands?
9) Do people in your organization recognize the abilities and skills of others?
10) Do people in your organization help each other learn? (Rudzewicz 2017b, 291–304)

N. Lavrac et al. (2005, 167–174) based their concept of measuring organizational trust on two levels: cooperation and reputation. Reputation was modelled through the following partner characteristics: activity, punctuality, reliability, partnership, love of risk and economic situation. Each property takes values from 1 to 6 (1—very bad, 6—very good), and the overall reputation is calculated as the average of the values of the basic input attributes. Cooperation between partners is assessed using values from 0 to 3 (0—no cooperation, 3—strong cooperation). The proposed questionnaire fields are presented in the following:

- Partner's own competences (list of competences);
- Competences of the cooperating partner (list of competences);
- Estimating the trust of the cooperating partner based on, among others, the estimated reputation of the cooperating partner (image, market share) and the number of successful joint past cooperation, estimating the profit in joint cooperation, estimating the partner's timeliness in performing assigned tasks and estimating the partner's efficiency.

Table 2.4 presents the characteristics of the process of measuring organizational trust using the R. Zeffane method. R. Zeffane (2009, 163–176) distinguished eight research areas and then proposed 30 research questions to measure trust among employees.

Table 2.5 presents the trust measurement method developed by A. Rudzewicz (2017b, 291–304). The author proposed six main research areas for measuring the level of trust. The main dimensions of trust were then defined using a set of more detailed research statements.

According to J. Ejdys (2017, 20–27), scales for measuring trust in technology usually reflect the following features and functions of technology:

- *Trust in technology*—in important, critical or problematic situations;
- *Technology predictability*:

  - Technology functioning in line with users' expectations;
  - Operation of technology in the interest of users;
  - Sense of security guaranteed by technology;
  - Providing assistance in the event of user problems.

J. Ejdys (2018, 146–147) proposes the following methodology for building a measurement model of trust in technology:

- Stage 1: Determining the type of analysed technology (product/process, obligatory/voluntary, utilitarian/hedonic, system-like technology/human-like technology, existing on the market/emerging and commonly used/specialized);
- Stage 2: Defining the trust category of interest (initial trust/utility trust, cognitive trust/emotional trust and direct trust/recommendation-based trust);

Table 2.4 Characteristics of the process of measuring organizational trust using the R. Zeffane method

Research areas	Research questions
Pride and commitment	• I am proud to tell others that I am part of this organization • I care very much about the fate of this organization • This organization truly inspires me to do my job to the best of my ability • I am very happy that I chose this organization as my place of work
Overall job satisfaction	• I am very satisfied with this work • I believe that my results in this job are sufficient • I feel that my job is stable • I am satisfied with the management that organizes my work
Satisfaction with the remuneration and reward system	• I am satisfied with my salary; • I am satisfied with the pay policy • I believe that the organization has a policy of equal chances and opportunities
Satisfaction with training policies and procedures	• I feel that I have been well-trained to perform this job in accordance with accepted standards • Training procedures and programs for new employees are appropriate • Skills-enhancing training procedures and programs are sufficient • The assessment of employees' skills is correct • The organization is engaged in training
Satisfaction with organizational structure and clarity of goals	• I am satisfied with the division of tasks in the organization • Tasks in this organization are clearly defined • I know the goals and development directions of this organization
Communication	• Direct superiors communicate with employees in an appropriate manner • Managers communicate with each other appropriately • Senior management communicates with employees appropriately
Collaboration and teamwork	• Managers consult employees when making decisions • My manager consults me when making decisions • This organization encourages employees to participate in decision-making • The organization encourages employees to work as a team
Climate of trust	• I believe that most people in this organization have good intentions • I believe in the promises and declarations of my co-workers • I believe in the promises and declarations of my superiors • I believe in the promises and declarations of senior management

Source: Own elaboration based on.: R. Zeffane, *Pride and Commitment in Organizations. Exploring the Impact of Satisfaction and Trust Climate*, "Organizacijų Vadyba: Sisteminiai Tyrimai" 2009, no. 51, pp. 163–176.

Table 2.5 Characteristics of the process of measuring organizational trust using the method of A. Rudzewicz

Research areas	Research questions
The image of the organization	• I am proud to be part of this organization • I feel that my position is stable
Knowledge of the organization's mission, vision and goals	• I know the goals and development directions of the organization • I know the mission of my organization
Competence and attitude of management	• Management communicates with employees • Information and messages from superiors are precise • The organization uses the knowledge and experience of employees • I feel supported by my superiors
Competences and attitude of employees	• I am a competent employee • I am a committed employee • People in the organization willingly share their knowledge with co-workers • People in the organization openly admit mistakes if they have made them
Working atmosphere	• There is a nice atmosphere at work • There is no lobbying in the organization • I always say what I think openly • Employee assessment is fair • The assessment criteria are precise and clearly defined
Pay policy and opportunities for development and promotion	• I am satisfied with the pay policy • The organization has a policy of equal chances and opportunities • The organization is involved in employee training and development

Source: A. Rudzewicz, *Zaufanie w przedsiębiorstwie—znaczenie i pomiar*, "Zarządzanie i Finanse" 2017, chapter 15, no. 2/1/2017, pp. 291–304.

• Stage 3: Determination of control variables for the trust measurement model (demographic characteristics (age, gender), social characteristics (education), frequency of use, user experience and general trust);
• Stage 4: Determination of input variables (ease of use, sense of security, social image, information quality, subjective norms, level of risk, support conditions, possibility of interaction, expected performance, etc.);
• Stage 5: Determination of trust features (functionality, reliability and support/ help system);
• Stage 6: Determination of output variables (future intentions, openness to new solutions, tendency to reject technology, future use of the system and ability to recommend);
• Stage 7: Construction and assessment of the measurement model.

S.K. Lippert and P.M. Swiercz (2005, 340–353) proposed a list of factors determining the use of technology by users (User Determinants):

- Socialization—employees can often help new members of the organization understand how and what standards are applied. Existing values and attitudes are transferred to new employees, including those relating to the technologies used. New employees who are clearly socialized with the role and importance of technology will experience higher levels of trust in technology.
- Sensitivity to privacy—privacy concerns around confidentiality, disclosure policies and copyright issues increase concerns about the technology used in the organization. Organizations are characterized by asymmetry of knowledge and power; hence, institutional mechanisms are usually created to ensure due process in relations between the organization and the employee. These institutional controls are crucial because they help employees develop a sense of trustworthiness in the organization by mitigating fraud, abuse and neglect of employees who depend on employment for their economic security. Organizational information systems introduce major changes to the work environment by removing employee anonymity with just a few keystrokes. Even in a moderately sophisticated organizational setting, a complete employee profile, including job description, education, earnings, performance reviews and attendance records, is available to anyone with or without the appropriate permissions and access. The risk of indiscretion or violation of ethical principles is greatest when sensitive information is contained in the systems used to manage human resources in the organization (Human Resource Information Systems—HRIS). In organizational settings, privacy issues are based on the expectation that employee data will not be shared with unauthorized parties. The employee is assumed to accept limited vulnerability and minimal risk when personal information is stored in an HRIS. However, as employees become more aware of the potential privacy trade-offs associated with technology use, the organizational climate may change to become less trustworthy. The authors concluded that a higher level of personal sensitivity to privacy leads to lower levels of trust in HRIS technology.
- Predisposition to trust—in order for trust to exist, past experiences are needed to familiarize oneself with the situation. People have been observing the world since childhood, and with each new experience, their level of confidence is added to what constitutes acceptable and unacceptable behaviour. Over time, people develop their dispositions to trust to a certain level and apply them to a specific set of conditions or contexts. By the time an individual reaches adulthood, they have acquired a set of beliefs that, when applied in an environment, whether in the workplace or otherwise, lead to an increased likelihood of predicting an outcome. This result determines the level of trust in a person or object; hence, the authors claim that people who show a greater general predisposition to trust will express a higher level of trust in technology.

S.K. Lippert and P.M. Swiercz (2005, 340–353) indicate that trust in technology can be assessed not only by measuring the technology for its predictability, reliability and usefulness but also by considering an individual's propensity to trust the technology. The authors suggest the following division:

- Technology predictability is an individual's expectation of technology consistency and performance based on past experiences and future expectations. To assess the predictability of a technology, an individual creates a summary of all past experiences with the technology and uses these assessments to predict how the technology will perform in the future. In the context of trust in technology, predictability is based on an individual's ability to predict that the technology will perform as expected.
- Technology reliability is the confidence that technology will not fail in situations where there is some degree of dependency and risk. These are situations in which individuals remain dependent on technology to complete a task. This vulnerability creates dependence on technology; in other words, technology reliability is most important when successful operation depends on the technology or the performance of information systems, and not solely on personal performance.
- Technology utility is an individual's belief, perception and assessment of the usefulness of technology. In this context, faith is the belief that technology will consistently be useful. Perceptions are an individual's initial cognitive and affective assessments derived from past experiences or information obtained from others about their experiences with technology. Ratings are the final judgements made by an individual about usefulness.

Research conducted by J. McLaughin and D. Skinner (2000, 413–423) revealed the following six characteristic usability elements related to trust in technology: verifiability, trust, control, ease of use, speed and understanding. Table 2.6 presents the characteristics of the aforementioned elements.

As indicated by S.K. Lippert and P.M. Swiercz (2005, 340–353), by understanding trust in technology, organizations can gain an increased ability to improve user satisfaction and leverage their technology investments. Establishing a technology trust metric will enable organizations to include an additional quantifiable assessment to measure performance. The success of technology implementation in an organization is an important element of its effectiveness, and a better understanding of its determinants will improve the overall performance of the organization. As A. Sankowska and M. Gasik (2006, 18–20) note, the fact of reciprocity should often be taken into account when examining organizational trust. It is important to take into account actions taken by not only the organization but also its partners that signal trust. The authors point out that the measurement of mutual trust can be used, for example to examine the substitutability or complementarity of control and trust in mutual relations.

Table 2.6 Elements of technology usability according to J. McLaughin and D. Skinner

Element	Description	Relation to trust in technology
Verifiability	The system has check protocols that ensure the accuracy and verification of input and output data	This component is related to the testability of the technology's reliability
Trust	Users have confidence in both their ability to use the system and in the system itself	This component is related to the predictability of technology
Control	Users have control over the operation of the system, in particular over providing and downloading information	This component is related to the predictability of technology
Ease of use	Users perceive the system as easy to use	This component addresses the usability of the technology
Speed	The system can be used quickly and effectively	This component is related to the reliability of the technology
Understanding	The system and its performance are clear and understandable to the user	This component is related to the reliability of the technology

Source: Own elaboration based on: J. McLaughin, D. Skinner, *Developing usability and utility: a comparative study of the user of new IT*, "Technology Analysis & Strategic Management" 2000, no. 12 (3), pp. 413–423.

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3 Determinants of trust and their structure

3.1 The structure and characteristics of factors positively influencing the level of trust in an organization

Each modern organization builds its present and future on its employees. People employed in an organization constitute its most valuable capital: the capital of qualifications, knowledge, skills, experience, personality and values (Moczydłowska 2013, 183–192). Building trust is a very complex and extremely important process (Szałach 2013, 177–183). Trust itself does not automatically make the organization more efficient, but it creates an appropriate atmosphere conducive to work (Hejduk et al. 2009, 59–60). As noted by M.F. Boersma et al. (2003, 1031–1042), the emergence of trust is a process, and this process has inputs and outputs.

P. Sztompka (2007, 78–80) distinguishes the following factors that favour the trust relationship:

- The size of the consequences—depends on how a given individual recognizes the changes in their life that result from trusting someone;
- Expected length of the relationship—the longer the relationship lasts, the greater the trust is;
- The possibility of withdrawing from a given step—the irrevocability of the decision may reduce the level of trust;
- Degree of risk—assessment of the number of losses that the entity is able to incur;
- The possibility of insuring yourself against fraud—trust is directly proportional to the chance of protection against possible failure.

A.K. Mishra (1996, 261–287) identifies three dimensions that strengthen trust and stimulate interest in maintaining a business relationship with a partner:

- competences—on the basis of which the party identifies the capabilities of a business partner; consistency and competence of behaviour build the

credibility of the partner, and the greater the credibility, the higher the confidence and willingness to trust the partner as well as the value of the business relationship itself;

- openness—the ability to act in a business relationship based on honesty. Openness makes the party willing to listen to new ideas and share information rather than focusing on controlling and retaining information, which enhances trust;
- caring—it indicates the belief that the business partner will not take advantage of the trusting party, and will be ready to act in a way that brings profit to the other party;
- reliability—consistency between declarations and actions. Inconsistencies between words and actions reduce trust.

As J. Ejdys (2018, 58) writes, the tendency to take risks in relationships based on trust will depend on the following:

- The level of risk, that is, the probability that the person we trust will act in the way we expect from them and will not betray the trust placed in them;
- The value of what we can achieve by trusting someone;
- Possible losses we may suffer.

Based on a literature review, R.C. Mayer et al. (1995, 709–734) summarized the factors leading to the development of trust according to selected authors. The factors are presented in Table 3.1.

Based on a literature review, K. Blomqvist and P. Ståhle (2000) distinguished the foundations of trust in the context of asymmetric technological partnership, which is presented in Table 3.2.

P. Sztompka (2007, 276) indicates conditions conducive to building a culture of trust:

- Organizational norms and rules that support and reinforce desired behaviours;
- Durability of the social order, especially the stability and immutability of the organization, which allows us to refer to analogous situations from the past;
- Transparency, which means that clear information flow and transparent communication enable understanding of the ongoing processes;
- Familiarity meaning familiarity, which is the basis for trust;
- Responsibility resulting in a sense of security.

As indicated by P.S. Shockley-Zalabak and S.P. Morreale (2011, 39–45), building trust on openness and honesty is based on the need for sharing throughout the organization, including leaders, employees and significant stakeholders. Leaders need a comprehensive assessment of the current state of openness and honesty across the organization to understand the extent to which stakeholders trust/believe in the organization's openness and honesty (Paliszkiewicz 2011, 227–232).

Table 3.1 Factors determining the development of trust according to the literature review by R.C. Mayer, J.H. Davis and F.D. Schoorman

Author	Factors determining the development of trust
Boyle and Bonacich (1970)	• Previous interactions, caution index based on the "prisoner's dilemma"
Butler (1991)	• Availability, competence, consistency, discretion, honesty, loyalty, openness, fulfilment of promises, openness
Cook and Wall (1980)	• Trustworthy intentions, skills
Dasgupta (1988)	• Real threat of punishment, credibility of promises
Deutsch (1960)	• Production capacity and possibilities
Farris et al. (1973)	• Honesty, having your own feelings, experimenting with new behaviours or group norms
Frost et al. (1978)	• Dependence on a trustee, altruism
Gabarro (1978)	• Openness, previously available information
Giffin (1967)	• Professionalism, reliability as a source of information, intentions, dynamism, attractive personality, reputation
Good (1988)	• Skills, intentions and predictability of behaviour of managers
Hart et al. (1986)	• Openness, compliance, shared values, autonomy, feedback
Hovland et al. (1953)	• Specialized knowledge
Johnson-George and Swap (1982)	• Reliability
Jones et al. (1975)	• Skills, ability to adapt to the needs and desires of a given individual
Kee and Knox (1970)	• Competences, motives
Larzelere and Huston (1980)	• Kindness, honesty
Lieberman (1981)	• Competence, integrity
Mishra (In press)	• Competence, openness, care, reliability
Ring and Van de Ven (1992)	• Moral integrity, good will
Rosen and Jerdee (1977)	• Common sense, competence, focusing on
Sitkin and Roth (1993)	group goals
Solomon (1960)	• Skills, value compatibility
Strickland (1958)	• Kindness

Source: Own elaboration based on: R.C. Mayer, J.H. Davis, F.D. Schoorman, *An integrative model of organizational trust*, "The Academy of Management Review" 1995, vol. 20, no. 3, p. 718.

J. Zak (2017, 84–90) proposed eight managerial behaviours that help build trust. According to J. Zak, the following behaviours are measurable and can be managed to improve performance:

• Recognize excellence—neuroscience shows that recognition has the greatest impact on trust when it occurs immediately after a goal is achieved, when it comes from a peer group and when it is tangible, unexpected, personal and

Table 3.2 Foundations of trust in the context of asymmetric technology partnership by K. Blomqvist and P. Ståhle

Foundations of trust	Authors	Trust-building procedures, practices and processes
Competence: technological capabilities, skills and knowledge (including know-how)		
Competence	O'Brien (1995)	• Reputation, professionalism
	Mishra (1996)	• References for the implementation of complex projects
	Sydow (1998)	• Awards for developed outstanding technology
		• Technological pioneering
		• External control carried out by acquired partners
		• Symbols: e.g. education, membership
		• Ability to make realistic judgements
Good will: moral responsibility, good intentions towards others		
Self-reference, i.e. the ability to understand differences and appreciate complementarities	Luhmann (1995) Ståhle (1998) Dodgson (1992)	• Internal analysis of own competence • Assessment of needed complementarity • Clear and precise indication of needs
Receptiveness	Sydow (1998)	• Internal information on the status and purpose of cooperation
Internal interaction within the organizational culture		• Internal information flow • Positive attitude towards co-workers and the organization
Double contingency, i.e. the ability to connect with other actors in the system and accept mutual interdependence	Luhmann (1995) Sydow (1998) Ståhle (1998) Das and Teng (1998)	• Negotiation style (win–win) • election of appropriate people with experience whose task is to "cross the boundaries of the organization" (Boundary spanners)
Equity		• Project champions, interdependence at the project level • Capital protection as an element of fairness (entry/exit) • Contracts
Reciprocity	Creed and Miles (1996)	• Consistency in the expression and behaviour of managers and boundary spanners • Expressing values and norms regarding reciprocity

Reliability	Mishra (1996)	• Keeping promises as the norm
Security and stability	Erikson (1950)	• Consistency and stability of employees' activities "crossing organizational boundaries"
	Creed and Miles (1996)	
	Sydow (1998)	• Consistent values and norms for organizations and employees "crossing organizational boundaries"
		• Repeatable contacts, information about changes
		• Organizational social control and sanctions
Shared values	Jones and George (1998)	• Declaration of values and principles
		• Socialization, personal interactions, cultural diversity
Social Similarity	Zucker (1986)	• Staff training on potential differences
Personal emotions and feelings, creating organizations based on socially similar individuals (Personal Chemistry, Homophility of Organizations) Same social sub-system	Creed and Miles (1996)	• Informal meetings to increase mutual understanding and socialization
	Ladegård (1997)	
	Powell (1990)	• Similar social status
	Sydow (1998)	• Understanding of norms and symbols
		• Selection of employees who "cross organizational boundaries"
Socialization and creating shared meanings	Zucker (1986)	• Common goals and visions
	Nonaka (1996)	• Common rituals and symbols
	Tyler and Kramer (1996)	• Informal meetings, visits between companies
	Hardy et al. (1998)	• Training and education, workshops
		• Group identity: inaugurations, celebrations
		• Social support and recognition
Management philosophy	Barnes (1991)	• Consistency in partner management philosophy
Rule of signification	Barney and Hansen (1994)	• Reciprocity in concluding legal contracts
Organizational culture	O'Brien (1995)	• Behavioural integrity
	Creed and Miles (1996)	• Leadership style, e.g. delegation, rewards
	Whitener et al. (1998)	• Advice and support
	Sydow (1998)	• Emotional commitment: care and concern
	Giddens (1984)	• Values and norms

(*Continued*)

Table 3.2 (Continued)

Foundations of trust	Authors	Trust-building procedures, practices and processes
Goals and visions	Das and Teng (1998) Sydow (1998)	• Convergence of goals • Shared visions of the future • Joint goal-setting process • Clear communication of goals
Organizational structure	Creed and Miles (1996)	• Clear organizational roles • Delegation of roles of the decision maker • Easy identification (visibility) of decision-makers and key persons in decision-making

Behaviour: interactions based on cognition and experience

Foundations of trust	Authors	Trust-building procedures, practices and processes
Communication Multiplexity of communication	Luhmann (1979) O'Brien (1995) Mishra (1996) Das and Teng (1998) Sydow (1998)	• Active, open and fast communication • Clarity and frequency of communication • Taking care of internal communication • Organizational practices and processes that ensure regular communication • Advice and consultations • Support and advice (also in the sphere of emotions)
Information	O'Brien (1995) Swan (1995) Mishra (1996) Das and Teng (1998)	• Sharing confidential information • Sharing future plans related to the partner • Open and quick information (opinions) • Informing about both positive and negative aspects • Also, emotional information (feelings)
Concern	O'Brien (1995) Mishra (1996)	• Proactive advice and information • Taking into account common needs • Social assistance
Learning and understanding	Whitener et al. (1998) Jones and George (1998)	• Selection of employees who "cross organizational boundaries" • Constant interaction • Workshops between companies • Informal social events

Inter-firm adaptation	Das and Teng (1998)	• Transfer of key staff
		• Wide organizational interface
Commitment	Das and Teng (1998)	• Taking risk in one-sided investments
Shadow-of-the future	Barney and Hansen (1994)	• Incremental investments, security
	Axelrod (1984)	• Credible commitments
	Sydow (1998)	• Expectations for future investments
Personal experience	Creed and Miles (1996)	• Direct meetings
		• Company visits, product testing
Reputation	Barney and Hansen (1994)	• References
	Zucker (1986)	• Well-known owners, partners, management board members and so on
	Creed and Miles (1996)	• Introduction of a trusted third party
		• Reputation management: incentives and penalties

Source: Own elaboration based on: K. Blomqvist, P. Ståhle, *Building Organizational Trust*, 16th Annual IMP Conference, Bath, UK, 2000.

public. Public recognition not only harnesses the power of the crowd to celebrate success but also inspires others to strive for excellence.

- Induce "Challenge Stress"—the leader assigns the team a difficult but doable task, and moderate stress related to the implementation of the task releases neurochemicals, including oxytocin and adrenocorticotropin, which intensify people's concentration and strengthen social bonds. When team members need to work together to achieve a goal, brain activity effectively coordinates their behaviour. However, this only works when the challenges are achievable and when they have a concrete endgame. Unclear or impossible goals cause employees to give up before they even begin to complete the task. Leaders should monitor task completion frequently to assess progress and adjust goals that are too easy or inaccessible.
- Give people discretion in how they do their work—allowing trained employees, wherever possible, to manage people and implement projects in their own way. Autonomy also promotes innovation as different people try different solutions. Governance and risk management procedures can help minimize negative deviations. And post-project debriefs allow teams to share positive deviations so that others can benefit from their successfully implemented solutions.
- Enable job crafting—allowing employees to join projects that seem "interesting" and "satisfying". When employees join a new group, clear expectations are set for them, and assessments are made after projects are completed so that individual contributions can be measured.
- Share information broadly—as J. Zak points out, only 40% of employees declare that they are well-informed about the goals, strategies and tactics of their organization. This uncertainty about the direction in which the organization is heading leads to chronic stress, which inhibits the release of oxytocin and undermines teamwork, and the antidote turns out to be openness. Organizations that share their goals with employees reduce uncertainty about where they are going and why.
- Intentionally build relationships—employees often learn that they should focus on completing tasks rather than making friends within the organization. Neuroscience experiments conducted by J. Zak show that, when people intentionally build social connections at work, their performance improves. Employees who connect with others and help them with their projects not only earn their respect and trust but also become more productive themselves. Building social connections may involve sponsoring lunches, after-work events or team-building activities. When people care about each other, they perform better because they do not want to let their teammates down.
- Facilitate whole-person growth—high-trust workplaces help employees develop both personally and professionally. Numerous studies show that acquiring new professional skills is not enough; if you do not grow as a human being, your performance will suffer. Highly trusted companies adopt a growth

mindset when developing talent. Some even believe that when managers set clear goals, give employees the autonomy to achieve them and provide consistent feedback, an annual performance review is no longer necessary.

• Show vulnerability—leaders in highly trusted organizations ask for help from co-workers rather than simply telling them to do something. J. Zak points out that this stimulates the production of oxytocin in others, increasing their trust and cooperation. Asking for help is the sign of a safe leader—one who engages all employees in achieving goals. Asking for help is effective because it harnesses the natural human impulse to cooperate with others.

C.B. Gibson and J.A. Manuel (2003, 59–86) point out that communication processes are the key mechanisms underlying trust building. There are several reasons why communication and information processing play an important role in the process of building trust. Communication creates collaborative relationships, provides insightful information about the personalities of team members, provides a basis for developing shared values and encourages ongoing interaction. It is believed that open and prompt communication between members is an essential feature of trusting relationships, and without proper communication, cooperative relationships tend to disintegrate. Only when organizational members can continually listen to their differences, will they be able to avoid serious conflicts. Communication eliminates potential relationship breakdowns in everyday activities and ensures a satisfying relationship. Communication helps build trust because it provides the basis for ongoing interaction, on the basis of which members further develop shared values and norms. Sustained interaction is a key mechanism for keeping members together. By sharing information, members identify and develop more commonalities, strengthening their sense of trust. In a study of 75 teams of four to six members living in different countries who interacted for eight weeks, S.L. Jarvenpaa et al. (1998, 29–64) found that the level of participation in exercises focused on increasing information sharing among team members was positively associated with sources of trust such as perceived ability, honesty and friendliness of team members, although they had no effect on overall trust. Trust strengthens the ability to perceive conflict. As stated by A. Edmondson et al. (2000, 379–421), the sense of security associated with trust favours situations in which openness and comfort in speaking about difficult matters are possible. Conflict cannot be managed unless team members are willing to resolve the problem or conflict. Trust can enable this key step in conflict management (Gibson and Manuel 2003, 59–86).

R.J. Lewicki et al. (2006, 991–1022) presented theoretical approaches to the development of trust, as presented in Table 3.3.

Based on a literature review, S.Y.X. Komiak and I.A. Benbasat (2008, 727–747) compiled concepts regarding the trust-building process presented by individual authors. The concepts are presented in Table 3.4.

Table 3.3 Theoretical approaches to the development of trust according to R.J. Lewicki, E.C. Tomlinson and N. Gillespie

Key question	Behavioural approach	One-dimensional approach	Two-dimensional approach	Transformational approach
How is trust defined and measured?	Defined in terms of choice behaviour that comes from trust and expectation. It assumes rational choices. Measured by cooperative behaviour, usually in experimental games.	Defined as certain expectations and/or willingness to be vulnerable. It includes elements of cognitive, affective and behavioural intentions. Measured by scale items where trust ranges from distrust to high trust. More often measured in more immediate or interpersonal contexts.	Defined in terms of certain positive and negative expectations. It involves measuring various aspects of relationships. Measured by scale items in which trust, and distrust are related but have different constructs; each element ranges from low to high.	Defined based on the basis of trust (expected costs and benefits, knowledge of others, degree of shared values and identity). Measured by scale items in which trust is assessed according to different qualitative indicators at different stages.
At what level does trust begin?	Trust starts from scratch when no prior information is available. Trust is initiated by the other person's joint actions or an indication of their motivational orientation.	Some say that trust starts from scratch; others advocate moderate to high initial trust; initial distrust is also possible. Factors that influence initial levels of trust may include personality, cognitive and social categorization processes, role-based behaviours, trustor reputation and institutional-based structures.	Initial trust and initial distrust start at low levels.	Trust starts at the calculation stage. Trust is initiated by reputation, structures that provide rewards for trustworthiness and deterrents to defects.
What causes the level of trust (distrust) to change over time?	Trust grows as cooperation increases or is reciprocal. Trust declines when cooperation is not reciprocated.	Trust increases with increasing evidence of the trustor's quality, relationship history, communication processes as well as relationship type and structural factors. Trust decreases when positive expectations are confirmed.	Reasons for trust and distrust accumulate because interactions with others provide greater breadth and/or depth or because of a structure of interdependence; this can lead to various combinations of trust and distrust.	Trust grows with a positive history of the relationship and increased knowledge and predictability of the other person, and when the parties develop an emotional bond and shared values. Trust decreases when positive expectations are confirmed.

Source: R.J. Lewicki, E.C. Tomlinson, N. Gillespie, *Models of interpersonal trust development: Theoretical approaches, empirical evidence, and future directions*, "Journal of Management" 2006, no. 32 (6), pp. 991–1022.

Table 3.4 Concepts of the trust-building process according to S.Y.X. Komiak and I.A. Benbasat

Author	Trust-building process
Brashear et al. (2003) Lewicki and Bunker (1995)	Calculation process: a process in which the costs and benefits of a particular course of action are rationally compared. Trust is created when the trustor perceives that the costs of cheating or engaging in opportunistic behaviour outweigh the benefits of such actions. Predictive process: the predictive basis for the development of trust includes the ability of individuals to anticipate the actions of others; this ability to predict behaviour comes from the interactions and observations of the other party. Identification process: trust is created in relationships in which one party identifies with the desires and intentions of the other party.
Chopra and Wallace (2003)	Prediction: the trustor evaluates the consistency of the trustee's previous behaviour. Attribution: the trustor attributes characteristics or motivations to the trustee based on observable evidence, including the target's words and actions or other reliable information. Bonding: the development of an emotional relationship between the trusted person and the object of trust. Reputation: the trustor trusts the object of trust based on the recommendations of others. Identification: the trustor trusts the object of trust when a shared identity, goals and values are perceived.
Doney and Cannon (1997)	Calculation process: the trustor calculates the cost and/or reward of a trust object acting unreliably. Prediction process: the trustor gains confidence that the behaviour of the trusted object can be predicted through repeated and extensive experience. Capacity: the trustor evaluates the trustee's ability to fulfil promises based on available evidence. Purposefulness: the trustor assesses the trustee's motivations based on the target's words and behaviours. Transfer: the trustor uses "sources of evidence" from which trust is transferred to the trustee.
Earle (2004)	Based on normative considerations, trust is based on common factors such as honesty and objectivity. Based on social psychological theory, trust is based on agreement or similarity and depends on context.

