



The research report on Phase I of the project implementation

**Project: APVV 19-0581 Intergenerational entrepreneurship in Slovakia in the age
of digitalization: a pragmatic approach**

**Phase I: Analysis of the state of entrepreneurship through the lens of generations
with an emphasis on intergenerational entrepreneurship and digital transformation of
entrepreneurship in Slovakia**

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Bratislava, November 2021



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Introduction

Current economic, social, and technological trends, such as the fair sustainability of economic growth, digitalization and the emergence of Industry 4.0, the aging population, and the rise of the silver economy, bring many challenges for entrepreneurs. Among such key challenges are the digitalisation and digital transformation of SMEs. As our and international research to date shows, the issue of digitalization in relation to entrepreneurship is complex, and succeeding in it requires identifying and implementing non-traditional solutions. One such solution, in our opinion, is the design and elaboration of a conceptual model of intergenerational entrepreneurship in the digitalisation phase. We define intergenerational entrepreneurship as the sharing of knowledge, skills, experience, and resources through partnerships and collaboration between different age generations (with an emphasis on seniors and youth), across all stages of the entrepreneurial process, with the intention of achieving economic, social, and environmental goals (Pilková et al., 2017). Particularly specific is intergenerational entrepreneurship within family businesses, which is also reaching the stage of generational change and the related challenges in Slovakia. Given the topicality of addressing the issue of intergenerational entrepreneurship in the era of digitalization, we have developed and in 2019 the Faculty of Management of Comenius University in Bratislava (FM UK) together with the Slovak Business Agency (SBA) submitted to the Slovak Research and Development Agency (APVV) the project APVV- 19-0581 Intergenerational entrepreneurship in Slovakia in the era of digitalization: a pragmatic approach. The project was approved by APVV for the period VII/2020 - VI/2024.

The main objective of the project is to analyse the state of entrepreneurship through the lens of generations, with an emphasis on intergenerational entrepreneurship, as well as to analyse the challenges of digitalisation in this context:

- a) creation of a conceptual model of intergenerational entrepreneurship in Slovakia in the time of digital transformation,
- b) detailed methodological elaboration of its key modules (start-ups and established entrepreneurs) with an emphasis on the tools applicable in them,
- c) testing and validation of the tools in concrete conditions of practice.

Application tools in the area of support and training in the different modules will be available through an online platform (including a "Living lab" of stakeholders).

In December 2021, the first phase of the project will end. In view of this, the research report aims to present **a summary of the results** of the first phase of the project as they have already been published in planned publication outcomes or are in the process of being prepared for publication.

The intention of presenting it at the workshop is to get feedback as well as suggestions for the next stages of the research from key stakeholders and potential implementing organisations. Due to the stated intention, it does not include the outputs of mapping and analysing the current state of the art in the literature, which are part of the published outputs.



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



1 1st Phase partial objectives of the project APVV 19-0581

The project is divided into four main phases:

1. Phase I (July 2020 - December 2021): analysis of the state of entrepreneurship through the lens of generations with an emphasis on intergenerational entrepreneurship and digital transformation of entrepreneurship in Slovakia
2. Phase II (July 2021 - June 2022): Analysis of the challenges of digital transformation of entrepreneurship in the light of current trends and characteristics of the studied generations
3. Phase III (January 2022 - June 2024): Monitoring the state of intergenerational entrepreneurship in Slovakia
4. Phase IV (July 2022 - June 2024): Creation of a conceptual model of intergenerational entrepreneurship in Slovakia in the time of digital transformation, testing, and validation of application tools.

For the first phase "Analysis of the state of entrepreneurship through the lens of generations with an emphasis on intergenerational entrepreneurship and digital transformation of entrepreneurship in Slovakia" the following **partial objectives** were set in the project:

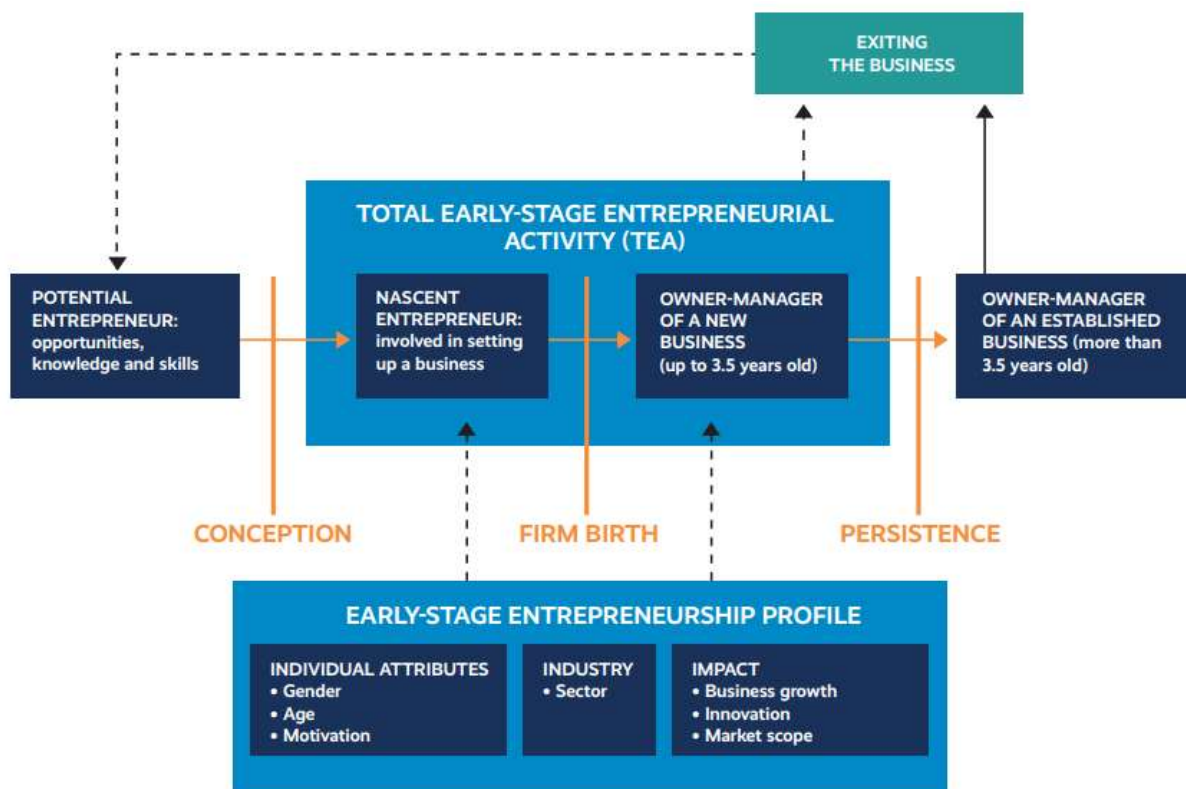
- Characteristics of the state of intergenerational entrepreneurship and youth and senior entrepreneurship, as well as the state of adaptation of digital transformation in entrepreneurship.
- Defining and comparing indicators of youth, senior, intergenerational, and digital entrepreneurship across relevant European benchmarks.
- Identification of barriers and enablers of intergenerational entrepreneurship in new and established businesses, intergenerational transfer in entrepreneurship, and digital transformation adaptation in entrepreneurship.
- Identification of key stakeholders of intergenerational entrepreneurship and digital transformation in business.
- A review of current knowledge of the issues addressed in research, policy making, and practice of entrepreneurship support and entrepreneurship education and training
- Identification of good practice examples in supporting intergenerational entrepreneurship with a focus on digital transformation.

