## Anna Pilková

Faculty of Management, Comenius University in Bratislava, Slovakia

Marian Holienka

Faculty of Management, Comenius University in Bratislava, Slovakia

## Juraj Mikuš

Faculty of Management, Comenius University in Bratislava, Slovakia

# ABSTRACT

Digital transformation is one of the key recent trends in business organizations, entire business sectors, and whole economies, and it reflects the recent economic, social, and technological challenges across societies. One of such challenges is the intergenerational context of (not-only) business enterprises that has become apparently relevant in recent years. In the following chapter, the authors offer a blended perspective on these two phenomena, with a purpose to examine the lived experiences of small business owner-managers from various generational groups with an aim to identify the key drivers, and experiences with digital transformation in Slovakia with the emphasis on the intergenerational cooperation. This chapter starts with introducing the context of the subject under investigation and explaining its background. Then, the empirical research undertaken by the authors is explained, its results are presented and discussed, and conclusions are offered.

DOI: 10.4018/978-1-7998-9008-9.ch017

## INTRODUCTION

Entrepreneurship is one of the key drivers of the economic, social, and environmental development of society. Recent economic, social, and technological trends, such as fair sustainability of economic growth, digitalization and the industry 4.0, population aging, and the growth of the silver economy present many challenges that manifest into a change of typology of competitive advantage, nature of jobs, jeopardy of a significant proportion of jobs, to new requirements on knowledge and skills, but also lifestyle of individual groups of the population. These trends also pose challenges for the sustainability and development of entrepreneurial activities and need to be flexibly responded by finding new approaches to solve them. Europe is facing an industrial transformation that is part of long-term and structural global changes. Up to 70% of European businesses report a threat to their investment due to a lack of skills, while it is a particular challenge for SMEs (European Union, 2019). In Slovakia, SMEs represented 99,9% of all business entities, employed close to 70% of employees and contributed to the export by 40% as of 2019 (SBA, 2020).

The topic of digitalization and digital transformation has been pronounced in Slovakia since 2019 when the Government approved the 2020 Digital Transformation Strategy for Slovakia (Ministry of Investments, Regional Development and Informatization of the Slovak Republic, 2019). The aim of this document is for Slovakia to become a modern country by 2030 with an innovative and ecological industry benefiting from the digital knowledge and data economy, with an efficient public administration ensuring intelligent use of land and infrastructure, and with an information society whose citizens will reach their full potential and live a quality and safe life in the digital age. The document defines the policy and specific priorities of Slovakia in the context of the ongoing digital transformation of the economy and society under the influence of innovative technologies and global megatrends of the digital age. The strategy places primary emphasis on current innovative technologies, such as Artificial Intelligence, the Internet of Things, 5G Technology, Big Data, and Analytical Data Processing, blockchain, and supercomputers, which will become a new engine of economic growth, strengthening Slovakia's competitiveness. This document is followed by the Action Plan for the Digital Transformation of Slovakia for 2019-2022. It covers all areas of the vision of Slovakia's digital transformation in the fields of the economy, society and education, public administration, territorial development, and research. Despite the existing institutional framework, there is still a shortage of information on SMEs adoption level and how they cope with the ongoing digitalization and digital transformation, especially under the COVID-19 situation.

There is no doubt that key skills in the field of entrepreneurship are influenced by digitalization. Digitalization transforms entrepreneurship in two ways. First, it is the emergence of new entrepreneurial opportunities in the economy. Secondly, it is about transforming business practices, the ways in which these opportunities are best realized. Digitalization has an impact on the radical change/innovation of business models in entrepreneurship (Autio, 2017). This change affects both entrepreneurs in the early stages of entrepreneurship (starting entrepreneurs) and existing small and medium-sized enterprises (established entrepreneurs). As far as starting entrepreneurs are concerned, the new entrepreneurial dynamics will affect both those who want to start a business (stand-up stage and that will affect their choice), those in the start-up stage (in search of a scalable business model) as well as those who are already in the growth phase and have already found a scalable business model. In established small and medium-sized companies, digitalization affects their business models as well as their overall management systems (Autio, 2017). As for the particular benefits related to digitalization of SMEs, the most frequent positive effects include improved financial performance (Eller et al., 2020; Nwankpa and Roumani, 2016; Rivza

et al., 2019), improved communication and outreach towards customers through digital channels (Rivza et al., 2019), and developed internationalization capabilities (Dethine et al., 2020; Herve et al., 2020),

The issue of digitalization concerning entrepreneurship is complex and requires the successful identification and implementation of non-traditional solutions. One such solution is the perspective of intergenerational entrepreneurship in times of digitalization. Intergenerational entrepreneurship is defined as sharing knowledge, skills, experience, and resources through partnerships and collaboration between different age generations (emphasizing seniors and youth) across all stages of the entrepreneurial process to achieve economic, social, and environmental objectives (Pilková et al., 2017). Although in the last two years intergenerational entrepreneurship has been increasingly mentioned as a new standard of business organization or a new form of setting up and financing of start-ups by entrepreneurs or consultants, neither entrepreneurial policies nor research has yet adequately taken into account and developed this phenomenon. Each generation has a unique set of skills and attitudes associated with it. Knowing how the generations behave in the process of digitalization and digital transformation in an entrepreneurial context shall lead to increased success and efficiency of these processes.

Therefore, the purpose of the study presented in this chapter is to examine the lived experiences of small business owner/managers from various generational groups and identify the key drivers of digital transformation in Slovakia emphasizing the intergenerational cooperation.

# BACKGROUND

Digitalization means leveraging digital technology to replace former social (i.e. human interactions, relationships, norms) and/or technical (i.e. technology, tasks, routines) aspects of structures, e.g. products, services, user experiences, processes, etc. (Osmundsen et al., 2018). It is about the integration of digital technologies into everyday life (Osarenkhoe and Fjellstrom, 2021). In the entrepreneurship context, it refers to the everyday life of entrepreneurs and all activities and operations of a business enterprise. According to Osarenkhoe and Fjellstrom (2021), digitalization should not be perceived as an issue of technology, but as a way to better run a business and increase its competitiveness. Further, digital transformation can be simply and generally defined as "disruptive implications of digital technologies" (Nambisan et al., 2019). In the case of business enterprises, it refers to applying digitalization to enable major changes to the way how their business is conducted, leading to its significant transformation (Osmundsen et al., 2018). Accordingly, Vial (2019) conceptualizes digital transformation as a process in which digital technologies imply disruptions leading to strategic responses of organizations in terms of altering their value-creating paths and organizational structures and systems. Thus, in principle, digital transformation should represent a higher level of engagement of digital technologies and their higher strategic relevance for an enterprise. Besides this distinction following the key "buzzwords" in the field, several authors developed their own perspectives of digital technology adoption levels in business organizations. For example, Garzoni et al. (2020) proposed and empirically validated the four-level engagement model classifying different stages of adoption, namely digital awareness, digital enquirement, digital collaboration, and digital transformation. In addition, such hierarchical distinctions between the terms are in line with the concept of various so-called digital maturity models that can be found in different contexts (including business organizations) among researchers (e.g., Carolis et al., 2017; Williams et al., 2019) as well as practitioners (e.g., Deloitte, 2018). In the context of SMEs, according to a systematic literature review undertaken by Williams et al. (2019), the digital maturity models are typically used as

roadmaps explaining the path towards digital transformation, its stages, and related capabilities. Yet, as the authors argue, the factors behind successful digital transformation are often overlooked when digital maturity models are developed (Williams et al., 2019).