(*Continued*)

Table 3.4 (Continued)

Author	Trust-building process
Kretschmer and Rousseau (2001)	CBT: trust comes not only from deterrence but also from reliable information about the trustee's intentions or competences. Relational trust: trust is based on repeated interactions over time between the trustee and the trustor. The information available to the trustor from within the relationship itself forms the basis of relational trust. Institution-based trust: trust factors form the basis of trust.
Lewis and Weigert (1985)	Cognitive trust: the cognitive process in which a trustor cognitively chooses who to trust, to what extent, and under what circumstances, basing this choice on what are considered "good reasons" for trustworthiness. Emotion-based trust: the trustor develops positive effects with the target when there is an emotional bond between the trustor and the trustee. Trust results from the creditor's knowledge that a breach of trust risks causing severe emotional pain to all persons bound by the trust relationship, including the violator. Behaviour-based trust: when a trustor sees a trusted object acting in a way that suggests that the trustee trusts the trustor, the trustor becomes more willing to reciprocate that trust. Actions that suggest trust on the part of the trusted object also help establish or reinforce an emotional sense of trust.
McKnight and Cummings Chervany (1998)	Categorization: grouping of entities: a trustor places a trusted object in the same category to which it belongs. Reputation categorization: the trustor assigns attributes to the trust target based on second-hand information. Stereotyping: The trustor places the trust object in a general category of people. Illusion of control: the trustor takes small actions to ensure that everything is under their personal control; this leads to trust.
Slonim et al. (2001)	Affect-based trust: Trustor attributions regarding the trustee's motives for behaviour. Cognition-based trust: the trustor's attributions mainly regarding the competence, reliability and trustworthiness of the trusted object, based on available knowledge about it.

D.Z. Levin et al. (2002, 1–11) point out that managers can influence the degree to which trust is developed among employees. The following list outlines some of the actions managers can take to help build trust among employees:

- Common understanding of the company's activities—one of the areas that managers can influence is the development of a common context or common understanding among employees of the nature and purpose of the work they perform. Several factors relevant to building trust based on benevolence and competence (common language and goals) include the importance of building a shared view of how work is done, how it is measured and how the employee is ultimately rewarded for their work. Creating a shared understanding can help employees focus on shared goals and values and reduce time and effort devoted to individual problems and motivations.
- Demonstrating trust-building behaviours—another area that managers can influence is modelling and recognizing trust-building behaviours, such as openness and discretion. Using active listening skills and encouraging employees to express their concerns in an atmosphere where their problems are not inappropriately disclosed can build trust between managers and employees.
- Bringing people together—managers can have some discretion in determining the physical locations where people work together. Although frequent interactions do not always build trust, gathering people together can stimulate conversations that can signal a person's friendliness. Hence, managers need to consider how they can create both physical and virtual spaces where people can easily interact with each other. While it may be impossible or impractical to have team members who are in different locations consistently collaborating in the same room, managers should think about ways to bring employees together—especially early in the project lifecycle—and then periodically in the future. Additionally, organizations can use tools such as collaboration spaces and instant messaging to make it easier for team members to communicate with each other when they cannot be co-located.

As J. Ejdys (2017, 20–27) writes, trust in technology may concern a general level, reflecting the level of social trust, or the level of a specific technology or a specific solution.

J. Ejdys (2017, 20–27) draws attention to the existence of factors determining trust in technology (Trust Antecedents), which can be classified into four categories:

- Organizational and institutional factors—relating to the organization using technology or the organization managing technology: institutional trust, privacy policy, mutual interdependence between employees, organizational community, organizational culture and reputation;

- Technological factors—relating to the technical parameters of the analysed technology: usability of the technology, functionality of the technology, perceived ease of use, level of security, privacy guarantee, system quality, service quality, information quality and risk;
- Factors reflecting user characteristics—relating to user characteristics: interpersonal trust, general tendency to trust, trust in similar technologies, level of satisfaction, previous experience with technology, knowledge of technology and education;
- Factors relating to the environment—relating to the environment of the organization using the technology or to the environment ensuring the functioning of the technology: reputation of the institution/organization in the environment, trust in the institution/organization perceived by the environment, privacy protection perceived by the environment, security protection, social acceptance of the technology and legal requirements for ensuring security and privacy.

Trust plays a fundamental role in people's ability to adapt to the cognitive complexity and uncertainty that come with moving away from highly organized organizations and simple technologies. Trust helps people adapt to complexity in several ways, including replacing supervision when direct observation becomes impractical and facilitating choice in situations of uncertainty by acting as a heuristic for social decisions (Lee, See 2004, 50–80). The level of trust is determined by the individual's previous experience, the information they receive and management styles (Bugdol 2010, 16). People develop beliefs about other individuals that are generalized and extrapolated (www.sjp.pwn.pl) from one interaction to another. In this context, trust is a generalized expectation, independent of specific experiences and based on the generalization of a large number of diverse experiences. Individual differences in trust have important implications for the study of human trust in automation (including the automation of communication processes, etc.) because individual differences may influence trust in ways not directly related to the characteristics of automation (Lee and See 2004, 50–80). J.D. Lee and K.A. See (2004, 50–80) point out that the basis of trust is information that informs a person about the trustor's ability to achieve the trustee's goals. According to the authors, two critical elements define the basis of trust. The first is to define the object of trust: what can be trusted? The second is the type of information that describes the entity that should be trusted: what information supports trust? This information sets expectations about how well the entity can meet the creditor's objectives.

Trust in technology is built in the same way as trust in people. As users first experience the technology, signals of well-made user interfaces and good vendor reputations will build trust. The reliability and quality of IT operations are crucial. Effective help features also increase trust in technology. The entire system infrastructure should demonstrate quality because faulty software at one level can harm perception at several levels (McKnight 2005, 329–331). Trust

in technology has a direct impact or association with perceived usefulness, perceived ease of use and technology use. An individual's total experience with technology leads to an ongoing assessment of trust in the system. The presence of trust in technology suggests that people can predict the functionality of the technology, allowing them to set and test expectations about how the system will perform. Technology trust has a growing impact on actual technology use. The results confirm that, as trust in technology increases, not only does the perception of ease and usefulness increase, but, most importantly, the behavioural (beyond intentional) effects of actual use also increase. To support employee confidence in the new system, management should openly signal the benefits of innovation at the individual, organizational and supply chain levels. Information provided by management is one potential mechanism for establishing and maintaining trust in new technology. Moreover, because trust is enhanced by consistent functionality, technology users should be promptly notified of any potential problems or deviations that arise as a result of the technology transition (Lippert 2007, 468–483). Ease of use and usability are considered potentially important determinants of system use. The authors point out that one of the problems related to the use of information technologies is finding systems in which their use is truly voluntary. The use of transaction processing and reporting systems is often a requirement of the job. In such cases, factors such as usability and ease of use may have less impact on overall usage levels, although they may influence elements such as user satisfaction. Communication systems such as voicemail and email are most often used on a voluntary basis. The second, more subtle problem in the study of factors determining the use of information technologies, as the author points out, is the concept of "personal use". Even if the use of technology is not strictly required by the task, the employee may have no alternative but to use the system to successfully complete the task. Hence, the user's attitude may be: "I do not like it, but I have no alternative" (Adams et al. 1992, 227–247).

3.2 The structure and characteristics of factors negatively influencing the level of trust in an organization

In economic practice, a dualism regarding the issue of trust seems to be noticeable. On the one hand, trust is undoubtedly of increasing importance in business relationships, and on the other hand, organizations and people have limited trust in each other. This becomes quite clear in particular in relation to institutions, rating organizations, politicians, authorities or financial markets, neighbours, employers and employees. Paweł (2016, 217–235) identifies the factors that determine the decline in trust. Only factors relating directly to trust within the organization are presented in the following, excluding inter-organizational trust:

• Failure to keep one's word; information once provided, for example, about ceasing a certain type of activity and returning to it, causes people and institutions to lose trust;

- Ineffective, apparent improvement activities;
- Lying in relations with interested parties; frequent changes of personnel in key positions responsible for managing the organization;
- Lack of professionalism in organization management (functioning of people with low competences in high positions).

A phenomenon that effectively reduces people's job satisfaction is the practice known as "organizational schizophrenia", in which the employer "tells employees one thing" and "behaves differently in practice". This results in a disturbance of trust in mutual relationships, suspicion and the perception of managers as inconsistent and often incompetent (Wziątek-Staśko 2017, 27–34).

A low level of trust undoubtedly affects the quality of interpersonal relationships. Lack of trust makes communication difficult and creates dissonance between the participants in this process. Credibility is more than internal consistency, recognition of others' competences, someone's reasons and rules of conduct. S. Szałach (2013, 177–183) states that undoubtedly the basis of lasting positive relations must include such qualities as integrity, equality, justice, honesty and mutual trust. Violating those values destroys trust between people, organizations and society. The author states that trust is one of the main factors in achieving lasting success. The main reason for the dismissal of employees is bad relations in their work environment, mainly bad relations with their superiors. M.F. Boersma et al. (2003, 1031–1042) note that the range of motives underlying trust can range from material gain and fear of sanctions to an ethical stance based on overarching goals and personal emotions. The authors distinguish the determinants of cooperation (sources of trust) by dividing them into egotistical and non-egotistical determinants, which are presented in Table 3.5.

Trust is related to faith, it means that, if we trust other individuals, we believe them. However, what destroys the relationship of trust is the suspicion not only of other people but also of social groups, members of political parties or even entire nations of bad intentions towards us, of hostility. Everyone has memories of not only pleasant experiences based on trust but, unfortunately, also those

Table 3.5 Determinants/sources of trust according to M.F. Boersma, P.J. Buckley and P.N. Ghauri

Determinants/ sources of trust	*Makro*	*Micro*
Egotistical	Coercion or fear of sanctions from some authority (e.g. God and law)	Tangible "benefits"
Non-egotistical	Ethics: values/standards of proper conduct	Bonds of friendship, kinship or empathy; emotions

Source: Own elaboration based on.: M.F. Boersma, P.J. Buckley, P.N. Ghauri, *Trust in international joint venture relationships*, "Journal of Business Research", 2003, no. 56 (12), pp. 1031–1042.

that were the opposite. In relationships characterized by a high level of trust, for example you can say something awkwardly, and yet we are usually met with understanding and acceptance. In relationships characterized by a low level of trust or in relationships with its complete lack, we can remain accurate and precise, but our message will still be interpreted biasedly, to our detriment or even against us. The crisis of trust is a common phenomenon nowadays. Lack of trust can be easily noticed in the private life of an individual, in the work environment (e.g. through predatory neo-capitalist relations, where the only value and goal is money, where "to be means to have") as well as in the institutions of social life, in the country (Szałach 2013, 177–183). As J. Palka and R. Winkler (2006, 27–40) write, normative stability, that is, the durability of the system of applicable rules, creates a sense of order among the organization's members, but also the certainty and their identification with the organization, which in turn creates the right conditions for the development of trust. The condition for the development of trust is also the transparency of the organization, which is determined by the simplicity and ease of understanding the principles of operation and mutual relations. Moreover, as J. Paliszkiewicz (2011, 227–232) points out, the negative effects of lack of trust cause, in extreme cases, the paralysis of any exchange. Employees who do not trust their superiors usually do not develop their potential and, as a result, achieve poor results. Job satisfaction resulting from trust is one of the main factors determining an employee's bond with the organization. Employee dissatisfaction leads to staff turnover, which in turn reduces the quality of services, makes it difficult to build effective teams and directly affects the economic results of the organization. Moreover, lack of trust destroys employees' enthusiasm, their positive attitude and significantly reduces their willingness to share knowledge and experience.

P.S. Shockley-Zalabak and S.P. Morreale (2011, 39–45) indicate that goal, vision, leadership, strategy, structure and their implementation shape competences and influence the perception of competences. However, it is important to understand that a competent leader and others' trust in the leader's competence are not the same thing. Being competent is fundamental, but equally important is the trust of others in the individual's competences. As the authors point out, employees are more innovative when they believe that their ideas will be assessed honestly and competently. Leaders build trust by designing architecture that facilitates the achievement of ambitious goals. Confidence in competences is based on understanding the basic capabilities of the organization and continuous work on improving the organization and removing its weaknesses. Trust in openness and honesty improves an organization's ability to collaborate, partner with others, and execute day-to-day strategy. If employees trust that managers are open and honest with them, they are much more likely to engage in the same behaviours. I will share information, and sharing information increases creativity and innovation. Open and honest communication reduces uncertainty—I know where I stand, I know where you stand. Reducing uncertainty and the

ability to cooperate result in greater loyalty and satisfaction. Reliable, accurate information is the basis for building trust, as is the justification for decisions made, as well as general openness and timeliness. In the case of direct superiors, the flow of information has the strongest relationship with trust in the superior (including appropriate explanations and timely feedback on decisions made). Both managers and supervisors who freely exchange thoughts and ideas with others enhance overall perceptions of trust. Confidence in leaders is definitely not promoted by the inconsistency of words and deeds with the organization's profile. Words and actions must align to develop a culture of reliability. Responsibility for results is the basis for reliability. Promoting accountability requires examining performance expectations for top leaders and determining how these expectations are met and translated into expectations throughout the organization. All employees should be able to define how their performance fits into the overall expectations of the organization. Promoting responsibility requires the support of people taking responsibility, regardless of their position. Blame is avoided, encouraging individuals to admit mistakes, propose solutions to problems and work for positive change beyond their specific job responsibilities. As I. Świątek-Barylska (2013, 261–27) notes, trust is inextricably linked to taking risks. Both the terms "trust" and "risk" are related to predicting the future, but they are not identical in meaning. Risk refers to the negative consequences of action, while trust is related to the belief that events will take a positive course. Trust is an inherently positive concept. Although both risk and interdependence determine the emergence of trust, risk and trust change as interdependence increases (Świątek-Barylska 2013, 261–27). Where individuals do not trust each other, it is necessary to achieve it laboriously, working primarily on building responsibility. Trust cannot exist without responsibility, but it is also difficult to build responsibility when there is no trust. Paradoxically, the lack of trust in another person releases the other party from the sense of responsibility towards him, which in turn results in their lack of trust (Blikle 2018, 132). The lack of responsibility and trust causes the organization to incur many costs. Apart from the emotional ones (although they should by no means be underestimated), the most important are the costs related to the supervision process and all the subsequent costs that result from them (Blikle 2018, 133).

3.3 Correlation of trust with other organizational values in the conditions of digitization

The value of the enterprise, in addition to factors such as resources and tangible assets, is also influenced by intangible assets (Zuba-Ciszewska 2016, 175–184). B. Józefowicz (2012, 96–104) points out that trust is one of the key areas of the positive potential of an enterprise, which indirectly, by stimulating the pro-development behaviour of employees, determines the increase in creativity, innovation, work efficiency and stakeholder satisfaction, as well as

improving the quality of products and processes and improving the reputation of the organization (Józefowicz 2012, 96–104). When looking for solutions for modern organizations, we usually focus on management practices, forgetting about the preliminary conditions that must exist to observe their positive results. Building an organization based on mutual trust—internally and externally— requires high awareness, competence, constant attention and commitment of management (Paliszkiewicz 2011, 227–232). Many high-level managers talk about the importance of trust for the functioning of the organization, but they do so without fully understanding its essence. According to the authors, an essential link preceding the creation of a plan for strengthening trust management is the conscious learning of managers about the essence of trust, as well as the processes of its strengthening and the importance of trust for the organization. This process can be conceptualized as trust management (Batorski 2010, 104–119). A. Sankowska (2013, 111–124) points out that trust has many functions. Trust determines basically every human activity and is undoubtedly a stimulator of cooperation, encouraging individuals to make joint efforts. Moreover, trust is strongly associated with new forms of organizing human activity. It is therefore important that current systems, including virtual organizations that largely operate on the basis of networks, cannot function effectively without trust. Effective cooperation in the network is basically impossible, as the author points out, without trust between the parties. Because of trust, the parties communicate, which enables the exchange of ideas and the implementation of tasks (Sankowska 2013, 111–124). Participating in a network organization forces you to establish new, temporary relationships. Moreover, effective cooperation means the need to trust partners (Bulińska-Stangrecka 2018, 104–119).

J. Ejdys (2018, 54), based on a literature review, distinguishes the roles of trust at the organizational level. The roles are shown in Table 3.6.

The subsequent part of the study presents the correlation of trust with organizational values.

Trust and productivity. Lasting cooperation based on trust determines the degree of commitment of business partners (Paliszkiewicz 2011, 227–232). Integrated, highly qualified units not only expect serious challenges and clear goals but also work in an atmosphere of trust and respect. P.S. Goodman and D.P. Leyden (1991, 578–586), based on their research, indicate that a lower level of knowledge is associated with lower productivity. Higher absenteeism among employees results in lower work efficiency. As the authors point out, the level of group commitment is expected to be higher in groups that are based on friendship relationships than in groups of friends due to their strong interpersonal ties. Group commitment is defined as an individual's strength of identification and commitment to the group. Friends focus on the group as an entity and define their identity as part of the group. Identity with a group encourages group members to work harder to protect their group and individual identity. Attachment to a friendship-based group and the effects of group responsibility and reputation

Table 3.6 The role of trust at the organizational level according to J. Ejdys

Author	Role of trust
R. Compañó et al. (2006)	• Harmonizes social relations and promotes the building of social relations and social capital
J. Paliszkiewicz, J. D. Lewis, A. Weigert	• Provides a sense of security in conditions of uncertainty • Complexity of processes
N. Luhmann	• Reduces complexity
D. M. Rousseau et al. (2006) A. Sankowska and B. Misztal (1996) A. Wasiluk (2013)	• Promotes contacts and determines cooperation and networking
R. Pučėtaitė A.M. Lämsä, A. Novelskaitė	• Improves the effectiveness of communication;
P. Sztompka	• Frees and mobilizes human subjectivity and triggers creative, unrestrained, innovative actions towards other people
R. Compañó et al. (2006)	• Allows you to manage your organizational and human resources in a way that ensures greater flexibility and work efficiency
J. Filek (2003)	• Limits conflicts and supports effective methods of counteracting crisis situations
J. Paliszkiewicz	• Reduces transaction costs
R. Pučėtaitė A.M. Lämsä, A. Novelskaitė	• Supports teamwork and determines its effectiveness
D. M. Rousseau, S. B. Sitkin, R. S. Burt, C. Camerer	• Is a substitute for control processes, reflecting a positive attitude towards other motivators

Source: J. Ejdys *Zaufanie do technologii w e-administracji*, Oficyna Wydawnicza Politechniki Białostockiej, Białystok 2018, pp. 54.

will cause group members to monitor their behaviour to ensure success in the group task. Performance monitoring occurs when members evaluate their performance progress and the likelihood that they will achieve their goals. Monitoring is an administrative step taken by group members to ensure that a task is completed on time or at all. Based on research carried out by K.T. Dirks (1999, 445–455), trust was found to influence the group's process and outcomes—but did so indirectly. Employee groups with higher levels of trust did not necessarily have better processes and better performance than groups with lower levels of trust. Instead, trust seemed to influence how motivation was translated into the group process and into group outcomes. Rather than viewing trust as a variable that directly influences group outcomes, researchers should consider trust as a concept that indirectly influences group outcomes by moderating the relationship between inputs (e.g. motivation) and group process and performance (Dirks 1999, 445–455). Commitment contributes to increased productivity,

reduces turnover, improves adaptability to change and reduces absenteeism, but it depends on cultural conditions. M. Bugdol (2010, 71–72), taking into account the processes of improving the social system of the organization, distinguishes the following types of commitment:

• Normative commitment—employee commitment in creating and maintaining formal procedures, instructions, regulations and informal group norms, while their commitment results from compliance with these norms;
• Forced commitment—employees are afraid of the consequences of behaviour inconsistent with the accepted norms, they work under the pressure of penalties they face;
• Ideological commitment—occurring when an individual works for ideas, value systems or superior goals;
• Emotional commitment—with a positive and negative charge, expressing the attitude towards the actions of other individuals (usually, short-term action resulting from, among others, anger, grief and joy);
• Variable commitment—it depends on the nature of the activities undertaken, personality traits (e.g. perseverance) or work experience (e.g. new employees or individuals entrusted with new tasks may work enthusiastically at first and then become discouraged from working);
• Attractive and repulsive commitment—employee commitment that occurs under the influence of observation and assessment of the leaders' behaviour;
• Commitment based on values—commitment resulting from the influence of identified and accepted organizational values (may be stronger than economic or calculative commitment based on material exchange);
• Calculation commitment—its level depends on comparing costs and profits.

Organizational commitment is a special type of employee attitude that is different from motivation and job satisfaction. Commitment results from employees' genuine willingness to participate in the organization, which in turn influences their behaviour regardless of other conflicting motives and attitudes (Adamska-Chudzińska 2015, 45–55). The highest level of employee commitment results from the presence of high transparency in the case of personal and organizational values (Górniak 2015, 95–108). Increasing the level of employee commitment to the organization's activities is one of the challenges faced by organizations and managers in the 21st century. The type and degree of employee commitment determine the economic results achieved as well as the pace of changes in the organization. In accordance with contemporary concepts focusing on the issue of organizational commitment, it is assumed that employee commitment in the work performed, especially affective (emotional) commitment, increases the level of motivation to achieve above-average results. Commitment increases employee efficiency and the quality of their work. Employees who are committed to their work demonstrate natural

innovation, cooperate more efficiently and effectively overcome difficulties (Adamska-Chudzińska and Huculak 2019, 92–104).

Trust and transaction costs. Trust reduces negotiation costs and improves efficiency. According to organizational economics literature, it is assumed that negotiation costs are the costs associated with reaching mutually acceptable agreements. According to this definition, negotiation costs include both the time and effort required to establish effective courses of action and to determine the division of costs and benefits. In particular, limited rationality, uncertainty and asymmetry of information, which are the result of imperfect communication or difficulties in observation and verification, contribute to the increase in negotiation costs. Negotiations are less costly in conditions of high trust between organizations because agreements are reached more quickly and easily because the parties are more easily able to reach a "meeting of the minds". High trust relationships therefore mean more efficient exchange management in the form of facilitated negotiations (Zaheer et al. 1998, 141–159). High trust in the organization helps to overcome crises and problems. When crises and problems arise, stakeholders trust the organization; based on previous experience, they trust that a credible organization is able to meet current challenges (Shockley-Zalabak and Morreale 2011, 39–45). A high degree of trust has a positive impact on the organization's performance. Trust reduces transaction costs, increases competitiveness and helps build customer trust in the organization. Trust also builds an appropriate organizational climate that is favourable to the exchange of knowledge between employees, which in turn increases work efficiency. Trust also stimulates learning processes in the organization by generating social bonds that constitute informal communication channels. Trust helps expand the scope of perceived responsibility and the scope of potential learning opportunities (Sopińska 2017, 241–252). The consequence of the lack of trust in business relationships is the need to incur additional costs related to ensuring an appropriate level of security, including expenses intended to check the partner's credibility and protect against possible negative effects of cooperation. Within the organization, trust also plays a very important role, influencing the efficiency and level of employee commitment (Paliszkiewicz 2011, 227–232). It should be noted that the lack of complete information and the asymmetry of information in transactions coexist with the phenomenon of incompleteness of contracts, or contracts in general, which consists in the fact that it is usually difficult to precisely include in the contract all possible scenarios of events and the related obligations of the parties, or it is very expensive and it significantly limits the freedom of action, which may affect its results. The significant incompleteness of contracts is a simple consequence of the increasing complexity of reality in conditions of dynamic changes. Because of trust, contracting processes can take place at all or can be significantly simplified because trust guarantees a certain predictable course of cooperation in the spirit of mutual benefits (Sankowska 2013, 111–124).

Trust and the occurrence of conflicts. Divergent goals and unexpected events in everyday relationships can lead to misunderstandings. Relationships saturated with trust are characterized by internal harmonization of conflict and a number of norms and social processes that work to preserve the relationship (Zaheer et al. 1998, 141–159). A positive consequence of trust is the sense of confidence that comes from functioning in stable social structures. It can therefore be said that trust gives a sense of comfort, which is reflected in the research results, which indicate a strong relationship between the level of trust and life satisfaction and the feeling of being happy. It is on community and closeness to others that the faith that others will not let us down is built (Domański 2014, 8–17).

Trust and communication. Communication within the organization enables the transfer of knowledge and making of corrections. Communication is also related to management functions, defining roles and social positions, making assessments of actions taken (e.g. because of communication, managers have knowledge of how their work is assessed) and imposing their own views. There are many connections and dependencies between communication and trust. Trust is a guarantee of effective communication (Bugdol 2010, 149). Communication between superiors and subordinates is used to shape the work environment. In organizations where communication skills (gifted or innate) exist, there are foundations of trust. Closure, lack of honesty and innate or acquired tendency to social isolation kill trust (Domański 2014, 8–17). As the level of uncertainty increases and the ability to control phenomena decreases, the need for trust increases. The lack of control means that trust plays a more important role as a driving factor. The trust placed in other people will not require the control processes that are necessary in a situation of lack of trust. Also, in a situation of complete control over a given phenomenon, there will be no need for trust and its role will be omitted. Trust is helpful in a situation of lack of control (Ejdys 2018, 52–53), as shown in Figure 3.1.

Trust and knowledge sharing. Trust—or lack thereof—can have serious consequences for an organization. While managers often have difficulty identifying the "soft" values associated with knowledge management, research findings clearly highlight the importance of trust in enabling effective knowledge sharing. As a result, promoting an environment in which employees have the opportunity to develop competence-based trust and kindness should be a central part of an organization's knowledge management plan. When sharing knowledge, trust in people's kindness is important, but trust in their competence is even more important when the knowledge is difficult to codify. For individuals to benefit from experiential or tacit knowledge, they must believe that the source of knowledge is both willing to help and well-versed in a particular discipline. Finding people willing to help others and knowledgeable about a given topic can be difficult. This is especially the case in large, dispersed organizations where individuals do not have the opportunity to meet others involved in the same type of work. Additionally, people themselves may be reluctant to tell others about their
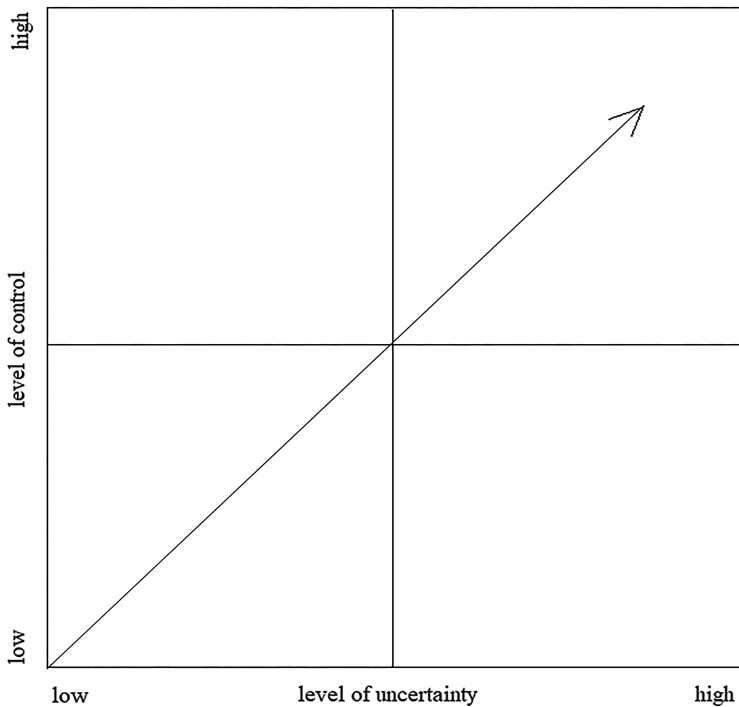
Figure 3.1 The impact of uncertainty and control on trust

knowledge because they are not convinced that their knowledge is important, or they simply do not want to draw attention to themselves (Levin et al. 2002, 1–11). In companies where employees perceive their subordinates, co-workers, superiors and the organization as a whole that is trustworthy, the likelihood of organizational learning increases because employees are more willing to share useful knowledge and listen to and absorb the knowledge of others (Guinot et al. 2013, 559–582).