2 Methodology and methods applied in the research of the 1st phase of the project

Within the first phase implementation of the project, extensive research apparatus was applied, including quantitative and qualitative research, as well as mapping of relevant research areas. In the following, we briefly characterise the methods applied, and the data sources used according to the individual subchapters containing the summary results.

In subsections 3.1 and 3.2, data from the Global Entrepreneurship Monitor (GEM), specifically from the Adult Population Survey (APS), were used.

Figure 1: A model for exploring entrepreneurship by phase and entrepreneurial profile



Source: Singer et al. (2012)

GEM is the world's foremost study of entrepreneurship, which examines the entrepreneurial behaviour of individuals (their characteristics, attitudes, activities, and aspirations), following the GEM process model shown in Figure 1. A minimum sample of 2 000 respondents is collected annually in the participating countries, which is representative of Slovakia in terms of age, gender, and regional distribution. The Faculty of Management of



Comenius University in Bratislava is the national coordinator of the project, and the SBA is its main partner.

The comparative analysis of entrepreneurship for studied generations in Slovakia and Europe is based on the APS data for Slovakia and the dataset for Europe for the years 2015 - 2019. In total, the dataset contains 10,005 respondents from Slovakia and 389,308 respondents from Europe. These data are the input data for the calculation of indicators used to measure the different phases of the entrepreneurial process (see Figure 1) applied in the GEM methodology. (For more details see Pilková, Mikuš, 2021).

For **the regional analysis** of entrepreneurship for the population and studied generations, an aggregate sample of APS data at the individual level (adult population aged 18-64 years) for Slovakia (2016-2020) was created, consisting of 10,001 adult individuals. Separate datasets were also created for the generations under study, namely youth (aged 18-34 years) consisting of 3,518 individuals and seniors (aged 55-64 years) consisting of 2,024 individuals. (For more details see Mikuš, Pilková, 2021).

In **subsection 3.2**, in addition to GEM data, we also used data from another large international scientific study - the GUESSS (Global University Entrepreneurial Spirit Student's Survey) project, which focuses on entrepreneurship among university students. This is the largest academic study in the world, collecting harmonised data across the participating countries, usually in two-year cycles. Our analysis is based on data from 2021. In Slovakia, where the survey was coordinated by the Faculty of Management of Comenius University in Bratislava, 12 public universities were involved and 5,754 fully completed questionnaires were received. Data collection was, as in the GEM survey, based on a harmonised research instrument, but both surveys were supplemented with questions specifically focused on digital and intergenerational entrepreneurship.

In the analysis of the digital and intergenerational aspects of entrepreneurship, we focused on entrepreneurs from the adult population (GEM survey) who are starting a business (business up to 42 months old, sample share: 6.39%, number: 129) or are in the phase of an established business (business over 42 months old, sample share: 6.48%, number: 130) and students (GUESSS project) who declared that they are currently trying to start their own business (starting student entrepreneurs, sample share: 19.0%, number: 1 096), as well as students who indicated that they are already running their own business (active student entrepreneurs, sample share: 6.7%, number: 387). All these groups were asked specific questions focusing on the role that digitalisation plays or will play in their business (in terms of processes, products, and business models), the share or expected share of revenues from the sale of products or services online, the presence of a person belonging to the older generation in the business or in the future business (in different positions) and the contribution of this person to the business.

The research findings presented in **subsection 3.3** were obtained from qualitative research conducted through a phenomenological study (see Shank (2006) for more details). The aim of this study was to gain insights into the lived experiences of SME owners/managers from different generational groups through a detailed analysis of semi-structured interviews



in order to identify key factors and experiences of digitalisation in Slovakia, with an emphasis on intergenerational collaboration. The qualitative research focused on three broad themes, which are contained in the research questions presented in subsection 3.3.

The phenomenological research involved 12 respondents, Slovak SME owners/managers, through moderated in-depth semi-structured interviews (each lasting approximately 1 hour) in order to obtain information based on the respondents' experiences or circumstances. All interviews followed a common methodology to ensure consistency of approach. The interviews took place between December 2020 and March 2021 both in person and online and were recorded and further processed using the MAXQDA tool and methodology. The systematically processed results are presented in the form of mind maps (for more details see Pilková, A., Holienka, M., Mikuš, J.: Drivers of SMEs digital transformation in the context of intergenerational cooperation in Slovakia, IGI-Global, 2021 - in press).

In subsections 3.4 - 3.6 the methods of mapping, subsequent analysis, and comparison of the obtained information were used.



3 Key findings from the first phase of the project based on the main outputs

The key findings are summarised in five areas where research was carried out in the first phase of the project. These are: characteristics of the state of youth and senior entrepreneurship in Slovakia, Europe, and Slovak regions; selected characteristics of digital and intergenerational entrepreneurship; digital transformation in the context of intergenerational entrepreneurship; overview of policies aimed at supporting intergenerational entrepreneurship and digital transformation in Europe and Slovakia; key stakeholders in intergenerational entrepreneurship and digital transformation in entrepreneurship; examples of good practice in supporting intergenerational entrepreneurship in the context of digital transformation. In the following sections, findings are presented according to particular areas.

3.1 Characteristics of the state of youth and senior entrepreneurship in Slovakia, Europe, and Slovak regions

Differences between generations are often described as a cause of generational conflicts that manifest themselves in a "generation gap" (Giancola, 2006). With this in mind, we have analysed the key characteristics, involvement in the different stages of the entrepreneurial process, and motivation to start a business of youth and seniors in Europe and Slovakia, as well as in its regions.