Digitalization and/or digital transformation of an enterprise is operationalized with a business-centric (rather than technology-centric) perspective, as with the entrepreneurial lens, the main emphasis is put on products, processes, and other organizational aspects (Matt et al., 2015). While the digital transformation of an enterprise is clearly a firm-level event, it always takes place in a broader context. In most cases, it is driven by both internal and external factors, including facilitation by multiple external environment subjects. These factors might act as fostering factors as well as impediments. Various systematizations and overviews of digital transformation drivers have been provided by several authors and organizations, indicating major similarities together with certain nuances, depending on the specific perspective adopted. Generally, such works can be found among academic research, policy initiatives as well as practitioner and business sector bodies, which reflect the newness and relevance of this phenomenon, and a broad array of attempts to bring more insights and understanding.

As for the particular works, for example, OECD, in the concept note on its Digital for SMEs Global Initiative (OECD, 2019) identifies three key areas of relevance for SME digitalization. Namely, these are enabling framework conditions (that include infrastructure, regulatory environment, and market conditions), firm-level triggers (especially innovation assets, finance, and skills and digital awareness), and transformations in supply chains and business models driven by digital technologies (such as digital platforms, cloud computing, Big Data, A.I., blockchain, FinTech trends, or IoT). Another perspective is provided in a research-based public policy paper developed by Vodafone together with Deloitte (Vodafone, 2020) that yields three main dimensions of challenges that SMEs need to face in digitalizing. These are the availability of the required digital tools and technologies (where the following key categories of technologies have been identified: connectivity, process digitalization and automation, cloud, and online presence, collaboration, and communication), the capacity of SMEs to engage with digital transformations (especially in terms of time and financial capacity), and capability of SMEs to undertake their digital transformations through digital skills. Further, Osmundsen et al. (2018) in their systematic literature review of empirical research focused on digital transformation identified four main drivers (in case of their work, these were considered as external triggers) of digital transformation: changes in behavior and expectations of customers, industry changes and trends related to digital technologies, changing situation in competition (in terms of new challenges, expanding range of various competitors, and competitors' digital advances), and changes in regulations. Finally, another systematic literature review (Morakanyane, 2017) yielded the following list of drivers that affect and enable the digital transformation: digital technologies, digital capabilities, strategies, business models, and value chain.

The phenomenon of digital transformation gains another dimension when perceived through the lens of intergenerational entrepreneurship that refers to sharing knowledge, skills, experience, and resources through partnerships and collaboration between different age generations (emphasizing seniors and youth) (Pilková et al., 2017). Different generations are, in general, defined by different systems of thinking, values, and behavioral patterns (Strauss and Howe, 1991), as well as diverse work-related attributes. For example, senior individuals are usually considered as qualified and experienced in their professional field, and possessing higher social capital and larger networks, while youth are generally expected to possess higher skills (especially related to ICT and foreign languages) and cognitive abilities, and to be more innovative, creative, enterprising, and motivated (Pilkova et al., 2020). Yet, at the same time, an increased emphasis has been recently put on understanding entrepreneurship among older individuals and

seniors while breaking the traditional stereotypes on ideal entrepreneurs (Ratten, 2018). Nevertheless, as a considerable part of digital transformation drivers is determined by internal attributes of business enterprises, those enterprises with an intergenerational setting are in a different position compared to their counterparts without an intergeneration element. Coexistence and cooperation of different generations might imply various positive as well as limiting specifics. For example, a digital divide between older and younger generational conflicts. At the same time, however, the intergenerational context might also help to bridge this divide through intergenerational learning and empowerment, which seem to generate positive outcomes (Breck et al., 2018). Also, as the human factor related to digital transformation also includes the end customers who might face difficulties when trying to use new sophisticated products (Sestakova, 2019), the intergenerational nature of a firm might improve its empathy towards the older generation customers and a firm's response to their needs.

Overall, the phenomenon of digital transformation of enterprises in the intergenerational context is rather under-researched. We came across only a few studies with such a focus. For example, Ano and Bent (2021) explored digital transformation strategy drivers in multigenerational family firms in France, with a special focus on firms' human capital. They found that implementing a successful digital strategy with an intergenerational synergy is driven by a long-term orientation, attachment to the firm, intergenerational entrepreneurial legacy, personal involvement of family members, and family business's key focus on employees. Then, the study by Liu (2021) on family firms' response to digital trends indicates that family firms that have undergone successful intergenerational succession tend to emphasize digitalization visions more frequently.

Based on the digital transformation drivers identified in the literature, and based on the specifics of intergenerational context and cooperation in entrepreneurship, the authors have hypothesized the framework of the most relevant drivers of digital transformation in the context of intergenerational entrepreneurship (Table 1). The following parts of this chapter will further contribute by empirically examining this question in the context of small and medium-sized businesses in Slovakia.

Category	Mechanism	Drivers
Internal drivers	Intergenerational character directly affects the respective attributes within a business enterprise (direct effect)	<ul> <li>Digital skills and capabilities (Morakanyane, 2017; OECD, 2019; Vodafone, 2020)</li> <li>Digital awareness (OECD, 2019)</li> <li>Innovation assets (OECD, 2019)</li> </ul>
External drivers	Intergenerational character might leverage or reduce a business enterprise's ability to respond to the respective attributes (indirect effect)	<ul> <li>Digital infrastructure (OECD, 2019; Vodafone, 2020</li> <li>Regulations (OECD, 2019; Osmundsen et al., 2018)</li> <li>Market conditions and competition (OECD, 2019; Osmundsen et al., 2018; Verhoef et al., 2021)</li> <li>Consumer behavior and expectations (Osmundsen et al., 2018; Verhoef et al., 2021)</li> <li>Digital technologies (Morakanyane, 2017; OECD, 2019; Verhoef et al., 2021; Vodafone, 2020)</li> <li>Digital shifts in the industry (Osmundsen et al., 2018)</li> </ul>

Table 1. Digital transformation drivers in the context of intergenerational entrepreneurship -a summary of the literature review

Source: elaboration by the authors.