3.4   The essence and importance of trust management in an organization in the conditions of digitization

Trust does not develop in "vacuum" but evolves in a complex individual, cultural and organizational context. Individual context includes individual differences, such as the tendency to trust. These differences affect the initial level of trust and influence how new information is interpreted. Individual context

also includes a person's history of interactions that have led to a particular level of trust. Organizational context can also have a strong influence on trust. It reflects interactions between people that inform them about the trustworthiness of others, including reputation and gossip. Cultural context also influences trust through social norms and expectations. Understanding trust requires careful consideration of individual, organizational and cultural contexts (Lee and See 2004, 50–80). The development of the Industry 4.0 concept has caused major changes within organizations, not only in their structures and technologies but also in the selection of employees and, above all, management staff. The appropriate selection of staff has become a challenge faced by every organization that wants to develop with the times. Employee competences are changing, and behavioural and technical aspects outside the field of work are becoming important (Warcholak and Dąbrowska 2018, 87–98). Modern organizations have to function and develop in an environment characterized by a high level of uncertainty that has never existed before. Managers, responding to new challenges, are forced to try to shape the organizational culture in such a way that the conditions increase the level of acceptance of uncertainty, thus improving the effectiveness of the organization's functioning (Czajkowska 2010, 409–420). Trust plays several fundamental roles in an organization. Trust is a control mechanism, determines a long-term perspective and is also an element of rational choice (Paweł 2016, 217–235). Trust can be called not only an expectation, a resource or the foundation of social interactions, but also a bet, a mental state or readiness to accept another person. In trust management, it should be primarily a basic organizational value rooted in the quality policy, mission, vision and management programs as well as in the quality awareness itself (Bugdol 2010, 65). Trust management and trust-based organization are the result of the needs of the organization, its partners and customers. Creating an organization based on mutual trust is a difficult task and requires a high level of awareness, competence, constant attention and commitment of management employees at the highest levels. Management sets a new orientation for the organization and causes a focus on relationships aimed at ensuring continuity and effectiveness of cooperation. Trust management is considered on two levels: building one's own credibility and assessing the credibility of other entities. Traditional control systems create a barrier to the growth of creativity, entrepreneurship and independence (Grudzewski and Hejduk 2011, 95–111). Lack of trust and suspicion are often justified by the situation, and in organizations that compete with each other, the costs of trusting the wrong partner can be very high. In an environment full of uncertainty, high dynamism and risk, it is necessary to know exactly who you can trust and under what conditions. The societies of the 21st century are knowledge-based societies in which knowledge production processes determine their well-being and the source of wealth. In these processes, trust is one of the elementary factors of success and the lack of trust is synonymous with economic backwardness (Grudzewski et al. 2008). Widely and still prevailing opinions

that question not only the possibilities of using trust but also its value in management practice turn out to be completely unfounded (Palka 2004, 51–53). Trust is gaining particular importance due to the changes taking place in the environment of modern enterprises existing in the Web 2.0+ era. Not only the constantly changing world but also the possibilities of cooperation in a global dimension using cloud computing, e-communication, e-leadership, e-business environments and so on determine the need to care for trust (Wziątek-Staśko 2016, 53). Communities that base their functioning on trust (Trusting Communities), while maintaining other necessary conditions derive measurable economic benefits (Czernek et al. 2018, 23–48). The level of trust between team members can be a cooperation mechanism that supports achieving success in teams. Developed through open communication, eliminating differences and overcoming conflicts, as well as awareness of mutual competences, determines the growth of functional phenomena in teams (Chrupała-Pniak et al. 2018, 115–12).

D.L. Stone et al. (2015, 216–231) presented the changes caused by the phenomenon of digitization in relation to the goals of human resources management:

- Attracting a talented and diverse workforce—recruiting a qualified, diverse and motivated group of candidates. Effective recruitment can improve the skills and diversity of the workforce and, which is more, can also help increase customer satisfaction and stimulate innovation and creativity (advertise job vacancies online and enable candidates to submit applications online).
- Talent search—selection of the most talented candidates among those who apply for a job. Many organizations use electronic selection, which includes Electronic Job Analysis, Electronic Job Applications, Electronic Tests and Personality Inventories and Electronic Interviews.
- Increasing the knowledge, skills and abilities of employees—through training and development, the diversity of technologies allows organizations to manage the training process more effectively, for example, in the field of e-learning or e-training—from simply providing training materials via the Internet—to the use of many technologies to deliver course content and support communication.
- Managing and increasing employee performance—assessing current performance, identifying high- and low-performing employees and providing feedback to employees—appropriate measurements using technology are used for this purpose.
- Motivating and retaining talented employees from diverse backgrounds—organizations have reasons to be concerned not only about the shortage of talent inside and outside the organization but also about the fear of losing current employees. It is true that those problems have always plagued organizations, but the consequences are now greater due to global competition. To achieve those goals, organizations have begun to use technology to facilitate the compensation and benefits process. Employee Self-service Systems

(ESS) are the most popular form of e-HR. ESS use Internet technologies and provide employees with access to a centralized HR database that allows them to register benefits and participate in open registration for training.

From a strategic point of view, it is worth noting that building and strengthening trust should and can be done using organizational communication systems. Moreover, organizations should strive to establish a fair and open justice system (procedural justice) and employee empowerment. The HR department can play an important role in developing policies or procedures. Creating some culture of employee empowerment and development should become an important part of the strategic approach to the organization. At the tactical level, training or development alone is not sufficient to create any atmosphere of trust, although it can contribute to improving other competence and thus increasing employee efficiency and productivity. When developing training and development programs, managers should consider establishing fair and equitable selection processes, as well as the possibility of including employees in such programs. Organizations and their top management should build an environment of high trust, provide strong support and demonstrate their commitment to open communication, organizational empowerment and a fair work environment (Tzafrir et al. 2004, 628–647).

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4 Trust dysfunctions and the process of rebuilding trust in the conditions of digitization

4.1 The essence and determinants of the process of trust erosion in an organization

Interaction-based trust develops from personal experiences between two (or more) people, without reference or the need for institutional arrangements. The psychological view emphasizes this way of generating trust. In contrast, institution-based trust is a form of individual or collective action that is constitutively embedded in the institutional environment in which the relationship is located, relying on favourable assumptions about the trustor's future performance under such conditions (Bachmann and Inkpen 2011, 281–301). Trust that is absolute, proven and reliable is an unattainable ideal, and once trust is lost, it can be difficult to restore. Research shows that interpersonal trust depends on several factors, including perceived competence, friendliness (or hostility), understandability and directness—the degree to which the trustor can quickly provide control or influence when something goes wrong. Trust is dynamic, which means that neither trust (as a relationship) nor trustworthiness (as an attribution) is a static state. Relationships develop and mature; they can strengthen, and they can deteriorate. Even when periods of relative stability appear to be emerging, trust will depend on context and goals (Hoffman et al. 2013, 84–88). Trust is intriguing, it is valued, but if misplaced, it can turn out to be dangerous. Trust is needed when we lack knowledge, yet we trust most of those we know best. The trust shown can be both an honour and a burden; distrust is rarely welcomed (Hawley 2014, 1–20). Building trust depends largely on interpersonal relationships (Bachmann, Inkpen 2011, 281–301). It is worth mentioning that loss of trust in superiors is one of the reasons why employees leave the organization.

The analysis of dysfunctional and pathological phenomena indicates statistically significant differences in their occurrence in micro and small- and medium-sized enterprises, which applies to, among others: using unjustified dismissals, acting to the detriment of other employees, reporting other people's ideas as your own, taking credit for team achievements, accepting work below quality standards (subordinates or co-workers), misappropriating small items and wasting

raw materials, and the larger the organization, the more often those phenomena occur. A chance to improve most of the emerging dysfunctional behaviours is to build a culture based on trust and high ethical standards, to change relationships by building integration (Lewicka 2011, 101–118). B. Kaczmarek (2017, 197–203) defines dysfunctions as the lack, inability or unwillingness to adapt to fulfilling a specific function (activity) in an appropriate way, which means that the task that the person is supposed to or should perform as expected is performed incorrectly. Dysfunctions are observed both in the actions of employees and management and in their mutual relations. M. Andrzejewski (2013, 275–286) defines dysfunction as a phenomenon that negatively affects a specific social system. Due to dysfunctions, systems are subject to tension and changes in inappropriate directions. Long-term occurrence of dysfunctions can lead any system to a pathological state, which means that organizational dysfunction results in inefficient functioning of the entire enterprise, and dysfunction at the management level makes it impossible and difficult to properly manage the selected organizational system (Andrzejewski 2013, 275–286). While building and maintaining trust in organizations is difficult, it is crucial. Well-established research shows the links between trust and organizational performance. If employees trust each other while also trusting their managers, they will be able to work through disagreements. They will take smarter risks. They will work harder and stay in the organization longer. In conditions of trust, employees will have better ideas and will want to look for solutions. However, if employees do not trust the organization and its leaders, they will quit their jobs and instead focus on gossip, politics and updating their resumes. A high percentage of consulting engagements that appear to be about an organization's strategic direction or productivity turns out to be about trust or the lack thereof. The elements that build trust are old-fashioned managerial virtues such as consistency, clear communication and willingness to solve uncomfortable questions. Building a trustworthy organization requires focusing on these elements. Trustworthy people must be protected from enemies, both large and small, because trust takes years to build and can be seriously "injured" in an instant. The loss of trust in an organization is often caused by a first-line supervisor who usually expresses contempt for top management. The culture of punishment is also a factor that destroys trust. Some factors are overt, such as not receiving word, and some are covert: a conversation that the employee thought was private, resulting in rumours. As every act of mismanagement undermines trust, the list of "enemies of trust" can be endless (Galford, Drapeau 2003, 88–95). The factor causing trust dysfunction in an organization may be the use of technical or human supervision, for example cameras. Such controls provide a partial solution to extreme cases of individual distrust but, of course, do not offer a general solution. To verify certain people, it is necessary to trust other people and have confidence in the type of technology used. Surveillance is often ethically and politically unacceptable: it involves serious breaches of privacy and carries high costs if and when detected (Govier 1992, 52–63).

Factors that cause the breakdown of trust identified by R. Galford and A.S. Drapeau (2003, 88–95) are as follows:

- Inconsistent messages—one of the fastest-moving trust destroyers. Inconsistent messages can appear anywhere in the organization, from senior managers down the organizational ladder. They may also involve inconsistencies in the organization's communication "outside" with its customers or other stakeholders, and the consequences in both cases are significant.
- Inconsistent standards—when employees believe that an individual manager or organization favours certain employees, the trust of others will be damaged. Employees monitor the results—mercilessly, unjustified promotions, favouring employees regarding working conditions (better office equipment, newer computer equipment) and violation of the prevailing rules by some employees without taking consequences against them make other employees feel disrespected.
- Inappropriate kindness—managers usually know that they must take action against an employee who, for example regularly steals, cheats or humiliates co-workers or does not have the appropriate competences. Their direct subordinates learn to work with them, but work means daily struggle. Because the person in question does not intentionally harm anyone or anything, their superior does not want to punish them. However, incompetence destroys values and trust.
- False/erroneous feedback—being honest about employees' shortcomings is difficult, especially when you need to talk to them regularly and face-to-face about their performance. Insincerity and inadequacy of performance feedback break trust. Praise for employees who do not deserve it reduces the quality of work of competent employees.
- Lack of trust in others—trusting others can be difficult, especially for a perfectionist or workaholic. This is a situation in which the leader promised to introduce a new employee and give him/her new responsibilities but simply could not trust them to do the job properly. After a few weeks, they start giving orders regarding the tasks they allegedly assigned and try to make their work unpleasant, which ultimately leads to the employee's isolation. Equally important, the new employee had no chance for professional development. One of the hidden promises managers make is that employees will have opportunities to develop. When managers do not give them this opportunity, the organization loses the trust of these employees, and the most talented employees leave.
- Problems that are not talked about—some painful or politically charged situations that are not talked about are treated as if they did not exist, for example, when an employee was suddenly fired, but no one mentions it the next day at a regular staff meeting. We also talk about such a situation when a scandalous rumour reaches the CEO's office, but no one ever talks about it openly, even in private meetings with senior management.

- "Gossip in a vacuum"—when an organization is in the middle of launching a new product that has proven to be weak—there are many opportunities for a breakdown in trust. Employees know something important is happening, but if they do not know the whole story (maybe the whole story does not exist yet), they will naturally overinterpret every piece of information they receive. There are rumours, and most of the time, they will be negative rather than positive. Temporary information vacuums in organizational life are common, and distrust thrives in a vacuum.
- Consistent corporate underperformance—when an organization consistently fails to meet the expectations set by its senior management, trust plummets.

As shown by M.A. Krosgaard et al., misunderstandings and conflicts between manager and employee are frequent and probably inevitable events in organizations. Such negative events threaten the building of relationships based on trust and cooperation. Regardless of a manager's actual behaviour, employees perceive a manager as more or less trustworthy depending on whether the organizational policy is fair. This finding is consistent with the findings of R.C. Mayer and J.H. Davis (1999, 123–136) that fairer performance appraisal policies lead employees to come to more positive conclusions about the overall character of their managers and then to place greater trust in their managers (Krosgaard et al. 2002, 312–319). As A. Rudzewicz (2016, 239–248) points out, there are several other examples of factors that reduce the level of trust including betrayal, prejudice, suspicion, partiality, fear or various manifestations of deception, including lies. If employees do not trust the leader or manager, then the team will not achieve long-term success. Trust is the key to motivating people, mobilizing them to work and achieving common goals.

4.2   The concept of distrust and its consequences

As I. Ajzen and M. Fishbein (1977, 888–918) write, attitudes and behaviours can be perceived as consisting of four different elements: the action, the goal at which the action is directed, the context in which the action is performed and the time in which it was performed. According to T. Govier (1992, 52–63), distrust is justified when people lie or deliberately cheat, break promises, are hypocritical or insincere, seek manipulation, are corrupt and dishonest, cannot be counted on to follow moral standards, are incompetent and also when they do not care about trusting individuals or gently try to harm them. Individuals often assume that even virtual strangers can be trusted and that they will not act to their detriment. However, there is considerable evidence that many people are untrustworthy including some of those who hold important roles in key social institutions. As K. Hawley (2014, 1–20) writes, distrust is not just a lack of trust. Moreover, distrust is not even a simple lack of trust. Like trust, distrust has a normative dimension. The distinction between trust and mere reliance is seen in our different responses to misplaced trust (betrayal) and misplaced trust (disappointment)

(K. Hawley 2014, 1–20). Distrust between individuals or groups occurs when there is a lack of trust between them when they are suspicious of each other's intentions or ability to do things that are expected or required. Trusting other people involves open expectations about what they will do in ways that may harm or benefit the trustor. By trusting others, the individual believes that those they trust are unlikely to do them harm and are likely to do the beneficial things they expect of them. By trusting, an individual believes that others will not consciously act against their interests and that they care about their good. By trusting, an individual accepts the risk that the trustees will not act in accordance with their expectations and also accepts their susceptibility to the actions of the other party. By trusting, an individual tends to understand and predict people's behaviour in a positive way. Even if an individual obtains evidence that trustees may not meet their expectations, there is a tendency to interpret that evidence to favour that individual's data. When there is no trust, there is no room for positive expectations. Others are agents who may act to the detriment of the trustor (Govier 1992, 52–63). R.J. Lewicki, D.J. McAllister and R.J. Bies define trust and distrust in terms of reciprocity, perceiving them as separate constructs. Low distrust is not the same as high trust, and high distrust is not the same as low trust. The intellectual foundations of this distinction come from N. Luhmann's formulation of trust and distrust as functional equivalents. Both trust and distrust allow rational actors to contain and manage social uncertainty and complexity but in different ways. From a pattern of possible behaviours, trust reduces social complexity and uncertainty by allowing a particular undesirable behaviour to be removed from consideration and allowing the desired behaviour to be perceived as certain. Likewise, distrust works to reduce complexity by allowing undesirable behaviour to be perceived as likely or even certain. N. Luhmann defines this distrust as "a positive expectation of harmful action" (Luhmann 1979; after: Lewicki et al. 1998, 438–458). Distrust simplifies the social world, allowing the individual to navigate rationally and take "protective actions" based on these expectations (Lewicki et al. 1998, 438–458).

D.H. McKnight and N.L. Chervany (2001, 27–54) presented four types of distrust:

- Distrusting intentions—the person is not willing or willing to rely on the other party with a feeling of relative certainty or certainty even if negative consequences are possible. It is a feeling of relative certainty or certainty relating to the intention not to rely on itself, and not on the other party. This means that the person feels relatively confident or confident in their intention not to rely on the other party. The authors distinguish two subconstructs of distrusting intentions:

  - Lack of willingness to rely on the other party means that the person is not willingly prepared to expose themselves to the actions of the other party by relying on them with a sense of relative certainty or certainty.

- Subjective probability of non-dependence means the degree to which one predicts or anticipates that a person will not be dependent on another, with a feeling of relative certainty or self-confidence.

- Distrusting beliefs—it is the degree to which an individual believes, with a sense of relative certainty or certainty, that another person does not possess qualities that are favourable to them. Four specific distrust beliefs were defined:

  - Lack of confidence in competence means that the person, with some degree of self-confidence, believes that the other party does not have the ability or power to do what needs to be done.
  - Distrust at the faith-benevolence level means that a person, with a certain degree of self-confidence, believes that the other person does not care about the other person and is not motivated to act in their own interest.
  - Distrust in the honesty of faith means that a person believes with some degree of certainty that the other person does not make contracts in good faith, does not tell the truth and does not keep promises;
  - Distrust of the predictability of belief means that, with some degree of certainty, an individual believes that another person's actions (good or bad) are not sufficiently consistent to be predictable in a given context.

- Institution-based distrust means that an individual believes, with a sense of relative certainty, that conditions that favour situational success in a risky endeavour or aspect of life do not exist. Formal insecurity means that someone confidently believes that the protective structures that promote situational success—guarantees, contracts, regulations, promises, remedies, processes or procedures—are not in place.
- Disposition to distrust refers to the degree to which a person has a persistent tendency to be reluctant to rely on others in a wide range of situations and people. Human suspicion means that the individual assumes that other people are usually not honest, kind, competent and predictable.

Table 4.1 presents the trust and distrust matrix developed by R.J. Lewicki et al. (1998, 438–458).

In conditions of low trust and low distrust, an individual or actor has no reason to be confident and no reason to be cautious and vigilant. Over time and as interdependence increases, the other party's awareness will develop rapidly, giving rise to beliefs about the other party's trustworthiness and distrust. The parties are not likely to engage in any relationship dynamics requiring complex interdependence or in complex risk or vulnerability assessments. The conversation is most likely simple and casual and does not invade either party's privacy or suggest closeness or intimacy. Under conditions of high trust and low distrust, one actor has reason to trust the other and no reason to suspect the other. The relationship is likely to be characterized by shared interdependence in which the parties involved have confidence that the partners are pursuing common goals.

Table 4.1 The matrix of trust and distrust: alternative social realities by R.J. Lewicki, D.J. McAllister and R.J. Biesa

A high level of trust is characterized by: • Hope • Faith • Trust • Certainty • Initiative	High convergence Promotion of interdependence Taking advantage of opportunities/chances New initiatives	Justified trust "trust but verify" Relationships that are highly fragmented and limited Exploiting opportunities and constantly monitoring vulnerabilities and risks
A low level of trust is characterized by: • Lack of hope • Lack of faith • Lack of trust • Passiveness • Indecisiveness	Casual contacts Limited interdependence Limited transactions Diplomacy	Fear and expectation of undesirable events Belief in harmful motives Interdependence management The following strategy: "the best offense is a good defence" Paranoia
	A low level of distrust is characterized by: • No concerns • Lack of scepticism • Lack of cynicism • Low control • Lack of vigilance	A high level of distrust is characterized by: • Fear • Scepticism • Cynicism • Caution and vigilance

Source: Own elaboration based on: R.J. Lewicki, D.J. McAllister, R.J. Bies, *Trust and Distrust: New Relationships and Realities*, "Academy of Management Review" 1998, vol. 23, no. 3, pp. 438–458.

This experience creates social capital that enables the trusting party to show initiative while ensuring the support of the trusted party. The parties will likely seek ways to continually develop and enrich these relationships, as well as expand mutually beneficial interdependencies. The conversation is likely to be complex and rich, reflecting the other party's awareness. In conditions of high distrust and low trust, one actor has not only no reason to trust the other but also not sufficient reasons to be distrustful and vigilant. Such conditions make it very difficult (if not impossible) to maintain effective interdependent relationships over time. If actors must interact, distrustful parties may devote significant resources to monitoring the other's behaviour, preparing for the other party's distrustful actions and dealing with potential vulnerabilities that could be exploited. And in conditions of high trust and high distrust, one party not only has reasons to be highly confident in some respects but also has reasons to be highly distrustful and suspicious in other respects. The relationship is likely to be characterized by multifaceted mutual interdependence in which the relationship partners have both distinct and common goals. To maintain and benefit from this form of relationship, parties can take steps to limit their interdependence to those links between aspects that enhance trust and strongly link those links between aspects that generate distrust (Lewicki et al. 1998, 438–458). Distrust of others leads to a certain lack of openness and appearances. It is uncomfortable to distrust those

who have power over those who trust—for example superiors at work. Individuals may or may not rely on them in some respects. When individuals do not trust their superiors, they feel uneasy: how subordinates feel depends on what superiors do, and there is reason to believe that they may act incompetent or even hostile. Distrust in such circumstances carries serious emotional costs (Govier 1992, 52–63). Employees achieving relatively favourable results is a sure sign that supervisors are performing or will perform the behaviours desired by the trustor. When favourable results are not forthcoming, trust becomes critical: without it, supervisors are unlikely to receive much support. A classic problem for managers is how to maintain the support of their subordinates when making decisions that lead to relatively unfavourable outcomes for stakeholders. By showing themselves to be trustworthy, managers may be able to maintain support, at least temporarily, in making decisions that lead to relatively unfavourable outcomes. Moreover, while procedural fairness may be one of the determinants of trust in organizational bodies, it is by no means the only one. An important implication of those findings is that other methods managers use to build their credibility enable employees to behave supportively in the face of unfavourable outcomes (Brockner et al. 1997, 558–583). When an individual does not trust another, even evidence of positive behaviour and intentions on their part may be viewed with suspicion and interpreted as misleading. When we do not trust others, relying on them will be reluctant and uncomfortable. Sometimes an individual has no alternative but to rely on those they do not trust (Govier 1992, 52–63).

4.3   Organizational cynicism and its effects on the functioning of the organization

According to the theory of D.L. Kanter and P. Mirvis (1989, 377–394), one of the phenomena accompanying cynicism is distrust towards managers and the organization in which they work. D.L. Kanter and P. Mirvis (1989, 377–394) suggested that cynicism may be the cause of a decline in trust towards the organization, and the growing distrust towards secondary managers may result in an increase in employee cynicism. Cynics believe that the most effective way to deal with other people is to tell them what they want to hear, and that their superiors never reveal the true motives behind their decisions and are more interested in short-term rather than long-term benefits (Łaciak 2010, 29–38). According to the Dictionary of the Polish Language, cynicism means a life attitude characterized by a lack of recognition of applicable ethical principles and a disregard for generally respected concepts, rights and people (www.sjp.pwn.pl). L.M. Andersson (1996, 1395–1418) defines employee cynicism as an attitude characterized by frustration, hopelessness and disappointment, as well as contempt and distrust towards the organization, management staff and/or other objects in the workplace. The sociological perspective of cynicism emphasizes the importance of a specific, conscious, idealistic belief system in the structure

of organizations towards society, and the use of cynical information. Cynical information is defined as causing suspicion and distrust of an organization as well as disregarding the honesty and kindness, actions or altruism that an organization demonstrates to protect the organizational structure or ensure continuity of management in organizations. Cynicism is a common part of organizational change and organization (Ince and Turan 2011, 104–121). L.M. Anderson (1996, 1395–1418) defines organizational cynicism as general or specific attitudes symbolized by disappointment, uncertainty, hopelessness, anger, and a tendency to distrust an institution, person, group, ideology, and social skills. As M. Ince and Ş. Turan (2011, 104–121) point out, according to a very general definition, organizational cynicism is a negative attitude. It includes three dimensions developed by the individual in relation to the organization. The first dimension of organizational cynicism is the belief that there is a lack of honesty in the organization, which results in negative emotions such as anger, contempt or condemnation. In this respect, cynicism is the tendency to doubt actions, the goodness of human instinct and sincerity. Showing emotional reactions to a given situation is the second dimension of organizational cynicism. Cynicism involves strong emotional responses such as anger and contempt. They do not provide an objective judgement of the organization. The final dimension of organizational cynicism is the tendency to lean towards negative behaviours. Much of this behaviour reflects the organization's lack of sincerity and honesty. This dimension includes elements such as strong criticism, pessimistic forecasts, ironic humour and contempt and critical statements about the organization. R.Ö. Kutanis and E. Çetinel (2010, 186–195) point out that cynical employees believe that the organization and its managers sacrifice principles such as justice, honesty and sincerity in the name of business and that the choices made by management in the organization are based on individual interests. In this context, cynical employees believe that there are ulterior motives behind organizational decisions and do not accept management's explanations for those decisions. Cynical employees are more likely to sacrifice other employees for their own interests, that is, to betray other employees, than to be sincere about the organization's goals (Kutanis and Çetinel 2010, 186–195). M. Macko and M. Łaciak (2012, 269–275) note that a cynical employee is characterized by demonstrating a lack of commitment expressed in violations of working time (lateness, fictitious sick leave, extending breaks from work, etc.), disloyal behaviour (slandering superiors, negative advertising of the employer, its services or products), idleness (pretending to work, avoiding carrying out assigned tasks) as well as refusing to cooperate with other employees, which first spoils the working atmosphere and second makes it difficult to provide high-quality, timely work. Organizational cynicism also influences employees' attributions about what happened at work and why. It helps justify spreading rumours and pointing fingers at other people. Cynicism can lead to self-promotion and defence rather than productive problem-solving or loyalty. A cynical attitude may translate into a general distrust of management,

a willingness to discredit co-workers and a tendency to criticize (Mirvis and Kanter 1991, 45–68).

J.W. Dean Jr et al. (1998, 341–352) distinguish three exchanges of organizational cynicism:

- Belief that the organization lacks integrity;
- Negative feelings towards the organization;
- Tendency to act offensively and critically towards the organization in accordance with those beliefs and feelings.

As D.C. Feldman (2000, 1286–1300; after Cartwright and Holmes 2006, 199–208) and M. Bunting (2004, 199–208) point out, employee cynicism has been proposed as a new paradigm of the employee–supervisor relationship resulting in the following:

- Longer working hours;
- Work intensification;
- Ineffective leadership and management;
- Imbalance in the workplace;
- Continuous reductions;
- Delaying the organization.

Stress research carried out by S. Cartwright and N. Holmes (2006, 199–208) showed that cynicism is closely related to the problem of burnout in the workplace. L.M. Andersson (1996, 1395–1418) states that violations that result in employee cynicism fall into three categories:

- Characteristics of the business environment, including lack of alignment of policies and practices, unethical behaviour and organizational social responsibility, as well as unfair employee remuneration policies;
- Features of the organization, including poor communication, management incompetence in implementing changes and lack of employee commitment;
- Nature of work, including role conflict, role ambiguity and work overload.

P. Sztompka (2007, 263) points to the existence of a "culture of cynicism" and defines it as "binding" beliefs about a common lack of credibility, which justify distrust and suspicion as the right attitude". As S. Ackroyd and P. Thomson (1998) point out, cynicism is a form of withdrawal from employment that has proven to be common but is sometimes criticized because it is largely ineffective in motivating action. It is important to note here that cynicism allows a person to occupy the moral high ground of critical distance while doing nothing about it. Indeed, cynicism can be, and often is, associated with relatively

high levels of job performance. Cynicism suggests a lack of alignment with the goals and policies of the employing organization but may clearly result from a high level of commitment to other values (such as vocation or community well-being) that are perceived to be threatened by corporate actions. At the other end of the scale from cynicism, there is another type of disengaged behaviour (also with an intellectual component), but that one is both more active and more unrelenting. This we identify there as disagreement. Disagreement suggests a more active form of disengagement in which the reasons for disengagement are given in a clear way that includes expressions of disagreement. Disagreement is, unlike cynicism, a more conscious and oppositional voice that can support active resistance. Both cynicism and dissent are forms of inappropriate behaviour, defined by employees distancing themselves from digitization in the organization and its policies. Both are difficult to sanction because they involve legitimate responses to company actions and policies (Ackroyd and Thomson 1998). M. Macko and M. Łaciak (2012, 269–275) distinguished environmental factors that strengthen the attitude of organizational cynicism. The factors are presented in Figure 4.1.
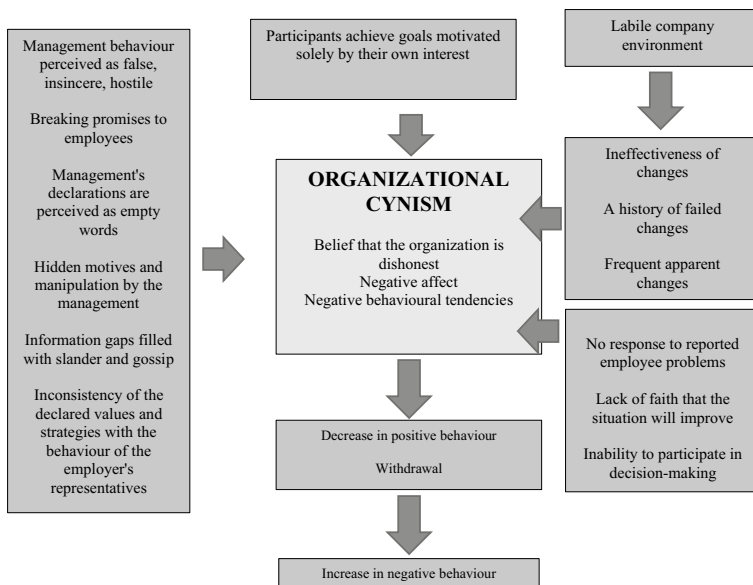
Figure 4.1 Environmental factors strengthening the attitude of organizational cynicism

Source: Own elaboration based on: M. Macko, M. Łaciak, *Jak skutecznie scynizować własnych pracowników i uczynić firmę mniej efektywną?*, "Czasopismo Psychologiczne Psychological Journal" 2012, volume 18, no. 2, pp. 269–275.