The key differences in the entrepreneurial characteristics as well as the level of entrepreneurial activity of the youth and senior generations in Slovakia, and in comparison with Europe are as follows:

Social attitudes towards entrepreneurship and entrepreneurial talent:

- *The ability to identify suitable entrepreneurial opportunities as well as the entrepreneurial career* (entrepreneurship as a good career choice and the status of an entrepreneur) are spheres where Slovakia has been lagging behind Europe for a long time, for both generations, but this difference, logically due to historical development, is higher among seniors in Slovakia than among the young. The youth and seniors perceive the most opportunities for entrepreneurship in the Bratislava region and the least in the Banská Bystrica region. On the contrary, entrepreneurship is perceived worst in terms of social attitudes in the Bratislava region and best in the Trnava and Trenčín regions. One of the important factors that influence the ability to identify entrepreneurial opportunities is *entrepreneurial talent* as an individual's intrinsic/individual ability to do business. Research on this factor has shown that youth in Slovakia have a lower intrinsic ability to identify entrepreneurial opportunities and are less responsive to profitable opportunities than seniors. However, they are more confident in their high level of innovativeness and are also more likely to make decisions that are part of their long-term career plan. However, the comparison with Europe again confirms the fact that both generations in Slovakia are lagging behind Europe in this kind of talent, i.e. in *the intrinsic ability to identify opportunities*, and they



are also *less flexible in responding to profitable opportunities*. On the other hand, they are better at making decisions that are part of their long-term career plan. However, this contradicts the finding that both generations have relatively *high self-confidence* in their own business-related knowledge, skills, and abilities and thus exceed the European average. In addition, youth in Slovakia have a significantly lower *fear of failure* than both youth in Europe and seniors. However, seniors in Slovakia have a significantly higher fear of failure than European seniors. These factors affect the entrepreneurial activity of both generations in different ways and intensities. Other factors of social attitudes towards entrepreneurship have a different impact on this process, namely:

- *Networking* is better in Slovakia than in Europe and young people have a stronger position in it.
- *Equality in living standards (egalitarianism)* - youth in Slovakia prefer more equality than seniors. This trend is opposite to that in Europe.

Intention to start a business and entrepreneurial activity

- *The intention to start a business* in the next three years is twice as high among the younger generation than among seniors in Slovakia and is higher for both generations than in Europe. The highest intention to start a business of both youth and seniors is in the Bratislava region and the lowest in the Nitra and Banská Bystrica regions. This is further reflected in the level of entrepreneurial activity.
- *The total early-stage entrepreneurial activity* (up to 42 months of business existence) is significantly higher in Slovakia than in Europe for both generations, mainly due to the higher growth rate of nascent entrepreneurs (up to 3 months). However, significantly more nascent entrepreneurs in Slovakia than in Europe exit their business within 3 months and do not move on to the next stage of start-up. While in Slovakia a higher percentage of seniors exit their business in this period than youth, the trend is reversed in Europe. Youth show the highest start-up activity in the Bratislava region and the lowest in the Banská Bystrica region. Seniors are most involved in start-up activity in the Prešov region and least involved in the Nitra region.
- *The rate of established entrepreneurship* (over 42 months of business existence) in Slovakia is significantly higher among seniors than among the youth. Although the trend is similar in Europe, the difference between the percentage of established youth entrepreneurs and established senior entrepreneurs is significantly smaller. Similarly, the business discontinuation rate for both cohorts is lower in Europe than in Slovakia. This suggests that the sustainability of entrepreneurship is worse in Slovakia compared to Europe. The highest rate of established entrepreneurship for both seniors and youth is in the Bratislava region and the lowest in the Trnava region.
- The highest *motive* for starting a business for both generations, both in the start-up phase and for established entrepreneurs in Slovakia, is *the desire to earn a living because jobs are scarce*. This motivation is particularly strong among seniors in Slovakia. An interesting finding is that only for youth start-up entrepreneurs in Europe the main motivation is to build a large fortune or a very high income, and the second reason is to change the world for the better, with earning a living only in third place



for this age cohort. The other groups of entrepreneurs surveyed (established youth, established old, starting seniors) in Europe express earning a living as the main motive for starting a business. This suggests that the predominant group of entrepreneurs in the surveyed cohorts in Slovakia and Europe will not be explicitly innovative, but will see entrepreneurship as a substitute for employment, which is clearly reflected in their contribution to innovation and creative change.

Sources:

Pilková, A., Mikuš, J. (2021) Entrepreneurship in Slovakia through the lens of generations. Conference proceedings from International Scientific Conference „The Poprad Economic and Management Forum 2021: Current trends and challenges in organizations management“. October 2021, Poprad, Slovak Republic pp. 360-371

Mikuš, J., Pilková, A. (2021) Regional aspects of entrepreneurial activity and characteristics in Slovakia with the emphasis on youth and seniors. Conference proceedings from International Scientific Conference „The Poprad Economic and Management Forum 2021: Current trends and challenges in organizations management“. October 2021, Poprad, Slovak Republic pp.349-359.

3.2 Review of special questions on digital and intergenerational entrepreneurship from the perspective of the GEM and GUESSS projects

From the perspective of the GEM project, we analyse special questions focusing on digital and intergenerational entrepreneurship from the perspective of **starting and established entrepreneurs**. The role of digital entrepreneurship does not differ significantly between starting and established entrepreneurs. Nevertheless, starting entrepreneurs attribute a more prominent role to **digital processes, products, and business models** than established entrepreneurs. While for starting entrepreneurs digital processes represent an important to a key role in their business in more than 24%, for established entrepreneurs it is only in 20%. A very similar trend can be observed for digital products and business models, which starting entrepreneurs perceive as slightly more important than established entrepreneurs.

We also looked at the importance of digitalisation in entrepreneurship through the **share of revenue generated** from the sale of products and/or services **online**. The results showed that more than 4 out of 10 starting entrepreneurs do not use online sales, while for established entrepreneurs this figure rises to almost 65%. Thus, starting entrepreneurs rely more on online sales, with more than 22% declaring that online sales will account for more than 75%. For established entrepreneurs, it's only nearly 10% of them.

The intergenerational nature of entrepreneurship was pursued in GEM by examining **the involvement of those belonging to the older generation and the perceived benefits** of this involvement in entrepreneurship. Almost the same, relatively high proportion of starting and established entrepreneurs do not envisage the involvement of the older generation in their business (approximately 74%). Starting entrepreneurs make more use of people from the older generation who represent an investor in the business, who intervene in the business



management (5%), but also those who do not intervene in the business management (1.8%). They also use such persons to a higher extent as mentors of their business (almost 5%). On the contrary, established entrepreneurs have persons from the older generation as their co-owners (up to almost 11%) or employees (12.6%).

Regarding **the contribution of a person** from the older generation to the business, starting entrepreneurs perceive this contribution mainly due to the access to the necessary resources, furthermore, it is due to the knowledge of the business subject, the industry, and/or the market. Established entrepreneurs perceive the contribution of the older generation mainly in the access to a network of contacts and then to the necessary resources. They rate significantly lower the managerial competencies, personal characteristics needed for entrepreneurship, and knowledge of the business subject, industry, and/or market.