Next to the digital transformation drivers, another direction that attracts researchers', as well as practitioners' attention are the practices of successful digital transformation. In their systematic literature review, Osmundsen et al. (2018) propose the following set of factors that are required to successfully accomplish the digital transformation of an enterprise: a supportive and agile organizational culture, well-managed transformation activities (in terms of both internal processes and infrastructure, as well as setting up the digital channels and adopting multichannel strategies to reach out to end-users), ability to leverage external and internal knowledge, engaging managers and employees in digital transformation processes, information systems capability (related to infrastructure, business applications and proactive attitudes), development of dynamic capabilities, and development of a digital business strategy together with alignment between business and information systems perspectives. Further, based on their study, Bollweg et al. (2019) emphasize that earlier experience with using digital tools in certain agendas (e.g., administration, marketing) might trigger further digital development of a firm.

# MAIN FOCUS OF THE CHAPTER

The research presented in this chapter is of a qualitative nature, executed through a phenomenological study (Shank, 2006). It aimed to carry out an in-depth analysis to examine the lived experiences of small business owner/managers from various generational groups and identify the key drivers and experiences with digitalization in Slovakia emphasizing the intergenerational cooperation. Qualitative research focused on two broader issues that reflect the set research questions. To answer them, the phenomenological study was conducted involving 12 respondents, Slovak SME owner/managers, who participated in in-depth semi-structured interviews (each lasting approx. 1 hour) with the aim to obtain information based on respondents' experience or circumstances. All interviews followed a uniform methodology to ensure consistency of approach. The interviews took place from December 2020 to March 2021 both on-site and online. The data collection and analysis followed an inductive approach as suggested by Gioia et al. (2013). First, the authors articulated a phenomenon of interest. Then, the existing literature was initially studied, and a questionnaire was designed. The authors paid special attention to data collection and followed all recommendations for conducting qualitative research (Hsieh a Shannon, 2005). The authors withheld biases and judgement about conclusions to enable them discovering new insights. Respondents were treated as knowledgeable agents while interviewers guided the interviews and adjusted the protocol based on informants' responses with the focus on the studied research questions. As these were semi-structured interviews, it was highly desirable to react to respondents' answers and ask subquestions in addition to the predefined questions contained in the interview scenario. However, these sub-questions had to be fully in line with the basic research questions, asked in order for the respondent to focus on the subject of the research. The terminology of informants was used by interviewers in an attempt to not mislead the informants and likewise, the questionnaire was adjusted. After the data collection phase in which 12 interviews were obtained and recorded, the authors underwent the data analysis. They performed the initial data coding using MAXQDA software, a tool for qualitative data analysis. The coding was performed by five researchers independently of each other and in the case of differences, the differences were reassessed to unify the coding methodology. The codes were derived directly from the recordings, allowing the categories to be created directly from the qualitative data collected. The comprehensive list of 1st order terms was developed which were further organized into 2nd order themes (categories) based on identifying similarities and differences giving birth to nascent

concepts. Assembled terms, themes, and dimensions were organized into a data structure. Afterward, the results and findings were analysed in the context of existing literature, and emergent concepts and relationships were discussed. The results represent our analytical conclusions derived from respondents' views on various issues related to digitalization/digital transformation in the context of intergenerational cooperation and entrepreneurship.

## Issues, Controversies, and Problems

The main objective of this research is to examine the lived experiences of small business owner/managers from various generational groups and identify the key drivers of digital transformation in Slovakia emphasizing the intergenerational cooperation. To achieve this objective, the authors have studied the following research questions:

- a) What are the current state and impact of digitalization/digital transformation on SMEs and what is the role of generations in this process?
- b) What are the experiences of owners/managers with the participation of particular age groups of employees in the process of digitalization/digital transformation, and what procedures or practices help in this process?

To minimize limitations of the phenomenological semi-structured interviews the authors made sure that the sample of respondents was diverse (Barbour, 2001). Respondents belonged to different age generations, had various demographic characteristics, and the character of their businesses varied as well, as shown in Table 2.

The acquired data were analysed with the lens of the defined research questions. Figure 1 presents the data structure which forms the basis of our results and was divided into four aggregate dimensions and other subsequent second-order themes.

# SOLUTIONS AND RECOMMENDATIONS

The analysis of the obtained qualitative data resulted in a relatively extensive set of findings, which are accompanied by graphical processing of the main results in the form of mind maps to improve clarity. Bellow, we discuss the second-order themes separately.

# **Digitalization Status**

According to the first research question, the respondents declared that digitalization and digital transformation are part of their business to a lesser or greater extent. Further, the interviews suggest that SMEs organizational units do not necessarily have to belong to only one regime but can separately operate in different regimes. Based on that, the authors investigated the current status of digitalization and digital transformation among interviewed SME owners/managers. The results have shown three different regimes the entrepreneurs´ exhibit. These regimes are shown in figure 2.

Case	Position	Business focus	Age group	Industry	Size (empl.)	Revenues (annual)	Year of est.	Region
1	Owner – mng.	Finance, production	56 - 65	Clothing	50 - 249	up to 2 mil.	1992	Žilina region
2	Owner – mng.	Multi-focus	26 - 35	Real estate, plumbing, heating, gas supplies	10 - 49	up to 2 mil.	2017	Nitra region
3	Owner – mng.	Marketing, customers	26 - 35	Construction	0 - 9	up to 2 mil.	1990	Žilina region
4	Owner – mng.	Multi-focus	65+	Stonemasonry	10 - 49	up to 2 mil.	1990	Trnava region
5	Owner – mng.	Finance	65+	Financial markets and real estate	10 - 49	up to 10 mil.	2008	Bratislava region
6	Owner – mng.	Strategic planning, expansion	26 - 35	Business consulting, accounting services	10 - 49	up to 2 mil.	2010	Nitra region
7	Mng.	Marketing, business development	26 - 35	Polygraphy production, printer	50 - 249	up to 10 mil.	1991	Bratislava region
8	Owner	Multi-focus	46 - 55	Hospitality	0 - 9	up to 2 mil.	2015	Bratislava region
9	Owner	Multi-focus	26 - 35	Energy, electrical installations	0 - 9	up to 2 mil.	2006	Banská Bystrica region
10	Mng.	Accounting	36 - 45	Insurance intermediation	0 - 9	up to 2 mil.	2004	Bratislava region
11	Owner	Multi-focus	18 - 25	Food industry	0 - 9	up to 2 mil.	2016	Bratislava region
12	Owner	Production	36 - 45	Food industry	50 - 249	up to 10 mil.	1993	Bratislava region

## Table 2. Data sample information

Source: elaboration by the authors.

The SMEs in the first regime are characterized by *basic use of digitalization* without any ambitions for their own adjustments. The typical examples are the use of communication platforms, utilization of cloud services, using websites for promotional purposes, online training for employees, web applications, platforms provided by partners, and dedicated software and tools. It is apparent that SMEs in this regime have currently no ambitions to further develop or apply any advanced tools or systems.