4.4   The importance of employee anomie in the process of trust erosion

Another example of organizational dysfunction is employee anomie. According to the Dictionary of the Polish Language, anomie is defined as a social phenomenon that involves the breakdown of commonly accepted norms and social bonds, occurring during great crises (www.sjp.pwn.pl). The concept of anomie was first mentioned by E. Durkheim in his works entitled *The Division of Labour in Society* (Durkheim 1964) and *Suicide* (Durkheim 2005). E. Durkheim defined the phenomenon of anomie on two levels: macro and micro, in relation to explaining the causes of suicide. The actual understanding and translation of the concept proposed by E. Durkheim concerns the lack of regulation, which is the essence of anomie. On a macro scale, E. Durkheim understood anomic suicides as the result of the lack of a sustainable economy. Sudden economic changes (both intense economic growth and crisis) cause an imbalance between production and consumption. Anomie occurs when there are no appropriate economic or legal regulations on how to proceed in this type of situation. For E. Durkheim, the micro scale is the result of macro-scale phenomena, that is, the sudden impoverishment or enrichment of people. An individual who suddenly becomes rich does not know how to act in the new situation; hence, they may give vent to their desires. As we know, human desires cannot be fully realized because when one desire is satisfied, others appear. Hence, despite the fulfilment of the individual's desires, frustration occurs. An individual who has suddenly lost their wealth cannot afford many things, which also causes frustration. Both the individual who has just become rich and the one who quickly lost everything is in a state of anomie until they learn and implement appropriate action patterns for their situation. An individual deprived of knowledge about how to behave in a new situation tends to self-destruction. Dysregulation then appears, which makes it impossible to function sensibly within society (Ambroziak 2013, 24–25). E. Durkheim distinguished four types of suicides:

- Egoistic;
- Altruistic;
- Anomic;
- Fatalistic.

Of the four types of suicide proposed by Durkheim, only one concerns anomie. The first two types are based on the freedom granted to an individual by the group to which the individual belongs: a lot or a little freedom. The second pair is based on the external regulation of the individual: a lot or less regulation. By far, the most common synonym for "anomie" given by the authors is "normless" or "normlessness". The following vocabulary was used in 35 definitions: "normless", "normlessness", "norms weak or unclear", "loss of direction", "loss of

control" and "social breakdown" (Puffer 2009, 200–222). From a sociological point of view, anomie is a state of consciousness of an individual, which consists in rejecting certain accepted values (disappearance or lack of social norms) and replacing them with chaotically constructed drives. An individual who is in a state of anomie is characterized by the loss of a sense of community with a social group, as well as the exclusion of any obligations regarding it. The main feeling that manifests itself in the thought process of an individual in a state of anomie is egoism, which manifests itself primarily in focusing on one's own person and in the belief that there is no need to speak out to anyone (Nowodziński 2015, 223–234). For E. Durkheim, the phenomenon of anomie is understood broadly and includes both utilitarian and non-utilitarian behaviours. And for R.K. Merton, anomie means a lack of norms, the phenomenon is understood as narrow and utilitarian and there is a lack of consensus as to the norms considered legitimate. Anomie relates social circumstances to an individual's mental state (Zhao and Cao 2010, 1209–1229). R.K. Merton (1968, 195) distinguished the following types of adaptation:

- Conformity—the degree to which a society is stable and compatible with both cultural goals and institutionalized means—this type of adaptation is the most common and widespread. If this were not the case, the stability and continuity of society could not be maintained. The network of expectations constituting every social order is maintained by the conformist behaviour of its members, representing an attitude consistent with established cultural patterns. If there were no set of values shared by interacting individuals, then we would speak of the existence of social relations, but not of a society.
- Innovation—the strong cultural emphasis on the goal of success encourages this type of adaptation by using institutionally prohibited but often effective means of achieving at least some manifestations of success, wealth and power. This reaction occurs when an individual has internalized the cultural emphasis on a goal without equally internalizing the institutional norms that shape the ways and means of achieving it.
- Ritualism—adaptation mode associated with rigorous adherence to behavioural patterns while giving up or reducing culturally set goals, such as great financial success and rapid social advancement.
- Retreatism—complete rejection of shared values and social norms. Individuals functioning in this way may be included in society, but only in a fictitious sense. This category includes some adaptive activities, for example, psychotics, outcasts, vagrants, chronic drunkards and drug addicts who have given up on culturally defined goals and whose behaviour is not consistent with institutional norms.
- Rebellion—a way of adapting an individual that involves rejecting social values and norms while imagining and striving to create a new, changed social

structure. Rebellion involves excluding an individual from the prevailing goals and standards and replacing them with their own values and norms.

R.A. Hilbert (1986, 1–19) defines anomie as a state of reduced social regulation to the point of pathology. According to R.A. Hilbert, anomie is the pursuit of the opposite of moral regulation, the natural limit of which is the lack of the existence of an external society and moral limitations; it is a state within which the individual is unable to experience reality (Hilbert 1986, 1–19). Anomie may foster general abnormality in the sense of pervasive deviant, unethical or immoral behaviour when the means to achieve valued ends are either limited or not clearly and normatively described (Bell, Khoury 2011, 169–200). P. Sztompka (2007, 301) defines anomie as "chaos in the axio-normative system of society; indeterminacy and mutual contradictions among values and norms indicating worthy goals of actions and the proper achievement of these goals". As M. Kosewski (2008, 46) points out, anomie is a specific state of social groups or individuals who may have values but do not respect them. Anomie does not consist in the lack of values and normative beliefs about what is right and valuable, but in the presence of other beliefs, called justifications, which partially exclude the influence of values on the behaviour of individuals. The way in which individuals make reductions by means of justifications for dignity dissonances generally becomes permanent and is not different every time, depending only on the situation. Hence, we can talk about anomie as a certain style or relatively permanent way in which an individual reduces dignity dissonances and protects the need for dignity (Kosewski 2008, 46). Effective use of the concept of employee anomie is an appropriate combination of individual and social perspectives (Ambroziak and Maj 2013, 93–94). A. Wziątek-Staśko (2016, 66) defines employee anomie as an unwritten social contract that allows for stealing from the employer. There is a feeling among employees that, in some specific situations, they can freely steal from their employer. Employees in a state of anomie do not call themselves thieves but claim that they "take advantage of the opportunity" or "the position" (Wziątek-Staśko 2016, 66). Anomie spreads very quickly, it starts with small things (e.g. theft of pens or notebooks) and ends with the embezzlement of money (Wziątek-Staśko 2016, 67). As P. Nowodziński (2015, 223–234) points out, anomie is a state of uncertainty in the axio-normative system, usually caused by its transformation. A society in a state of anomie is unable to generate a coherent system of norms and values that provide clear guidelines for individuals' actions negative (Nowodziński 2015, 223–234). According to R. Maciejewska et al. (2020, 63–82), the essence of the phenomenon of anomie is the individual's failure to identify the situation in which they cheat on their employers. M. Kosewski (2008, 46) indicates that personal anomie is a certain individual property, expressed in the ability to reduce dignity dissonances in the situations of temptation most often encountered by the individual. The components of personal anomie include the individual ability to rationalize as well as

the experience acquired in groups agreeing on justifications. We talk about the existence of social anomie when the parent culture of the society (or the culture of a smaller group), in addition to important social values with dignity, also includes so many justifications that they constitute a significant threat to the behaviour of individuals guided by those values (Kosewski 2008, 46). Creating a mutually agreed moral order in the workplace, as well as having this order respected by various parties, is of great importance to employees. Trust and reciprocity are the basis for effective and coherent work organization. A central element of normative work theory is the establishment of trust between employees and managers. Understanding workplace organization as based on normative consensus opens up possibilities for understanding some of the apparent anomalies generated by the expansion of employee participation. Employees oppose policies when management fails to meet basic workplace standards that support employee dignity and a productive environment (Hodson 1999, 292–323). As the communication process in the organization improves and trust is built, it also turns out to be important to convey an increasing range of decisions to those employees who will later make them. This naturally makes controlling less and less necessary, thus relieving team managers, and later also the organization's management, of most of the decision-making and supervisory responsibilities (Blikle 2018, 42). Many organizations are taking steps to move from a controlling management style to a more participative one. When introducing performance measurement, they encounter resistance from employees who do not trust management. Employees accustomed to high-control management are not willing to believe that managers who claim to encourage them to participate have actually made a difference. In this way, employees resist any measurement methods that could give management more tools to supervise their actions. Managers who have been autocratic must do considerable work to build trust among subordinates (Sink et al. 1984, 265–287).

According to M. Kosewski (2008, 48), the emergence of employee anomie is a consequence:

- Exposing a group of employees to repeated situations of temptation;
- Initiating a social process of agreeing on excuses among a group of employees;
- The creation of a subculture of justified benefits in a group of employees, which contains ready-made patterns of justifications;
- The creation of personal anomie in individuals by taking over and consolidating in their beliefs some or all of the justifications contained within the subculture.

In addition to financial losses, the process of anomie and behaviour bearing the hallmarks of anomie affect the quality of work and also the motivation to work. Employees begin to treat the organization as a "necessary evil", they do not identify with the workplace, they do not engage in work and they come to work

and look for opportunities to use the organization to their own advantage. The results of some studies indicate that, by treating the employee as a partner, subjectively, satisfying the employee's need for dignity and respect and giving them a sense of agency and meaning in the tasks performed, it is possible to increase the employee's identification with the organization and their commitment to work, thus minimizing the risk of employee anomie (Sypniewska 2020, 499–516). According to D. Ambroziak and M. Maj (2013, 93–94), employee anomie is a social phenomenon that involves the systematic occurrence of behaviours among employees or (more often) in employee groups that lead the organization to measurable financial losses. The most common source of employee anomie is not only an inadequate organizational structure, incorrect management and systems but also processes that force employees to behave in an anonymous manner, which have become binding norms of behaviour in the organization. A special feature of employee anomie is the operation of psychological mechanisms that allow embezzlement, theft, falsification of documents and so on with the simultaneous lack of a sense of guilt or remorse on the part of the individual.

Employee anomie in an organization is limited to the following:

- Increase the operational security of the entire organization to reduce business risk;
- Increase the predictability of employee behaviour;
- Increase employee efficiency (commitment);
- Reduce the organization's operating costs.

Figure 4.2 presents a model of three forces influencing the emergence of employee anomie developed by D. Ambroziak and M. Maj (2013, 93–94).

Employee anomie reduces mutual trust (Ambroziak and Maj 2013, 93–94). When diagnosing employee anomie, special attention should be paid to
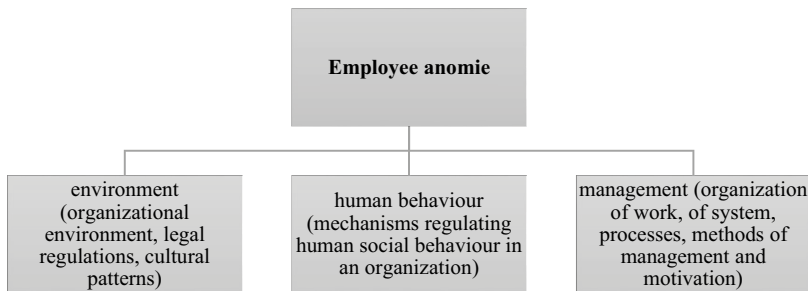
Figure 4.2 The three forces model of employee anomie according to D. Ambroziak and M. Maj

Source: D. Ambroziak, M. Maj, *Oszustwa i nieuczciwość w organizacjach. Problem anomii pracowniczej—diagnoza, kontrola i przeciwdziałanie*, Warszawa 2013, pp. 93–94.

psychological processes and specific circumstances. The combination of these factors may, under favourable conditions, result in the operation of psychological mechanisms that enable morally reprehensible acts to be performed without remorse or guilt on the part of the individual. Theft and employee abuse are a significant and very common problem, which translates into real financial losses for every organization and also reduces the effectiveness and commitment of employees. Individuals usually steal when they are repeatedly exposed to a situation of temptation (Maciejewska et al. 2019, 25–137). An important environmental element in the conditions of the Polish economy turns out to be the archaic attitudes of employees and middle management staff, whose methods of operation came from the previous socialist system, in which work was more important than its results. Estimating the risk of employee anomie within the organization makes it possible to implement appropriate procedures to minimize its negative impact (Jacyno et al. 2013, 3–12). Employee anomie is rapidly moving from relatively low to higher levels of unethical behaviour. Unfair employee practices most often concern stealing the employer's products, pretending to work, using the employer's property for private purposes, leaving work early, carrying out private matters during working hours, taking working equipment from work and then writing it off during inventory, certifying untruths in reports, analyses and so on, using regular customer discount cards to withdraw money from the cash register, making private purchases at the expense of the employer's clients and using a company car for private purposes (Maciejewska et al. 2019, 25–137). Employee anomie is a type of social anomie that is part of professional activity. Employees are then exposed to repeated situations of temptation. They then create and perpetuate credible justifications. Anomie appears in organizations where values exist and have even been written down but are not followed. As B.A. Sypniewska points out, the sources of anomie are as follows:

- Organizational culture;
- Organizational structure;
- Organization of work;
- Ways of motivating;
- Management methods;
- Legal regulations;
- Individual behaviour;
- Individual value systems;

- Mechanisms regulating the social behaviour of an individual in a given organization.

The occurrence of employee anomie is inherent in the nature of almost every business, but every ethical action results in its limitation (Sypniewska 2017, 235–265).

B. Sypniewska and M. Baran (2018, 189–203) distinguished two groups—clusters of anomic behaviour:

- Cluster 1:

  - Photocopying or printing private items;
  - Using the Internet for private purposes;
  - Leaving the workplace earlier;
  - Accepting gifts from customers;
  - Taking out office supplies;
  - Performing tasks in a manner inconsistent with competences.

- Cluster 2:

  - Making private purchases at the employer's expense (company invoices);
  - Taking items intended for customers;
  - Taking out information, for example, databases.

B. Sypniewska and M. Baran (2018, 189–203) also distinguished three clusters of rationalization for anonymous behaviour:

- Cluster 1:

  - They do not pay me enough, so I have to compensate for it.
  - Because I will work better, they will not pay me more anyway.
  - They do not appreciate me properly.
  - They are not poor, and they can afford it.
  - Others do worse things than me.
  - My honesty will not save anyone.
  - I have a stupid boss.

- Cluster 2:

  - No one will become poorer.
  - It is for free.
  - No one loses from this.

- Cluster 3:

  - Only a fool would not take advantage of it.
  - I do not want to leave the group.
  - My family has to live somehow.
  - I do it for the good of the client.

Rationalizations of justifications for the anonymous behaviour of employees from the first and second identified groups concern the negative perception of

the organization and the superior, while the third group of statements is related to concern for loved ones or the well-being of others, as well as fears of being assessed by the environment (Sypniewska and Baran 2018, 189–203). Techniques for rationalizing anomic behaviour contribute to the creation of a context in which newly socialized individuals can take normative references and deviant behaviour for granted (Passas 2000, 16–44).

Fair pay, rewards, safety, reducing the gender pay gap, improving job satisfaction and opportunities for advancement and learning for all employees are some of the solutions that can reduce employee anomie (Afshar Jahanshahi et al. 2022).

D.V. Cohen (1993, 343–358) indicates the features of the organization that favour the emergence of employee anomie:

- Leadership—in organizations where top managers, through their own behaviour, ignore applicable rules and regulations to achieve desired results, anomie may become pervasive throughout the organization. Leaders are concerned only with whether employees are achieving the organization's goals, ignoring the potential illegality of the means used to achieve those goals. Moreover, managers only respond to organizational problems that negatively affect the achievement of goals. Typically, such strategies focus on short-term profit.
- Organizational structure—power structures and accountability procedures also contribute to the emergence of anomie. In organizations where there is a high degree of anomie, management structures are usually so rigid that the goals set by management cannot be easily questioned by subordinates, even when the means available to achieve those goals conflict with subordinates' personal views on the ethically appropriate actions. In such organizations, power is distributed unilaterally, not participatively. Employees who question the goals set by management or question the means management suggests achieving those goals are perceived as disloyal to the organization.
- Policies—in organizations where regulations define what is acceptable and what is expected in the organization, reporting mechanisms inform what type of behaviour is unacceptable. In organizations with a significant degree of anomie, there are usually few formal mechanisms for reporting unethical or illegal practices.
- Incentive systems—anomie in an organization is often directly related to the criteria used when imposing penalties and awarding rewards. Motivational systems based on results, rewards in the form of salary, promotion or status are administered in direct proportion to the goals achieved. When performance goals turn out to be excessively demanding, the information given to employees is such that they can use all available means to achieve these

goals, regardless of whether they are justified, then anomic behaviour occurs. High levels of anomie may occur in situations where employees are punished for failing to meet goals but are rarely disciplined for using unethical or illegal procedures to achieve them.

- Socialization—a high degree of anomie may occur in organizations whose missions emphasize competition, performance and market position but lack emphasis on values such as customer service, social responsibility and respect for employee rights. Similarly, when these latter issues are included in the organization's mission statement but not implemented by managers, equally severe anomie may occur.
- Decision-making—decision-making processes, as well as the emphasis placed on considering the potential ethical consequences of decisions, also influence the level of anomie in organizations. A unilateral, rather than participatory, approach to decision-making means that the organization's goals and the procedures used to achieve those goals cannot be questioned by subordinates. Subordinates of such organizations have no opportunity to formally challenge the measures used to implement the decision, even when they believe that these measures are illegal. Anomie can also occur when management does not pay attention to the ethical and legal consequences of organizational decisions.
- Informal systems—anomie is also reinforced by informal dimensions of organizational culture (i.e. hidden norms of behaviour, role models, rituals, historical anecdotes and organizational language). For example, when codes of conduct are inaccurate or poorly disseminated, implicit norms of behaviour among employees typically involve direct violation of the code's content or an active search for loopholes. Role models in anomic organizations can be people who creatively develop clever ways to "beat the system". Organizational anomie is also expressed in the informal language used by organizational members, especially in relation to ethical issues. In highly anomic organizations, the issue of ethics will be seen as a "Sunday school" topic, and words such as integrity, honesty, equality or character will not be common language in intra-organizational communication.
- Ethical climate—a highly anomic organizational culture will not create a work climate conducive to ethical behaviour among the organization's employees. Moreover, in such cultures, grossly unethical practices may be explicitly or implicitly tolerated.

4.5   The essence and determinants of the effectiveness of the process of trust reconstruction in an organization

J. Stecko (2011, 169–177) identified the features of trust, relating them to three different dimensions: social, organizational and individual. In all the dimensions indicated, trust is undoubtedly a scarce resource and facilitates

quick action. Moreover, in the social dimension, the author indicates that trust, among others:

• Enables prediction in social life;
• Is a basic component of social capital;
• Is the foundation for building deeper interpersonal relationships;
• Is necessary when the information held by the entity is incomplete;
• Is a necessary condition for performing many professions, the existence of which would not be possible without trust;
• Is a condition for using new technologies.

In the organizational dimension, the author lists the following features:

• It enables the existence of flexible organizations and allows for reorganization.
• It gives you an advantage over the competition.
• It constitutes intangible assets of the organization that generate measurable values.
• It allows knowledge transfer and entrepreneurship.
• It binds employees and supports internal motivation.
• It enables creativity and innovation.
• It enables cost reduction.
• It enables effective management.
• It may be the best starting point for implementing multiple management methods.

In the individual dimension, trust, among others:

• Is necessary when the information is not complete;
• Is necessary due to limited cognitive abilities;
• Is the foundation for building deeper interpersonal relationships;
• Gives a sense of security.

As indicated by D. Lewicka et al. (2017, 215–228), the research shows that trust is one of the most important criteria for assessing the quality of inter-organizational relationships. Employees are aware of the importance of the values contained in the organizational culture; hence, they consider acting based on the highest moral standards to be a priority (Lewicka et al. 2017, 215–228). The lack of a trust management strategy in an organization may lead to "defects" in trust and destroy the trust capital that took many years to build. Understanding trust-building processes enables an organization to examine its processes in terms of alignment with a total-trust strategy. Total trust is, according to C.W. Hart and M.D. Johnson's (1999, 9–19), belief, trust and belief that an organization and its employees will be honest, reliable, competent and ethical in all their practices. Total trust is the belief that the

organization and its people will never opportunistically exploit the vulnerabilities of those who trust them (Hart and Johnson 1999, 9–19). Building an organization that is trustworthy and trustworthy in general requires more than just personal honesty. It requires skills, intelligent support processes and constant attention from managers. Trust in organizations is very complicated and fragile. In organizations, people are exposed to multiple, often contradictory messages every day. Different groups have different and often conflicting goals. To compare the nature of trust, we can cite a situation when things do not go well with the client and either party may leave. This is not usually a solution for people in the organization. However, if they believe the organization acted in bad faith, they rarely forgive and will never forget (Galford and Drapeau 2003, 88–95). Trust in an organization is complicated by the fact that people use the word "trust" to refer to three different types of trust. The first is strategic trust—the trust that employees have in top managers who make the right strategic decisions. Do top managers have the vision and competence to chart the right course, allocate resources intelligently, fulfil the mission and help the organization succeed? The second is personal trust—which employees have in their own managers. Do managers treat employees fairly? When making business decisions, do they take the needs of employees into account and put the needs of the organization above their own desires? The third is organizational trust—the trust that people have in the organization itself, not in other employees. Are the processes well-designed, consistent and fair? Does the organization keep its promises? These three different types of trust are interconnected in important ways. Whenever an individual manager violates the personal trust of their direct reports, for example organizational trust will be shaken (Hart and Johnson 1999, 9–19). As J. Paliszkiewicz (2011, 227–232) points out, managing trust in an organization while hiding true intentions will not bring the expected long-term benefits and is even a guarantee of failure. The costs of rebuilding lost trust far outweigh the benefits gained from abusing it. Often, regaining trust is impossible because the interaction is broken or the costs of ongoing monitoring of behaviour after abuse make it impossible to return to the state before the trust crisis. As pointed out by R.C. Mayer et al. (1995, 709–734), procedural fairness is one factor that people can use when inferring the trustworthiness of another party. As M. Spreitzer and A.K. Mishra (1999, 155–187) point out, trust and its two substitutes can help managers engage lower-level employees more in the decision-making process. Increasing attention is being paid to the concept of trust as an alternative to traditional control mechanisms. Managers' trust in lower-level employees reflects the belief on the part of managers that lower-level employees care about the organization's goals and are competent to make good decisions. It also reflects the belief that those employees are credible in their actions and honest in expressing their intentions. Trust substitutes include the following:

- Obtaining and disseminating information about results;
- Combining the interests of employees and organizations through reward systems.

Substitutes help reduce the vulnerability that managers inevitably face because they involve lower-level employees in decision-making. The dissemination of performance information can work to reduce opportunistic behaviour by providing feedback to managers and employees themselves about the performance of lower-level employees. Performance information is data collected through methods such as benchmarking studies, assessments by independent external organizations, surveys and internal audits. Unlike monitoring, which focuses on the behaviour of lower-level employees, performance information is less intrusive because it focuses on employee performance outcomes. Such information allows employees to determine appropriate means to achieve specific performance outcomes. Reward systems (incentives) can be used to minimize self-interest by creating responsibility on the part of lower-level employees. Rewards tie the economic fate of lower-level employees to the interests of the organization. Incentives are intended to coordinate employee preferences with those of the organization, and this helps to reduce the risk of selfish behaviour. Trust acts as a "social lubricant" in relationships between managers and lower-level employees. Managers trust employees when they believe that employees are competent to make the right decisions, care about the needs of the organization, are reliable and open to sharing confidential information. However, trust takes a long time to develop and is easily broken by poor practices on the part of managers or lower-level employees (Spreitzer and Mishra 1999, 155–187).

Table 4.2 presents examples of actions taken to reconstruct trust proposed by N. Gillespie and G. Dietz (2009, 127–145).

R.E. Quinn (2005, 74–83) identified the desired characteristics of modern leadership:

- Defining results/goals:

  - Awareness of "the results I want to achieve";
  - Maintaining high standards;
  - Initiating actions;
  - Challenging employees;
  - Disruption of the status quo;
  - Attracting employees' attention;
  - Creating a sense of common purpose;
  - Engaging in urgent conversations.

- Internally driven:

  - Acting in accordance with your core values;
  - Searching for internal motivation;
  - Feeling of own power;
  - Courage;
  - Detecting hidden conflicts and resolving them;
  - Honesty and authenticity: "expressing what I really believe in";

Table 4.2 Examples of interventions related to trust repair for each element of the organizational system according to N. Gillespie and G. Dietz

Element	Regulation of distrust: reducing untrustworthy behaviour	Demonstration of credibility: a signal of renewed credibility
Leadership and management practice	• Suspension of operations and/or recall of defective products • Reprimanding, punishing or removing guilty persons • Tracing practices; conduct and attitudes • Ensuring the adoption and compliance of reforms • Influencing other elements of the system so that credibility can be regulated (e.g. incentives for change and reporting structures)	• Establishing transformational leadership: "act as a role model, symbolizing organizational values and conduct" • Creating a common vision and goals based on values • Creating communication that strengthens trust • Increasing the credibility of other elements of the system (e.g. procedural fairness, ethical and strategic goals and implementation) • Committing resources to create an atmosphere of trust in recovery efforts (e.g. money, time and manpower)
Culture and climate	• "Cultural interventions" (e.g. induction and socialization) to instil values and norms that discourage violations of trust • Imposing sanctions for violations of trust norms • Creating "cultural artifacts" that have a deterrent effect (e.g. codes of ethical conduct and public statements)	• "Cultural interventions" to instil values and norms of honesty, competence, responsibility, reliability and respect • Creating "cultural artifacts" that symbolize and promote credibility and confirm its priority over competitive imperatives (e.g. codes of conduct, commemorative events, legends and stories)
Strategy	• Shaping priorities and goals at the organizational and individual level (e.g. the primacy of security and integrity), resource allocation and the content of policies and procedures • Direct behaviour consistent with organizational strategies	• Revising the strategy so that it is consistent with the values based on trust • A reform strategy to demonstrate a sustained commitment to treating stakeholders sympathetically and fairly • Promoting ethical conduct and corporate social responsibility

Structures, policies and processes	• Revising decision-making powers and responsibilities • Controls, balances and disciplinary procedures • Standardization of work processes and training to compensate for lack of skills and/or knowledge • Offering support in the form of coaching and mentoring to help employees struggling with ethical dilemmas or difficult decisions	• Revising policies and procedures to ensure that employees perceive them as fair, effective and equitable (e.g. transparent and fair assessment systems, dispute resolution and whistleblowing procedures) • Recruitment, selection, induction and training procedures emphasizing personal integrity and organizational values symbolizing trustworthiness
External management	• Compliance with external regulations regulating conduct and monitoring (e.g. sectoral, industrial and consumer) • Obtaining external accreditation, license, approval or audit	• Voluntary cooperation with external regulatory authorities • Obtaining a license/accreditation (e.g. regarding ethical conduct) • Government campaign for sectoral regulations
Public opinion/ reputation	• Making public statements committing the organization to comply with reformed strategies, activities and goals • Publishing internal diagnoses, assessments and audits	• Using communication, marketing and branding that increases trust • Offering a public apology and redress (where appropriate) • Voluntarily providing diagnoses and assessments to the public

Source: Own elaboration based on: N. Gillespie, G. Dietz, *Trust repair after an organization-level failure*, "Academy of Management Review" 2009, no. 34 (1).

- Sense of community;
- Engaging in authentic conversations.

- Focusing on others:

  - Sacrificing personal rights for the common good;
  - Seeing the potential in every employee;
  - Trusting others and supporting interdependence;
  - Empathizing with people's needs;
  - Supporting employees;
  - Creating an atmosphere of common identity;
  - Engaging in participatory conversations.

- Openness:

  - Taking risks;
  - Inviting people to express their opinions;
  - Paying deep attention to what is happening;
  - Looking for new opportunities;
  - Creating opportunities for continuous development;
  - Creating an atmosphere of common contribution;
  - Engaging in creative conversations.

The antidote to inconsistency in messaging is simple, but not easy to implement. Before laying out your priorities, it is important to "outline them" to yourself or a trusted advisor first to ensure that they are consistent and honest with others, rather than making unrealistic commitments. Ignoring matters about which the superior has knowledge and knows that everyone is whispering behind closed doors may be a factor triggering dysfunctions in work organization. It is important to present the problems as they actually are with a short explanation and answer questions to the best of our knowledge, but only those that will not violate the interests of the organization. Employees are sometimes reluctant to accept that they do not have access to all the details, but their trust in their manager will decline if they suspect that they are trying to hide something from them. An important factor in gaining/maintaining trust among employees is informing all employees about the organization's goals and how the organization can achieve them. The more people know about what lies behind expectations, the more likely they are to continue to trust their manager and the organization, even in crisis situations (Galford and Drapeau 2003, 88–95). Employees observe their superiors and analyse whether they behave consistently. Trust in top leaders is based, in part, on an assessment of whether supervisors are keeping their commitments to employees and other important stakeholders. High trust in organizational credibility promotes employee satisfaction and the perception of organizational effectiveness (Shockley-Zalabak and Morreale 2011, 39–45).

D. Lewicka (2011, 101–118) presented a set of factors limiting unethical behaviour in the organization, including:

- Transparency—discussing the current situation, conversations based on honesty, open messages about what bothers someone, but who is responsible for solving the problem; clear and transparent rules of operation;
- Changing relationships—relationships based on mutual respect, recognizing the needs of others, creating a high level of trust; greater respect for the employee and a less formal atmosphere;
- Building a culture of trust—increasing the level of trust, avoiding gossiping and developing the principle of mutual trust through mutual support;
- Improving communication—method of mutual dialogue, efficient flow of information between superiors and subordinates, open management, regular meetings with employees, openness in talking about problems, good internal PR, providing the same information to each employee, honesty in communication, informing employees about activities that the organization undertakes and conducting employee satisfaction surveys;
- Clear assessment criteria—fairness and equal treatment and use of assessments;
- Changes in the area of superior-subordinate relations—cooperation with the boss and subordinate–superior partnership relations;
- Employee integration—integration trips for employees and bosses;
- Reducing environmental pressure—increasing work comfort and friendly relationships and reducing performance pressure;
- Adequate remuneration—remuneration should be justified by the commitment and scope of responsibilities of employees, through the use of a well-thought-out gratification system;
- Setting a good example—a matter of upbringing and an example from the employer, eliminating empty promises;
- Careful selection—employing competent people, more effective selection of managerial staff and employees, employing people with the skills to manage a team;
- Trained staff—eliminating incompetence in the area of managerial staff and training;
- Building a culture that tolerates mistakes—creating an atmosphere of admitting mistakes without suffering consequences, showing understanding and at the same time helping to correct mistakes;
- Building ethical standards—sticking to clearly defined rules, eliminating the possibility of promotion based on connections and condemning lies;
- Changes in work organization—clear action plan and division of responsibilities; the company's tasks and goals should be adapted to the employee's capabilities and working time, by changing the organization: more precise scope of responsibilities and fair division of work;

- Understanding employees—showing understanding of the situation of employees in specific situations, dismissing only for gross negligence, atmosphere of respect and getting to know employees.

