TRENDY EKONOMIKY A MANAGEMENTU
TRENDS ECONOMICS AND MANAGEMENT
ISSN 1802-8527 (Print) / ISSN 2336-6508 (Online)

2021 38(2): 23–33
DOI: http://dx.doi.org/10.13164/trends.2021.38.23

Exploring the Role of Ethical Issues in the Context of Digital Transformation

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Abstract

Purpose of the article: The article aims to explore the role of ethics within the context of digital technologies to provide additional insight into the phenomenon of digital transformation, and thus to contribute to a better understanding of the opportunities and challenges that companies encounter in a rapidly changing business environment. Specifically, the paper determines the role of ethics discussed in the most recent scientific literature in the context of digital transformation.
Methodology/methods: An explorative approach to the analysis of scientific literature was adopted to answer the research question: What is known from the available scientific literature about the role of business ethics in the digital transformation of a company? The Scopus and ScienceDirect scientific databases were used for the literature search. The selected articles were assessed, grouped around the topics and analysed.
Scientific aim: To investigate the challenges in the business ethics related to an increased impact of digital transformation on the company's performance.
Findings: 1) Business ethics ensures that digital technologies and the company's decisions based on the information provided by these technologies are in line with the ethical considerations. 2) There is a demand for the increased organisational accountability for data management to ensure legal and ethical implications of data ownership. 3) Ethical decisions promote a long-run sustainable development of a company. 4) Ethical decision-making allows digitalisation solutions to be applied in accordance with the values and principles of employees.
Conclusions: Ethical considerations provide deeper understanding of the impact of digital transformation at a higher level and in its long-term perspective. Limitations: the literature search was conducted in two scientific databases. Implications: the findings of this study form the basis for further research to investigate the interdependence between ethical responsibility of a company and technological advances towards achieving sustainable development.

Keywords: digital transformation, business ethics, ethical values, ethical behaviour, business environment, sustainable performance

JEL Classification: M15, M21

Introduction

Digital transformation has become a subject of intense consideration among scientists who have studied this phenomenon from different perspectives and at different levels. In the scientific literature, the primary focus of the research is the study of the impact of digital transformation at the organisational level; meanwhile, the investigation of the impact on individuals and society has been constantly growing. This area of research also involves the study of the ethical context of digital transformation. However, the research that has addressed this aspect is scarce and debates are primarily focused on the issues of personal data protection. Very little is known about the role of ethics in the design and implementation of a company's digital strategy to ensure the positive impact of digital transformation (Vial, 2019). Moreover, the investigation of the role of ethics through the lens of digitalisation has become even more topical in the context of the United Nations and the European Union initiatives, namely the United Nations' Sustainable Development Goals (UN SDGs) and the 2020s Europe's Digital Decade.

The current exploratory review of the most recent scientific literature provides an initial insight into the phenomenon of digital transformation highlighting the role of ethics in this process to better understand opportunities and challenges which companies encounter in a rapidly changing business environment. Specifically, the paper determines the ethical issues which are discussed in the most recent scientific literature in the context of digital transformation.

The present article is the first in the series of the articles dedicated to the study of ethical issues in the context of digital transformation. The article begins with the brief review of the literature defining the concepts of digital transformation and highlighting the importance to take into consideration ethics in the context of digitalisation. Then the methodology of the exploratory literature review is explained and the analysis of the selected articles is presented. Finally, the study limitations and main contribution are discussed.

1. Literature review

The impact of emerging digital technologies on each sphere of business has been growing rapidly. The activities and events initiated under the United Nations' 2030 Agenda for Sustainable Development have intensified digitalisation and reinforced engagement with technologies. "The UN SDGs were developed to provide a multifaceted framework to define global development challenges and encourage a multi-sector approach to addressing these issues" (de Villiers *et al.*, 2021). The implementation of SDGs provides the opportunity to align social needs with long-term development and sustainability.

The scholars explore the subject of the digital sustainability and the role of digital technologies in pursuing the Sustainable Development Goals (SDGs). "Digital Sustainability is understood as the effort of developing and deploying smart technologies to secure sustainable economic growth while considering and integrating the SDGs" (Mondejar *et al.*, 2021). Digital technologies are deemed to be the driving forces for sustainable development (Del Río Castro *et al.*, 2021, Fernández-Portillo, 2019).

