

# Lukáš Skřivan, Jiří Vacek

University of West Bohemia, Faculty of Economics, Department of Business  
Administration and Management  
Univerzitní 22, 306 14 Pilsen, Czech Republic  
email: skřivanl@kpm.zcu.cz, vacekj@kpm.zcu.cz

## Innovation Opportunities and Challenges in SMEs in Selected European Countries

### Abstract

The global economy is due to the pandemic COVID-19 at the stage where it is necessary to determine the future direction. Vaccination is already underway around the world and international trade is slowly returning to normal. For organizations, this situation is very difficult to survive, recover, and generate resources for investments in innovations for the necessary growth. Organizations must cope with the current situation and revise its business strategy to increase competitiveness. The biggest challenges for companies are sufficient resources (financial and non-financial) and retaining talent. The aim of this paper is to find out what opportunities and challenges SMEs face in selected European countries. The research is based on a literature review of publications that include methods and recommendations for innovation and growth, given the current situation with regard to recovery and utilization of innovative methods and practices. The methods and approaches of the publications authors are different and therefore it was necessary to set search criteria to identify articles and reports for closer analysis. Trends in innovation and sustainability for the following years have changed, and it is therefore necessary to define new targets within the industry, for example, 4.0 and circular economy. In the discussion and conclusion sections we draw attention to non-academic research and possible areas of interest useful not only for recovery from the COVID, but also for their growth and increasing competitiveness.

### Key Words

*SME, innovation, industry 4.0, development, COVID recovery*

**JEL Classification: D24, M21, O31, O52**

## Introduction

In recent months, the businesses and the whole society have undergone a difficult period. The fight against COVID-19 pandemic has not yet been won, but vaccines already exist to protect us against the disease (Sneider and Singhal, 2021). With the great support from governments their development and testing were extremely fast and it is difficult to imagine the situation if they would be developed several years later, as was originally supposed. So we can now see the light at the end of the tunnel and can often hear and read about returning to normal. However, what does this “normal” means?

In this contribution we would like to study innovation challenges in SMEs in selected EU countries on the basis of the literature review. We focused on SMEs as they have been hit most seriously by lockdowns, especially those in the service sector, and those companies

with less than 250 employees are the driving force of the European economy, as this is where 99 % of employees work (Eurostat, 2018).

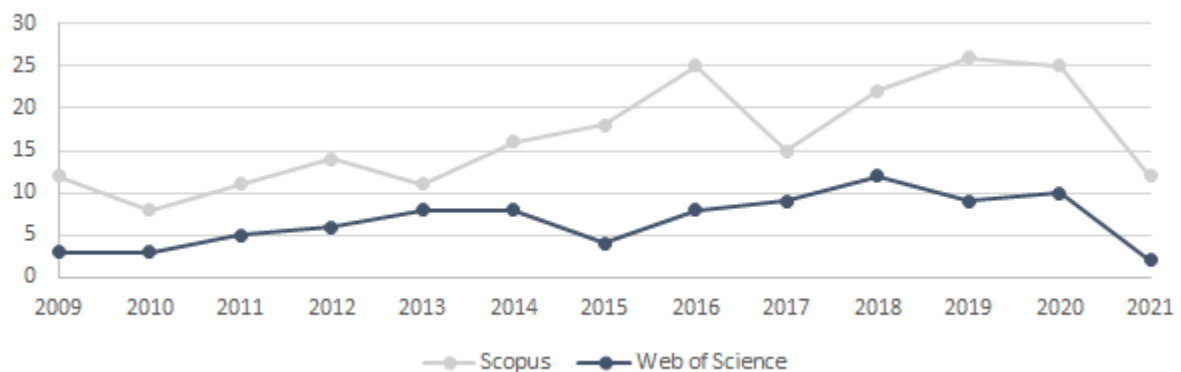
## 1. Methods of the Research

The literature review identified the resources where one or more keywords is focused on innovation or development in SMEs indexed in citation databases WoS and Scopus. Selected expert articles, focused on the challenges and opportunities for SMEs that can have a strong impact on the business of the future, were analyzed in detail.