All of our communication with our subsidiaries, as well as the tracking of investment stocks and analyses, is done via the Internet or software. Partners are constantly developing new platforms, so we have no choice but to adapt. (Respondent 2)

Doing business online would be difficult for us. We plan to redesign our website, so far we have not been pushed into it because the company is well known. We don't even do online advertising. People come to us with specific orders. Of course, a lot of people already know how to work with e-mail, so they don't have to come here in person. Based on the fact that we are a manufacturing company, we have to do things physically and we make custom orders, not on stock. (Respondent 3)

## Figure 1. Data structure

First-Order Categories	Second-Order Themes	Aggregate Dimensions			
Digital transformation and development of advanced processes					
Digitalization for commercialization					
Basic use of digitalization					
Efficiency		Current state and digitalization impact			
Flexibility					
Customers	Benefits of digitalization				
General management improvement					
External and regulatory framework					
Firm-level triggers					
Technology	- Factors of digitalization	Influences on digitalization of SME's			
Digitalization in SC and BMs					
Younger generation					
Older generation	Palos of generations	Constations			
Intergenerational cooperation	Roles of generations	Generations			
Project management					
Norms and standards	Formal				
Training and coaching	i omat				
Top management support and raising awareness		Processes and practises			
Teams and experience					
Best practices	Informal				
Consultancy					
Non binding and flexible IT solutions					

Figure 2. Digitalization status



I make the most use of available and free technologies such as Google Drive. I always have access to the data and it's a big help in development and real estate. Since our firm burnt down, I scan and back up all my documents. We only promote ourselves on the internet, we don't sell any digital products or services. I don't feel there is room for digitalization in the industries our companies are in. (Respondent 5)

We use scanners for revisions. It is especially advantageous for me because it makes my work much easier. (Respondent 9)

Another group consists of SMEs that use *digitalization for commercialization purposes*. They are typical by developing and selling their own digital products or services, intermediation of financial services, heavily relying on online sales, providing outsourcing services, e-shop development, development of CRM and MIS or online courses. They typically perceive digitalization as means of generating revenue.

Due to the impact of the pandemic, we started making and promoting webinars as we could not provide our services in a conventional way. (Respondent 8)

We handle 95% of our retail customers online. For corporate clients, physical sales are also important. (Respondent 10)

We've been doing online for a long time, it's one of the key areas we've grown from. We are concentrating on having an online shop and we are also using social media marketing and Google adds. We are also developing a new product, online courses. It will be a digital-only product. (Respondent 11)

The last group of SMEs is undergoing *digital transformation and develops advanced processes*. They are usually undergoing digital transformation through the digitalization of production processes. They are also in the process of digitalization of technologies, services and/or administrative processes. In addition to that, they implement various forms of digital marketing, digital internal communication, customize their products or services with the help of digital technologies. Moreover, they also develop, and/or implement various managerial systems and tools such as CRM, MIS, etc. The SMEs that develop their own e-shop or e-commerce and work on the integration of different systems like orders, cash register, production, service administration, and others, are included in this regime as well. The main difference of this regime compared to the other two is that these SMEs use advanced knowledge and technologies to significantly change and improve different areas of their company, which results in changes to their business models or value creation.

*Production technology, machinery and equipment are important to us. For us, the key of digitalization lies in this aspect of the company. (Respondent 3)* 

Early last year my son came to work for us and started developing an e-shop, so we've got that up and running. Our main range of products is harder to sell online, but online sales have a future because people are comfortable, and no one has time. So, we're trying to adapt to that. We have also bought the technology that makes the strips and their slots, we've bought software, payroll software for example, but we've also created our own tools that calculate how much an employee produces, the time commitment of an order, production scheduling, remuneration, workplace capacity. (Respondent 6)

# Factors of Digitalization

Factors of digitalization and digital transformation were frequently mentioned by the respondents and significantly influenced the current status of digitalization and related benefits within companies. Factors of digitalization serve as a catalyst of change inside companies and heavily influence the status of digitalization. Four categories of factors emerged from the interviews displayed in figure 3.



Figure 3. Factors of digitalization

The studied SMEs were not a homogeneous group (see table 2), and they were service- as well as production-oriented companies. However, all of them consider *technology* as the most important factor of digitalization. Typically, it is the availability and affordability of new technologies and related increased efficiency of processes that enforce SMEs to implement them. This is illustrated by the following quotes:

An important role was played by the fact that the technology has qualitatively reached a sufficient level and at the same time the price was acceptable, so this technology was also available for a Slovak company (Respondent 7)

The availability of technology is very important in the digitalization process because there are currently many solutions that are free or paid per user per month, so there is no need to pay that much at once (Respondent 1)

Also, the specific tools within certain sectors appeared to be an important factor as mentioned by respondent no. 10:

We intermediate insurance for insurance companies that have digital portals in place. We do not sell our own products but products of our partners and therefore we also have to use their websites, applications, etc.

Respondents likewise mentioned the availability of open sources combined with their own development and availability of cloud solutions as important factors of digitalization related to technology.

Digitalization and digital transformation of companies are further evoked by *firm-level triggers*. Competition plays a crucial role that encourages the enhancement of products and services. Furthermore, the corporate culture and behavior of an organization as a learning entity can promote the uptake of innovative digital solutions. These processes are influenced by the age structures of companies' employees that might have an impact on the digital "appetite" of companies. Top management strategy and support play a key role in companies' digitalization / digital transformation, too. It is confirmed by numerous respondents that highlighted its key role in this process. However, it is also important to take into consideration companies' specifics, as is demonstrated by the following quote:

The main goal of digitalization is to create sufficient control over the company, to minimize losses from theft, to speed up decision-making processes, many processes are being accelerated and simplified. (Respondent 12)

It has been found that the experience with identifying long-lasting trends is crucial for companies' sustainability. Last but not least, respondents identified the significant role of human capital in the whole process of digitalization and digital transformation. Human capital is an important building block of each company and respondents mentioned two distinguished aspects. Firstly, they are individual characteristics such as personality traits, mindset, motivation, drive, interests, and the ability to absorb new knowledge that predetermine companies' future prospects in adopting digitalization or digital transformation. Secondly, they are concrete digital knowledge and competencies that companies' employees have at their disposal. This aspect predetermines to what extent and how easily digitalization would be implemented in a company.