The GUESSS project results show that the role of digital entrepreneurship does not differ significantly between starting and active student entrepreneurs. While **digital processes** play no or only a minor role in the business of around 4 in 10 starting and active student entrepreneurs, around the same proportion of respondents from both groups indicated that digital processes play an important or key role in their business. Similarly, **digital products** are not used at all or only partially in business by just over a third of both starting and active student entrepreneurs, while they play an important or key role in the businesses of 38.3% of starting and 41.5% of active student entrepreneurs. Thus, product digitalisation is slightly more pronounced for active entrepreneurs. Finally, **digital business models** are important to key for slightly more than 4 out of 10 starting and active student entrepreneurs, while in contrast, they play no or a minor role in slightly more than a third of student businesses at both stages surveyed. Thus, overall, the proportion of student businesses with a significant role in digitalisation and businesses where the role of digitalisation is not significant is essentially almost the same.

In terms of the **share of sales** of products and/or services **online**, almost a third of active student entrepreneurs do not use online sales. On the contrary, around a quarter of them report online sales as a share of sales between 25% and 75%, and for another quarter online sales account for more than 75% of sales. Slightly more ambitious in their anticipated use of online sales are students starting entrepreneurs, with more than a third anticipating an online sales revenue share of between 25% and 75%, and just under a third estimating an online sales share of more than 75%.

Regarding the **involvement of the older generation**, it is positive that a low proportion (only about half) of both starting and active student entrepreneurs reported that no one from the older generation is involved in their business. This means that up to half of student entrepreneurs also involve a person from the older generation in their business. Most often this person acts as a mentor or advisor - up to a quarter of student entrepreneurs have a mentor or advisor from an older generation, which underlines the importance of intergenerational mentoring in business. Also, 13.8% of starting student entrepreneurs and 12.9% of active student entrepreneurs plan to start or run this business together with an older generation co-owner. Interestingly, neither the proportion nor the level of involvement of



people from the older generation differs significantly between starting and active student entrepreneurs.

The contribution of a person from the older generation to entrepreneurship is seen by both starting and active student entrepreneurs mainly in their knowledge of the market or business. The next most strongly perceived contribution of persons from the older generation is their possession of the personal characteristics necessary for entrepreneurship. Conversely, the least frequent starting and active student entrepreneurs see a benefit in the form of access to the resources needed for entrepreneurship.

3.3 Digital transformation in the context of intergenerational entrepreneurship in Slovakia

From the phenomenological qualitative research, we obtained an extensive set of information, which is processed in the form of mind maps (see Pilková, A., Holienka, M., Mikuš, J.: Drivers of SMEs digital transformation in the context of intergenerational cooperation in Slovakia, IGI-Global, 2021 - in press) and are also presented in this subchapter as findings according to the individual research questions.

3.3.1 Research question 1: What is the current status and trends in the digitalisation of SMEs and what influences it the most in terms of intergenerational entrepreneurship/collaboration.

From the systematic processing of the responses to this problem area, three strands emerged around which the responses culminated: the level of digitalisation, the factors influencing digitalisation, and the benefits of digitalisation.

Digitalisation status

Respondents declared that digitalisation and digital transformation are part of their business to varying degrees. The results showed three different regimes that entrepreneurs exhibit. The interviews further show that SMEs do not necessarily belong to only one regime but can operate independently in different ones.

- SMEs in the first regime are characterised by a **basic use of digitalisation** without ambitions for their own adjustments. Typical examples are the use of communication platforms, cloud services, websites for promotional purposes, online training for employees, web applications, use of platforms provided by partners and/or specialised software and tools. It is clear that SMEs in this regime currently have no ambition to further develop or apply any advanced tools or systems.
- Another group is made up of SMEs that use **digitalisation for commercial purposes**. They are typically developing and selling their own digital products or services, intermediating financial services, relying heavily on online sales, providing outsourcing services, developing e-shops, CRM, and MIS or online courses. They usually see digitalisation as a means to generate revenue.



- The last group of SMEs is undergoing **digital transformation and developing advanced processes**. Typically, they undergo digital transformation through the digitalisation of production processes. They are also in the process of digitalising technologies, services, and/or administrative processes. In addition, they are introducing various forms of digital marketing, digital internal communication, customising their products or services using digital technologies. In addition, they are also developing and/or implementing various management systems and tools such as CRM, MIS, etc. SMEs that develop their own e-shop or e-commerce and work on the integration of different systems such as ordering, cash register, production, administration, etc. are also included in this regime.

Factors of digitalisation

The factors of digitalisation serve as a catalyst for change within companies and strongly influence the digitalisation status.

- The SMEs studied were not a homogeneous group (see Pilková, A., Holienka, M., Mikuš, J., 2021) and were both service-oriented and production-oriented enterprises. However, all of them consider **technology** as the most important factor of digitalization. Usually, it is the availability and affordability of new technologies and the related increased efficiency of processes that force SMEs to implement them.
- Digitalisation and digital transformation of enterprises are further triggered by **firm-level triggers**. Competition plays a decisive role, driving product and service improvements. In addition, corporate culture and the organisation's behaviour as a learning entity can support the adoption of innovative digital solutions. These processes are influenced by the age structure of the workforce, which can have an impact on the digital 'appetite' of firms. The strategy and support of senior management also play a key role in the digitalisation/digital transformation of companies. However, it is also important to consider the specificities of companies. Last but not least, respondents identified the important role of human capital in the whole process of digitalisation and digital transformation.
- Another important factor in digitalisation and digital transformation, according to respondents, is the **external and regulatory framework**. Government initiatives and incentives can be a catalyst for digitalisation-related changes. Another source of ideas can also be academia - graduates entering businesses, cooperation and collaboration with universities, the available latest information from conferences, seminars, workshops, etc. The various actors should take steps to raise digital awareness in society, which would have a positive impact on the general uptake of digital technologies and thus also influence the behaviour of companies. However, the recent pandemic situation has also pushed companies further as they have been forced to implement tools to be able to work remotely. The specifics of industries and their requirements are also important drivers of digitalisation, according to our respondents. Industry best practice examples, exhibitions, and trade fairs also serve as inspiration for digitalisation in our interviews. Moreover, among the external drivers of digitalization, cost competition is a driving force that forces SMEs to look for efficient solutions to be competitive.



- Another broad category of factors is the **digitalisation of supply chains and business models**, which includes the digitalisation of customers, suppliers, partners, and other aspects related to business models.

Benefits of digitalisation

The interviews show that the benefits of digitalisation and digital transformation are manifold but mainly relate to four key areas.