## 2. Results of the Research

Using search phrase “Innovation SME in Europe”, since 2009 a total of 215 documents, mostly funded by the European Commission (10 of them from the Czech Republic) with 202 authors have been identified in Scopus (2021) and 87 with 246 authors in the Web of Science (2021). The most productive year of the authors in Scopus is 2019 and in Web of Science 2018 (see Fig. 1).

**Fig. 1: Annual Publication of Intersecting Keywords Innovation in SME in Europe**



*Source: Scopus (2021), Web of Science (2021)*

The authors performed a systematic literature research of articles using the following criteria:

- at least 1 author from a European country;
- publication in 2020 or 2021;
- publication type is article or report;
- it must contain at least 2 of the following keywords: SME, innovation, industry 4.0, development;
- the key findings address the current opportunities and challenges facing businesses.

The articles selected using those criteria are listed in Tab. 1.

**Tab. 1: Results of Systematic Literature Review**

<b>Author/ authors</b>	<b>Topic</b>	<b>Keywords</b>	<b>Key findings</b>	<b>Type of paper</b>	<b>Country</b>
Gething et al. (2021)	Road to recovery: The state of corporate restructuring in Europe	Recovery of European economy; innovation; development	Businesses need to prepare for a change in business incentives. As part of the restructuring, they should take into account current trends.	Article	EU
Sneader and Singhal (2021)	The next normal arrives: Trends that will define 2021—and beyond	Recovery of global economy; innovation; COVID-19; development;	2021 will be the year of transition of leisure, innovation, shopping behavior, supply chains etc.	Report	Canada, China, Korea, EU, USA,
Dimson et al. (2020)	COVID-19 and European small and medium-size enterprises: How they are weathering the storm	Economy, prosperity, growth risk, government support, COVID-19	SMES in EU concern about their survival due to COVID-19	Article	EU, the UK
OECD (2020)	Innovation for Development Impact: Lessons from the OECD Development Assistance Committee	Innovation, partnership, COVID-19, SME	Using mobile money and microfinance to drive financial inclusion and small business development.	Article	Australia, France, Sweden and the UK
Masood and Sonntag (2020)	Industry 4.0: Adoption Challenges And Benefits For SMEs	Industry 4.0, SME, Internet of Things	Most companies want to implement the principles of Industry 4.0, but financial and knowledge constraints are considered key challenges.	Article	the UK
García-Quevedo et al.(2020)	Barriers to the circular economy in European small and medium-sized firms	SME, sustainable development, competitiveness, green innovation	The implementation of the circular economy (CE) is relatively rare in SMEs due to the high potential benefits.	Article	EU

*Source: authors' research (2021)*

Businesses were hit economically in 2020 and 2021, slowing down development. Although COVID-19 is still ongoing, companies should prepare for the post-pandemic situation and find out how to recover and restart their development. Globally, corporate debt reached USD 5.4 trillion in 2020 (an annual increase of 20% year on year), while in EU countries the debt rose from € 289 billion (2019) to € 400 billion in the first half of 2020 (an increase of 38 %) (Horobin and Weber, 2020; Plat, 2021).

To stay in the market, companies seek help from the governments. By comparison, the fiscal response to the COVID-19 pandemic was three times greater than that of the 2008-2009 financial crisis. Western European countries have distributed nearly \$ 4 trillion. Currently, companies are dealing with the situation of how to survive and recover after the end of the pandemic, when the financial support ends. Gething et. al. (2021) address the organizations' key steps needed to save their business:

- a) To avoid denial - The organization must cope with the current situation and engage in negotiations with stakeholders. It is necessary to find the right solutions to avoid insolvency. One of the first partial steps is to create a sustainable business plan based on realistic measures and a suitable capital structure.
- b) To conserve and create cash - With the global recurrence of lockdowns, it caused businesses to close and uncertainty increased. For these reasons, the recovery of the companies' economic growth is expected to take a longer time.
- c) To embrace transformational change - Organizations should embrace more holistic and radical transformational changes than ever before. The key to success will be to increase liquidity, which leads to self-financing. In this case, the partial steps are reimagining the purpose and value agenda; innovating the products and services and radically changing how to operate to reduce structural complexity and increase speed.
- d) Retain talent - Businesses must keep the best people, what is very challenging - the demand is much greater than the offer. Without highly competent staff, it is difficult to restart performance and growth. For this reason, personnel procedures are being transformed to support organizational resilience.