These are people who have not been trained to work with information technology, so the human factor is a problem in the introduction and implementation of digitalization. (Respondent 12)

*The external and regulatory framework* appears to be another important factor of digitalization and digital transformation according to the respondents. Government initiatives and incentives might be a catalyst of changes related to digitalization as stated by our respondents:

What pushed us further was the introduction of e-cashier, which was expensive and hectic, but by having to do it we thought of a solution that increased our control over the company. (Respondent 12)

By law, we have to archive contracts even after they are terminated for 10 years, so we have been forced to digitalize so that we can at least search the archive. (Respondent 10)

Another source of ideas can also come from academia – university graduates who are entering companies, collaboration, and cooperation with universities, available latest information obtained via

conferences, seminars, workshops, etc. Various actors should take an action to raise digital awareness in society that has a positive impact on general digital uptake and hence influence companies' behavior as well. However, also recent pandemic situation pushed companies further as they were forced to implement tools to be able to work remotely.

The times and especially the situation this year have forced us to go digital. Before, I couldn't imagine working online, even though I had already noticed this trend earlier. (Respondent 8)

Specifics of industries and their requirements are important drivers of digitalization according to our respondents.

Insurers have gone digital gradually, enabled by the law to make contracts remotely. (Respondent 10)

Examples of industry best practices, exhibitions and fairs served also as an inspiration for digitalization in our interviews.

Examples of good practice are inspiring and can be built on. (Respondent 4)

*Every year we attend trade fairs and exhibitions and there we gather new information on what to speed up and improve. (Respondent 6)* 

Among external factors of digitalization cost competition is a strong force that pushes SMEs into finding efficient solutions to be competitive.

We wanted to optimize processes, simplify, speed up, and get rid of paper as much as possible. What's driving us towards digital at the moment is to be able to get to our stuff from everywhere and then to be able to do as many things as possible from phones. The important thing is to make it financially interesting for us, make things faster, simpler, etc. Insurance companies are bigger companies, and they are moving forward in digitalization because they have to in order to be competitive. (Respondent 10)

Another broader category of factors is *the digitalization of supply chains and business models* that includes the digitalization of customers, suppliers, partners, and other aspects related to business models.

Partners are constantly developing new platforms, so we have no choice but to adapt to keep up with them. (Respondent 2)

We felt the need to go digital to make the exchange of information more accurate and faster. Before, information was lost or distorted, and chaos ensued. (Respondent 4)

At the moment, it's making sure that clients have as much information available to them as possible. (*Respondent 10*)

# **Benefits of Digitalization**

The interviews suggest that the benefits of digitalization and digital transformation are manifold but mainly revolve around four key areas captured in figure 4. The first area and perhaps the most frequently cited one is *efficiency*. Efficiency typically relates to cutting costs in various ways, process improvements beyond cost-cutting resulting in improved quality, design, speed, environmental benefits, protection at work, etc., and growth of value-added which creates space for higher margin.

We had a system in place to operate, but a lot of things seemed laborious, so I introduced various elements of digitalization. (Respondent 9)

In direct proportion to sales, costs are rising, so we have tried to look for room for profit. Digitalization helps us by freeing up experts to focus on the things that add the most value. (Respondent 1)

New digital technologies mean that we don't have to stay here until nine o'clock in the evening. (Respondent 3)

Digital advertising is much cheaper and more targeted than conventional forms of advertising. (Respondent 4)

Digitalization has an impact on internal costs and efficiency, we don't have to read, record and process orders. The client does this work for us. (Respondent 7)

Before the crisis the company had 120 employees, today we have 60 and although the sales are a bit lower, but we make more added value. (Respondent 7)

Another key area of digitalization benefits revolves around *customers*, which typically includes a better understanding of customer preferences through the collection of big data, use of data analysis, immediate feedback, and easier and faster access to a large amount of information. A better understanding of customer preferences but also the easy ways to communicate what customers really want, lead to higher customization of companies' products and services.

We make contact with customers while we didn't know about each other before. (Respondent 4)

Based on the use of analytics tools on the website, I know what our customers are most interested in. (Respondent 9)

The online form of selling allows the customer to customize the product according to their preferences, *i.e.* if they don't like something, for example. (Respondent 11)

The third key area of benefits relates to *flexibility*, which is manifested in wider use of remote working, the ease, and versatility of marketing, and easier acquisition or involvement of customers as well as different stakeholders.

All of us who make decisions have all the information at our disposal, and that works very well for us. (Respondent 2)

We are digitalizing everything we can, especially processes, recording everything online and then to work with the data in the processes. Design, pricing, building models - everything is done digitally. We can do all the construction preparation digitally. (Respondent 4)

After the fire we lost everything, yet we still had 30 employees. You buy a couple of computers, set up a workstation for people, bring in wireless internet, and you're moving on very quickly. (Respondent 5)

The fact that things can be done remotely is a big plus and some clients prefer it. The pandemic has made it difficult for us to operate, but thanks to digitalization we have not felt any negative effects, quite the opposite. (Respondent 10)

We track reports from every sale, from every campaign, so we collect data and evaluate it. It's essential to be in the spotlight so you can target your target customer group, track trends. (Respondent 11)

The broadest key area of digitalization benefits concerns *general management improvements* such as higher availability of information and documents, adjustments to management of the business itself as well as related processes, better awareness of current and future trends in business development, improved risk management, professionalism, acceleration of decision-making processes, and higher production flexibility. It is also possible to improve different aspects of a company based on big data analysis. Digitalization and digital transformation hence improve the general competitiveness of the company.

We use several systems to share information about competencies, orders, supply or marketing, which helps us to grow steadily and, most importantly, to make sure that everyone has the information they need. When we were few, we could tell each other, now it is based on digital tools. (Respondent 11)

If we put  $\notin$  20,000 into digitalization, we will surely get it back in half a year. Stock management is very important in our company. (Respondent 12)



Figure 4. Benefits of digitalization

# **Roles of Generations**

Roles of generations have been studied as one of the main focuses of this chapter from three perspectives (Figure 5). *The younger generation* typically exhibits good ICT competencies and the ability to absorb new knowledge quickly. They are also more initiative, often take leader's role, have higher drive and motivation for digitalization. It is clear that technological advancement is very rapid and hence it is very demanding to catch up with it even for a younger generation. Knowledge of foreign languages is crucial in this process. Due to that, children in family businesses have an irreplaceable role in bringing new stimuli and ideas for digitalization.

Already a 30-year-old colleague is having a hard time keeping up with a 25 year-old one in the technology field. And this isn't even an intergenerational difference. (Respondent 1)

I have to say that for me the impulse was to work with younger colleagues who came up with different trends and ideas on how to make our company visible, what to implement and what to get involved in. Of course, I try to support them in this so that they can develop themselves, but there is a lot of initiative and motivation on their part. (Respondent 11)

On the other hand, *the older generation* has their own role and contribution in the process of digitalization. They are able to think in a broader context taking into consideration their lifelong professional and managerial experience. This was frequently mentioned by the respondents.