Digital technologies are defined as the combination and connectivity of unlimited, diverse information, communication and computing technologies (Hanelt *et al.*, 2020; Bharadwaj *et al.*, 2013). The Internet of Things (IoT), cloud computing, robotics, artificial intelligence (AI), *etc.* provide a great opportunity for the datafication of business and the use of reliable and trusted data (Gouvea *et al.*, 2018). The digitalisation of business has led to both changes in business

models and the shift in consumer preferences. To utilise new digital technologies effectively, companies are to adjust the forms of doing business to the new conditions, and promote the new digital behaviour which requires the relevant set of skills.

The growing power of digital innovations reinforces a viewpoint which considers the business environment as digital ecosystems. "Digital ecosystems are ecosystems where interdependencies are driven by digital connectivity" (Subramaniam, 2020). To operate sustainably in the context of digital ecosystems, companies create a network of data recipients with whom they can exchange the data. In this regard, various parties involved can face ethical challenges, in other words, they are to take into account what is right and what is not (Vial, 2019).

In the scientific literature, digital transformation is understood as the technological achievement as well as the sociocultural process. As the sociocultural process, digital transformation is defined as "the process of adapting firms to the new organisational forms and skill sets needed to remain viable and relevant in a digital landscape" (Saarikko *et al.*, 2020). Scholars believe that digital transformation changes business environment in a fast and considerable manner (He *et al.*, 2020). The emergence of new markets, the development and enhancement of business models, or the increasing importance of innovation – these and other changes have greatly occurred owing to technological evolution over recent years.

In the era of digital transformation, the very essence of work has been changed. Work tends to become more autonomous, which entails both positive and negative consequences. On the one hand, digital transformation provides increasing opportunities for creative, flexible and less dependent work, but on the other hand, there is a growing risk of uncertainty and instability in labour relationships due to a new digital environment (Rodriguez-Lluesma *et al.*, 2021).

Bernd Carsten Stahl (2012) argues that the principles of business ethics are to be applied to all types of information systems. The ethics is defined as "the abstract and theoretical reflection on moral statements" (Stahl, 2012). Gregory Vial (2019) shares this view, asserting that the ethical considerations provide deeper understanding of the impact of digital transformation at a higher level and in its long-term perspective to ensure a company's sustainable performance. The scholar considers that ethical decisions enable companies to use digital technologies in such a way as to avoid compromising sustainable organisational performance while focusing on the achievement of the short-term goals (Vial, 2019). Decisions related to the company's performance, which is modified due to the digital transformation, are to be consistent with the values and principles of the employees and not contradict to their moral beliefs (Vial, 2019).

2. Methodology

The review of the scientific literature is exploratory in nature. The review aims to clarify the existing basis of the research through summarising the research findings from the available most recent literature related to the following research question:

What is known from the available scientific literature about the role of business ethics in the digital transformation of a company?

The research question was formulated to establish the focus of the literature review.

The Scopus and ScienceDirect scientific databases with a broad access to peer-reviewed articles related to the research topic were used for the investigation. The search was conducted using keywords *digital transformation* AND *ethic** (for Scopus) and *digital transformation AND ethics* (for ScienceDirect).

The following inclusion criterion was established: the research or conceptual paper

in the area of business was selected for further analysis if the interrelationship between digital transformation and business ethics is obvious. This means that the articles were selected if they either described the methods which were used to study the impact of business ethics on digital performance of a company, or ethical implications of digital decisions and research agenda were provided. The selected articles were assessed according to their relevance and grouped around the themes.

As a result, the following articles were selected for the further review: Ashok *et al.*, 2021; Etter *et al.*, 2019; Saarikko *et al.*, 2020; Baldini *et al.*, 2018; Tursunbayeva *et al.*, 2021; Giermindl *et al.*, 2021; Lobschat *et al.*, 2021; Herden *et al.*, 2021; Fukuda-Parr, Gibbons, 2021; Hagelstein *et al.*, 2021; Ostmeier, Strobel, 2022; Fernández-Rovira *et al.*, 2021; Behera *et al.*, 2021; Sestino *et al.*, 2020; Stahl *et al.*, 2021.

The analysis revealed the following key topics discussed in the recent literature regarding business ethics and digital transformation: 1) ethical issues which are at risk as a result of digitalisation; 2) themes related to the role of business ethics in the context of digital transformation; and 3) resources to deal with ethical issues in the context of digital transformation.

3. Results and discussion

The exploratory analysis detected the ethical issues which might be at risk and the themes related to the role of business ethics in the context of digital transformation.