Sneader and Singhal (2021) analyze how COVID-19 affects the global economy. In comparison with all economic sectors, services were clearly hit hardest. When retained demand will be released, it can be supposed so-called "retaliatory shopping" because consumers will be eager to spend and compensate for a long period of inaccessible goods and service and spend at least part of the money savings accumulated due to restrictions. The authors also examine the issue of travel and its return to the pre-pandemic period, with possible exception of the decrease in business trips . This prediction is based on the analogy with China, where business activities recovered after COVID suppression, e.g. domestic assembly is returning to normal, hotel occupancy returned to 90% in the third quarter of 2020 compared to August 2019. During the pandemic, digitisation has grown significantly, supporting the theory that the crisis is fueling a wave of innovation. On the rise are online customer services, teleworking, supply chain restructuring. Significant progress was achieved in the applications of artificial intelligence (AI) and machine learning. In the long-term can be expected the sustainable growth in productivity, ecology and medical innovation.

Dimson et. al (2020) researched 2,200 small and medium-sized enterprises in five European countries - France, Germany, Italy, Spain and the United Kingdom. It has been found that as a result of pandemics, around 70 percent of companies suffered decline in sales; a fifth fear repayment of loans and the need to lay off employees. At the same time, more than half of companies fear that they will have to close down within 12 months. However, there are differences among countries. A total of 39% of companies in Germany stated that the state of the economy is strong / very strong, while only 10% of Italian companies think so. If the situation worsened, 77% of Italian companies would have to

close their businesses. Governments in European countries have introduced measures to increase liquidity for small and medium-sized enterprises and avert bankruptcy.

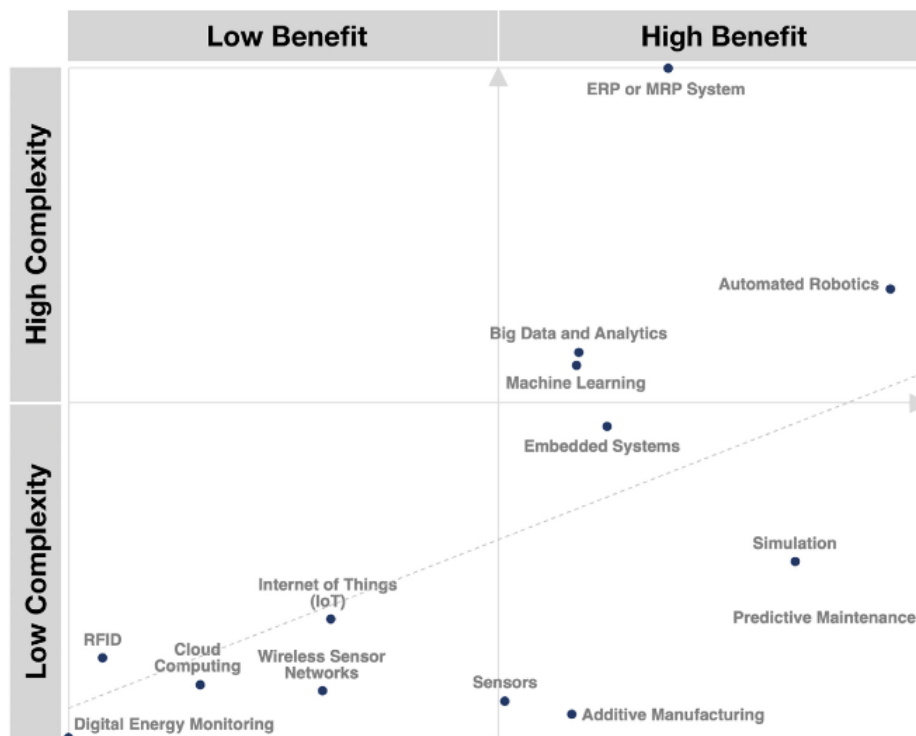
Over the past decade, innovation has become a tool for achieving development goals that have an impact on society in new and creative ways. During 2019, research was designed and conducted by the OECD Development Assistance Committee (DAC) to learn about work on innovation in selected countries. Many innovations exceeded expectations and became a source of real transformation opportunities which are (Ramalingam and Prabhu, 2020):