- **Efficiency** usually refers to reducing costs in various ways, improving processes beyond cost reduction, leading to improvements in quality, design, speed, environmental benefits, workplace safety, etc., and value-added growth that creates room for higher margins.
- **Customers** are another area of benefits, which typically includes a better understanding of customer preferences through the collection of big data, the use of data analytics, instant feedback, and easier and faster access to large amounts of information. A better understanding of customer preferences, but also simple ways of communicating what customers really want, leads to higher levels of customisation of companies' products and services.
- **Flexibility** manifests itself in greater use of teleworking, simplicity and versatility of marketing, and ease of acquiring or engaging customers as well as various stakeholders.
- **General improvements in business management** include greater availability of information and documents, customisation of the management of the business itself as well as related processes, better awareness of current and future trends in the development of the business, better risk management, professionalism, speeding up decision-making processes and greater flexibility in production. Various aspects of the enterprise can also be improved based on big data analytics. Thus, digitalization and digital transformation improve the overall competitiveness of an enterprise.

3.3.2 Research question 2: What are the experiences with the participation of different age groups of employees/owners in the digital transformation process, both individuals and groups, and what processes or practices help in this process?

Two important areas emerged from the respondents' answers to this question, namely the actual roles of generations in the process of digitalisation and digital transformation, and applied processes and practices.

Roles of generations

The roles of generations were examined from three perspectives:

- **The younger generation** usually has good ICT competencies and the ability to learn new knowledge quickly. They are also more proactive, often take a leadership role, and have a greater drive and motivation for digitalisation. It is clear that technological progress is very fast and therefore even the younger generation finds it very



challenging to keep up with this progress. Knowledge of foreign languages is crucial in this process. For this reason, offsprings in family businesses have an indispensable role in bringing new stimuli and ideas for digitalisation.

- **The older generation** has its own role and contribution to make in the digitalisation process. They are able to think in a broader context, taking into account their lifelong professional and managerial experience. In the digitalisation of enterprises, success also requires the older generation to pass on their professional and managerial experience and knowledge to the younger generation, but also to delegate competencies to them. However, it is not enough to delegate competencies and pass on knowledge and experience, but the older generation must also show a certain degree of flexibility. Even if they are rarely the leaders of digitalisation in their companies, they must at least try to understand and embrace digitalisation as an inevitable trend for the current and future success of the company.
- In terms of **intergenerational cooperation**, competence and experience are the most important aspects, regardless of age and generation. Equally important is the intergenerational transfer of knowledge and experience. In addition, respondents indicated that different generations have complementary skills that are essential for successful digitalisation within companies.

Processes and practices

Building on the roles of generations, the research focused on the processes and practices in the digitalisation process that emerged from the respondents' experiences. Broadly speaking, these can be divided into two groups.

- **Formal processes and practices** are defined by internal or external institutions. Within this category, key areas have been identified that are essential for a successful digital transformation. These include project management, existing norms, and standards, training, and coaching.
- **Informal processes and practices** include senior management support and raising awareness, which have been identified as key in the process, forming structurally well-balanced teams with prior knowledge of digitalisation or at least good experience of collaboration and cooperation. On the one hand, following best practices or best practices is a source of inspiration, motivation, but also a guide on how to effectively lead the digitalisation and digital transformation process and what to avoid in the process. Although explaining the importance of digitalisation and overall internal support from the company and raising awareness in the long term was frequently mentioned by respondents, companies often value external help. Another popular view was not to introduce robust binding and therefore inflexible digital solutions so that companies proceed gradually and do not go through major changes in a short time.



3.3.3 Research question 3: From the perspective of the external environment, what are the key barriers to digitalisation and digital transformation of SMEs in Slovakia, how to overcome them, and the role of intergenerational entrepreneurship in this process

Respondents' answers to this question were systematically processed into two main themes: key barriers to digitalisation and ways to overcome them.

Key barriers to digitalisation

Respondents also identified key barriers to digitalisation that emerged from their opinions and experiences in the digitalisation process and are based on the organisation's external environment.

- **National policy on digitalisation and digital transformation**, where respondents expressed that funding through EU funds is complicated and opaque, that policies are not flexible enough to respond to the dynamics of technological development, and that digitalisation processes even at the state level are insufficient. Public sector tools, such as Slovensko.sk, were also rated as complicated and opaque. According to the respondents, there is not enough awareness-raising in the field of digitalisation in society and among entrepreneurs themselves. Respondents also frequently mentioned the lack of state support in the field of digitalisation, while public institutions that are active in the field of education and awareness of digitalisation are not sufficiently promoted. A large part of the reservations was also related to the protectionism of the European Union and Slovakia, which do not sufficiently protect the domestic market against cheap foreign goods, especially from China.
- **Industry specifics** were identified as the second category of key barriers, which include, for example, that employees in some traditional sectors prefer to work in stereotypes, the importance of digitalisation is low in certain sectors, especially in those where personal contact is important, a small relatively closed local market makes entrepreneurs have low motivation to compare themselves with foreign countries. Respondents would welcome more information on digitalisation that would be relevant to specific industries and support for digitalisation of certain industries by the state, as the state does not support sectors with lower added value creation. The rapid obsolescence of technology is another barrier to digitalisation, as is the fact that in some sectors digitalisation has a negative impact on the price competitiveness of firms.

Options to overcome key barriers to digitalisation

Building on the previous theme, respondents identified different options to overcome key barriers to digitalisation.

- **Support from the state**, which can include dedicated digitalisation programmes focusing on the possibility of consultation, an OER platform on resources and procedures applicable in the digitalisation process, and, last but not least, the



effective digitalisation of public administration as a model of best practice for entrepreneurs.

- **Legislation in the area of a family business** should be changed to allow for intergenerational exchange in family businesses.
- **Outreach and awareness raising**, which would include regular reporting on new trends in digitalisation. Promotion and awareness-raising should be done mainly through the media. Chambers of commerce, associations, and interest groups could also play a role in this area by informing and educating their members.
- **Upbringing and education** are other options to overcome key barriers. In particular, more digitalised education, the expansion of curricula with digitalisation knowledge, practical on-the-job training and tailor-made workshops and training would help in this respect.
- In the area of **financing**, according to our respondents, there is a lack of special products for financing the digitalisation of enterprises and special schemes to support the financing of digitalisation with state participation.

Source:

Pilková, A., Holienka, M., Mikuš, J., Drivers of SMEs digital transformation in the context of intergenerational cooperation in Slovakia, IGI-Global, 2021 – in print.