The traditional definition of business ethics is related to the rules, standards, and principles which guide moral behaviour in different business situations. Over recent years, the concept of business ethics has been expanded to include digital ethical issues which are currently have become topical. Digital ethics is defined as a framework of values and moral principles which determine the rules of behaviour in the digital environment (Ashok *et al.*, 2021).

3.1 Ethical issues which are at risk due to digital transformation

Fast growing digital technologies have resulted in the emergence of new forms of companies where the employees and the consumers share new benefits and are assigned new roles and responsibilities. In this regard, the integration between the digital and real world has increased privacy risks, since a huge amount of data collected with the aid of digital technologies, such as the Internet of Things for example, is difficult to monitor (Baldini *et al.*, 2018). The scholars (Baldini *et al.*, 2018) consider that the legal framework alone will not be able to cover completely all privacy risks and propose an ethical design model for IoT which takes individuals' rights into account along with business considerations.

A group of scientists (Saarikko *et al.*, 2020) investigated risks and opportunities of digital technologies, illustrated by the case of the Internet of Things (IoT). The scholars caution that "digital technology can be either transformative or disruptive depending on one's perspective and, more importantly, one's ability to harness its potential" (Saarikko *et al.*, 2020). Therefore, companies are to be "digitally conscious" to be able to realise the opportunities and threats to ensure that the digitalisation and modification process is in line with their strategic interests and ethical principles. A set of recommendations was provided for the companies to adjust their strategies to digital transformation, and thus reduce the risk of ethical workplace misconduct.

The recommendations covered the following:

- Gathering the right data which are consistent with the company's needs and which are used fairly to gain multiple benefits;
- Considering brand recognition and company's high credibility as powerful resources to overcome the risks associated with the

adoption of new technologies and introducing market offerings;
- Engaging corporate governance in elaboration of standards and interfaces;
- Being accountable for the ownership of data and for the compliance with ethical standards;
- Aligning digital transformation to companies' practices, norms and business values (Saarikko *et al.*, 2020).

Some scholars highlight that although companies follow the latest trends in the field of digital technologies to improve their sustainability through digitalisation and the use of big data, few of them focus on how to avoid or minimise the risk for employee data meaningfully (Tursunbayeva *et al.*, 2021).

Nowadays, more and more companies rely on data-driven decisions to optimise an overall performance of a company including improvements in human resource management. However, applying digital innovations for performing such functions as recruitment, performance evaluation, people development and so on, ethical risks and challenges may arise. The scholars (Giermindl *et al.*, 2021) analyse the scientific literature to identify the risks for companies and employees caused by the use of human-algorithmic management. There is the risk that while collecting information companies may be beyond the boundaries of work-related issues and accumulate data related to the individuals' personal and social life as well. The other risk related to digitalisation which can be considered from the position of business ethics is the algorithmic control of employees. Constant performance tracking makes employees feel in control which limits their autonomy and makes them morally dissatisfied. Table 1 summarises the ethical risks which can occur as a result of the digital transformation of the company.

Therefore, based on the analysis of the literature related to the ethical issues which might be at risk, it is possible to conclude that privacy and data protection are the primary questions addressed in the literature when considering potential ethical risks. However, the scholars consider that the moral and ethical issues related to the risk of privacy, discrimination and employees' rights caused by digital transformation still remain unsolved (Etter *et al.*, 2019).

3.2 Themes related to the role of business ethics in the context of digital transformation

The analysis of the selected literature identified the themes reflecting the role of business

Table 1. Ethical risks as a result of digital transformation.

Ethical risks	Why risks occur?	How to avoid?
Privacy risks (Baldini *et al.*, 2018)	It is difficult to monitor the massive amounts of data collected by digital devices.	Increase the awareness of potential and real the privacy risks among all stakeholders; apply the ethical design model for IoT and other digital technologies.
Ethical workplace misconduct due to misuse of the digital technologies (Saarikko *et al.*, 2020).	Companies and employees do not always have a clear vision about the nature of digital transformation.	Increase the awareness of opportunities and threats of digitalisation of a company and ethical consequences.
Risks for employee data (Tursunbayeva *et al.*, 2021)	Increased interest in people analytics has led to the risks of loss of confidential information.	Protect employee data through transparency and diverse stakeholder inclusion.
Risks related to the algorithmic control of employees (Giermindl *et al.*, 2021)	The root causes of the risks: excessive expectations and unreasonable use of the human-algorithmic management: a lack of algorithmic transparency	Develop human-algorithmic management activities considering potential and real ethical risks; raise employees' digital awareness

Source: created by the author based on the literature analysis.

ethics through the lens of digital transformation.