The experience of the older generation is also important, my father whom I work with doesn't know what data we need to process or how to do it technically, but he can suggest what it should do and what the output should be. The importance of the older generation is their experience, for example, my father has 30 years of experience and can tell what the long-term trends are and what is some kind of bubble. He can also apply his practical experience to things we are thinking about or when we want to improve something. (Respondent 4)

In the digitalization of companies, success also requires that the older generation pass their professional and managerial experience and knowledge to the younger generation, but also delegate competencies to them.

The older generation needs to understand that these changes need to be made and it's the thing that moves the company forward. They need to give the younger people a free hand to go digital. (Respondent 12)

The management should give a free hand to the younger generations, which means that they should also free up resources, not only financial but also in terms of time. (Respondent 1)

However, it is not enough to just delegate competencies and pass knowledge and experience, but also older generation must show some level of flexibility. Even though they are rarely leaders of digitalization in their respective companies, they have to make an effort to at least understand and accept digitalization as an inevitable trend for the current and future success of the company.

I talked to my staff a lot about digitalization when I was just tendering for a contractor, so they saw that it would add their work, but they could not imagine benefits that I explained to them well enough. For some reason, it was the younger staff who couldn't see it. My father, the owner of the company, as he studied and learned about the technology, understood benefits almost immediately. (Respondent 5)

Becoming visible in the online space is also a question of values. It's the values closer to younger people that older colleagues may see as awkward or superficial. (Respondent 11)

The third perspective that the roles of generations have been studied from, is *intergenerational cooperation*. From this perspective, the most important aspects are competencies and experience, regardless of age and generation, as illustrated in the following quote:

As far as our business is concerned, I don't follow the age structure, I'm interested in whether a person is efficient or not and whether they have the skills they need. (Respondent 2)

Equally important is the intergenerational transfer of knowledge and experience.

Surely it should work the way that the younger generation takes experience or practical knowledge from the older generation. The priority is for the younger generation to understand the business and what the key areas to take care of are. (Respondent 4)

Father old guard, son young wind. The cooperation worked, the father did not reject new ideas. (Respondent 5)

Furthermore, our respondents suggested that various generations have complementary skill sets inevitable for successful digitalization within companies.

Generations should be helpful to each other. It's not only one-sided, I think. The younger generation is helpful in the implementation phase but the older generation has a role in the preparation phase. Without the older generation, that first phase might not have gone in the right direction. The comments of the older staff have helped the process to be successful. If I had chosen and managed the whole thing myself, it might not have turned out as well as it did. (Respondent 5)

In some ways, the older ones help, in some ways the younger ones help, but it's more about who is more experienced. (Respondent 7)

# **Processes and Practices**

Following the roles of generations, the research focused on processes and practices that emerged from respondents' experiences. They could be broadly categorized into two groups. Firstly, *formal processes and practices* are defined by internal or external institutions. Three key areas were identified which are inevitable for the successful digital transformation. Among them the project management, as noted by the respondents:





When implementing digitalization, it is important to have knowledge of project management and also to give competence to the person who is responsible for it. (Respondent 7)

The implementation process is divided into three parts. The first is to invent it and find a supplier, then the application, so you need to train people and the last phase is to have constant support so when there is a problem it can be fixed. (Respondent 12)

In the process of digitalization and digital transformation also knowing norms and standards can be helpful.

*ISO standards, for example, provide methodologies for dealing with a company's internal processes or internal management. (Respondent 4)* 

However, the respondents identified also training and coaching as an important area of formal processes and practices.

We have prepared the entire digitalization process with the age structure of our employees in mind. The most important thing was to explain it to people in the longer term, it took about a year, explaining to people what was ahead of them, what would be required, but also what it would bring them afterward because realistically the production employees also had some benefits from it. So, to bring some calm to their stressful situation, that what is coming will not be bad but should be better afterward. Alongside that, also getting to grips with the technical side of it. But the stumbling block is not in the technology but those people and that's where you need to focus, you need to be a psychologist and couch them in the long-term. (Respondent 5)

Secondly, *informal processes and practices* are equally important in the process of digital transformation. The emergent topics were top management support and raising awareness that was pointed out as crucial in this process, forming structurally well-balanced teams with previous knowledge with digitalization or at least good cooperation experience. Following best practices are on one hand sources

of inspiration, motivation but also instructions of how to efficiently run the process of digitalization and digital transformation and what to avoid in the process.

## *Examples of good practice are inspiring and can be built upon. (Respondent 4)*

Even though explaining the importance of digitalization and overall internal company support and raising awareness in long term was mentioned frequently by the respondents, companies often appreciate external help as likewise stressed and can be seen in the following:

It has worked well to use the services of consultants, which are people who have high EQ and help get a new idea into the team and implement it. (Respondent 1)

A popular opinion was also to not implement robust binding and hence nonflexible digital solutions for companies to proceed incrementally and not go through big disruptions in a short period of time.

It is important choosing solutions that do not force us into anything. Choosing solutions that we turn on today and turn off tomorrow when they don't work. To pay as much as it is used. The best practice for digitalization is to start from scratch. It's easier to digitalize from scratch because transformation is hard. If this is not possible, a step-by-step approach should be applied. (Respondent 1)



Figure 6. Processes and practices

# Comprehensive Model Of SME'S Digitalization and Digital Transformation with an Intergenerational Element

The respondents' lived experience was used by the researchers as the basis to create a comprehensive model of SME's digitalization and digital transformation with an intergenerational element. This model consists of four major components. The starting point for the identification of digitalization and/or digital transformation drivers is the mapping of the current status of SMEs digitalization. The current status of digitalization is interconnected with benefits obtained from digitalization which is further influenced by generations and their cooperation. This component is interconnected with processes and practices whose impact is reflected in digitalization status. Four main groups of drivers that significantly influence the digitalization status are external and regulatory framework, firm-level triggers, technology, and digitalization of supply chains and business models. The digitalization status influences benefits

gained from digitalization. These benefits are related to efficiency, flexibility, customers, and general management improvement. In the process of gaining benefits from digitalization, inevitable and crucial roles are played by the generations and their cooperation. Each generation has its own role in the digitalization and digital transformation process, and the intergenerational cooperation is inevitable to properly realize these roles. For good intergenerational cooperation, both formal and informal processes and practices should be applied that subsequently influence the previous digitalization status. Hence, the process of digitalization/ digital transformation is complete but does not finish and repeat itself for SMEs to progress. The process is indicated in Figure 6.