3.4 Overview of policies to support intergenerational entrepreneurship and digital transformation in Europe and Slovakia

Our research shows that digitalisation is a top priority for the European Union. SMEs face a dynamic and changing environment in the context of the development of modern technologies. The fourth, resp. the fifth industrial revolution is moving towards a digital transformation of the complex enterprise value chain, after which firms are becoming digital. Digital enterprises will thus be the key to competitiveness and sustainability. In the context of the fourth (4.0), resp. fifth (5.0) industrial revolution, there is or will be a significant change in business opportunities for SMEs. For companies, it brings opportunities to increase productivity as well as to create new products and services. These opportunities in the creation of new products and services are expected to be extensive (Staněk, P., Ivanová, P., 2017).

But what will be **the decisive factor is the question of readiness and mastery of the digital transformation or the adoption of new technologies**. This is particularly so in relation to the current trends that are gradually emerging and the challenges that small and medium-sized enterprises are continuously facing. In this context, activities at an enterprise level as well as transnational and national support are important. The digital transformation requires SMEs to rethink and innovate their business models. At its core, it is changing the way SMEs create, deliver, and capture value. According to our findings, digitalisation is also having a significant impact on economic policy or its direction, including the legislative and strategic framework. In this context, linking public intervention with European and national policies is also important. The scale of change brought about by digitalisation brings opportunities for growth, employment, and innovation (European Economic and Social Committee, 2015).

On the other hand, there are also barriers in this area. EU countries face similar challenges associated with digital transformation, mainly due to the limits imposed by national characteristics. The direction of EU digital policy in the coming period will be determined by the so-called **Digital Package**, as well as by the so-called **Digital Compass 2030**, which is a response to the COVID-19 pandemic. The pandemic has highlighted the importance of digitalisation in society and the economy, not only at the national but also at the supranational level. It has also accelerated the pace of digital transformation. Key in this regard are digital skills, digital infrastructure, digital transformation of businesses, and transformation in the digitalisation of public services. In response to the pandemic, the EU is responding to the need for digitalisation (including the SR) through the EU Recovery and Resilience Plan.

The Digital Transformation Strategy of Slovakia 2030 is the framework supra-ministerial strategy in Slovakia, which defines the policy in the field of digitalization and also its specific priorities. The strategy emphasises innovative technologies that lead to strengthening competitiveness. These include artificial intelligence, the Internet of Things, 5G technology, big data, and blockchain. The strategy is followed by the **Action Plan for the Digital Transformation of Slovakia for 2019-2022**, which was approved by the Slovak Government by Resolution No. 337/2019 of 3 July 2019. The Action Plan focuses on defining



measures to be implemented in the short term. Among the important ones are, in addition to a number of important initial policies, the Programme Declaration of the Slovak Government for the period 2020 - 2024. In it, the Slovak Government commits to supporting the transformation process of the Slovak economy in the context of digitalization, automation, artificial intelligence, and the emergence of new business models. In addition, it also focuses on strengthening support for intergenerational entrepreneurship, which can be assessed as weak in the context of the assessment of the current state in terms of existing support policies.

Slovakia is currently lagging behind the best countries in terms of human capital readiness and digital skills (Hošoff, B. et al. 2018). It is the lack of digital skills in the business sector that can be a barrier to the transition to digital technologies. The persistently low share of enterprises with fast broadband internet in Slovakia may also be an important limiting factor in the broader digitalisation of the business sector. From this perspective, measures in Slovakia in the coming years will focus on supporting the development of digital skills, competencies, building the data economy, increasing the innovation capacity of public administration, and building research capacity in the field of artificial intelligence (Action Plan for the Digital Transformation of Slovakia 2019-2022).

From the point of view of the further direction of the economic policy of the Slovak Republic, the National Reform Programme is also important, which pays attention to structural changes in the economy, and which also responds to the Programme Declaration of the Government of the Slovak Republic for the next period. In the context of digitalisation, this concerns in particular the preparation of Slovakia's strategy for the transition to a "Smart Country".

Our results also suggest that digital transformation in the context of intergenerational entrepreneurship is one of the main factors that influence, or will influence, the economic policies implemented. Based on our research, we also find that the age structure and the representation of each generation in the enterprise to some extent overlap with the enterprise's ability to digitalise. Among the policies that should directly strengthen intergenerational exchange or intergenerational entrepreneurship, **the draft Action Plan for the Development of Family Businesses in Slovakia** can be included. Furthermore, research has shown that there has been a recent increase in support for digitalisation and digital transformation. Furthermore, it can be stated that Slovakia is significantly lagging behind in the area of support for intergenerational entrepreneurship. Therefore, managing the transition of the economy will not be possible without removing existing barriers in the areas we have identified. Nor can it be done without creating and strongly supporting an enabling environment. It turns out that fostering intergenerational entrepreneurship while considering digital transformation can or does bring much more significant challenges, and therefore the country's preparedness in this respect will be key.

3.5 Key stakeholders in intergenerational entrepreneurship and digital transformation in business

One of the sub-objectives of this phase of the project was to examine existing approaches related to the definition of different stakeholders of digitalization, digital transformation, and intergenerational entrepreneurship, to adapt the classification of stakeholders to the Slovak context and to identify examples of stakeholders in our national conditions. Due to the low development of intergenerational entrepreneurship and collaboration in Slovakia, significantly fewer stakeholders have been identified in this area than in the case of digitalisation and digital transformation of business, respectively. A draft **conceptual framework of stakeholders in the area of digitalisation and/or digital transformation** of business organisations is presented in Figure 2, with the individual categories described below.

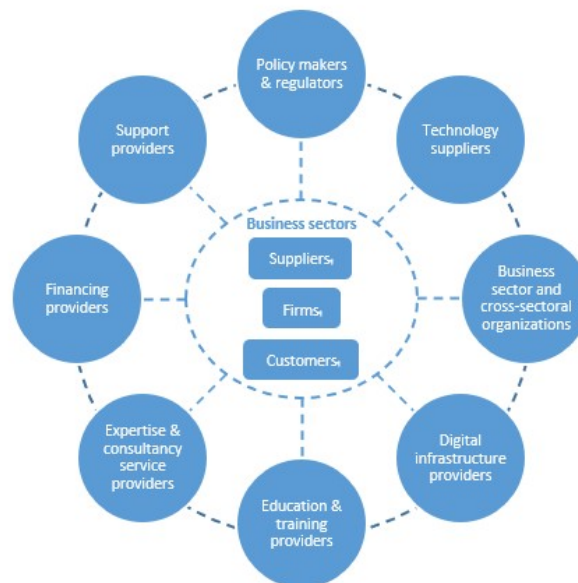


Figure 2: Stakeholders in digitalisation and/or digital transformation; source: Holienka et al. (2021)

Policymakers and regulators. In the context of the digital revolution, national and regional governments are also increasingly defining digitalisation as a strategic priority and creating large-scale initiatives to support the digital transformation of industry, science, and society. In Slovakia, this task falls to the Ministry of Investment, Regional Development, and Informatisation of the Slovak Republic. Another policy maker and regulator in the field of digitalisation, in particular the digitalisation of industry, is the Ministry of Economy of the Slovak Republic.