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5 Diagnosis of the level of trust in organizations of the SME sector—research methodology

5.1 Subject of the empirical research

As M. Lisiński (2013, 163–172) points out, the last decade of the 20th century led to numerous phenomena in the spheres of the organization's environment (distal and proximal). Events taking place in the political, economic, technical-technological and social spheres have significantly influenced the dynamism of globalization processes in the world economy, which also left its mark on the organization's relations with other entities that operated not only, like them, in the same sectors, but also in themselves. As H. Dźwigoł (2015, 133–142) points out, scientific research is a complex process that aims to solve a specific problem. J. Niemczyk (2020a, 103–118) points out that the scientific process "requires two basic groups of activities. The former comes down to finding a scientific problem; the latter is to create a solution to this problem and its scientific justification". Formally, one of the sources of scientific problems may be referred to as the inventory of a research gap, the filling of which is the most common motivator for a researcher to undertake scientific research work (Niemczyk 2020a, 103–118). The essence of the research process is the formulation of the research problem, which determines the research objectives, that is, everything we want to achieve during the research (Dźwigoł 2015, 133–142). Following H. Dźwigoł (2015, 133–142), it is necessary to identify the feature that distinguishes a method from other conscious and purposeful actions, that is, the research procedure or the research process. The research procedure consists of the following elements:

- Selecting a research problem;
- Formulating hypotheses;
- Research planning;
- Carrying out research;
- Data collection;
- Data processing;
- Data analysis;
- Presentation of research results.

A properly prepared research process makes it possible to obtain results that are valuable from the point of view of science (Dźwigoł 2015, 133–142). As S. Nowosielski (2016, 465–482) points out, as part of the detailed description of each goal, including scientific research, it is necessary to define the following:

• Content of the goal (what we are aiming for);
• Method of measurement (how to measure it);
• Implementation time (what is the completion date);
• Research contractors (who is to conduct the research);
• Interconnectedness (how to organize goals into a bundle of goals).

As part of this research project, three types of intra-organizational trust were analysed:

• Trust in co-workers;
• Trust in managers;
• Trust in technology.

Based on the literature analysis, the main goal of the study was defined as follows: diagnosis of the determinants of trust, their structure and the level of trust in SME sector organizations in the conditions of digitization.

Then, eight specific goals were adopted:

1. Systematization of the determinants of the level of trust in SME sector organizations in the conditions of digitization;
2. Diagnosis of the level of trust in managers in SME sector organizations in the conditions of digitization;
3. Diagnosis of the level of trust in co-workers in SME sector organizations in the conditions of digitization;
4. Diagnosis of the level of trust in technology in SME sector organizations in the conditions of digitization;
5. Diagnosis of factors that have a positive impact on the level of trust in SME sector organizations in the conditions of digitization;
6. Diagnosis of factors that have a negative impact on the level of trust in SME sector organizations in the conditions of digitization;
7. Assessment of the impact of an employee's gender on the perception of factors that have a positive impact on the level of trust in co-workers in SME sector organizations in the conditions of digitization;
8. Assessment of the impact of an employee's work experience on the assessment of factors causing the erosion of trust in managers in SME sector organizations in the conditions of digitization.

5.2   Methodological assumptions

As J. Niemczyk (2020b, 15–25) writes:

> methodology is a fascinating discipline of knowledge that shows paths in the landscape of ignorance, assumptions, guesses and the human need for understanding. The science of methods serves as an atlas of investigations in which all paths lead to the goal of learning about the reality around us.

M. Lisiński and M. Szarucki (2020, 39) define methodology as the science of "cognitive activities undertaken in the course of scientific research and facts as their products". The main element of the methodology is methods, and the goal is to comply with the adopted principles of methodological rigor. As M. Lisiński and M. Szarucki (2020, 39) point out, the importance of this rigor directly affects the credibility of the obtained research results. S. Nowak (2007, 22) defines a method as "a specific, repeatable and learnable way—a scheme or pattern— of conduct, consciously aimed at achieving a certain goal by selecting means appropriate for this purpose". And research methods in empirical sciences are defined by S. Nowak as typical and repeatable methods of collecting, developing, analysing and interpreting empirical data that are used to obtain maximally (or optimally) justified answers to the questions posed therein. As Ł. Sułkowski and R. Lenart-Gansiniec (2021, 29) point out,

> the methodology of management sciences creates a framework for learning and improving discourse (there are both descriptive and normative goals). Methodological issues refer to epistemological and pragmatic aspects. Axiology and management ethics focus on examining the relationship between cognition and valuation. The examined problems may take the form of cognitive questions, moral dilemmas, as well as pragmatic problems of organizational deontology.

Table 5.1 presents the problems of ontology, epistemology, methodology, axiology and ethics in the organization and management process developed by Ł. Sułkowski and R. Lenart-Gansiniec (2021, 30).

Figure 5.1 shows the development of the management methodology developed by Ł. Sułkowski and R. Lenart-Gansiniec.

As Ł. Sułkowski (2020, 26–46) points out, an organization is a purposeful social group, and social research methods developed by sociology, anthropology and social psychology are appropriate for learning about it. Examples of empirical methods enabling learning about organization and management are as follows:

• Survey method (taken from sociology);
• Observation method (taken from natural sciences);

Table 5.1 Problems of ontology, epistemology, methodology, axiology and ethics in organization and management

Science	Problems/questions
Ontology	• Is there an organization? • What kind of entity is it? • Is there management? • Are organization and management real entities or are they nominalist in nature?
Epistemology	• What is the subject of organization and management research? • What is the subject of cognition? • What is the degree of certainty of knowledge about organization and management? • How is truth discovered in management sciences? • Does management have its paradigms? • What is management theory? • What are the relations between theory and practice? • What are the limits of management science? • What is the identity of scientists and researchers?
Methodology	• Is there a scientific method of management? • What are the ways to get to know the organization? • How to shape it? • How to manage? • What cognitive and pragmatic methods are used by management?
Axiology and ethics	• What is the ideal of evaluative and non-evaluative science in management? • What values underlie organization and management? • How to manage an organization ethically? • What is the ethical responsibility of employees, managers and other stakeholders?

Source: Ł. Sułkowski, R. Lenart-Gansiniec, *Epistemologia, metodologia i metody badań w naukach o zarządzaniu i jakości*, Społeczna Akademia Nauk, Łódź 2021, p. 30.

• Ethnological methods (taken from anthropology);
• Casuistic methods (taken from legal sciences);
• Para-experimental methods (taken from natural and social sciences);
• Documentation methods (taken from natural and social sciences).

This research project was carried out using the deductive method (Lisiński 2016, 11–19) as one of the methods of empirical science. Deduction (Latin: *deductio*—derivation) according to the Dictionary of the Polish Language is a method of reasoning that involves drawing logical conclusions from assumptions considered to be true (www.sjp.pwn.pl). The process of reasoning, which involves moving from general to specific, is a thought process in which, having knowledge about the whole as a basis, we can make inferences about some of the components (elements or objects) of a given whole (Apanowicz 2002, 25).
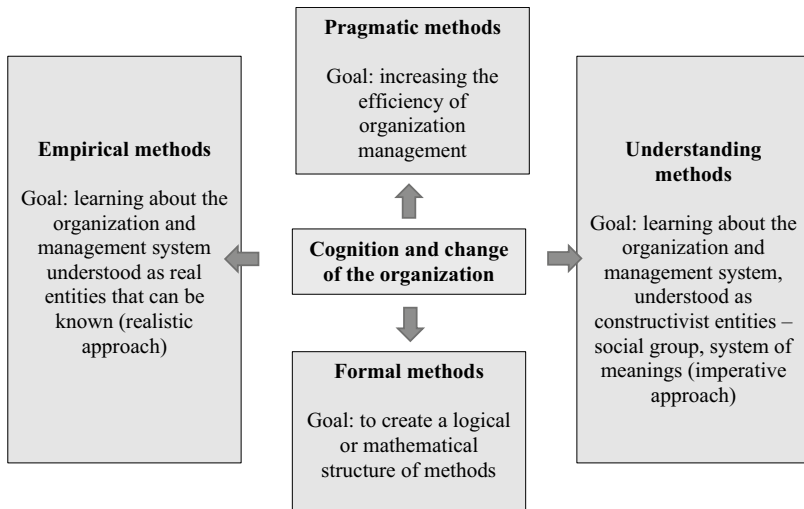
Figure 5.1 Development of management methodology

Source: Ł. Sułkowski, R. Lenart-Gansiniec, *Epistemologia, metodologia i metody badań w naukach o zarządzaniu i jakości*, Społeczna Akademia Nauk, Łódź 2021, p. 168.

The submitted research project is embedded in the field of social sciences in the field of management and quality science (Rozporządzenie Ministra Edukacji i Nauki z dnia 11 października 2022 r. w sprawie dziedzin nauki i dyscyplin naukowych oraz dyscyplin artystycznych) within two subdisciplines of management and quality sciences:

- Human resources management, including the effectiveness of human resources management;
- Organizational behaviour, including trust in management (Bełz et al. 2019).

As R. Borowiecki and B. Siuta-Tokarska (2018, 7–15) point out, the so-called paradigms are understood as a set of concepts and theories widely recognized by the scientific community in a given field, and as a specific, binding worldview, which is a way of perceiving the world in a given science, indicating the most important problems of a changing reality. Taking into account the subject of the submitted research project, its implementation was undertaken within the interpretative-symbolic paradigm. As Ł. Sułkowski (2009, 127–149) points out, to build a scientific theory within the interpretative-symbolic paradigm, it is necessary to discover meaning by an involved member of the organization or observer. The term "symbolic interactionism" began to be used to describe a relatively characteristic approach to research on the functioning of human groups and human behaviour (Blumer 1969, 1). The starting point for

any research process is the formulation of a certain question or a more or less ordered set of questions (Nowak 2007, 26). The truthfulness of the assumptions (questions) we formulate depends to a large extent on the knowledge of the reality to which the questions are asked and in which the research will be carried out (Nowak 2007, 35).

The research process as part of this research project was carried out in accordance with the research and diagnostic procedure. As J. Apanowicz points out, a diagnostic procedure is a set of research activities that involve determining a given state of affairs or changes in states of affairs taking place over a certain period of time. It is used to determine the existing state of affairs and to find its causes. Determining the actual state of functioning of any structure (phenomenon, process or social organization) is possible with the help of technical (electronic) research tools or a diagnostic survey, using, for example a questionnaire, an interview or an observation sheet. Regardless of the research tool used, whether the tool is highly automated or simple, it is necessary that it ensures a reliable diagnosis result, that is, the correct diagnosis (Apanowicz 2002, 38–39). Due to the issues addressed in this research project, the diagnostic survey method was used.

J. Apanowicz (2002, 47–48) points out that institutional phenomena, mostly non-localized, which have organizational and practical significance, are of particular interest to the diagnostic survey method. Knowledge about the subject under study in the application of this method is most often achieved based on selected representative samples that characterize the general statistical population. Following M. Lisiński and M. Szarucki (2020, 117), quantitative research is based on "collecting information on the properties of selected groups of phenomena or the relationships between them, examining numerous samples of representatives of these groups". According to M. Lisiński and M. Szarucki (2020, 117), quantitative research is usually aimed at checking previously formulated hypotheses, that is, verifying or falsifying them. W. Czakon (2016, 41–52) emphasizes that "data analysis aims to reveal or confirm relationships between variables that reflect the examined patterns of relationships occurring between the elements of the studied processes". J. Niemczyk (2020b, 15–25) points out that quantitative research is any empirical research during which specific variables are measured in a quantitative manner using instruments appropriate for such measurement. Survey research is quantitative in nature. It involves verifying the adopted hypotheses based on the collected research material, and on this basis, conclusions are formulated in the form of a deterministic or stochastic law. Survey research is conducted via the Internet, in which respondents complete the survey online and the answers they complete are automatically saved in a database—Computer-Assisted Web Interviews (CAWI) are one of the most frequently used online research techniques (Przewłocka 2009, 97–108).

As part of this research project, an original survey questionnaire in electronic form was used. The questionnaire was created using a Google form. The method

of collecting research material was to send an electronic questionnaire to randomly selected respondents working in the SME sector. The research was supplemented by the distribution of a paper survey questionnaire and then entered into the electronic forms database. The questions included in both versions of the survey questionnaire did not differ from each other. The online version of the survey was protected against tampering with the content through appropriate form settings. The research technique used made it possible to explain and understand the phenomena occurring in the studied organizations, which were the subject of the research undertaken. The following arguments led to the use of the electronic survey technique:

- Possibility of covering a large group of employees in the study;
- Study implementation time;
- Cost-free nature of the study;
- Anonymity of the study.

The survey questionnaire designed for this research project was divided into 12 parts.

- Part 1: introduction and presentation of the research subject;
- Part 2: trust in co-workers—18 statements were proposed to determine the level of trust in co-workers using a Likert Scale from 1 (difficult to say) to 5 (I definitely trust);
- Part 3: trust in managers—26 statements were proposed to determine the level of trust in managers using a Likert Scale from 1 (difficult to say) to 5 (I definitely trust);
- Part 4: information and communication technologies in the organization— one question was used to determine the attitude of employees to information and communication technologies using a Likert Scale from 1 (I do not use and do not want to) to 5 (I use and want to continue to use);
- Part 5: trust in technology—17 statements were proposed to determine the level of trust in technology using a Likert Scale from 1 (difficult to say) to 5 (I definitely trust);
- Part 6: assessment of the impact of factors on the level of trust in co-workers (maintaining and building trust)—one question was used to assess the impact of the proposed factors on the level of trust in co-workers using a Likert Scale from 1 (it does not affect my level of trust at all) to 5 (it affects my level of trust to a large extent);
- Part 7: assessment of the impact of factors on the level of trust in managers (maintaining and building trust)—one question was used to assess the impact of the proposed factors on the level of trust in managers using a Likert Scale from 1 (it does not affect my level of trust at all) to 5 (it affects my level of trust to a large extent);

- Part 8: assessment of the impact of factors on the level of trust in technology (maintaining, building trust)—one question was used to assess the impact of the proposed factors on the level of trust in managers using a Likert Scale from 1 (it does not affect my level of trust at all) to 5 (it affects my level of trust to a large extent);
- Part 9: assessment of the impact of factors on the erosion of the level of trust in co-workers—one question was used to assess the impact of the proposed factors on the erosion of trust in co-workers using a Likert Scale from 1 (it does not affect my level of trust at all) to 5 (it affects my level of trust to a large extent);
- Part 10: assessment of the impact of factors on the erosion of the level of trust in managers—one question was used to assess the impact of the proposed factors on the erosion of trust in managers using a Likert Scale from 1 (it does not affect my level of trust at all) to 5 (it affects my level of trust to a large extent);
- Part 11: assessment of the impact of factors on the erosion of the level of trust in technology—one question was used to assess the impact of the proposed factors on the erosion of trust in technology using a Likert Scale from 1 (it does not affect my level of trust at all) to 5 (it affects my level of trust to a large extent);
- Part 12: respondent's profile allowing to determine the gender of the surveyed employees, their age, the position they hold, the size of the organization in which they work, the total work experience, the work experience in the organization where the respondents currently work and their education.

5.3   Research hypotheses

As noted by A.M. Jeszka (2013, 31–39), a thesis-hypothesis system often appears in research projects. The approach usually adopted is that the thesis is proven, and the hypothesis is tested. As J. Apanowicz (2002, 71) points out,

> by expressing in theses (detailed problems, problem questions) an assumption, conclusion or statement about the existence of relationships and dependencies between individual objects, facts or phenomena (processes) in a given research problem, we prepare premises (scientific facts) for formulating a hypothesis.

According to K. Ajdukiewicz (2008, 117–157), a hypothesis is

> a statement that is not based on experience, nor is it a recording law, but has been adopted to explain a certain group of facts that could not be explained using theorems previously discovered in a given science. To explain something is equivalent to giving an answer to the question why something occurs.

As noted by W.W. Skarbek (2013, 19), the decision about whether a given research question (statement) can be considered a hypothesis or not is not completely arbitrary. A statement that is to be called a hypothesis must meet specific requirements of rationality. There cannot be reliable data that contradict it at the time the hypothesis was formulated, but if it appears in the future, the hypothesis loses credibility and should therefore be rejected. According to A.M. Jeszka (2013, 31–39), it can be generally assumed that a hypothesis is an assumption about reality, and the verification of the hypothesis (i.e. assessment of the truthfulness of the hypothesis) takes place by comparing the hypothetical state with the actual state. As U. Augustyńska (2012, 237–243) points out, the concept of hypothesis in the area of empirical sciences refers to sentences that state about the nature of the examined reality. Their authenticity is subject to verification. According to J. Sztumski (2005, 53), a hypothesis is an assumption or guess that has been put forward provisionally to determine or explain something, and which requires checking (verifying) by means of appropriately prepared research applied within a given science.

The literature review became the basis for adopting the main hypothesis (Hg), which is as follows: conditions related to digitization differentiate the structure of determinants and the level of trust in SME organizations.

To verify the correctness of the main hypothesis, partial hypotheses were formulated:

- H1. The size of the organization differentiates the determinants and the level of trust in managers in SME sector organizations in the conditions of digitization.
- H2. The size of the organization differentiates the determinants and the level of trust in co-workers in SME sector organizations in the conditions of digitization.
- H3. The size of the organization diversifies the determinants and the level of trust in technology in SME sector organizations in the conditions of digitization.
- H4. The employee's gender influences the different perceptions of factors that have a positive impact on the level of trust in co-workers in SME sector organizations.
- H5. Work experience differentiates the structure of factors causing the erosion of trust in managers in SME sector organizations.

5.4   Operationalization of variables

As J. Apanowicz (2002, 52) points out, defining variables means isolating properties (features and characteristics) that define a given phenomenon (process, structure, organization or element). As M. Lisiński and M. Szarucki (2020, 16) point out, defining concepts is an essential element of every scientific procedure.

It allows for limiting ambiguity and confusion and leads to an explanation of the adopted research problem that respects substantive and methodological standards.

For the purposes of the research, the following socio-demographic criteria were adopted.

For the purposes of this study, the following definitions were developed and adopted:

• Digitization is one of the stages of organizational development. Digitization is a continuous process of adaptation, design and implementation of organizational processes using and optimally utilizing the potential of modern technologies and anticipating the effects of their use because of intelligent IT solutions.

Table 5.2 Socio-demographic criteria

Criteria	
Gender	• Female
	• Male
Age	• 18–25 years old
	• 26–40 years old
	• 41–60 years old
	• > 60 years old
Position held	• Worker position
	• White collar position without subordinate employees
	• Managerial
The size of the organization	• Micro-sized enterprise: from 1 to 9 employees
	• Small-sized enterprise: from 10 to 49 employees
	• Medium-sized enterprise: from 50 to 249 employees
Total work experience	• < 1 year
	• 1–5 years
	• 6–10 years
	• > 10 years
Work experience in the current organization	• < 1 year
	• 1–5 years
	• 6–10 years
	• > 10 years
Education	• Primary
	• Vocational
	• Secondary
	• Higher

Source: Own elaboration.

- Trust is the positive belief of a trusting individual in relation to a trustee (an individual or an object) regarding their competences, credibility, motives and intentions in a specific context, under conditions of uncertainty and risk. Trust is an expectation of cooperation, a mutual belief that the trusting party's weaknesses will not be exploited by the trustor, and the trustee will behave in a manner consistent with the expectations placed on him/her.
- Interpersonal trust is the belief and expectation of an individual towards the individual trusted in direct contacts, as to their reliability, trustworthiness and competences. Interpersonal trust is also the belief of the trusting individual as to the degree of the trustor's readiness to cooperate.
- Trust in technology is a relationship between an individual and technology that refers to the degree to which an individual is willing to rely on technology. Trust in technology is an individual's positive expectation towards technology regarding its properties: predictability, reliability and usefulness, as well as the belief that technological solutions will work in accordance with the individual's expectations.

The following definition of erosion was adopted in the context of the erosion of trust in the organization:

- Erosion in the process of destroying trust is understood as the slow destruction or decomposition of norms and values (www.sjp.pwn.pl).

Based on a literature review, the determinants of the level of trust in managers were identified and categorized. The classification of determinants is consistent with the implementation of specific goal 1: systematization of the determinants of the level of trust in SME sector organizations in the conditions of digitization.

Table 5.3 presents the adopted determinants of the level of trust in managers.

Based on the adopted determinants, statements were formulated to measure the level of trust in managers, taking the size of the organization as a category, which were then used in the survey questionnaire. Diagnosing the level of trust in managers is the implementation of specific goal 2: diagnosis of the level of trust in managers in SME sector organizations in the conditions of digitization.

Based on a literature review, the determinants of the level of trust in co-workers were identified and categorized. The classification of determinants was made as part of the implementation of specific goal 1: systematization of the determinants of the level of trust in SME sector organizations in the conditions of digitization. Table 5.4 presents the accepted determinants of the level of trust in co-workers.

Based on the adopted determinants, statements were formulated to measure the level of trust in co-workers, taking the size of the organization as a category, which were then used in the survey questionnaire. Measuring the level of trust in co-workers is the implementation of specific goal 3: diagnosis of the level of trust in co-workers in SME sector organizations in the conditions of digitization.

Table 5.3 Classification of determinants of the level of trust in managers

Determinants	Statements
Competence	• I trust that my superiors have sufficiently high competences to perform the duties in their positions (e.g. they know the specifics of the industry and have employee management skills). • I trust that my superiors are willing to share their knowledge with other employees.
Commitment	• I trust that my superiors are fully committed to their work. • I trust that my superiors are professionals in their work and perform their official duties reliably.
Communication	• I trust that my superiors provide information to their employees in the most simple and understandable way possible. • I trust that I can freely talk to my superiors about my difficulties at work and it will not be a reason for misunderstandings.
Honesty	• I trust that my superiors make reliable assessments and remain impartial in conflict situations between employees. • I trust that my superiors do not gossip about other employees. • I trust that my superiors do not exclude me when providing important information/official duties to achieve their own benefits.
Loyalty	• I trust that my superiors do not hinder my work through their careless, ill-considered actions, exposing me to uncomfortable situations.
Sincerity	• I trust that my superiors express their opinions and assessments honestly. • I trust that my superiors are discreet, and I can talk to them honestly about my difficulties at work and those unrelated to work without fear of other employees finding out about it. • I trust that my superiors openly admit to the mistakes they have made.
Care	• I trust that my superiors notice conflict situations between employees and take appropriate actions to solve them.
Reliability	• I trust that my superiors are capable of sacrificing themselves personally to achieve common goals for the entire team (e.g. devoting their additional time).
Good intentions/ kindness	• I trust that my superiors have good intentions when performing their duties towards both the organization and their co-workers. • I trust that my superiors do not use my weaknesses against me in pursuit of their professional goals. • I trust that my superiors will not accuse me of incompetence when I ask them for help in performing my official duties. • I trust that my superiors do not force unnecessary competition between employees.
Responsibility	• I trust that my superiors accept responsibility for the mistakes they make. • I trust that my superiors take actions that are the consequences of previous declarations (promises).

Justice	• I trust that my superiors evaluate the results of my work fairly.
	• I trust that my superiors notice the incompetence of their employees and take consequences against them.
	• I trust that my superiors do not succumb to manipulations used by other employees, which are aimed at strengthening their professional position (e.g. "reporting" on teammates to gain the superior's recognition).
	• I trust that my superiors treat employees equally and do not favour selected people.
	• I trust that my superiors hold their subordinates accountable fairly and solely on the basis of work results, not guided by personal beliefs.

Source: Own elaboration.

Table 5.4 Classification of determinants of the level of trust in co-workers

Determinants	*Statements*
Competence	• I trust the competences of my co-workers, which are necessary to perform their official duties.
Commitment	• I trust that my co-workers are fully committed to their work.
	• I trust that my co-workers are professionals in their work and perform their official duties reliably.
Communication	• I trust that my co-workers express their opinions and assessments honestly.
	• I trust that my co-workers share important information without leaving out any of the people who should receive the information.
Honesty	• I trust that my co-workers do not use manipulation towards other employees in an attempt to achieve their business goals.
	• I trust that my co-workers do not hinder my work through their careless, ill-considered actions, exposing me to uncomfortable situations.
	• I trust that my co-workers do not use confidential information entrusted to them (e.g. information in electronic form, provided in person) for their own benefits.
	• I trust that my co-workers make reliable judgements and remain impartial in conflict situations between other employees.
Loyalty	• I trust that my co-workers value cooperation rather than unnecessary competition in the pursuit of common goals.
	• I trust my co-workers not to gossip about other employees.
Sincerity	• I trust that my co-workers openly admit to the mistakes they have made.
Care	• I trust that my co-workers will not refuse to help me when I need it while performing my official duties.
Reliability	• I trust that my co-workers take actions that are the consequences of previous declarations (promises).
	• I trust that my co-workers are able to make personal sacrifices to achieve common goals for the entire team (e.g. devote their additional time).

(*Continued*)

Table 5.4 (Continued)

Determinants	Statements
Good intentions/ kindness	• I trust that my co-workers do not use my weaknesses (e.g. personality traits) against me when pursuing their business goals. • I trust that my co-workers have good intentions when performing their official duties towards both the organization and other employees.
Responsibility	• I trust that my co-workers accept responsibility for the mistakes they make.

Source: Own elaboration.

Based on the literature review, the determinants of the level of trust in technology were identified and categorized. The classification of determinants is consistent with the implementation of specific goal 1: systematization of the determinants of the level of trust in SME sector organizations in the conditions of digitization.

Table 5.5 presents the adopted determinants of trust in technology.

Based on the adopted determinants, statements were formulated to allow for measuring the level of trust in technology, taking as a category differentiating the size of the organization. The diagnosis of the level of trust in technology served to achieve specific goal 4: diagnosis of the level of trust in technology in SME sector organizations in the conditions of digitization.

Based on a literature review, factors that have a positive impact on the level of trust (factors influencing the process of building and maintaining the level of trust) were identified and categorized. Table 5.7 presents factors that, based on the literature review, were assumed to have a positive impact on the level of trust in managers. A set of statements that were used in the survey questionnaire to assess their significance in the process of building and maintaining the level of trust in managers in the opinion of the surveyed employees was proposed. The identification and categorization of factors that have a positive impact on the level of trust in managers serves to achieve specific goal 5: diagnosis of factors that have a positive impact on the level of trust in SME sector organizations in the conditions of digitization.

To assess the perception of factors that have a positive impact on the level of trust in managers, the following statements were adopted (as presented in Table 5.6).

Table 5.8 presents factors that were assumed to have a positive impact on the level of trust in co-workers. A set of statements that were used in the survey questionnaire to assess their importance in the process of building and maintaining the level of trust in the opinion of the surveyed employees was proposed.

To assess the perception of factors that have a positive impact on the level of trust in co-workers, the following statements were adopted, (as presented in Table 5.7):

Table 5.5 Classification of determinants of the level of trust in technology

Determinants	Statements
Predictability	• I trust that the information and communication technologies used in the organization are always predictable and will not change.
	• I trust that the information and communication technologies used in my organization are always reliable.
Reliability	• I trust that the information and communication technologies used in my organization are always functional and will always work properly when I need them.
	• I trust that I can rely on the information and communication technologies used in my organization.
Utility	• I trust that the information and communication technologies used in my organization are fully useful.
	• I trust that the information and communication technologies used in my organization support the fair settlement of employees' working time.
Ease of use	• I trust that the information and communication technologies used in my organization are simple and intuitive.
Stability	• I trust that information and communication technologies are stable.
Understanding	• I trust that the use of information and communication technologies improves my daily work.
Quality	• I trust that the information and communication technologies used in my organization are of good quality.
Administrator support	• I trust that I can count on the help of administrators in operating the information and communication systems and solutions used in the organization.
	• I trust that employees providing support in the operation of information and communication systems and solutions are fully competent to perform their official duties.
Ability to report system errors	• I trust that I can freely report emerging problems related to the operation of information and communication systems and solutions used in the organization and that I will receive feedback on my report.
Administrator competences	• I trust that employees administering information and communication systems and solutions are fully competent to perform their official duties.
Security of personal data	• I trust that my personal data is adequately secured.
	• I trust that the legal and technical safeguards within the information and communication solutions used in the organization protect me against problems related to the use of the Internet.
Protecting user privacy	• I trust that information and communication technologies are safe because files and data in the cloud are protected, e.g. with a password, and the administrator can easily control which people have access to company files and projects and manage the level of permissions.

Source: Own elaboration.

Table 5.6 Classification of factors that have a positive impact on the level of trust in managers

Determinants	Statements
Competence	• Competence adequate to the position held (e.g. ability to manage employees)
Commitment	• Commitment to performing official duties
Communication	• Openness in communication with other employees
	• Discretion in relationships with other employees
	• Clarity of the messages communicated
	• Active listening by other people (I am sure that the other person is listening to me attentively)
	• An atmosphere conducive to freely expressing one's opinion
Honesty	• Honesty in performing official duties
Loyalty	• Mutual loyalty in relationships with other employees
Sincerity	• Sincerity in expressing one's opinions and assessments
Care	• Caring in relationships with other employees
Reliability	• Reliability, keeping declarations/promises made
Good intentions/kindness	• Good intentions/kindness in relationships with other employees
Responsibility	• Taking responsibility for one's actions
Justice	• Fair assessment of employees (concerning periodic employee assessments)

Source: Own elaboration.