- a) improve the accessibility of vaccines and medicines in the poorest countries and reduce costs,
- b) financial support for small and medium-sized enterprises using mobile money and microfinance,
- c) using cash transfers to enhance food security,
- d) provide insurance and measures that will be resistant to disasters and climate change.

During seven months in 2020, the volume of globally mobilized innovation resources was \$ 9 billion, compared to the total funding of Ebola research in 2014-2019 that was \$1.9 billion (OECD, 2020).

Masood and Sonntag (2020) researched the implementation of Industry 4.0 technologies, methods and tools in SMEs and its benefits and challenges. In the United Kingdom (N = 271), it was found that the implementation of ERP or MRP systems brought the greatest benefit, while Digital Energy Monitoring the lowest one. Below the line (corresponding to correlation factor  $R^2 = 0.32$  - no statistical significance found) are technologies that may have greater advantages than measured (see Fig. 2).

**Fig. 2: Average Ratings for Technology Benefits and Challenges in the UK**



*Source: Masood & Sonntag (2020)*

The circular economy (CE) is one of the innovative and sustainable opportunities. García-Quevedo, Jové-Llopis and Martínez-Ros (2020) address this issue in European SMEs and point out that despite the benefits of CE, its implementation is rare. The biggest challenges in this regard are:

- a) resources (financial and human),
- b) skills (expertise),
- c) regulatory framework (good practices and compliance costs).

The research took place in 28 countries of the European Union, where a rigorous econometric method was used to achieve empirical results. In order for CE to be well implemented, a set of administrative and legal procedures must be established in the company in accordance with environmental legislation. Businesses try to minimize material during production, but they also minimize the environmental impact in the area of low consumption and renewable energy. The research and knowledge circulation of new business models is a big challenge to find qualified human resources. It has been found that SMEs that are already innovating in the field of CE better identify regulatory barriers than those that do not.

### 3. Discussion

Let's discuss what challenges and opportunities face the Czech Republic taking into account two simultaneous trends - post-pandemic recovery and Industry 4.0 concept,

leading from production of goods and service through restructuring job market, healthcare and social services, educational systems to the umbrella of all those activities - Society 4.0. Naturally it is possible to take inspiration from the articles identified e.g. in this contribution in the citation databases, however their number is relatively low in comparison with reports and studies published not by academic sector, but by large global consultancies as McKinsey, BCG, Deloitte, PwC, which have the advantage in developed networks of contact with businesses and are more focused to suggest specific approached, methods and tools in the language understandable to their clients and using the direct feedback. It can therefore be recommended to put more emphasis on those „gray“ resources and to the topics of their interest. It can be expected that for the companies it will become important to focus on resilience, risk management, competencies and talents including development of soft skills, design thinking, innovation and knowledge management. And we shouldn't forget about the interdisciplinary and systems approaches, new technologies of Industry 4.0 and newly emerging trends such as circular economy, gig economy, increased potential of cultural and leisure time industries, and the others.