Technology suppliers. In a small economy such as Slovakia, it is necessary to accept the fact that new technologies are mostly brought by large global technology players (e.g. IBM, SAP, Oracle, Accenture, Atos, and others). Nevertheless, several domestic major



players in the field of digitalization have also emerged in Slovak conditions, such as ESET in the field of cybersecurity, Soitron with its focus on automation, robotization, cybersecurity and data management solutions, or Aliter Technologies with its ICT products and solutions in the field of security and defense.

Digital infrastructure providers. Slovakia is one of the countries that put modern technologies into practice often earlier than other EU countries, as demonstrated by the latest innovative services of Slovak telecom operators. In Slovakia, four mobile operators (Slovak Telekom, Orange, O2, and Swan) have long held a significant position, all with 4G/LTE mobile internet coverage of the population above 94%. The presence of web hosting providers is also an advantage for entrepreneurs in Slovakia.

In the area of **education and training provision**, the key stakeholder is the Ministry of Education, Science, Research and Sport of the Slovak Republic, which, among other things, is responsible for the preparation and implementation of the strategic document - the Programme for the Informatisation of Education by 2030. A successful example of activism by a wide range of public, private, academic, and civil society organisations and institutions is the Digital Coalition and the IT Association of Slovakia. Together with the Ministry of Labour, Social Affairs and Family of the Slovak Republic, other activities are also supported, such as: dual education or the national project "Sectoral innovations towards an efficient labour market in Slovakia". As many as twelve universities offer studies in computer science and IT programmes. Quality further education (lifelong learning) in the field of IT is also provided by several companies, such as GOPAS, IT LEARNING SLOVAKIA, IT Academy, Mini Tech MBA, or „AJ ty v IT“, which helps women build IT skills and a career in the IT sector.

Financing providers. Key sources for the development of digitalisation in Slovakia in the upcoming years will be EU structural funds and resources from the approved Slovak post-crisis recovery plan COVID-19. Another relevant source of funding for the digital transformation of enterprises in Slovakia are bank loans from commercial banks, which are among the most frequently used and easily accessible sources of SME financing. The mapping confirmed the abundance of stakeholders from the field of **professional and consulting service providers**, be it global leaders (Accenture, Deloitte, KPMG, Atos, PwC, EY, IBM Services) or domestic companies (Centire, EMARK, Stengl).

Support providers. Although there are many providers of non-financial support for entrepreneurs in Slovakia (e.g. Slovak Business Agency, Slovak Innovation and Energy Agency), the area of digitalisation is still under-represented. The OECD report on SME and Entrepreneurship Policy in the Slovak Republic (OECD, 2021) comes to similar conclusions. In addition to the two agencies mentioned above, there are many other support organisations and associations that provide various support services (e.g. in the form of training or consultancy) also in the field of digitalisation of enterprises (Slovak Alliance for Innovation Economy, Impact Hub, Slovak Chamber of Commerce and Industry, etc.).

The business sector and cross-sectoral organisations. There are various non-profit organisations, unions, and associations representing entrepreneurs and the business sector in Slovakia. The most important business associations include, for example, the Association



of Entrepreneurs of Slovakia, the Slovak Trade Union, the Association of Young Entrepreneurs of Slovakia, the Association of Craft Industry of Slovakia, the National Union of Employers (NÚZ), Club 500, the Business Alliance of Slovakia (PAS), Industry4UM and others.

The lower social, professional, and political interest in the area of intergenerational entrepreneurship and cooperation is also confirmed by the results of our mapping, which indicate a significantly lower number of stakeholders in all elementary components of the entrepreneurial ecosystem.

Polymakers and regulators. In terms of the development and direction of government policies, a key stakeholder is the Ministry of Economy of the Slovak Republic (MH SR), which has prepared a draft Action Plan for the development of family businesses in Slovakia. In terms of support and inclusiveness of young people and the elderly, an important stakeholder is the Ministry of Labour, Social Affairs and Family of the Slovak Republic and, similarly to digitalisation, the Ministry of Investments, Regional Development, and Informatisation of the Slovak Republic.

Financing providers. The growth opportunities of family businesses are largely determined by the sources of financing, within which the most significant share is held by loans, leasing, and other products provided by the majority of commercial banks in Slovakia. Other financial institutions contributing to the support of SMEs include, for example, the Slovak Guarantee and Development Bank, EXIMBANKA, Slovak Investment Holding, or the SBA, which handles the Microloan Programme and Venture Capital Funds. Financial support for SMEs is also provided by other ministries or their subordinate institutions. Crowdfunding is underused in Slovakia. The best-known crowdfunding financial platforms include Crowberry, a.s., StartLab, HitHit, s.r.o., Startovač or Conda.

Professional and advisory service providers are available to address the specific challenges of intergenerational entrepreneurship. Leading advisory and consulting firms PwC, EY, Deloitte and KPMG, and others, operate in Slovakia. Among the Slovak ones are e.g. Centire, EMARK. The SBA plays an important role in non-financial support for SMEs (in the form of training and consultancy programmes). Similar support services are also provided by SARIO or SIEA.

Other associations and cross-sectoral organisations. The most important organisations that also deal with the issue of intergenerational entrepreneurship and cooperation between different generations include, for example, the Slovak Association of Small and Medium-sized Enterprises and Tradesmen, Partners of Family Businesses, the Institute of Family Business, the Association of Slovak Entrepreneurs, the Association of Young Entrepreneurs of Slovakia, or the Slovak Trade Association. Similarly, to digitalisation, **key stakeholders** in the field of intergenerational entrepreneurship **education and training** include the Ministry of Education, Science, Research and Sport of the Slovak Republic and the Ministry of Labour, Social Affairs and Family of the Slovak Republic participating in the national project "Sectoral innovations towards an efficient labour market in the Slovak Republic". Third Age Universities play an important role - currently at 16 universities.



Source:

Holienka, M., Belušák, L., Gavalcová, K., Chmelova, M. (2021). Stakeholders of digitalization and digital transformation in Slovakia. Conference proceedings from International Scientific Conference „The Poprad Economic and Management Forum 2021: Current trends and challenges in organizations management“. October 2021, Poprad, Slovak Republic pp.402 – 413

3.6 Examples of good practice in supporting intergenerational entrepreneurship in the context of digital transformation

Slovakia is currently in a transitional period when the issue of digitalization in enterprises is beginning to receive more and more attention from all stakeholders. Only minimal attention is paid to the topic of intergenerational cooperation in the processes of digital transformation of businesses. In order to improve the entrepreneurial environment in Slovakia and promote the competitiveness of small and medium-sized enterprises, it is, therefore, necessary to make certain changes in areas such as digitalisation and intergenerational cooperation. **Examples from abroad show us how changes can be made at the level of individual policies, initiatives, and businesses themselves.** According to the OECD (2021), an important element is to improve cooperation with the third sector and NGOs. It is often NGOs that play an important role in providing support, and governments should complement rather than replace private initiatives. For Slovakia, the Federation of Finnish Enterprises - FFE (SME United, 2019) or the establishment of the Digital Promotion Agency in Austria (Boog, R. et al., 2019) may be good examples.