*Figure 7. Comprehensive model of SMEs' digitalization and digital transformation with an intergenerational element* 



The results of the presented research are aligned to the previous literature on SME digitalization and/ or digital transformation, and at the same time, they significantly add to the existing body of knowledge by addressing the gaps related understanding digitalization and digital transformation in the intergenerational context. The results of the presented analysis confirmed the existence of different levels or regimes of digitalization, which is well in line with the digital maturity (Carolis et al., 2017; Williams et al., 2019). In addition to mapping the maturity stages, however, the presented research is in line with the argument of Williams et al. (2019) who underline that in such models, factors behind successful digital transformation are often overlooked. This is not the case of the presented research, as it addressed the issue comprehensively. Next, the main digitalization and digital transformation drivers identified by

the authors were also underlined in the previous works. The external and regulatory framework items cited by our respondents included especially the regulations (OECD, 2019; Osmundsen et al., 2018) and market conditions and competition (OECD, 2019; Osmundsen et al., 2018; Verhoef et al., 2021). Next, technology has been equivocally emphasized as a key driver, as previously emphasized by many (Morakanyane, 2017; OECD, 2019; Verhoef et al., 2021; Vodafone, 2020). Further, SMEs included in the study stressed the effect of digitalization of supply chains and business models, i.e. the digital shifts in the industry (Osmundsen et al., 2018) on their digitalization. As for the firm-level triggers, the presented research underlines the key role of the coexistence of digital awareness (OECD, 2019) and digital skills (Morakanyane, 2017; OECD, 2019; Vodafone, 2020).

The presented research explicitly contributes to the emerging body of knowledge by mapping the benefits, roles of generations in the SME digitalization and digital transformation context, and understanding the processes and practices that help in its facilitation. As expected, the research provides evidence that the intergenerational nature of a firm helps to bridge the digital divide through intergenerational learning and empowerment (Breck et al., 2018). Also, alike Ano and Bent (2021), the results obtained emphasize the importance of human aspect, especially in terms of long-term orientation, attachment to the firm and personal involvement. Yet, the results go beyond what, to our best knowledge, has been researched so far, in terms of providing the overall and comprehensive model of SMEs' digitalization and digital transformation with an intergenerational element.

Research results are addressed to policymakers, academicians, and practitioners. As far as policymakers are concerned, results should help to raise their awareness about lived experiences of the Slovak SME's owners/managers that are concrete, realistic and include a rarely investigated component – the roles of generations. Policymakers should:

- a) differentiate their policies according to status of digitalization/digital transformation of SMEs,
- b) reflect the key drivers in the key policy documents,
- c) take the role of intergenerational cooperation seriously and reflect it in policies, too.

Academicians should build their research on these results and further investigate uncovered areas to contribute to the knowledge base on digitalization and digital transformation with the intergenerational component. Practitioners should learn from experiences of those who successfully run digitalization and digital transformation mainly from their experiences with intergenerational cooperation.

# FUTURE RESEARCH DIRECTIONS

Our research has some limitations that are particularly related to the applied phenomenological study as one of the qualitative research methods. Firstly, the size of the sample (12 participants). However, according to our opinion, for the aim of the study it is sufficient, as a larger sample might mean repetition of the key phenomenon. Secondly, limitation is related to methodology of interviews and comparison of experiences of different participants. Some respondents can present a current experience and the others a long-term one. Thirdly, industries create significant differences among owners/managers' lived experiences. Triangulation, checking, and data validation served to gather as much as possible correct information.

This study offers a good starting point for further research that should be run as follows:

- 1. to continue with extensive research that may include additional themes (like gender, firm culture, etc.) by using quantitative methodology,
- 2. to study family and non-family business more in depth and compare intergenerational cooperation and digitalization separately between business owners and managers,
- 3. to further study industry specifics of digitalization from perspective of the intergenerational cooperation.

# CONCLUSION

Digitalization is one of the key megatrends that nowadays significantly influence world's economy. No doubt about its impact on the Slovak economy and its backbone - SMEs. Based on the phenomenological, semi-structured interviews among different generational cohorts of family and non-family business owners/managers the authors have identified four key elements that are important for identification of key drivers of SME's digitalization and digital transformation in Slovakia. These are *status of the SMEs digitalization* that effects its *benefits*, which are also influenced by the roles of *generations* and vice versa. The role of generations is also related to *processes and the best practices* and of course they influence the status of the digitalization and digital transformation. These elements create the key building blocks of the comprehensive model of digitalization and digital transformation with the intergenerational element. This model serves as a tool to study, further and in-depth, the key drivers of the successful digitalization and digital transformation of the SMEs in Slovakia and, in further research, it can be used for international comparisons.

# ACKNOWLEDGMENT

This work was supported by the Slovak Research and Development Agency under the Contract no. APVV-19-0581.

# REFERENCES

Ano, B., & Bent, R. (2021). Human determinants influencing the digital transformation strategy of multigenerational family businesses: A multiple-case study of five French growth-oriented family firms. *Journal of Family Business Management*.

Autio, E. (2017). Digitalisation, ecosystems, entrepreneurship and policy. Perspectives into topical issues in society and ways to support political decision making. Government's analysis, assessment and research activities. Policy Brief 20/2017. Prime Minister's Office.

Bollweg, R. L., Siepermann, M., & Weber, P. (2020). Drivers and barriers of the digitalization of local owner operated retail outlets. *Journal of Small Business and Entrepreneurship*, *32*(2), 173–201. doi:10 .1080/08276331.2019.1616256

Breck, B., Leedahl, S., & Dennis, C. (2018). Bridging the digital divide: Findings for older adults in an intergenerational cyber-seniors program. *Innovation in Aging*, 2(suppl\_1), 918–919. doi:10.1093/geroni/igy031.3417

Carolis, A., Macchi, M., Negri, E., & Terzi, S. (2017). A Maturity Model for Assessing the Digital Readiness of Manufacturing Companies. In *Proceedings of the IFIP International Conference on Advances in Production Management Systems (APMS)*. Springer. 10.1007/978-3-319-66923-6\_2

Deloitte. (2018). Digital Maturity Model. Achieving digital maturity to drive growth. Deloitte.

Dethine, B., Enjolras, M., & Monticolo, D. (2020). Digitalization and SMEs' Export Management: Impacts on Resources and Capabilities. *Technology Innovation Management Review*, *10*(4), 18–34. doi:10.22215/timreview/1344

Eller, R., Alford, P., Kallmunzer, A., & Peters, M. (2020). Antecedents, consequences, and challenges of small and medium-sized enterprise digitalization. *Journal of Business Research*, *112*, 119–127. doi:10.1016/j.jbusres.2020.03.004

European Union. (2019b). EU policy framework on SMEs: state of play and challenges. European Union.