## **Conclusion**

The preparation of this contribution broadened our insight into the role of innovations in SMEs and specifically in the context of the recovery from the COVID pandemic. However this introductory treatise opens many opportunities for future research in this field. Introductory analysis of the sector of knowledge intensive services was published in University of West Bohemia and VŠTE České Budějovice study (Vacek et al., 2019) and other related outcomes of the joint project available from project website <https://azis.zcu.cz/>. As the feedback on our work the companies often mention the barrier between academia and businesses - our outputs are often considered too academic for practitioners, both in content and the language.

## **Acknowledgment**

This contribution was supported by the internal grant of the Faculty of Economics of the University of West Bohemia SGS-2021-017 and by the ETA programme of the Technology Agency of the Czech Republic grant TL02000136: Knowledge-intensive services sector adaptation to the conditions of Society 4.0.

## **References**

DIMSON, J., MLADENOV, Z., SHARMA, R., AND TADJEDDINE, K. (2020). *COVID-19 and European small and medium-size enterprises: How they are weathering the storm*. Available at: <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/covid-19-and-european-small-and-medium-size-enterprises-how-they-are-weathering-the-storm>.

- EUROSTAT (2018). *Statistics on small and medium-sized enterprises*. Available at: [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Statistics\\_on\\_small\\_and\\_medium-sized\\_enterprises#General\\_overview](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Statistics_on_small_and_medium-sized_enterprises#General_overview).
- MASOOD, T., AND SONNTAG, P. (2020). Industry 4.0: adoption challenges and benefits for SMEs. *Computers in Industry*, 121. doi: 10.1016/j.compind.2020.103261.
- SNEADER, K., AND SINGHAL, S. (2021). *The next normal arrives: Trends that will define 2021–and beyond*. Available at: <https://www.mckinsey.com/featured-insights/leadership/the-next-normal-arrives-trends-that-will-define-2021-and-beyond>.
- RAMALINGAM, B., AND PRABHU, J. (2020). *Innovation, development and COVID-19: Challenges, opportunities and ways forward*. OECD Policy Responses to Coronavirus (COVID-19), OECD Publishing, Paris. Available at: <https://www.oecd.org/coronavirus/policy-responses/innovation-development-and-covid-19-challenges-opportunities-and-ways-forward-0c976158/>.
- OECD (2020), *Innovation for Development Impact: Lessons from the OECD Development Assistance Committee*, OECD Publishing, Available at: <https://www.oecd.org/dac/innovation-for-development-impact-a9be77b3-en.htm>.
- SCOPUS (2021). *Analyze search results*. Available at: <https://www.scopus.com/term/analyzer.uri?sid=97c9b37a0015009ed99353ac7def25b6&origin=resultslist&src=s&s=TITLE-ABS-KEY%28Innovation+SME+in+Europe%29&sort=cp-f&sdt=b&sot=b&sl=39&count=300&analyzeResults=Analyze+results&txGid=3bcd485be77bd6acab74ff0629d3b839>.
- GARCÍA-QUEVEDO, J., JOVÉ-LLOPIS, E., AND MARTÍNEZ-ROS, E. (2020). Barriers to the circular economy in European small and medium-sized firms. *Business Strategy and the Environment*, 29(6), 2450-2464. doi: 10.1002/bse.2513.
- VACEK J, DVOŘÁKOVÁ L., ČERNÁ M., HORÁK J., CAHA Z., AND MACHOVÁ, V. (2019). Identification, analysis and evaluation of principles, approaches, methods and tools for adaptation of the service sector on the technological, economic, social and environmental conditions of Society 4.0. Plzeň: NAVA. Available at: <https://azis.zcu.cz/> (in Czech).
- Web Of Knowledge (2021). *Web of Science [v.5.34] - Web of Science Core Collection Result Analysis*. Available at: [https://wcs.webofknowledge.com/RA/analyze.do?product=WOS&SID=D1wJDLshnfbxNOjgrVp&field=TASCA\\_JCRCategories\\_JCRCategories\\_en&yearSort=false](https://wcs.webofknowledge.com/RA/analyze.do?product=WOS&SID=D1wJDLshnfbxNOjgrVp&field=TASCA_JCRCategories_JCRCategories_en&yearSort=false).