Table 5.7 Classification of factors that have a positive impact on the level of trust in co-workers

Determinants	Statements
Competence	• Competence adequate to the position held
Commitment	• Commitment to performing official duties
Communication	• Openness in communication with other employees
	• Discretion in relationships with other employees
	• Clarity of the messages communicated
	• Active listening by other people (I am sure that the other person is listening to me attentively)
	• An atmosphere conducive to freely expressing one's opinion
Honesty	• Honesty in performing official duties
Loyalty	• Mutual loyalty in relationships with other employees
Sincerity	• Sincerity in expressing one's opinions and assessments
Care	• Caring in relationships with other employees
Reliability	• Reliability, keeping declarations/promises made
Good intentions/kindness	• Good intentions/kindness in relationships with other employees
Responsibility	• Taking responsibility for one's actions

Source: Own elaboration.

The statements made allowed for the implementation of specific goal 7: assessment of the impact of an employee's gender on the perception of factors that have a positive impact on the level of trust in co-workers in SME sector organizations in the conditions of digitization.

In the next stage, the attitude of the surveyed employees towards information and communication technologies was diagnosed using the following types of technologies:

- Business e-mail;
- Microsoft Teams;
- Signal;
- Skype;
- Zoom;
- Microsoft Office 365 environment (storing company files on a cloud drive, shared calendar, co-creating documents in real time);
- Google Workspace environment (storing company files on a cloud drive, shared calendar, co-creating documents in real time);
- eHR (self-service submission of leave of absence applications, reporting changes to the bank account number to which the remuneration is to be transferred, holiday planning, controlling the number of overtime hours);
- Shared network drives.

Table 5.8 presents factors that, based on the literature review, were assumed to have a positive impact on the level of trust in technology. A set of statements that were used in the survey questionnaire to assess their importance in the process of building and maintaining the level of trust in technology in the opinion of the surveyed employees was proposed. The identification and categorization of factors that have a positive impact on the level of trust in technology serve to achieve specific goal 5: diagnosis of factors that have a positive impact on the level of trust in SME sector organizations in the conditions of digitization.

To assess the perception of factors that have a positive impact on the level of trust in technology, the following statements were adopted, (as presented in Table 5.8).

Based on the literature review, the following determinants of the erosion of the level of trust in managers were assumed. Table 5.9 presents factors that were assumed to have a negative impact on the level of trust in managers. A set of statements that were used in the survey questionnaire to assess their significance in the process of erosion of the level of trust in managers in the opinion of the surveyed employees was proposed. Identification and classification of factors influencing the process of erosion of trust in managers in the organization serves to achieve specific goal 6: diagnosis of factors that have a negative impact on the level of trust in SME sector organizations in the conditions of digitization.

Table 5.8 Classification of factors that have a positive impact on the level of trust in technology

Determinants	Statements
Predictability	Predictability of technology (I trust that the technology will work as expected)
Reliability	Technology reliability (confidence that the technology will not fail in situations where there is some degree of dependency and risk)
Utility	Technology utility (usefulness of technology in the work performed)
Ease of use	Ease of use of technology (low complexity)
	Speed of the technology used (e.g. system and application)
Stability	Technology stability
Understanding	Understanding (system performance and technological solutions are clear and understandable to the user)
Quality	Technology quality (good quality of systems, applications, etc.)
Administrator support	Support for administrators in using technology
Ability to report system errors	Possibility to report errors of the system, application and technological solutions
Administrator competences	Competence of administrators adequate to the position held
Security of personal data	Security of personal data
Protecting user privacy	User privacy protection

Source: Own elaboration.

Table 5.9 Classification of determinants of the erosion of the level of trust in managers

Determinants	Statements
Lack of professionalism	Lack of professionalism in organization management (functioning of people with low competences in high positions)
Failure to notice and ignoring emerging problems	Failure to notice the incompetence of employees and not take consequences towards them
Favouring employees	Failure to notice violations of applicable rules by some employees without taking consequences against them
	Favouring certain employees in access to information
	Favouring employees in terms of working conditions (e.g. better office equipment, newer computer equipment)
	Favouring certain employees in assigning duties
Failure to adapt duties to individual employees	Unjustified assignment of duties to employees below their competences
Unjustified promotions	Granting unjustified promotions

Unjustified praise	Praising employees who do not deserve it
Not keeping one's word	Failure to keep one's word
Insincerity and inconsistency of messages	Insincerity and inadequacy of feedback on work performance
Lack of motivation	Visible lack of motivation to work
Overloading an employee	Overloading the employee with duties
Not sharing knowledge	Reluctance to share knowledge with employees
Gossiping	Gossiping about other people
Giving in to please	Giving in to tactless and intrusive attempts to please subordinate employees

Source: Own elaboration based on literature.

Table 5.10 Classification of factors that negatively affect the level of trust in co-workers

Determinants	Statements
Lack of professionalism	Lack of professionalism in performing official duties (functioning of people in specific positions with too low competences)
Not keeping promises	Failure to keep promises made
Not admitting to mistakes	Not admitting to mistakes made
Lie	Lying in relationships with interested parties
Irresponsibility	Disloyalty in relationships with other people
Low level of motivation	Visible lack of motivation to work
Competition	Striving for constant competition instead of cooperation
Not sharing knowledge	Reluctance to share knowledge with other employees
Informational exclusion	Omitting some co-workers from accessing information
Disloyalty	Lack of sense of responsibility
Indiscretion	Indiscretion in relationships with other people
Insincerity and inconsistency of messages	Insincerity and inadequacy of feedback on work performance
Gossiping	Gossiping about other people
"Pushing" tasks	"Pushing" one's responsibilities onto co-workers
Competition for recognition from superiors	Trying to please superiors at the expense of other employees

Source: Own elaboration.

The statements presented in Table 5.9 allowed for the implementation of specific goal 8: assessment of the impact of an employee's work experience on the assessment of factors causing the erosion of trust in managers in SME sector organizations in the conditions of digitization.

In the next stage of the literature analysis, factors that had a negative impact on the level of trust in co-workers were identified and categorized in accordance with the adopted specific goal 6: diagnosis of factors that have a negative impact on the level of trust in SME sector organizations in the conditions of digitization. Table 5.10 presents factors that are considered to have a negative impact on the level of trust in co-workers. A set of statements that were used in the survey

Table 5.11 Classification of determinants of the erosion of the level of trust in technology

Determinants	Statements
Unpredictability	Unpredictability of technology
Unreliability	Unreliability of technology (e.g. unavailability and repeated errors)
Disutility	Disutility of technology (technology is completely useless in my work)
Difficulty of operation	High degree of complexity of technology
	Lack of understanding of how technology works (lack of knowledge of system functionality)
Low quality	Low quality of the technology used (choice of cheaper and less functional technology)
No administrative support	Lack of support from application administrators in its use
Inability to report errors	Inability to report errors that occur while using the technology
Low competences of administrators	Low competences of administrators and helpdesk employees
Poor security of personal data	Unsecured/poorly secured employee personal data
Low level of privacy protection	Leaks of employees' personal data
	No protection for user privacy

Source: Own elaboration based on literature.

questionnaire to assess their significance in the process of erosion of trust in co-workers by the surveyed employees was proposed. The set of statements is presented in Table 5.10.

Based on the literature review, the factors influencing the erosion of trust in technology in the organization were identified and classified, which serves the implementation of specific goal 6: diagnosis of factors that have a negative impact on the level of trust in SME sector organizations in the conditions of digitization. A set of statements that were used in the survey questionnaire to assess their significance in the process of erosion of trust in technology by the surveyed employees was proposed. The statements are presented in Table 5.11.

5.5   Characteristics of the research sample

As S. Nowak (2007, 208) points out, a research sample is any subset from the population. A research sample may contain only one item, all but one item, or any other number of items.

The selection of the research sample carried out as part of the submitted research project was random. There were two inclusion criteria for the research sample:

• Employment in an organization from the micro and small- and medium-sized enterprise sector;
• Remaining in an employee–employee and employee–supervisor relationship.

Due to the subject of the research, sole proprietorships were excluded due to the lack of relationships between co-workers.

The research was conducted among people employed in micro (enterprises with one to nine employees), small- (enterprises with 10–49 employees) and medium-sized organizations in Poland (enterprises with 50–249 employees), in the period from 15 October 2022 to 14 February 2023. The quantitative research covered a total of 307 people, including 195 women and 112 men.

Calculations regarding the power of statistical inference for the purposes of the submitted research project were performed in the G*Power 3.1.9.2 program. Cohen's f was used as a measure of the effect strength. The significance level was assumed to be 0.05, and the power of statistical inference was assumed to be 0.80. It was found that the sample size of 307 people examined in comparisons concerning three groups, that is, people working in micro enterprises, people working in small enterprises and people working in medium-sized enterprises, allowed for the detection of an effect with a power of $f = 0.18$ as statistically significant, and therefore, the conducted research made it possible to detect statistically significant differences between groups with an average effect size.

Table 5.12 shows the age distribution of people participating in the research.

As Table 5.12 shows, the majority of respondents were people aged from 18 to 25 years (41%).

Table 5.13 presents the distribution of positions in the organization occupied by the respondents.

Table 5.12 Age of the respondents

Age	N	%
18–25 years old	126	41.0
25–40 years old	104	33.9
40–60 years old	73	23.8
> 60 years old	4	1.3
In total	307	100

n—number of people; %—percentage of the sample

Source: Own elaboration based on conducted research.

Table 5.13 Positions at work occupied by the respondents

Position	n	%
Worker	97	31.6
White-collar position without subordinate employees	129	42.0
Managerial	81	26.4
In total	307	100

n—number of people; %—percentage of the sample

Source: Own elaboration based on conducted research.

Table 5.14 The size of the organizations in which the respondents work

Size of the organization	n	%
Micro enterprise: 1–9 employees	80	26.1
Small enterprise: 10–49 employees	93	30.3
Medium enterprise: 50–249 employees	134	43.6
In total	307	100

n—number of people; %—percentage of the sample

Source: Own elaboration based on conducted research.

Table 5.15 Work experience of the respondents

Work experience	total		in the current organization	
	n	%	N	%
< 1 year	30	9.8	89	29.0
1–5 years	116	37.8	136	44.3
6–10 years	52	16.9	27	8.8
> 10 years	109	35.5	55	17.9
In total	307	100	307	100

n—number of people; %—percentage of the sample

Source: Own elaboration based on conducted research.

Table 5.16 Educational level of the respondents

Education	n	%
Primary	1	0.3
Vocational	2	0.7
Secondary	98	31.9
Higher	206	67.1
In total	307	100

n—number of people; %—percentage of the sample

Source: Own elaboration based on conducted research.

Most people covered by empirical research worked in white-collar positions without subordinate employees (42%).

Table 5.14 shows the size distribution of the organizations in which the respondents worked.

The data presented in Table 5.15 indicate that most people surveyed worked in medium-sized enterprises employing from 50 to 249 employees (43.6%).

Table 5.15 shows the distribution of work experience of the respondents.

Most respondents were people with 1–5 years of work experience. This applies to both the total length of service (37.8%) and the work experience in the current organization (44.3%).

Table 5.16 shows the distribution of the education level of the respondents.

Most of the respondents had higher education—206 respondents (67.1%).

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6 Diagnosis of the structure of trust determinants and the level of trust in organizations of the SME sector—synthesis of empirical research results

6.1 Identification and categorization of factors determining the level of trust in managers in organizations in the SME sector

Since the analysed determinants of trust, factors influencing the level of trust, factors influencing the erosion of trust and indicators of attitude towards technology were measured on an ordinal scale, and non-parametric tests of statistical significance were used in the analyses. In the analyses comparing three groups, that is, people working in micro enterprises, people working in small enterprises and people working in medium-sized enterprises, or people with up to 5 years of work experience, people with 6–10 years of work experience and people with more than 10 years of work experience, the Kruskal-Wallis H test was used. Then, it was determined which groups had statistically significant differences using the Mann-Whitney U test, which was used as a pairwise comparison test, that is, each group with the other groups. In the analyses comparing two groups, that is, women and men, the Mann-Whitney U test was used. All statistically significant differences are marked in tables and illustrated in charts. The conventional value of 0.05 was used as the threshold for statistical significance. A study in which three or more independent groups are compared using a non-parametric test usually creates the basis for the use of the Kruskal-Wallis H test. The Mann-Whitney U test, also known as the Wilcoxon rank-sum test, is used to compare two groups of data that were collected according to the unrelated variables model (Prajzner 2023, 139–157).

The following hypothesis H1 was formulated: the size of the organization differentiates the determinants and the level of trust in managers in SME sector organizations in the conditions of digitization.

To verify Hypothesis H1, Table 6.1 presents the average values of the determinants of the respondents' trust in their superiors in the group of people working in micro enterprises, in the group of people working in small enterprises and in the group of people working in medium-sized enterprises. The list was supplemented with the values of the Kruskal-Wallis H test and the Mann-Whitney U test used as a test for pairwise comparisons. Statistically significant differences were determined.

Table 6.1 Average values of determinants of the level of trust of respondents towards their superiors in the group of people working in micro enterprises, small enterprises and medium-sized enterprises

Trust in managers	Enterprise size								Pairwise comparisons					
	Micro		Small		Medium				Micro vs small		Micro vs medium		Small vs medium	
	M	SD	M	SD	M	SD	H	p	U	p	U	p	U	p
They have sufficiently high competences to perform the duties in their positions	4.03	0.98	3.82	1.14	3.78	1.00	3.39	0.183	3410.0	0.321	4581.0	0.061	5893.0	0.465
They are fully committed to their work	4.15	0.80	3.78	1.12	3.93	1.06	3.41	0.182	3139.0	0.061	4931.0	0.299	5785.0	0.336
They are professionals in their work and perform their duties reliably	4.09	1.12	3.77	1.07	3.87	1.08	5.70	0.058	2986.5	0.019	4629.5	0.079	5871.5	0.438
They will not accuse me of incompetence when I ask them for help in performing my official duties	4.05	0.94	3.73	1.10	3.98	0.99	4.09	0.130	3147.5	0.066	5189.0	0.678	5467.0	0.096
I can freely talk to my superiors about my difficulties at work and it will not be a reason for misunderstandings	3.86	1.09	3.78	1.07	3.78	1.16	0.33	0.848	3537.5	0.560	5191.0	0.687	6143.5	0.851
They evaluate my work results fairly	4.05	1.08	3.94	0.99	3.83	1.08	2.74	0.254	3392.5	0.293	4679.0	0.103	5955.5	0.552
They do not make my work difficult by their careless, ill-considered actions, exposing me to uncomfortable situations	4.09	0.90	3.78	1.11	3.74	1.04	6.03	0.049	3195.0	0.092	4331.5	0.013	5996.5	0.614
They openly admit to the mistakes they have made	3.71	1.08	3.46	1.24	3.18	1.33	8.29	0.016	3345.5	0.237	4156.5	0.005	5469.0	0.108
They accept responsibility for the mistakes they make	3.74	1.22	3.52	1.18	3.29	1.27	6.64	0.036	3289.5	0.176	4281.5	0.011	5647.5	0.216
They provide information to their employees in the most simple and understandable way possible	3.91	1.03	3.75	0.96	3.75	1.05	1.87	0.392	3328.0	0.211	4874.5	0.245	6118.5	0.808

They are willing to share their knowledge with other employees	4.13	0.99	3.88	0.88	3.80	1.09	6.28	0.043	3054.0	0.030	4412.5	0.023	6129.0	0.824
They are discreet and I can talk to them honestly about my difficulties at work and those unrelated to work without fear of other employees finding out about it	3.90	1.21	3.57	1.19	3.49	1.31	6.09	0.048	3076.0	0.042	4380.0	0.021	6123.5	0.820
They express their opinions and assessments honestly	3.94	1.00	3.72	1.12	3.60	1.14	4.50	0.105	3323.0	0.204	4466.5	0.033	5870.5	0.442
They do not exclude me when providing important information/official duties to achieve their own benefits	3.91	1.10	3.86	0.98	3.61	1.22	3.53	0.171	3513.0	0.506	4625.5	0.081	5654.5	0.214
They do not force unnecessary competition between employees	4.20	0.91	3.95	1.01	3.69	1.15	10.43	0.005	3211.0	0.100	4030.0	0.002	5490.0	0.113
They treat employees equally and do not favour selected people	3.85	1.01	3.39	1.23	3.15	1.35	13.63	0.001	2971.5	0.018	3804.0	0.001	5621.5	0.199
They hold their subordinates accountable fairly and solely on the basis of work results, not guided by personal beliefs	3.98	0.99	3.49	1.13	3.29	1.29	15.88	0.001	2798.5	0.004	3734.0	0.001	5696.0	0.258
They are not subject to manipulations used by other employees, which are aimed at strengthening their professional position	3.98	1.04	3.56	1.15	3.31	1.24	15.24	0.001	2943.5	0.014	3732.5	0.001	5534.5	0.140
They notice the incompetence of their employees and take consequences against them	3.79	0.99	3.45	1.14	3.25	1.19	10.16	0.006	3110.5	0.054	4012.5	0.001	5683.5	0.245
They notice conflict situations between employees and take appropriate actions to solve them	3.89	0.97	3.53	1.11	3.34	1.18	10.75	0.005	3066.0	0.038	3983.0	0.001	5696.5	0.256

(*Continued*)

Table 6.1 (Continued)

Trust in managers	Enterprise size							Pairwise comparisons					
	Micro		Small		Medium				Micro vs small		Micro vs medium		Small vs medium	
	M	SD	M	SD	M	SD	H	p	U	p	U	p	U	p
They make reliable assessments and remain impartial in conflict situations between employees	3.84	1.04	3.55	1.11	3.44	1.10	6.75	0.034	3179.5	0.087	4269.5	0.010	5861.0	0.431
They take actions that are the consequences of previous declarations	3.99	1.00	3.85	1.02	3.60	1.10	7.19	0.027	3399.0	0.302	4285.0	0.010	5471.0	0.103
They do not gossip about other employees	3.60	1.10	3.12	1.27	2.98	1.37	11.57	0.003	2904.0	0.010	3964.5	0.001	5860.5	0.436
They have good intentions when performing their official duties towards both the organization and their co-workers	4.16	0.91	3.98	0.92	3.85	0.93	6.54	0.038	3281.5	0.155	4317.0	0.011	5725.0	0.265
They do not use my weaknesses against me while pursuing their business goals	4.00	1.13	3.85	1.08	3.76	1.01	4.09	0.129	3369.0	0.262	4497.5	0.040	5873.5	0.443
They are able to sacrifice themselves personally to achieve common goals for the entire team	3.94	1.07	3.70	1.10	3.61	1.21	3.99	0.136	3224.5	0.114	4561.0	0.057	6092.5	0.767

M—average value; *SD*—standard deviation; *H*—value of the Kruskal-Wallis H test; *U*—value of the Mann-Whitney U test; *p*—statistical significance

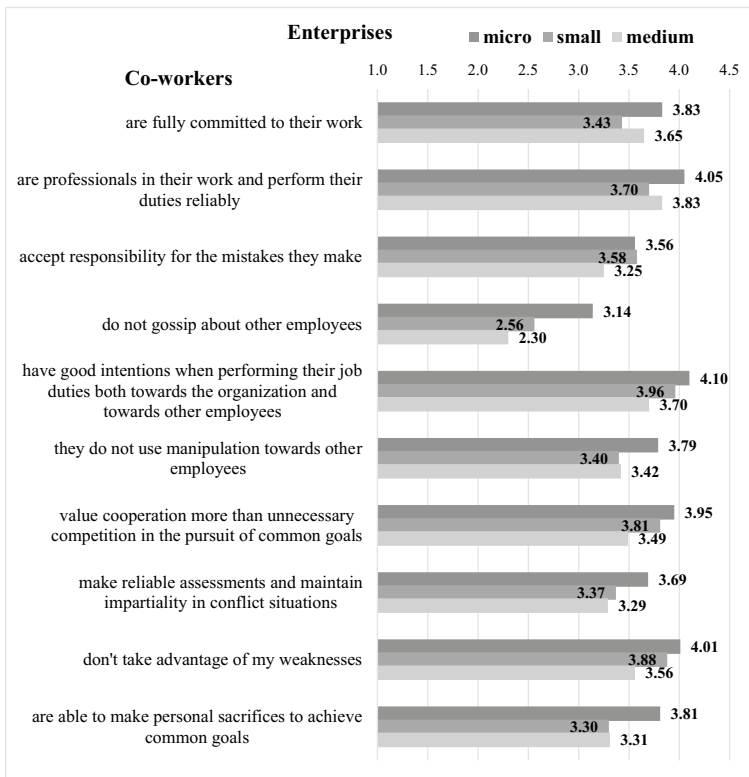*Source*: Own elaboration based on conducted research.

Statistically significant differences were obtained in the assessment of not making work difficult, openness in admitting mistakes, accepting responsibility, sharing knowledge, discretion, not forcing competition, equal treatment, fair settlement of subordinates, not succumbing to manipulation, noticing employees' incompetence, noticing conflict situations, making reliable judgements, taking consistent actions, refraining from gossiping and having good intentions.

According to Table 6.1, the ratings for not making work difficult, openness in admitting mistakes, accepting responsibility, not forcing competition, noticing employees' incompetence, making reliable assessments, taking consistent actions and having good intentions were statistically significantly higher in the group of people working in micro enterprises than in the group people working in medium-sized enterprises (see Fig. 6.1).
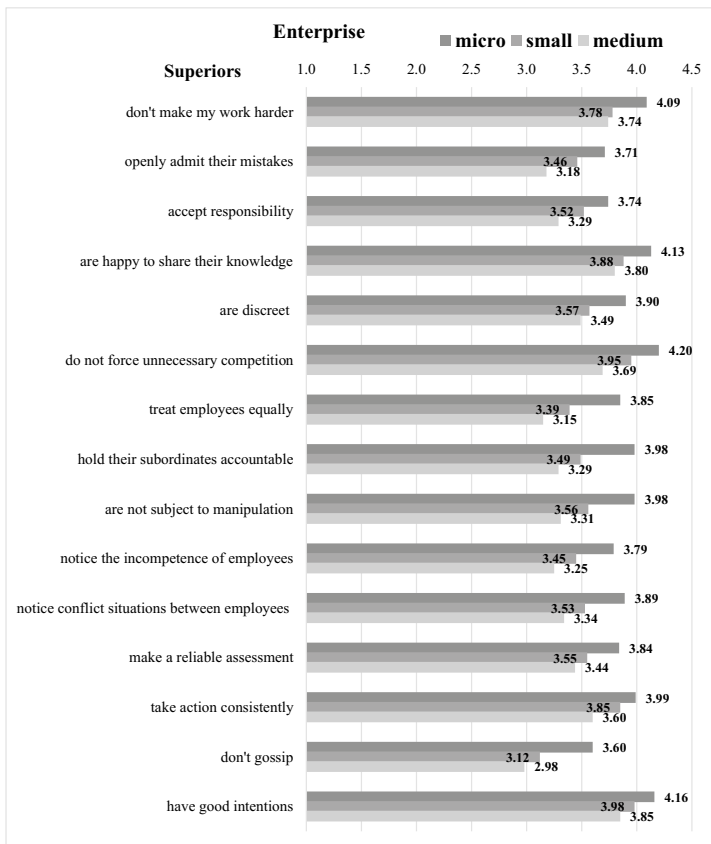
Figure 6.1 Statistically significant relationships between the size of the enterprise and the determinants of the level of trust in superiors

Source: Own elaboration based on conducted research.

It was also found that the assessments regarding sharing knowledge, discretion, equal treatment, fair settlement of subordinates, not succumbing to manipulation, noticing conflict situations and refraining from gossiping were statistically significantly higher in the group of people working in micro enterprises than in the group of people working in small enterprises. and in the group of people working in medium-sized enterprises.

Table 6.2 presents the average values of assessments of factors influencing the level of trust in managers in the group of people working in micro enterprises, small enterprises and medium-sized enterprises. The list was supplemented with the values of the Kruskal-Wallis H test and the Mann-Whitney U test used as a test for pairwise comparisons. Statistically significant differences were determined.

Statistically significant differences were obtained in terms of assessments regarding the impact of competence, discretion, clarity of messages and keeping the declarations made by managers.

It was found that the assessments of the impact of competence and keeping the declarations made by managers were statistically significantly higher in the group of people working in medium-sized enterprises than in the group of people working in micro enterprises and that the assessments of the impact of discretion and clarity of messages conveyed were statistically significantly higher in the group of people working in medium-sized enterprises than in the group of people working in micro enterprises and the group of people working in small enterprises (see Fig. 6.2).

Table 6.3 presents the average values of assessments of factors influencing the process of erosion of trust in managers in the group of people working in micro enterprises, small enterprises and medium-sized enterprises. The list was supplemented with the values of the Kruskal-Wallis H test and the Mann-Whitney U test used as a test for pairwise comparisons. No statistically significant differences were found.

The obtained statistically significant differences between enterprises of different sizes presented in Figures 6.1 and 6.2 are consistent with Hypothesis H1.

6.2 Identification and categorization of factors determining the level of trust in co-workers in organizations in the SME sector

The next hypothesis (H2) is formulated as follows: the size of the organization differentiates the determinants and the level of trust in co-workers in SME sector organizations in the conditions of digitization.

Table 6.4 presents the average values of determinants of the level of trust of respondents in co-workers in the group of people working in micro enterprises, small enterprises and medium-sized enterprises. The list was supplemented with the values of the Kruskal-Wallis H test and the Mann-Whitney U

Table 6.2 Average values of assessments of factors influencing the level of trust in managers in the group of people working in micro enterprises, small enterprises and medium-sized enterprises

Factors of the level of trust in managers	Enterprise size								Pairwise comparisons					
	Micro		Small		Medium				Micro vs small		Micro vs medium		Small vs medium	
	M	SD	M	SD	M	SD	H	p	U	p	U	p	U	p
Competence adequate to the position held	3.96	1.27	4.31	0.93	4.46	0.95	9.56	0.008	3280.0	0.143	4215.5	0.003	5494.0	0.079
Commitment to performing official duties	4.06	1.17	4.29	0.95	4.40	0.89	3.89	0.143	3432.5	0.340	4595.0	0.052	5788.5	0.308
Openness in communication with other employees	4.08	1.13	4.10	1.06	4.34	0.98	5.06	0.080	3717.0	0.992	4619.5	0.063	5381.0	0.055
Discretion in relationships with other employees	3.96	1.18	4.12	0.98	4.41	0.86	9.80	0.007	3559.5	0.603	4256.5	0.006	5141.5	0.014
Clarity of the messages conveyed	4.13	1.08	4.10	1.00	4.44	0.86	10.12	0.006	3551.0	0.582	4526.0	0.032	4879.5	0.002
Active listening by others	4.14	1.09	4.26	0.91	4.42	0.87	3.99	0.136	3609.5	0.715	4663.0	0.076	5555.5	0.121
An atmosphere conducive to freely expressing one's opinion	4.14	1.08	4.12	1.02	4.37	0.84	4.29	0.117	3559.0	0.598	4857.5	0.206	5327.5	0.042
Honesty in performing official duties	4.15	1.10	4.24	1.02	4.48	0.84	5.47	0.065	3608.5	0.710	4553.0	0.036	5455.0	0.069
Mutual loyalty in relationships with other employees	4.10	1.24	4.26	1.03	4.33	0.95	0.78	0.677	3552.5	0.572	5017.5	0.385	6094.5	0.754
Honesty in expressing your opinions and assessments	4.05	1.23	4.19	1.06	4.28	0.99	1.15	0.562	3588.0	0.663	4942.5	0.296	5955.0	0.533
Caring in relationships with other employees	4.06	1.05	4.09	1.08	4.02	1.05	0.46	0.794	3622.5	0.751	5232.0	0.756	5923.0	0.501
Reliability, keeping declarations/promises made	4.13	0.99	4.27	1.00	4.47	0.92	10.36	0.006	3345.0	0.215	4138.0	0.002	5427.5	0.056
Good intentions/kindness in relationships with other employees	4.16	1.12	4.16	0.95	4.16	1.03	0.49	0.784	3509.5	0.489	5224.5	0.737	6037.0	0.667
Taking responsibility for your actions	4.25	1.03	4.42	0.89	4.51	0.83	3.98	0.137	3429.0	0.318	4615.0	0.048	5825.5	0.326
Fair assessment of employees	4.13	1.23	4.40	0.99	4.49	0.93	4.89	0.087	3331.0	0.173	4550.0	0.029	5914.0	0.428

M—average value; SD—standard deviation; H—value of the Kruskal-Wallis H test; U—value of the Mann-Whitney U test; p—statistical significance

Source: Own elaboration based on conducted research.
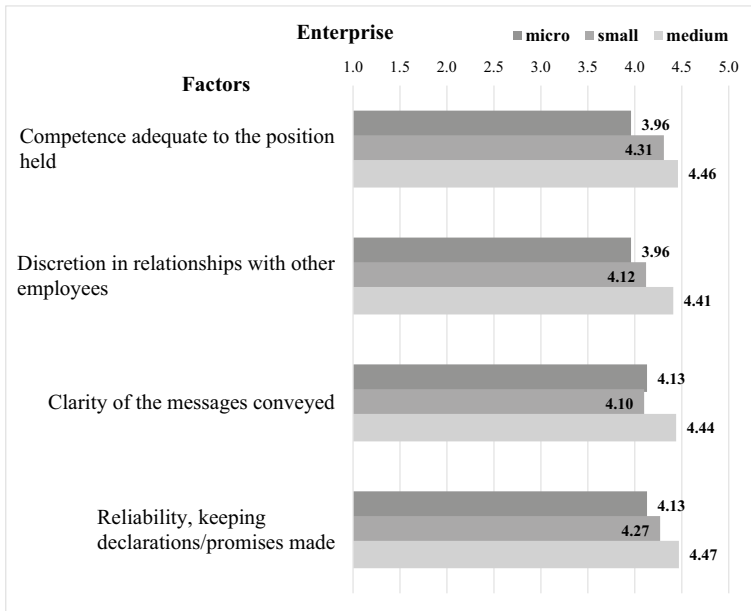
Figure 6.2 Statistically significant relationships between the size of the enterprise and the assessment of factors affecting trust in managers

Source: Own elaboration based on conducted research.

test used as a test for pairwise comparisons. Statistically significant differences were determined.