Garzoni, A., De Turi, I., Secundo, G., & Del Vecchio, P. (2020). Fostering digital transformation of SMEs: A four levels approach. *Management Decision*, *58*(8), 543–1562. doi:10.1108/MD-07-2019-0939

Hervé, A., Schmitt, C., & Baldegger, R. (2020). Internationalization and Digitalization: Applying digital technologies to the internationalization process of small and medium-sized enterprises. *Technology Innovation Management Review*, *10*(7), 28–40. doi:10.22215/timreview/1373

Liu, Y. (2021). How Do Family Firms Respond Strategically to the Digital Transformation Trend? In *Academy of Management Annual Meeting Proceedings*. Academy of Management. 10.5465/ AMBPP.2021.14879abstract

Matt, C., Hess, T., & Benlian, A. (2015). Digital Transformation Strategies. *Business & Information Systems Engineering*, 57(5), 339–343. doi:10.100712599-015-0401-5

Morakanyane, R., Grace, A. A., & O'Reilly, P. (2017). Conceptualizing Digital Transformation in Business Organizations: A Systematic Review of Literature. In *BLED 2017 Proceedings*. University of Maribor Press. doi:10.18690/978-961-286-043-1.30

Nambisan, S., Wright, M., & Feldman, M. (2019). The digital transformation of innovation and entrepreneurship: Progress, challenges and key themes. *Research Policy*, 48(8), 103773. doi:10.1016/j. respol.2019.03.018

Nwankpa, J.K., & Roumani, Y. (2016). IT Capability and Digital Transformation: A Firm Performance Perspective. In *ICIS 2016 Proceedings*. Association for Information Systems

OECD. (2019). OECD Digital for SMEs Global Initiative. Concept Note. OECD.

Osarenkhoe, A., & Fjellström, D. (2021). The Oxymoron of Digitalization: A Resource-Based Perspective. *Journal of Information Technology Research*, *14*(4), 1–17. doi:10.4018/JITR.20211001.oa1

Osmundsen, K., Iden, J., & Bygstad, B. (2018). Digital Transformation: Drivers, Success Factors, and Implications. In *MCIS 2018 Proceedings*. Association for Information Systems.

Pilková, A., Holienka, M., Rehák, J., Kovačičová, Z., Komorník, J., Mitková, Ľ., Mikuš, J., Letovanec, M., Smoroňová, T., & Kliáček, P. (2017). *Inkluzivita podnikania na Slovensku: stav a vývojové tendencie* [Inclusive entrepreneurship in Slovakia: state and development trends]. Univerzita Komenského v Bratislave.

Rivza, B., Kruzmetra, M., Gudele, I., & Foris, D. (2019). Digitalization as an essential growth factor contributing in SME development (experience of Latvia and Romania). *Agronomy Research (Tartu)*, *17*, 261–270.

SBA. (2020). Vznik a zánik MSP na Slovensku v roku 2019 [Formation and discontinuation of SMEs in Slovakia in 2019]. Bratislava 2020.

Šestáková, M. (2019). The Human Factor in Industry 4.0 and Some of Its Intergenerational Implications. *Proceedings of the 4th International Workshop on Knowledge Management 2019*.

Shank, G. (2006). Qualitative Research: A Personal Skills Approach (2nd ed.). Pearson.

Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *The Journal of Strategic Information Systems*, 28(2), 118–144. doi:10.1016/j.jsis.2019.01.003

Vodafone. (2020). *SME Digitalisation - charting a course towards resilience and recovery*. Vodafone Public Policy Paper. Vodafone.

Vysoká škola manažmentu v Trenčíne. Ministry of Investments, Regional Development and Informatization of the Slovak Republic. (2019). *Digital transformation strategy of Slovakia 2030*. Author.

Williams, C. H., Schallmo, D., Lang, K., & Boardman, L. (2019). Digital Maturity Modelsfor Small and Medium-sized Enterprises: A Systematic Literature Review. In *Proceedings of the ISPIM Innovation Conference–Celebrating Innovation: 500 Years Since daVinci*. ISPIM.

# **ADDITIONAL READING**

Bollweg, R. L., Siepermann, M., & Weber, P. (2020). Drivers and barriers of the digitalization of local owner operated retail outlets. *Journal of Small Business and Entrepreneurship*, *32*(2), 173–201. doi:10 .1080/08276331.2019.1616256

Deloitte. (2018). Digital Maturity Model. Achieving digital maturity to drive growth. Deloitte.

Garzoni, A., De Turi, I., Secundo, G., & Del Vecchio, P. (2020). Fostering digital transformation of SMEs: A four levels approach. *Management Decision*, *58*(8), 543–1562. doi:10.1108/MD-07-2019-0939

Morakanyane, R., Grace, A. A., & O'Reilly, P. (2017). Conceptualizing Digital Transformation in Business Organizations: A Systematic Review of Literature. In *BLED 2017 Proceedings*. University of Maribor Press. doi:10.18690/978-961-286-043-1.30

Nambisan, S., Wright, M., & Feldman, M. (2019). The digital transformation of innovation and entrepreneurship: Progress, challenges and key themes. *Research Policy*, 48(8), 103773. doi:10.1016/j. respol.2019.03.018

Osarenkhoe, A., & Fjellström, D. (2021). The Oxymoron of Digitalization: A Resource-Based Perspective. *Journal of Information Technology Research*, *14*(4), 1–17. doi:10.4018/JITR.20211001.oa1

Osmundsen, K., Iden, J., & Bygstad, B. (2018). Digital Transformation: Drivers, Success Factors, and Implications. In *MCIS 2018 Proceedings*. Association for Information Systems.

Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *The Journal of Strategic Information Systems*, 28(2), 118–144. doi:10.1016/j.jsis.2019.01.003

Williams, C. H., Schallmo, D., Lang, K., & Boardman, L. (2019). Digital Maturity Modelsfor Small and Medium-sized Enterprises: A Systematic Literature Review. In *Proceedings of the ISPIM Innovation Conference–Celebrating Innovation: 500 Years Since daVinci*. ISPIM.

# **KEY TERMS AND DEFINITIONS**

**Digital Capabilities (in Case of a Business Enterprise):** Digital technology skills possessed by the people within a business enterprise that enable the enterprise to undertake digitalization and/or digital transformation and to remain operable in a digital environment.

**Digital Transformation:** Engagement of digital technologies leading to strategic disruptions of organizations in terms of increasing their strategic relevance and altering the ways how an organization generates value, and/or its organization structure and systems.

**Digitalization (in Case of a Business Enterprise):** Integration of digital technologies into everyday life, activities and operations of an enterprise. Replacing former social and/or technical aspects of products, services, user experiences, processes, etc.

**Intergenerational Entrepreneurship:** Sharing knowledge, skills, experience and resources through partnerships and collaboration between different age generations (emphasizing seniors and youth) in starting and running a business enterprise.

**Owner-Manager:** A person who owns (entire or a part of) a business enterprise and at the same time is actively engaged in its business management.

**Small and Medium Sized Businesses:** A business entity with less than 250 employees and less than 50 mil. EUR in annual turnover or balance sheet total of 43 mil. EUR (according to the size classification of the European Union). Typically, it does not reach the stage where ownership and management are separated.