- *Ethical norms guide the corporate behaviour throughout the whole lifecycle of development and/or implementation of digital technologies.*

A new concept, corporate digital responsibility (CDR), was proposed by a group of scholars (Lobschat *et al.*, 2021) in response to the need to consider ethical issues in a new digital environment. Corporate digital responsibility is defined "as the set of shared values and norms guiding an organisation's operations with respect to four main processes related to digital technology and data" (Lobschat *et al.*, 2021). This definition was expanded, and corporate digital responsibility started to be considered as an enlargement of company's responsibility which includes ethical responsibility for company's performance and decisions related to digitalisation (Herden *et al.*, 2021).

Following the concept of corporate digital responsibility, four critical stages of the lifecycle of digital technologies and data were determined, and the ethical responsibility relevant to each stage was assigned (Lobschat *et al.*, 2021). During the initial stage of the process, which is called 'creation of technology and data capture', the company needs to develop ethical norms to guide corporate behaviour throughout the whole lifecycle of development and/or implementation of digital technologies. The second stage of 'operation and decision making' is related to the use of developed digital technologies to conduct decision-making. The company holds the ethical responsibility for the data they provide for machine learning algorithms when the digital assets are the integral part of the IT-based decision-making process. The third stage of 'inspection and impact assessment' evaluates the impact of operation or decision made on all stakeholders, considering both intended and unintended consequences. To take account ethical considerations, the company is to develop a set of specific norms and procedures to assess the ethical effect of implementation of digital technologies. Based on the critical evaluation of the performance of digital assets, digital technologies are to be refined. 'Refinement of technology and data' is the fourth stage of the lifecycle. During this stage, the norms of ethical responsibility are to be amended to be alighted with the changes in digital technologies. (Lobschat *et al.*, 2021)

Therefore, the role of business ethics is to ensure that the whole process of the development and implementation of digital technologies, as well as the company's decisions based on the information provided by these technologies, are in line with the ethical considerations, do not constrain the rights, and do not compromise moral principles.

- *Ethical responsibility protects the ownership of personal data of employees, consumers and other stakeholders.*

In spite of the fact that gathering the data is not the ultimate aim of the digital transformation, data creation "is an inescapable consequence of working with digitized products and digitalized business models" (Saarikko *et al.*, 2020). The data collected provide opportunities for the companies to create value based on the data on individuals, however gathering data and composing digital profiles on individuals (customers or employees) can lead to negative social and ethical consequences. The scientists recognize the dual aspects of ethical dilemma related to the ownership of data: (1) the use of data according to the mutual agreement between individuals and companies does not grant the right to the third party to compile the consumers' profiles with their preferences; (2) it can be harmful if the individual data are used in a wrong way (Saarikko *et al.*, 2020).

The study conducted by a group of scholars (Fernández-Rovira *et al.*, 2021) shed light upon the ethical aspects of the use of big data for commercial purposes. The authors

highlight the importance of maintaining effective ethical responsibility and argue that "at the beginning of the Fourth Industrial Revolution, the use of user-generated mass data represents the great transformation about which the ethical aspects should be considered" (Fernández-Rovira *et al.*, 2021).

Although data protection issues constitute the subject of national and international sets of regulations, not all issues are still covered by the legislation and as a result, they continue to be the subject of ethical consideration. As a consequence, guidelines on ethical questions have emerged and become the protective measure against improper use of individuals' data by the digital technologies. However, there is a scepticism regarding the guidelines as the ethical framework. In some cases, ethics guidelines hardly suggest any real mechanism for implementing the rules of conduct which can provide the genuine protection (Fukuda-Parr, Gibbons, 2021).

In this context, there is a demand for the increased organizational accountability for data management to ensure legal and ethical implications of data ownership.

- *Ethical decisions protect companies to use digital technologies in a short-run at the expense of the long-run sustainable development.*

Digital transformation is considered as one of the major challenges the companies encounter in the contemporary business environment (Saarikko *et al.*, 2020). In order to be competitive and maintain sustainable development, the companies need to leverage digital innovations which can significantly change not only business models but lead to profound transformation of beliefs and values. Raising digital awareness, which is the crucial point in achieving sustainable development, is closely related to the increased responsibility in ethical concerns. An important aspect highlighted by the scholars is that realising the consequences of implementation of digital innovations, and with the awareness of the importance of ethical conduct, as well as dependence of decisions made on social, cultural and judicial systems, the companies ensure a sustainable development in the long-term perspective (Saarikko *et al.*, 2020). However, what has not yet been sufficiently known is the value of ethics in business decision-making, accompanied by technological innovations, for obtaining a competitive edge and achieving sustainable development (Behera *et al.*, 2021).