Statistically significant differences were obtained in the assessment of commitment to work, reliable performance of duties, sense of responsibility for mistakes, gossiping, good intentions, lack of manipulation, cooperation, impartiality in conflict situations, not taking advantage of weaknesses and the ability to make sacrifices.

It was found that the assessments regarding the commitment of co-workers in work were statistically significantly higher in the group of people working in micro enterprises than in the group of people working in small enterprises (see Fig. 6.3).

It was found that the assessments regarding the reliable performance of duties by co-workers, refraining from gossiping, not using manipulation and the ability to make sacrifices were statistically significantly higher in the group of people working in micro enterprises than in the group of people working in small enterprises and the group of people working in medium-sized enterprises.

The assessments regarding accepting responsibility and good intentions of co-workers were statistically significantly lower in the group of people working in medium-sized enterprises than in the group of people working in micro-enterprises and the group of people working in small enterprises.

Factors influencing the erosion of the level of trust in managers	Enterprise size								Pairwise comparisons					
	Micro		Small		Medium				Micro vs small		Micro vs medium		Small vs medium	
	M	SD	M	SD	M	SD	H	p	U	p	U	p	U	P
Lack of professionalism in organization management (functioning of people with low competences in high positions	4.31	1.13	4.35	0.92	4.53	0.87	3.85	0.146	3535.0	0.522	4987.0	0.308	5402.0	0.047
Failure to notice employees' incompetence and to take consequences against them	4.20	1.06	4.24	0.97	4.32	0.90	0.56	0.758	3682.0	0.900	5158.0	0.611	5919.0	0.480
Failure to notice that some employees "bend" the existing rules without taking any consequences	4.16	1.15	4.27	1.04	4.37	0.92	0.85	0.653	3590.5	0.661	5004.0	0.363	6025.5	0.635
Favouring certain employees in access to information	4.19	1.10	4.35	0.92	4.32	0.99	0.64	0.725	3508.0	0.472	5083.5	0.481	6207.5	0.957
Favouring employees in terms of working conditions (e.g. better office equipment and newer computer equipment)	4.21	1.13	4.27	1.01	4.35	0.94	0.31	0.858	3679.0	0.889	5157.0	0.604	6064.0	0.700
Favouring certain employees in assigning duties	3.99	1.23	4.23	1.04	4.40	0.83	4.94	0.085	3347.0	0.219	4473.0	0.026	5832.0	0.361
Unjustified assignment of duties to employees below their competences	3.89	1.28	4.11	1.07	4.25	0.89	2.64	0.267	3447.0	0.375	4702.0	0.106	5909.0	0.474
Granting unjustified promotions	4.09	1.18	4.22	1.08	4.42	0.96	4.48	0.106	3528.5	0.521	4567.5	0.041	5645.0	0.170

(*Continued*)

Table 6.3 (Continued)

Factors influencing the erosion of the level of trust in managers	Enterprise size							Pairwise comparisons					
	Micro		Small		Medium				Micro vs small		Micro vs medium		Small vs medium	
	M	*SD*	*M*	*SD*	*M*	*SD*	*H*	*p*	*U*	*p*	*U*	*p*	*U*	*P*
Praising employees who do not deserve it	4.15	1.15	4.27	0.92	4.21	1.08	0.03	0.986	3675.0	0.881	5302.0	0.884	6223.0	0.986
Failure to keep one's word	4.36	1.02	4.40	0.93	4.43	0.90	0.05	0.974	3696.5	0.934	5277.5	0.827	6172.0	0.888
Insincerity and inadequacy of performance feedback	4.38	0.97	4.38	0.87	4.44	0.91	0.81	0.668	3586.5	0.645	5233.5	0.738	5846.5	0.365
Visible lack of motivation to work	4.24	0.98	4.17	1.10	4.19	1.01	0.07	0.964	3689.5	0.919	5251.0	0.787	6163.5	0.880
Overloading an employee with duties	4.28	1.02	4.26	0.94	4.38	0.87	0.81	0.667	3616.5	0.727	5191.5	0.666	5833.5	0.363
Reluctance to share knowledge with employees	4.20	0.99	4.27	0.98	4.31	0.96	0.90	0.636	3537.0	0.542	4985.0	0.347	6093.0	0.753
Gossiping about other people	4.25	1.10	4.25	1.05	4.26	1.03	0.10	0.953	3641.5	0.790	5248.0	0.776	6219.0	0.978
Giving in to tactless and intrusive attempts to please subordinate employees	4.10	1.16	4.25	0.97	4.33	0.99	2.16	0.340	3560.0	0.596	4806.5	0.161	5821.5	0.349

M—average value; *SD*—standard deviation; *H*—value of the Kruskal-Wallis H test; *U*—value of the Mann-Whitney U test; *p*—statistical significance

Source: Own elaboration based on conducted research.

Table 6.4 Average values of determinants of the level of trust of respondents in co-workers in the group of people working in micro enterprises, small enterprises and medium-sized enterprises

Trust in co-workers	Enterprise size								Pairwise comparisons					
	Micro		Small		Medium				Micro vs small		Micro vs medium		Small vs medium	
	M	SD	M	SD	M	SD	H	p	U	p	U	p	U	p
Competences that are necessary to perform official duties	3.99	0.85	3.81	0.82	3.81	0.89	2.48	0.289	3273.0	0.140	4845.5	0.201	6076.5	0.726
They are fully committed to their work	3.83	0.84	3.43	1.03	3.65	0.87	6.97	0.031	2926.0	0.011	4752.0	0.137	5530.0	0.127
They are professionals in their work and perform their duties reliably	4.05	0.88	3.70	0.89	3.83	0.85	8.34	0.015	2857.5	0.005	4536.5	0.043	5693.5	0.236
They do not make my work difficult by their careless, ill-considered actions, exposing me to uncomfortable situations	3.89	0.98	3.75	1.04	3.72	1.04	1.43	0.488	3449.0	0.384	4869.0	0.239	6117.5	0.807
Co-workers openly admit to the mistakes they have made	3.53	1.02	3.22	1.26	3.15	1.20	4.79	0.091	3250.0	0.140	4425.0	0.028	5986.0	0.605
They accept responsibility for the mistakes they make	3.56	1.04	3.58	1.14	3.25	1.15	7.06	0.029	3591.0	0.681	4528.0	0.050	5101.5	0.016
They express their opinions and assessments honestly	3.78	1.01	3.76	1.04	3.49	1.10	5.45	0.066	3713.5	0.983	4560.0	0.058	5305.5	0.048
They do not use confidential information entrusted to them for their own benefits	3.99	1.07	3.84	1.15	3.77	1.17	1.73	0.421	3469.0	0.422	4807.0	0.186	6018.5	0.649
They share important information without omitting any of the people who should receive the information	3.80	0.99	3.65	1.12	3.65	1.04	1.23	0.540	3469.0	0.418	4904.5	0.271	6147.5	0.857
They will not refuse me help when I need it while performing my official duties	4.04	1.00	3.98	0.93	4.13	0.87	1.52	0.468	3502.5	0.481	5207.0	0.707	5666.0	0.215

Table 6.4 (Continued)

Trust in co-workers	Enterprise size								Pairwise comparisons					
	Micro		Small		Medium				Micro vs small		Micro vs medium		Small vs medium	
	M	SD	M	SD	M	SD	H	p	U	p	U	p	U	p
They take actions that are the consequences of previous declarations	3.90	0.92	3.62	1.00	3.79	0.92	4.14	0.126	3107.0	0.050	4961.5	0.330	5625.0	0.188
They do not gossip about other employees	3.14	1.24	2.56	1.40	2.30	1.21	20.86	0.001	2789.5	0.004	3376.5	0.001	5662.5	0.228
They have good intentions when performing their official duties towards both the organization and other employees	4.10	0.84	3.96	0.88	3.70	0.96	10.25	0.006	3423.0	0.329	4138.0	0.003	5245.5	0.029
They do not use manipulation towards other employees in an attempt to achieve their business goals	3.79	0.92	3.40	1.15	3.42	1.13	6.61	0.037	2984.0	0.020	4409.5	0.024	6127.0	0.825
They value cooperation rather than unnecessary competition while pursuing common goals	3.95	0.95	3.81	0.95	3.49	1.17	7.96	0.019	3403.0	0.312	4232.0	0.008	5389.5	0.073
They make reliable assessments and maintain impartiality in conflict situations between other employees	3.69	1.04	3.37	1.15	3.29	1.11	6.22	0.045	3159.0	0.076	4320.0	0.014	5982.0	0.595
They do not take advantage of my weaknesses	4.01	0.89	3.88	0.95	3.56	1.17	7.60	0.022	3437.5	0.364	4269.0	0.009	5400.5	0.074
They are able to sacrifice themselves personally to achieve common goals for the entire team	3.81	1.01	3.30	1.18	3.31	1.13	12.64	0.002	2787.5	0.003	3950.0	0.001	6221.0	0.983

M—average value; *SD*—standard deviation; *H*—value of the Kruskal-Wallis H test; *U*—value of the Mann-Whitney U test; *p*—statistical significance

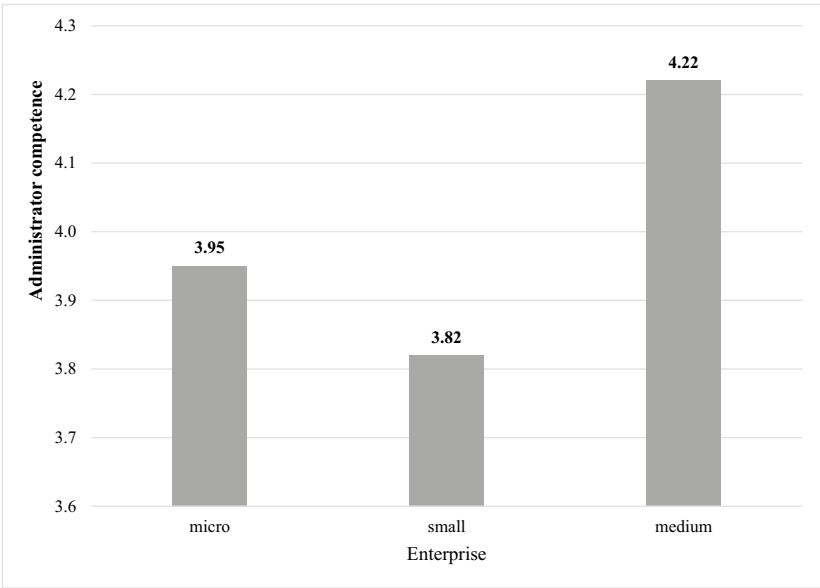*Source*: Own elaboration based on conducted research.

Figure 6.3 Statistically significant relationships between the size of the enterprise and the determinants of the level of trust in co-workers

Source: Own elaboration based on conducted research.

The assessments regarding commitment in cooperation, impartiality and not taking advantage of weaknesses by co-workers were statistically significantly higher in the group of people working in micro enterprises than in the group of people working in medium-sized enterprises.

Table 6.5 presents the average values of assessments of factors influencing the level of trust in co-workers in the group of people working in micro enterprises, the group of people working in small enterprises and the group of people working in medium-sized enterprises. The list was supplemented with the values of the Kruskal-Wallis *H* test and the Mann-Whitney *U* test used as a test for pairwise comparisons. No statistically significant differences were obtained.

Table 6.6 presents the average values of the assessment of factors influencing the erosion of the level of trust in co-workers in the group of people working

Table 6.5 Average values of assessments of factors influencing the level of trust in co-workers in the group of people working in micro enterprises, small enterprises and medium-sized enterprises

Factors of the level of trust in co-workers	Enterprise size								Pairwise comparisons					
	Micro		Small		Medium				Micro vs small		Micro vs medium		Small vs medium	
	M	SD	M	SD	M	SD	H	p	U	p	U	p	U	P
Competence adequate to the position held	3.83	1.16	3.96	1.08	3.85	1.28	0.53	0.767	3490.0	0.463	5127.5	0.578	6173.5	0.901
Commitment to performing official duties	4.00	1.13	4.16	1.01	4.09	1.07	0.84	0.656	3442.0	0.364	5108.0	0.539	6052.0	0.693
Openness in communication with other employees	3.96	1.13	4.00	1.12	4.09	1.04	0.53	0.767	3647.5	0.815	5070.5	0.483	6020.5	0.645
Discretion in relationships with other employees	3.96	1.29	3.82	1.14	4.13	1.05	4.29	0.117	3337.5	0.220	5172.0	0.645	5264.0	0.035
Clarity of the messages conveyed	3.98	1.14	4.02	1.08	4.24	0.95	3.44	0.179	3660.0	0.847	4700.0	0.105	5562.0	0.138
Active listening by others	3.98	1.16	4.16	0.97	4.13	0.92	0.71	0.702	3463.5	0.405	5154.0	0.616	6035.0	0.666
An atmosphere conducive to freely expressing one's opinion	4.06	1.11	4.15	1.03	4.17	0.94	0.21	0.900	3588.0	0.666	5213.0	0.718	6169.5	0.892
Honesty in performing official duties	4.04	1.23	4.18	1.03	4.34	0.92	2.74	0.255	3593.5	0.677	4750.0	0.125	5711.0	0.238
Mutual loyalty in relationships with other employees	4.13	1.15	4.10	1.07	4.23	0.99	0.86	0.651	3553.5	0.585	5261.0	0.805	5811.5	0.351
Honesty in expressing your opinions and assessments	4.10	1.16	4.15	1.00	4.18	0.95	0.03	0.983	3672.0	0.875	5299.5	0.882	6194.5	0.936
Caring in relationships with other employees	4.00	1.10	4.09	1.08	3.87	1.00	4.48	0.106	3545.5	0.571	4803.5	0.182	5294.5	0.043
Reliability, keeping declarations/promises made	4.03	1.16	4.08	1.10	4.25	0.95	2.08	0.353	3668.5	0.867	4842.5	0.200	5725.5	0.261
Good intentions/kindness in relationships with other employees	4.11	1.09	4.13	1.02	4.07	1.03	0.36	0.834	3693.5	0.931	5144.5	0.599	6015.5	0.636
Taking responsibility for your actions	4.35	1.06	4.19	0.96	4.37	0.93	4.34	0.114	3170.5	0.064	5177.0	0.633	5476.5	0.087

M—average value; *SD*—standard deviation; *H*—value of the Kruskal-Wallis H test; *U*—value of the Mann-Whitney U test; *p*—statistical significance

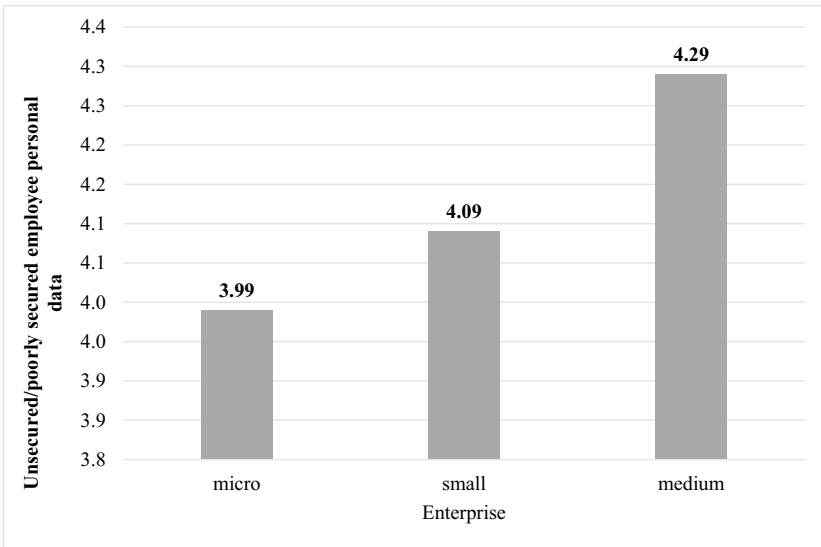*Source*: Own elaboration based on conducted research.

Factors influencing the erosion of the level of trust in co-workers	Enterprise size								Pairwise comparisons					
	Micro		Small		Medium				Micro vs small		Micro vs medium		Small vs medium	
	M	SD	M	SD	M	SD	H	p	U	p	U	p	U	p
Lack of professionalism in performing official duties	4.03	1.24	4.20	0.97	4.19	1.10	0.53	0.766	3601.0	0.695	5078.5	0.484	6059.5	0.701
Failure to keep promises made	4.15	1.22	4.32	0.98	4.34	0.93	0.14	0.933	3617.0	0.724	5243.0	0.765	6189.0	0.923
Not admitting to mistakes made	4.24	1.11	4.32	0.91	4.30	0.99	0.01	0.996	3693.5	0.928	5351.5	0.983	6200.5	0.944
Lying in relationships with interested parties	4.20	1.10	4.34	0.90	4.41	0.99	3.01	0.222	3571.5	0.615	4743.5	0.105	5720.0	0.225
No sense of responsibility	4.20	0.97	4.41	0.88	4.40	0.93	4.12	0.128	3240.5	0.105	4616.0	0.057	6167.5	0.880
Visible lack of motivation to work	4.08	0.96	4.06	1.06	3.96	1.07	0.97	0.617	3660.0	0.846	5074.5	0.490	5813.5	0.364
Striving for constant competition instead of cooperation	4.03	1.07	4.23	1.02	4.22	0.99	2.73	0.256	3271.5	0.142	4771.0	0.148	6161.5	0.876
Reluctance to share knowledge with other employees	4.20	0.96	4.29	0.94	4.25	0.95	0.51	0.777	3506.5	0.477	5193.0	0.678	6069.0	0.715
Omitting some co-workers from access to information	4.03	1.08	4.19	1.01	4.13	0.98	1.35	0.510	3366.0	0.248	5144.0	0.599	5897.0	0.460
Disloyalty in relationships with other people	4.20	1.19	4.14	1.05	4.21	1.03	1.22	0.545	3398.0	0.283	5088.0	0.494	5974.5	0.567
Indiscretion in relationships with others	4.15	1.16	4.20	0.96	4.23	0.96	0.08	0.961	3657.0	0.834	5353.0	0.986	6110.5	0.788
Insincerity and inadequacy of performance feedback	4.20	1.13	4.33	0.95	4.29	0.98	0.20	0.904	3590.0	0.660	5272.0	0.824	6109.5	0.781
Gossiping about other people	4.04	1.13	4.08	1.12	3.96	1.11	0.92	0.630	3653.5	0.829	5096.0	0.524	5814.0	0.363
"Pushing" your responsibilities onto co-workers	4.11	1.11	4.34	0.90	4.39	0.91	3.70	0.157	3349.0	0.216	4615.5	0.058	5946.5	0.509
Trying to please superiors at the expense of other employees	4.09	1.06	4.20	1.01	4.40	0.90	6.15	0.046	3512.5	0.496	4445.0	0.020	5473.0	0.082

M—average value; *SD*—standard deviation; *H*—value of the Kruskal-Wallis H test; *U*—value of the Mann-Whitney U test; *p*—statistical significance

Source: Own elaboration based on conducted research.

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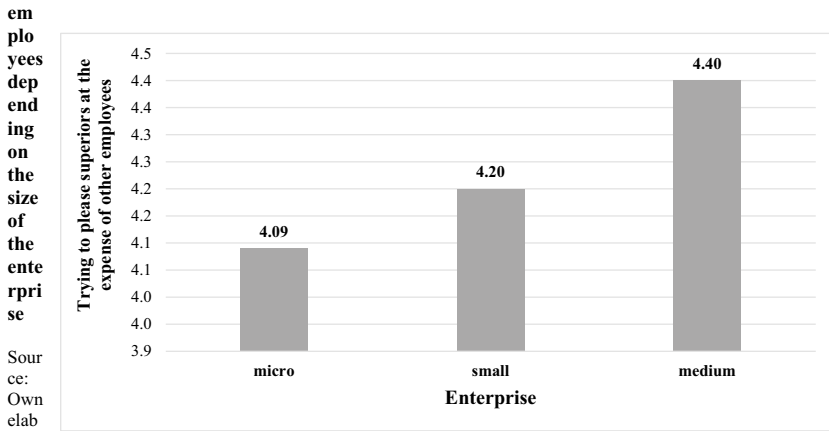
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Figure 6.4 Assessment of the impact of trying to please superiors at the expense of other employees depending on the size of the enterprise

Source: Own elaboration based on conducted research.

in micro enterprises, small enterprises and medium-sized enterprises. The list was supplemented with the values of the Kruskal-Wallis *H* test and the Mann-Whitney *U* test used as a test for pairwise comparisons. Statistically significant differences were determined.

It was found that the assessments regarding the impact of trying to please superiors at the expense of other employees on the erosion of trust in co-workers were statistically significantly higher in the group of people working in medium-sized enterprises than in the group of people working in micro enterprises (see Fig. 6.4).

The obtained statistically significant differences between enterprises of different sizes presented in Figures 6.3 and 6.4 are consistent with Hypothesis H2.

6.3 Identification and categorization of factors determining the level of trust in technology in organizations in the SME sector

The following hypothesis H3 was formulated: the size of the organization diversifies the determinants and the level of trust in technology in SME sector organizations in the conditions of digitization. Table 6.7 presents the average values of the indicators of the respondents' attitude towards information and communication technologies in the group of people working in micro enterprises, small enterprises and medium-sized enterprises. The list was supplemented with the

Table 6.7 Average values of indicators of the respondents' attitude towards technology in the group of people working in micro enterprises, small enterprises and medium-sized enterprises

Technologies	Enterprise size								Pairwise comparisons					
	Micro		Small		Medium				Micro vs small		Micro vs medium		Small vs medium	
	M	SD	M	SD	M	SD	H	p	U	p	U	p	U	p
Business e-mail	3.45	0.99	3.27	1.10	3.57	0.83	3.72	0.155	3408.5	0.255	5174.5	0.590	5469.5	0.055
Microsoft teams	2.79	1.14	2.62	1.30	3.09	1.15	8.57	0.014	3568.0	0.628	4417.0	0.022	5057.0	0.010
Signal	1.34	0.73	1.60	1.05	1.49	0.89	1.97	0.373	3370.5	0.175	4986.0	0.276	6057.0	0.659
Skype	1.80	1.12	1.83	1.15	1.91	1.19	0.39	0.825	3682.0	0.896	5135.0	0.567	6037.5	0.658
Zoom	2.19	1.29	1.98	1.18	2.03	1.22	1.01	0.602	3421.5	0.325	5052.5	0.448	6100.0	0.770
Microsoft Office 365	2.95	1.30	2.80	1.32	3.22	1.17	6.45	0.040	3500.5	0.466	4761.0	0.120	5153.5	0.013
Google workspace	2.61	1.36	2.28	1.30	2.29	1.27	3.32	0.190	3235.0	0.116	4669.5	0.096	6187.5	0.925
eHR	1.71	0.97	1.82	1.16	2.14	1.32	5.31	0.070	3640.0	0.784	4515.5	0.035	5487.5	0.092
Shared network drives	2.59	1.33	2.75	1.32	3.10	1.23	9.74	0.008	3456.5	0.393	4172.0	0.003	5286.0	0.033

M—average value; *SD*—standard deviation; *H*—value of the Kruskal-Wallis H test; *U*—value of the Mann-Whitney U test; *p*—statistical significance

Source: Own elaboration based on conducted research.
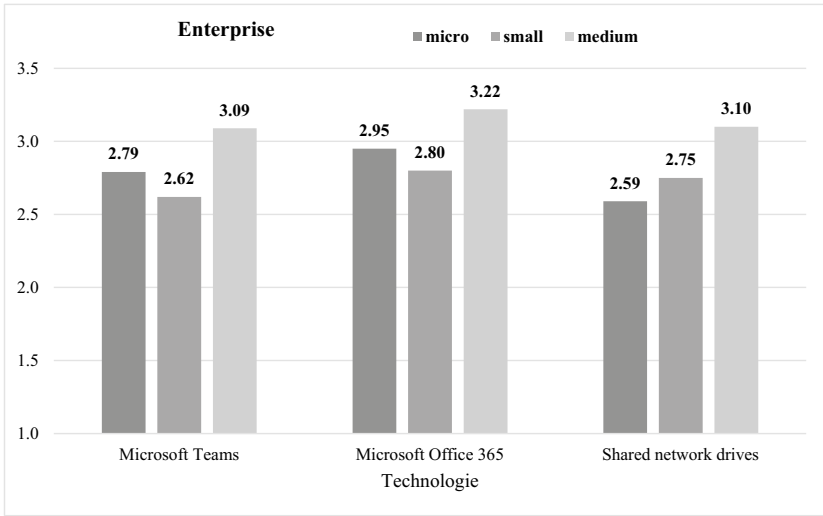
Figure 6.5 Statistically significant relationships between enterprise size and attitude to the use of technology

Source: Own elaboration based on conducted research.

values of the Kruskal-Wallis *H* test and the Mann-Whitney *U* test used as a test for pairwise comparisons. Statistically significant differences were determined.

Based on the results obtained, statistically significant differences were found in the attitude towards the use of Microsoft Teams, Microsoft Office 365 and shared network drives.

The attitude of the surveyed people to using Microsoft Teams and shared network drives was statistically significantly more positive in the group of people working in medium-sized enterprises than in the group of people working in micro enterprises and small enterprises (see Fig. 6.5).

The attitude towards using Microsoft Office 365 was statistically significantly more positive in the group of people working in medium-sized enterprises than in the group of people working in small enterprises.

Table 6.8 presents the average values of the determinants of the level of trust of respondents in technology in the group of people working in micro enterprises, the group of people working in small enterprises and the group of people working in medium-sized enterprises. The list was supplemented with the values of the Kruskal-Wallis *H* test and the Mann-Whitney *U* test used as a test for pairwise comparisons. No statistically significant differences were found between enterprises of different sizes in terms of the analysed indicators of trust in technology.

Table 6.9 presents the average values of assessments of factors influencing the level of trust in technology in the group of people working in micro enterprises,

Table 6.8 Average values of determinants of the level of trust of respondents in technology in the group of people working in micro enterprises, in the group of people working in small enterprises and in the group of people working in medium-sized enterprises

Trust in technology	Enterprise size								Pairwise comparisons					
	Micro		Small		Medium				Micro vs small		Micro vs medium		Small vs medium	
	M	SD	M	SD	M	SD	H	p	U	p	U	p	U	p
Technologies are always functional and will always work properly when I need them	3.83	0.88	3.65	1.04	3.57	1.11	2.59	0.273	3314.0	0.188	4733.5	0.129	6105.0	0.787
Technologies are simple and intuitive	3.94	0.95	3.83	1.01	3.75	1.00	2.12	0.346	3468.5	0.417	4746.0	0.132	5988.5	0.600
Using the technologies used improves my daily work	3.98	1.04	3.86	1.13	4.07	0.98	1.54	0.463	3550.0	0.586	5108.0	0.541	5667.0	0.221
Technologies are completely useful	4.08	1.00	3.86	1.12	3.88	0.91	3.40	0.182	3346.5	0.230	4579.0	0.059	6037.5	0.675
Technologies are of good quality	3.86	1.02	3.85	1.06	3.83	1.01	0.20	0.907	3717.0	0.992	5201.5	0.703	6066.5	0.723
I can rely on the technologies used in my organization	3.96	1.07	3.85	1.04	3.84	1.01	1.33	0.515	3444.5	0.379	4892.5	0.263	6157.5	0.874
Technologies support fair settlement of employees' working time	3.80	1.11	3.87	0.98	3.79	1.07	0.14	0.932	3714.5	0.986	5258.0	0.807	6060.5	0.714
Technologies used in my organization are always reliable	4.00	0.90	3.88	1.02	3.82	1.02	1.49	0.475	3484.5	0.445	4859.0	0.224	6027.0	0.660
Technologies used in the organization are always predictable and will not change	3.63	1.12	3.57	1.07	3.38	1.15	3.09	0.214	3513.0	0.511	4649.5	0.092	5724.5	0.281
Technologies are safe because files and data in the cloud are protected, e.g. with a password, and the administrator can easily control which people have access to company files and projects and manage the level of permissions	3.89	1.13	3.89	0.94	3.75	1.07	1.85	0.397	3550.0	0.584	4824.0	0.198	5843.0	0.401

(*Continued*)

Table 6.8 (Continued)

Trust in technology	Enterprise size								Pairwise comparisons					
	Micro		Small		Medium				Micro vs small		Micro vs medium		Small vs medium	
	M	SD	M	SD	M	SD	H	p	U	p	U	p	U	p
Technologies are stable	3.85	1.11	3.78	0.98	3.74	0.99	1.68	0.431	3456.5	0.398	4814.0	0.190	6073.5	0.734
My personal data are properly secured	3.83	1.03	3.82	0.97	3.84	1.05	0.13	0.935	3631.0	0.775	5337.0	0.956	6073.0	0.734
Legal and technical safeguards within the solutions used in the organization protect me against problems related to the use of the Internet	3.95	0.95	3.72	1.07	3.83	0.95	2.12	0.347	3278.0	0.158	4952.5	0.325	5928.5	0.514
I can count on administrators' help in operating the systems and solutions used in the organization	3.98	0.94	3.99	1.03	3.94	0.96	0.46	0.793	3604.5	0.708	5261.5	0.811	5919.0	0.495
Employees administering information and communication systems and solutions are fully competent to perform their official duties	3.98	0.99	4.01	0.88	3.81	0.99	2.80	0.246	3712.0	0.979	4808.0	0.183	5565.0	0.146
I can freely report emerging problems related to the operation of systems and solutions used in the organization, and that I will receive feedback regarding my report	4.10	0.92	4.08	0.88	4.06	0.96	0.12	0.944	3616.0	0.736	5257.0	0.802	6184.0	0.918
Employees providing support in the operation of systems and solutions are fully competent to perform their official duties	4.16	0.82	3.89	0.93	3.91	0.99	4.06	0.131	3144.5	0.059	4657.0	0.088	6113.5	0.798

M—average value; *SD*—standard deviation; *H*—value of the Kruskal-Wallis H test; *U*—value of the Mann-Whitney U test; *p*—statistical significance

Source: Own elaboration based on conducted research.