The Federation of Finnish Enterprises is the largest and most influential business federation in Finland, with more than 115,000 members covering all sectors and comprising 20 regional organisations and nearly 40 local associations. The FFE aims to raise awareness of the opportunities that digital tools and technologies can bring. It organises the Digital Entrepreneur School. This includes a series of events across the country, such as case studies and peer learning opportunities for small business owners who are in the early stages of their digital transformation. In addition, it organises webinars on how to use digital tools and applications, publishes an online instructional manual called the Digital Entrepreneur's Guide (providing practical information on different aspects of digitalising a business), and conducts surveys and studies on digital transformation issues. **Relevance for Slovakia:** MIRRI SR or MH SR could try to establish partnerships with similar organisations in the country to strengthen their role in supporting SMEs in digitalisation and intergenerational entrepreneurship. Stakeholder mapping shows that different business associations are well placed to raise awareness of the issues, provide opportunities for mutual learning, and disseminate knowledge and best practices in forms that SMEs and entrepreneurs can understand relatively easily.

According to OECD (2021), one of the factors of slower digital transformation of SMEs in Slovakia is the absence of a comprehensive network of digital innovation hubs (DIH), which would be compatible with the adopted smart specialisation strategy. A good example for Slovakia can be the approach applied in Germany - **Mittelstand 4.0 Competence Centres.**



Germany has established 23 Mittelstand 4.0 competence centres across the country and another 6 focused on specific sectors. These serve as a regional focal point for entrepreneurs dealing with digitalisation. SMEs interested in digitalisation are offered a variety of services such as: workshops, consultancy, assistance in developing a digitalisation concept, employee training, and support for business networking in their region. The established centres help businesses to first identify where they are in their digitalisation journey, then to develop an individual digitalisation plan together with an entrepreneur, and to help select and implement appropriate solutions. The services are provided free of charge and the centres are fully funded by the federal government (BMW, 2019). **Relevance for Slovakia:** as in Germany, the centres should build on existing regional strengths and partnerships with (technical) universities and must be integrated into smart specialisation and cluster policy strategies. This example also provides further practical experience of the need to monitor the activities of these centres, to regularly compare their performance against clearly measurable objectives set in advance, and to measure the satisfaction of the beneficiaries of each service.

Supporting the digital transformation of businesses is also helped by **online diagnostic tools**, which are cheap, accessible, and allow policy makers to reach a wider group of entrepreneurs. Examples from abroad suggest that the existence of such tools can be an important starting point for businesses in need of support and advice. A good example of an online self-diagnostic application specifically targeted at the digitalisation of SMEs is the **French public investment bank Bpifrance**. It is a free online questionnaire for SMEs that aims to measure the 'digital maturity' of a business, identify strengths and weaknesses and inform the user about available support programmes that match the specific needs and profile of the SME. This online application is considered by Bpifrance to be the primary tool that offers guidance to SMEs that want to take the first steps towards digitalising their business but do not know where to start (bpifrance.com).

A regional initiative is the Digitalisation House or the Lower Austria Ecosystem for Digital Transformation, which helps businesses in the region with their digital transformation. Assistance is provided in the form of easy access to information, training, infrastructure, and connecting with potential partners. A network of contact persons, in cooperation with business support organisations such as clusters, reaches out to SMEs "in their language" and helps them with technology transfer in joint projects. The initiative includes an interactive platform (www.virtuelleshaus.at) with local examples of good practice, which also offers matchmaking and crowdfunding campaigns for financing open innovation.

The Best Aged project (2014) attempted to create an intergenerational innovation environment in which those aged 55+ collaborated with different age groups in business and skills development to share their expertise and experience. Key findings of the project include:

- 1) managers are generally aware of the skills and competencies of employees aged 55+, but admit that they are not yet consciously using them in their organisations;
- 2) during the project, there was a change in managers' attitudes towards age in the hiring and termination of employment contracts;



- 3) managers see more value in the skills of older employees and the transfer of competencies;
- 4) there is still a fairly wide range of opinions among managers about older employees.

An example of combining digitalization and intergenerational cooperation at the level of individual companies is Bosch, which realizes that the retirement of experienced employees would also mean the loss of valuable knowledge. The Bosch Diversity Management project focused on age-mixed teams. Former co-workers can register as senior experts and share the knowledge they have gained during their careers with their younger colleagues. Bosch Management Support GmbH (BMS) then hires them for consulting or project contracts at Bosch. The network of senior experts has been growing steadily since 1999 and now includes more than 1,500 people from nine countries. The seniors work in a wide range of areas, from development, production, accounting, purchasing, to marketing and sales. Their tasks include training or presentations, quality assurance and management, construction support, analysis, and process improvement, as well as mentoring and interim management. Experts' salaries reflect their previous salaries. This helps to ensure that teams do not hire them simply to cut costs (Bosch, 2021). The program ensures knowledge transfer, productive dialogue between generations, and allows senior experts to keep up with the latest developments.

Another example is the **BaySEN platform - The Bayer Senior Experts Network**, which aims to tap into the knowledge and experience of former Bayer employees aged 60+. The platform is aimed at collaboration and mutual learning between different generations. Interested employees and retirees can create a profile in the BaySEN database. If their qualifications and experience match a specific requirement and the customer agrees, they are contacted by the BaySEN team, and the employee/retiree is subsequently assigned to the relevant task. Once the customer and the candidate decide to proceed with the assignment, the senior consultant receives a temporary employment contract from Bayer, the scope and duration of which depends on the assignment (Bayer, 2019). Again, this leads to an intergenerational collaboration that naturally strengthens the professional education of the younger generations and the direct contact of the older generations with technology and the current trend of digital transformation.



Conclusion

The presented research report contains a summary of the results of the 1st phase of the project APVV 19-0581 Intergenerational entrepreneurship in Slovakia in the era of digitalization: a pragmatic approach. These results:

- a) either have been published or are in the process of processing further outputs of this phase of the project.
- b) they are an important source of information both for identifying directions for further academic research in order to deepen knowledge in areas identified as key for the next phases of project processing.
- c) they are an idea for discussion with policy makers, representatives of the third sector, and business actors in order to identify solutions aimed at promoting intergenerational entrepreneurship in SMEs in Slovakia in the digital age.



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