- *Ethical decision-making allows digitalisation solutions to be applied in accordance with the values and principles of employees, without contradicting their moral beliefs.*

Digitalization brings changes in the nature and scope of the work (Tan *et al.*, 2021). Digital and data science methods analyse the extensive data collected on the workforce which allows to foresee the upcoming trends and challenges. The use of digital technologies in data processing for the needs of human resource management enables companies to increase transparency about employees' and candidates' personal and professional skills, their performance and attitude towards organisational and ethical issues (Tursunbayeva *et al.*, 2021). Due to the digital transformation, companies face necessity to constantly update employees' skills. At the same time, the scholars (Ostmeier, Strobel, 2022) highlight that in the digital era, it is becoming more and more crucial for employees to proactively develop their skills. In this respect, machine learning, as a current application of artificial intelligence (AI), has entered and is being implemented effectively for the development of the employees' personalised training recommendations. However, despite all of benefits that digital technologies can bring to the management of employees, the companies encounter ethical dilemma: how optimise the performance of employees based on the information obtained from the digital technologies without

undermining employees' personal values and moral beliefs (Tursunbayeva *et al.*, 2021). Meanwhile, the scholars argue that a large part of the ethical issues in the field of machine learning are not related to the technical features of AI; on the contrary, they claimed that the ethical challenges are mostly linked to the socio-economic context (Stahl *et al.*, 2021).

Therefore, the company's decisions that are based on the data collected and processed by the digital technologies are to embrace not only economic but also social and ethical issues. This is particularly important when it concerns ethical principles and moral values of individuals.

3.3 Resources to deal with ethical issues in the context of digital transformation

The scientists (Hagelstein *et al.*, 2021) studied the resources that can be used to tackle with moral issues occurring in the context of digital transformation; namely, they explored the area of digital communication tools and practices. They proposed a multi-level consideration of the resources which could eliminate ethical challenges. Three levels were identified: micro level (individuals' values and beliefs); meso level (ethical guidelines of organisations); and macro level (the code of practice of professional associations). The authors highlight that, extensive training on real and potential ethical issues in the area of digital transformation is to be provided to reinforce the ethical responsibility at all levels (Hagelstein *et al.*, 2021).

Baldini *et al.* (2018) emphasise the other resource; they argue for the necessity to increase the active role of end users of digital technologies to increase the transparency regarding the methods which the technologies use for processing data. The scientists developed a new course of actions which allows to expand the users' control over digital technologies and the way they collect and process their personal data. Sestino *et al.* (2020) support this idea and argue that the decision-making body of a company is to engage the end users and other stakeholders, whenever possible, in the formation of principles and practices of digital ethical responsibility.

4. Conclusion

The paper determined the role of ethical issues and key challenges which are discussed in the most recent scientific literature in the context of digital transformation.

The Scopus and ScienceDirect scientific databases were selected for the search of the research and conceptual papers to answer the research question about the contribution of business ethics into the digital transformation of a company. The selected articles were assessed according to their relevance and grouped around the topics which are related to the ethical issues which might be at risk as a result of company's digitalisation; the role of business ethics in the context of digital transformation; and the resources which might be used to overcome ethical misconduct.

Digital transformation has brought about profound changes in both individuals' behaviour and performance of a company. In this context, the role of business ethics cannot be underestimated. By complying with ethical norms when making decisions related to digitalisation, a company attains sustainable and long-term development.

The study has its limitations: the literature search was conducted in two scientific databases; hence there is the risk that some potentially relevant articles could be omitted. As for the implications, the findings of the present study constitute the background for the further investigation to establish a nexus between ethical responsibility of business and technological advancements for the transformation of work in the digital age to accomplish sustainable development goals.

The main contribution of this study consists in increasing the knowledge about the

role of business ethics in the era of digitalisation through accumulating findings from a range of studies. The article also raises the need for the further research in this field. The impact of ethical behaviour of a company and their employees on the performance in the period of digital transformation has not been well studied yet and should be the topic of the further research. It is important to understand how ethical issues can be effectively transformed from the potential challenges into a source of positive impact for individuals and companies.

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Received: 20. 8. 2021
Reviewed: 8. 11. 2021
Accepted: 30. 12. 2021

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