Factors of the level of trust in technology	Enterprise size								Pairwise comparisons					
	Micro		Small		Medium				Micro vs small		Micro vs medium		Small vs medium	
	M	SD	M	SD	M	SD	H	p	U	p	U	p	U	p
Technology predictability	3.85	1.17	4.11	1.02	4.00	1.08	1.90	0.386	3297.0	0.170	5021.5	0.413	5909.0	0.479
Technology reliability	3.90	1.11	4.08	1.08	4.12	1.06	2.67	0.263	3358.5	0.243	4698.0	0.108	6074.0	0.730
Technology utility	3.98	1.12	4.18	0.91	4.16	0.89	0.98	0.613	3439.0	0.359	5027.0	0.417	6126.0	0.816
Ease of use of technology	3.83	1.23	4.02	1.08	3.99	1.05	0.88	0.643	3433.0	0.357	5105.0	0.540	6030.0	0.662
The speed of the technology used	4.03	1.10	3.97	1.10	4.15	0.98	1.48	0.478	3565.0	0.617	5116.0	0.551	5677.0	0.225
Technology stability	3.98	1.15	3.97	1.05	4.20	1.00	4.01	0.135	3613.5	0.732	4848.5	0.210	5331.5	0.048
Understanding	3.89	1.10	4.04	0.94	4.00	1.00	0.45	0.800	3523.0	0.523	5141.5	0.595	6161.5	0.879
Quality of technology	3.94	1.06	4.12	0.99	4.07	0.99	1.45	0.484	3359.5	0.241	4989.0	0.368	6059.0	0.705
Administrative support	3.93	1.04	4.03	1.17	4.10	1.04	2.28	0.319	3361.0	0.247	4755.0	0.142	6173.0	0.898
Ability to report errors	3.94	1.08	3.86	1.13	4.08	0.99	2.03	0.362	3599.5	0.699	4993.5	0.376	5596.5	0.168
Administrator competence	3.95	1.09	3.82	1.20	4.22	0.96	7.38	0.025	3530.0	0.544	4601.5	0.064	5062.5	0.010
Security of personal data	4.10	1.10	4.15	1.09	4.20	1.08	0.60	0.741	3626.5	0.758	5058.5	0.454	6027.0	0.647
Protecting user privacy	4.04	1.14	4.23	0.97	4.13	1.12	0.75	0.687	3460.5	0.394	5093.5	0.512	6127.0	0.817

M—average value; *SD*—standard deviation; *H*—value of the Kruskal-Wallis H test; *U*—value of the Mann-Whitney U test; *p*—statistical significance

Source: Own elaboration based on conducted research.

Figure 6.6 Assessment of the impact of administrators' competences on the level of trust in technology depending on the size of the enterprise

Source: Own elaboration based on conducted research.

the group of people working in small enterprises and the group of people working in medium-sized enterprises. The list was supplemented with the values of the Kruskal-Wallis *H* test and the Mann-Whitney *U* test used as a test for pairwise comparisons. Statistically significant differences were determined.

A statistically significant difference was found in the assessment of the impact of administrators' competences. Assessments regarding the impact of administrators' competences were statistically significantly higher in the group of people working in medium-sized enterprises than in the group of people working in small enterprises (see Fig. 6.6).

Table 6.10 presents the average values of the assessment of factors influencing the process of erosion of trust in technology in the group of people working in micro enterprises, the group of people working in small enterprises and the group of people working in medium-sized enterprises. The list was supplemented with the values of the Kruskal-Wallis *H* test and the Mann-Whitney *U* test used as a test for pairwise comparisons. Statistically significant differences were determined.

A statistically significant difference was found in the assessment of the impact of problems with securing employees' personal data.

Table 6.10 Average values of assessments of factors influencing the process of erosion of trust in technology in the group of people working in micro enterprises, small enterprises and medium-sized enterprises

Factors influencing the erosion of the level of trust in technology	Enterprise size								Pairwise comparisons					
	Micro		Small		Medium				Micro vs small		Micro vs medium		Small vs medium	
	M	SD	M	SD	M	SD	H	p	U	p	U	p	U	p
Unpredictability of technology	3.84	1.26	4.03	1.08	3.81	1.21	1.75	0.417	3469.5	0.420	5206.0	0.712	5621.5	0.187
Unreliability of technology	4.00	1.08	4.11	1.05	4.04	1.06	0.51	0.775	3511.5	0.498	5266.0	0.820	5984.5	0.590
Disutility of technology	3.85	1.27	4.11	1.03	3.85	1.15	2.75	0.253	3389.5	0.286	5218.5	0.735	5465.0	0.097
High degree of complexity of technology	3.86	1.13	3.92	1.09	3.79	1.21	0.43	0.807	3636.0	0.788	5217.0	0.733	5932.5	0.521
Not understanding how technology works	3.84	1.21	3.86	1.04	3.83	1.13	0.12	0.940	3624.5	0.761	5227.5	0.751	6206.5	0.958
Low quality of the technology used	3.78	1.06	4.13	0.91	4.02	1.05	5.76	0.056	3007.5	0.021	4568.5	0.056	5996.5	0.607
Lack of support from application administrators in its use	3.91	1.21	4.03	1.11	4.13	1.04	1.19	0.552	3569.5	0.627	4919.0	0.283	5964.5	0.558
Lack of ability to report errors	3.90	1.18	3.86	0.97	4.07	1.09	4.58	0.101	3474.0	0.432	4958.0	0.329	5217.0	0.027
Low competences of administrators and helpdesk employees	4.01	1.21	3.90	1.18	4.10	1.07	1.56	0.458	3460.5	0.403	5287.0	0.858	5663.0	0.215
Unsecured/poorly secured personal data of employees	3.99	1.05	4.09	1.02	4.29	1.01	6.95	0.031	3523.0	0.525	4356.0	0.013	5413.0	0.066
Leaks of employees' personal data	4.11	1.13	4.42	0.94	4.35	1.01	4.74	0.093	3124.5	0.042	4666.5	0.077	6050.5	0.668
No protection for user privacy	4.20	1.05	4.28	1.04	4.33	1.02	1.29	0.525	3521.0	0.503	4915.0	0.256	6050.5	0.675
Protecting user privacy	4.04	1.14	4.23	0.97	4.13	1.12	0.75	0.687	3460.5	0.394	5093.5	0.512	6127.0	0.817

M—average value; *SD*—standard deviation; *H*—value of the Kruskal-Wallis H test; *U*—value of the Mann-Whitney U test; *p*—statistical significance

Source: Own elaboration based on conducted research.

Figure 6.7 Assessment of the impact of problems with securing employees' personal data on the process of erosion of trust in technology depending on the size of the enterprise

Source: Own elaboration based on conducted research.

Assessments regarding the impact of problems with securing employees' personal data were statistically significantly higher in the group of people working in medium-sized enterprises than in the group of people working in micro enterprises (see Fig. 6.7).

The obtained statistically significant differences between enterprises of different sizes presented in Figures 6.5, 6.6 and 6.7 are consistent with Hypothesis H3.

6.4   Gender and the perception of factors that have a positive impact on the level of trust in co-workers

The following hypothesis H4 was formulated: the employee's gender influences the different perceptions of factors that have a positive impact on the level of trust in co-workers in SME sector organizations.

Table 6.11 shows the average values of the ratings of factors influencing the level of trust in co-workers in the group of women and in the group of men. The list was supplemented with the values of the Mann-Whitney *U* test.

Based on the results obtained, it was found that women, statistically significantly higher than men, rated the impact of an atmosphere conducive to the free expression of one's opinion, good intentions and kindness in relationships

Table 6.11 Average values of ratings of factors influencing trust in co-workers in the group of women and in the group of men

Factors of the level of trust in co-workers	Women		Men			
	M	SD	M	SD	U	p
Competence adequate to the position held	3.84	1.20	3.94	1.18	10386.5	0.454
Commitment to performing official duties	4.09	1.06	4.08	1.08	10870.5	0.944
Openness in communication with other employees	4.05	1.04	3.99	1.16	10824.0	0.892
Discretion in relationships with other employees	4.05	1.14	3.88	1.16	9932.5	0.161
Clarity of the messages communicated	4.12	1.02	4.07	1.09	10728.0	0.784
Active listening by other people	4.12	1.01	4.07	0.98	10487.5	0.537
An atmosphere conducive to freely expressing one's opinion	4.22	0.98	3.99	1.05	9438.0	0.033
Honesty in performing official duties	4.24	1.04	4.17	1.06	10417.0	0.462
Mutual loyalty in relationships with other employees	4.21	1.05	4.09	1.06	10118.0	0.246
Honesty in expressing one's opinions and assessments	4.24	0.97	3.99	1.09	9562.0	0.051
Caring in relationships with other employees	4.04	1.03	3.86	1.08	9846.0	0.130
Reliability, keeping declarations/promises made	4.20	1.01	4.04	1.12	10098.0	0.236
Good intentions/kindness in relationships with other employees	4.19	0.98	3.94	1.13	9531.0	0.047
Taking responsibility for one's actions	4.34	0.95	4.25	1.02	10428.5	0.463

M—average value; *SD*—standard deviation; *U*—value of the Mann-Whitney U test; *p*—statistical significance

Source: Own elaboration based on conducted research.

with other employees (see Fig. 6.8). The obtained differences are consistent with hypothesis H4.

6.5 Work experience and the structure of factors determining the process of erosion of trust in managers

The following hypothesis H5 was formulated: work experience differentiates the structure of factors causing the erosion of trust in managers in SME sector organizations.

To verify the above thesis, Table 6.12 presents the average values of the assessment of factors influencing the process of erosion of trust in managers in the group of people with work experience of up to five years, in the group of people with work experience of 6–10 years and in the group of people with work experience of over 10 years. The list was supplemented with the values of the Kruskal-Wallis *H* test and the Mann-Whitney *U* test used as a test for pairwise comparisons. Statistically significant differences were determined.

Figure 6.8 Statistically significant differences between women and men in the assessment of factors influencing trust in co-workers

Source: Own elaboration based on conducted research.

Statistically significant differences were obtained in terms of assessments regarding the impact of lack of professionalism, failure to notice violations of applicable rules by some employees, unjustified assignment of duties to employees below their competences, granting unjustified promotions, praising employees who did not deserve it, failure to keep one's word, insincerity and inadequacy of information feedback on work performance, apparent lack of motivation to work and gossiping about other people.

It was found that the assessments regarding the impact of lack of professionalism, unjustified assignment of duties to employees below their competences, granting unjustified promotions, praising employees who did not deserve it, insincerity and inadequacy of feedback on work results and gossiping about other people were statistically significantly higher in group of people with work experience of over 10 years than in the group of people with work experience of up to five years and in the group of people with work experience of 6–10 years (see Fig. 6.9).

It was also found that the assessments regarding the impact of failure to notice violations of the prevailing rules by some employees were statistically significantly higher in the group of people with more than 10 years of work experience than in the group of people with less than five years of work experience.

Factors influencing the erosion of the level of trust in managers	Work experience							Pairwise comparisons					
	Up to 5 years		6–10 years		Over 10 years				Up to 5 years vs 6–10 years		Up to 5 vs over 10 years		6–10 vs over 10 years	
	M	SD	M	SD	M	SD	H	p	U	p	U	p	U	p
Lack of professionalism in managing the organization	4.31	1.06	4.27	1.09	4.64	0.69	8.17	0.017	3702.5	0.766	6674.5	0.009	2304.5	0.021
Failure to notice employees' incompetence and to take consequences against them	4.15	1.03	4.15	1.11	4.47	0.74	5.27	0.072	3730.0	0.841	6769.0	0.025	2474.0	0.144
Failure to notice that some employees "bend" the existing rules	4.21	1.10	4.02	1.21	4.51	0.74	6.13	0.047	3490.5	0.344	7018.0	0.069	2261.0	0.019
Favouring certain employees in access to information	4.16	1.07	4.35	0.93	4.46	0.90	5.95	0.051	3467.0	0.310	6695.5	0.016	2622.5	0.376
Favouring employees regarding working conditions	4.18	1.06	4.23	1.08	4.46	0.90	5.04	0.080	3666.0	0.688	6796.0	0.026	2527.5	0.202
Favouring certain employees in assigning duties	4.17	1.09	4.08	1.15	4.40	0.83	2.66	0.264	3654.0	0.664	7255.0	0.183	2473.0	0.148
Unjustified assignment of duties to employees below their competences	4.05	1.10	3.81	1.19	4.35	0.90	9.34	0.009	3346.5	0.180	6808.5	0.032	2089.0	0.003
Granting unjustified promotions	4.16	1.10	3.94	1.27	4.57	0.81	14.65	0.001	3464.0	0.310	6323.5	0.001	2024.5	0.001
Praising employees who do not deserve it	4.17	1.01	3.96	1.25	4.39	0.98	7.08	0.029	3501.0	0.371	6893.5	0.043	2209.5	0.012
Failure to keep one's word	4.24	1.01	4.33	1.10	4.66	0.68	13.32	0.001	3480.5	0.321	6110.5	0.001	2452.0	0.084

(*Continued*)

Table 6.12 (Continued)

Factors influencing the erosion of the level of trust in managers	Work experience								Pairwise comparisons					
	Up to 5 years		6–10 years		Over 10 years				Up to 5 years vs 6–10 years		Up to 5 vs over 10 years		6–10 vs over 10 years	
	M	SD	M	SD	M	SD	H	p	U	p	U	p	U	p
Insincerity and inadequacy of performance feedback	4.33	0.94	4.17	1.13	4.61	0.69	8.74	0.013	3544.5	0.430	6736.5	0.015	2211.0	0.008
Visible lack of motivation to work	3.99	1.12	4.31	1.04	4.42	0.83	10.38	0.006	3152.0	0.051	6318.5	0.002	2768.0	0.787
Overloading an employee with duties	4.20	1.01	4.25	0.99	4.50	0.77	5.89	0.053	3727.0	0.832	6744.0	0.020	2431.0	0.097
Reluctance to share knowledge with employees	4.15	0.99	4.29	1.11	4.41	0.85	5.57	0.062	3328.0	0.152	6768.0	0.025	2789.0	0.853
Gossiping about other people	4.18	1.07	3.94	1.21	4.50	0.89	13.18	0.001	3382.0	0.208	6489.0	0.005	2021.5	0.001
Giving in to tactless and intrusive attempts to please subordinate employees	4.13	1.10	4.13	1.14	4.45	0.86	5.82	0.054	3763.0	0.920	6740.5	0.021	2425.0	0.095

M—average value; *SD*—standard deviation; *H*—value of the Kruskal-Wallis H test; *U*—value of the Mann-Whitney U test; *p*—statistical significance

Source: Own elaboration based on conducted research.
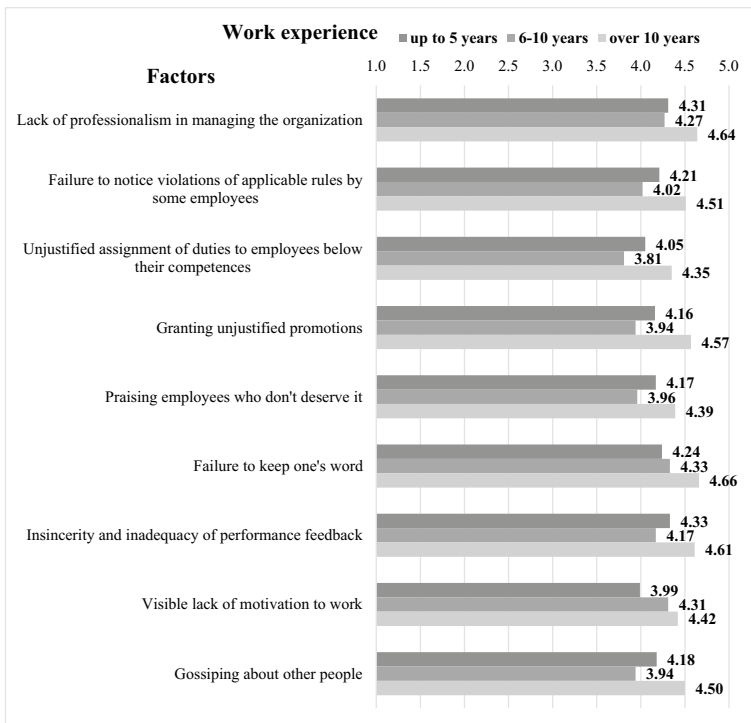
Figure 6.9 Statistically significant relationships between work experience and assessments of factors influencing the process of erosion of trust in managers

Source: Own elaboration based on conducted research.

Assessments regarding the impact of failure to keep one's word and a visible lack of motivation to work were statistically significantly higher in the group of people with 6–10 years of work experience than in the group of people with up to five years of work experience.

The obtained statistically significant differences between people with work experience of up to five years, people with work experience of 6–10 years and people with work experience of over 10 years confirm Hypothesis H5.

6.6   Conclusions and implications for management theory and business practice

Table 6.13 presents the results regarding the verification of the hypotheses with the justification.

Table 6.13 Results of verification of the validity of the adopted research hypotheses

Hypothesis	Decision regarding hypothesis verification	Reasons for the decision
Main H. conditions related to digitization differentiate the structure of determinants and the level of trust in SME organizations.	Hypothesis confirmed	The level of trust and the structure of determinants of the level of trust in managers, co-workers and technology in SME sector organizations vary due to conditions related to digitization.
H1. The size of the organization differentiates the determinants and the level of trust in managers in SME sector organizations in the conditions of digitization.	Hypothesis confirmed	The determinants and level of trust in managers in SME sector organizations in the conditions of digitization vary depending on the size of the organization.
H2. The size of the organization differentiates the determinants and the level of trust in co-workers in SME sector organizations in the conditions of digitization.	Hypothesis confirmed	The determinants and level of trust in co-workers in SME sector organizations in the conditions of digitization differ depending on the size of the organization.
H3. The size of the organization diversifies the determinants and the level of trust in technology in SME sector organizations in the conditions of digitization.	Hypothesis partially confirmed	The determinants of the level of trust in technology in SME sector organizations in the conditions of digitization differ depending on the size of the organization. The level of trust in technology in SME sector organizations under digitization does not differ depending on the size of the organization.
H4. The employee's gender influences the different perceptions of factors that have a positive impact on the level of trust in co-workers in SME sector organizations.	Hypothesis confirmed	The assessment of factors that have a positive impact on the level of trust in co-workers in SME sector organizations in the conditions of digitization varies depending on the gender of employees.
H5. Work experience differentiates the structure of factors causing the erosion of trust in managers in SME sector organizations.	Hypothesis confirmed	The structure of factors influencing the process of erosion of trust in managers in SME sector organizations in the conditions of digitization differs depending on the work experience of employees.

Source: Own elaboration.

Based on the analysis of the results of the conducted research, the following conclusions can be drawn:

In terms of trust in managers in SME sector organizations in the conditions of digitization:

- The level of trust in managers in terms of not making work difficult, openness in admitting mistakes, accepting responsibility, not forcing competition between employees, noticing employee incompetence, making reliable employee assessments, taking consistent actions and good intentions is higher among employees of micro enterprises compared with employees in medium-sized enterprises.
- The level of trust in managers in terms of sharing knowledge, maintaining discretion, equal treatment of employees, fair settlement of subordinates, not succumbing to manipulation, noticing conflict situations and refraining from gossiping is higher in the group of people working in micro enterprises than in the group of people working in small enterprises and the group of people working in medium-sized enterprises.
- The level of trust in managers in terms of competences and keeping the declarations made by managers is higher in the group of people working in medium-sized enterprises than in the group of people working in micro enterprises.
- The level of trust in managers regarding the influence of discretion and clarity of messages is higher in the group of people working in medium-sized enterprises than in the group of people working in micro enterprises and in the group of people working in small enterprises.

In terms of trust in co-workers in SME sector organizations in the conditions of digitization:

- The level of trust in co-workers in terms of co-workers' commitment to work is higher in the group of people working in micro enterprises than in the group of people working in small enterprises.
- The level of trust in co-workers in terms of the reliable performance of their duties, refraining from gossiping, not using manipulation and the ability to make sacrifices is higher in the group of people working in micro enterprises than in the group of people working in small enterprises and the group of people working in medium-sized enterprises.
- The level of trust in co-workers in accepting responsibility and good intentions is lower in the group of people working in medium-sized enterprises than in the group of people working in micro enterprises and the group of people working in small enterprises.
- The level of trust in co-workers in terms of commitment to cooperation, impartiality and not taking advantage of weaknesses by co-workers is

higher in the group of people working in micro enterprises than in the group of people working in medium-sized enterprises.

- The level of trust in co-workers in terms of the impact of trying to please superiors at the expense of other employees on the erosion of trust in co-workers is higher in the group of people working in medium-sized enterprises than in the group of people working in micro enterprises.

In terms of trust in technology in SME sector organizations in the conditions of digitization:

- The attitude towards the use of Microsoft Teams and shared network drives is more positive in the group of people working in medium-sized enterprises than in the group of people working in micro and small enterprises.
- The attitude towards using Microsoft Office 365 is more positive in the group of people working in medium-sized enterprises than in the group of people working in small enterprises.
- The level of trust in technology in relation to the importance of administrators' competences is higher in the group of people working in medium-sized enterprises than in the group of people working in small enterprises.
- In relation to the impact of problems related to securing employees' personal data on the level of trust in technology, it is higher in the group of people working in medium-sized enterprises than in the group of people working in micro enterprises.
- Moreover, no statistically significant differences were found between enterprises of different sizes in terms of the analysed indicators of trust in technology.

The level of trust and the gender of employees employed in SME sector organizations in the conditions of digitization:

- Women rated higher than men in the impact of an atmosphere conducive to the free expression of one's opinion, good intentions and kindness in relationships with other employees.

Work experience and the level of trust of employees employed in SME sector organizations in the conditions of digitization:

- The level of significance of factors causing erosion of trust in managers in terms of lack of professionalism, unjustified assignment of responsibilities to employees below their competences, granting unjustified promotions, praising employees who do not deserve it, insincerity and inadequacy of feedback on work performance and gossiping about other people is higher in the group of people with over 10 years of work experience than in the group of people with up to five years of work experience and in the group of people with 6–10 years of work experience,

- The level of significance of factors causing the erosion of trust in managers in terms of failure to notice violations of applicable rules by some employees is higher in the group of people with over 10 years of work experience than in the group of people with less than five years of work experience,
- The level of significance of factors causing the erosion of trust in managers in terms of failure to keep their word and visible lack of motivation to work is higher in the group of people with 6–10 years of work experience than in the group of people with up to five years of work experience.

The obtained results contain some limitations. First, the analysis of the issue of trust in the organization concerned the trust between co-workers, employees' trust in managers and employees' trust in technology. Due to the complexity of the issues of trust being discussed, the analyses should be extended to include other dimensions of trust in the organization: trust in the superiors–subordinates relationship, trust in the organization (represented by the management board)–employees relationship and trust in the employees–organization (trust in the management board) relationship. Second, the scope of research on the issue of trust in organizations was limited to employees of the SME sector. Research should be expanded among organizations outside the SME sector. Third, due to the complexity of the process of digitization of enterprises, the issues have been limited to perceiving it as the reality in which organizations currently operate. The analysis of the issue should be expanded to include knowledge regarding the level of advancement of the digitization process in organizations. Despite the existing limitations of the results of empirical research, the results show certain trends and tendencies that may constitute a field for further research in this direction.

The analysis of the research results fills the cognitive theory gap in this area. The presented results constitute an extension of the existing theoretical and definitional solutions. The obtained results constitute the basis for determining the implications for management theory and business practice. The collected research material shows that managerial staff should take actions aimed at building and maintaining a culture of trust. In such a multidimensional process as building and maintaining the level of trust in an organization, elements that turn out to be important are as follows:

- Discretion;
- Openness;
- Clarity in communication with subordinate employees;
- Honesty;
- Lack of competitive atmosphere;
- Having good intentions;
- Fair treatment of employees;

• Fair accountability of employees for their duties;
• Fair employee assessment.

Moreover, in the light of the research carried out, it can be concluded that trustworthy managers are those who have high competences and keep their promises. Moreover, a manager who inspires trust is a manager who is not subject to manipulation by other employees, one who notices conflicts and is able to manage them appropriately. A manager that employees can trust is someone who does not participate in gossiping about other employees.

   The factors that destroy trust in the management staff according to employees with higher work experience include the following:

• Lack of professionalism;
• Unjustified assignment of duties to employees that are below their competences;
• Granting unjustified promotions;
• Management staff praising employees who did not deserve it for their work;
• Insincerity;
• Inadequacy of feedback provided by management staff regarding the results of their work;
• Supervisor's gossiping about other employees.

The level of trust in the employee–employee relationship in an equivalent or similar position is determined by the degree of commitment and reliability in the work performed, as well as the acceptance of responsibility and the ability to devote, for example, additional time to complete the assigned task. Moreover, mutual trust between employees exists when they refrain from gossiping and do not manipulate other co-workers. Determinants such as good intentions, cooperation, impartiality and not taking advantage of other employees' weaknesses are also important. Attempts to please superiors at the expense of other employees of the organization are perceived as factors that destroy the level of trust.

   The level of trust in technology varies with the size of the organization and the competence of administrators. However, the level of personal data security is a factor that reduces the level of trust in technology in relation to the size of the organization.

   For women, a good atmosphere in an organization that favours free communication, good intentions and relationships based on kindness is more important.

   Based on the literature analysis and the results obtained, the following implications for management practice were formulated:

• An increasingly broader orientation in management, focused on the appreciation of organizational values, which are key factors guaranteeing the development of the organization, causes a noticeable increase in interest in the importance of

trust and its impact on the efficiency of the organization. Therefore, it is worth making an effort to analyse the level of trust within the organization to maintain or regain employees' trust in the management staff, in co-workers and in the technologies that the organization provides to its employees.

- Building a climate of trust turns out to be an important element in shaping interpersonal relations within the organization. A positive atmosphere in the workplace and relationships between employees and superiors based on trust stimulate both parties in everyday work, and this translates into the functioning of the entire organization.
- Actions taken to manage trust, ensure and maintain the level of intra-organizational trust contribute to the organization's success and strengthen its competitive advantage.
- Managers can use trust as a tool that helps improve employee performance and, as a result, affects the efficiency of the entire organization.

Trust is a dynamic state and trust management in an organization is becoming a new trend or direction in the field of management sciences (Popczyk 2011, 9–18). Therefore, it is worth turning to deeper research on the issue of intra-organizational trust. Hence, issues regarding the effects of trust and its lack on organizations in conditions of multitasking and constant changes taking place in their environment may turn out to be interesting and important. Methods of counteracting pathologies occurring in the workplace are also important, which undoubtedly play a role in the process of building intra-organizational trust and significantly reduce trust in the managerial staff. Another important issue in managing trust within an organization is improving the process of rebuilding lost trust, which may also be an interesting research area.

6.7   Conclusion

As part of this book, the structure of trust level determinants and the level of trust in SME organizations in the conditions of digitization were analysed. The essence of digitization was presented, and the phenomenon was defined based on a literature review. Definitions of trust existing in the literature were presented. The following definitions were developed:

- Digitization;
- Trust;
- Interpersonal trust;
- Trust in technology.

It was assumed to examine the determinants and level of organizational trust in three dimensions: trust in managers, trust in co-workers and trust in technology in SME sector organizations in the conditions of digitization.

The main premises that prompted the author of the project to consider trust in the conditions of digitization result from the following:

- The discrepancies in the understanding of digitization;
- The discrepancies in the understanding of trust, including interpersonal trust and trust in technology;
- The discrepancies in the systematization of trust determinants;
- The specifics of measuring trust;
- The relationship between trust and changes in the organizational culture of enterprises that result from the ongoing digitization of enterprises;
- The increasing role of the use of digital technologies in the functioning of SME sector enterprises.

An original research tool was proposed to measure the level of intra-organizational trust. Quantitative research was carried out among employees of organizations in the SME sector using an original survey questionnaire.

The set goals were achieved, and the adopted research hypotheses were verified.

Previous research shows that trust supports employees' intrinsic motivation. The combination of goals and emotional motivation causes people to activate their energy and talents (Olszewska 2011, 181–189). Trust contributes to positive impressions by reducing perceived risk and uncertainty (Xu 2014, 136–144). Trust reduces transaction costs and improves employee performance (Zaheer et al. 1998, 141–159). Trust gives a sense of stability and comfort (Domański 2014, 8–17). Trust is a guarantee of effective communication within the organization (Bugdol 2010, 149). Trust makes organizational learning more likely to occur. Employees operating in an environment in which they can trust their superiors and other employees are more willing to share useful knowledge and are more willing to listen and absorb the knowledge of others (Guinot et al. 2013, 559–582). Employers' priority goal for the coming years should be a well-thought-out human resources management strategy aimed at involving employees in discussions regarding digital transformation and ongoing technological changes, as well as the process of implementing these changes in enterprises (www.pwc.pl).

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