

The 7th International Conference on Economics and Social Sciences
**Exploring Global Perspectives:
The Future of Economics and Social Sciences**
June 13-14, 2024
Bucharest University of Economic Studies, Romania

**Digitalisation Risks and their Impact
on Business Sustainability**

Madalina MAZARE^{1*}, Cezar-Petre SIMION², Catalin-Alexandru VERDES³,
Alexandra-Andreea MIRONESCU⁴, Samar KAIS⁵

DOI: 10.24818/ICESS/2024/041

Abstract

This study endeavours to explore the multifaceted risks associated with digitalisation, with a particular focus on their impact on the sustainability of businesses and strategies for reducing the negative effects. In their long-term journey to obtain sustainability, organisations are urged to remain flexible and embrace the digital innovations to ensure their relevance in the market, by responding to their client's needs. Organisations should analyse all parts of digitalisation, not only the benefits, to ensure they know what type of risks they will face, in order to be able to control them. Such risks as cybersecurity threats, digital skills gap, data privacy issues among others can have a potential impact on business sustainability. For this study a mixed research method was used, starting with reviewing the relevant literature of digitalisation risks and impact of digitalisation risks on sustainability. Afterwards, secondary data from Eurostat database was analysed using quantitative methods. The selection of this topic was done due to the growing significance of the two terms digitalisation and sustainability in both the research literature and the operational reality of organisations worldwide. Therefore, we consider the paper relevant for other researchers, students, practitioners and organisations stakeholders. The paper demonstrates originality by offering novel perspectives into the intersection of sustainability and digitalisation, through analysing the risks and their impact.

Keywords: digitalisation risks, business sustainability, risk impact on sustainability, cybersecurity threats, psychosocial stressors.

JEL Classification: Q56, D81, M21, O32.

¹ Bucharest University of Economic Studies, Bucharest, Romania, madalinamazare@gmail.com.

* Corresponding author.

² Bucharest University of Economic Studies, Bucharest, Romania, cezar.simion@man.ase.ro.

³ Bucharest University of Economic Studies, Bucharest, Romania, verdes.catalin@outlook.com.

⁴ Bucharest University of Economic Studies, Bucharest, Romania, alexandramironescu84@yahoo.ro.

⁵ Bucharest University of Economic Studies, Bucharest, Romania, samarkais0@gmail.com.

1. Introduction

This study investigates the impact of digitalisation risk on business sustainability. The concepts of digitalisation and sustainability have popularity among researchers and practitioners, due to their current growing significance worldwide. The present paper wants to answer the following questions: What are the risks of digitalisation? What are the dimensions of risk? What is the impact of digitalisation risk on sustainability of enterprises? It includes both quantitative and qualitative methods, analysing data from Eurostat database and recent relevant literature review.

Within the framework of the digitalisation of the economy, there are several opportunities as well as challenges (Golaido et al., 2020). Organisations are increasingly embracing digitalisation in response to the COVID-19 pandemic, positioning themselves to become more agile and adaptable in an environment marked by unpredictability (Palumbo & Cavallone, 2022). It is certain that the digital economy is expanding quickly over the years. In previous studies, the three stages of digital transformation are categorised as digitisation, digitalisation, and digital transformation (Ates & Acur, 2022). The consequences of digitalisation and its implications on corporate operations and individuals should be evaluated in accordance with the changing circumstances. Cybersecurity should be carefully evaluated within risk management practices, because as Uddin et al. (2023) says it may lead to extensive damage or even complete disruption of operations. In this study, we will analyse different perspectives of the relationship between digitalisation and sustainability, focusing on the risks related with digital innovation. The sections of the paper include the literature review which provides a summary of the latest relevant literature from the field, research methodology presenting the objectives, datasets and methods used, continuing with the part of results and discussion and finalising with the conclusions.

2. Problem Statement

Digital technologies undergo continuous evolution, there are new tools developed yearly while others fade away quickly (Kallmuenzer et al., 2024), but the company's capacity for innovation predominantly hinges on the digital skills and competencies of its workforce. Instead of being limited to particular economic sectors (Stacho et al., 2023), digitalisation affects every aspect of the economy as a whole (Blanka et al., 2022). Risk management should be integrated into the organisational environment of all enterprises (Prioteasa & Ciocoiu, 2017). Digitalisation should be approached strategically focusing on the integration of the three pillars: technology, financial support and human resources (Yang et al., 2023) to fully benefit of the opportunities. Digital technologies have a profound impact on organisational structures (Palumbo et al., 2022), changing both the physical and intangible areas of work in order to improve the flexibility, agility, and adaptation of organisations. Digitalisation can be viewed as a two-sided phenomenon (Palumbo & Cavallone, 2022), with both positive and negative effects on business. Digitalisation represents a multifaceted and long-term process, requiring financial investments and the

establishment of support infrastructures (Yang et al., 2023), as a consequence many businesses confront substantial obstacles. The use of digital technology presents a number of obstacles, including the requirement for large upfront expenditures, concerns regarding data protection (Kallmuenzer et al., 2024), and the imperative to enhance the work competencies. Risk taking rises with digitalisation (Lee et al., 2024) and the impact of risk broadens as digitalisation is susceptible and vulnerable to failure (Uddin et al., 2023), resulting from human errors, internal process deficiencies or unforeseen causes. The governments and existing legislation should take on the regulatory role (Molchan et al., 2019) and implement adjusting protection measures in case of hazards to economic security. Digitalisation's desire of centralising knowledge to be available to all stakeholders, carries the danger of decontextualising the data (Ruggeri et al., 2023) from its initial informational environment as well as ignoring the distinctive features of local organisational circumstances.

Digital innovation (Ko et al., 2022) enables business volume, which determines increasing operational risks at the level of the business (Uddin et al., 2023), in addition to digitalisation risks such as security issues, system breakdown, among others. Digital technology adoption can take many different forms (Kallmuenzer et al., 2024), with each company implementing a unique digitalisation plan. Bajpai et al. (2023) identified numerous risk factors associated with digitalisation, including inadequate systems for data integration and stakeholders' communication, maintenance and operations procedures, electronic assets, digitalisation budget, cost-benefit analysis, digital infrastructure, standards for digitalisation, security system, organisational culture, and stakeholders experience, among others. Cybercrime has emerged as a prominent concern in today's society (Uddin et al., 2023), prompting ongoing development of the legislation related with data protection, privacy, cybercrime prevention, consumer protection and electronic transactions (Kuczevska et al., 2023). This legislative evolution aims to address current societal needs effectively. Prior research has highlighted the potential negative effects of digitalisation on employees, leading to increased effort and intensity in their work, raising the pressures associated with working and job unpredictability, hiding the worker's contribution to organisation excellence, and making workers easier disposable by machines (Palumbo et al., 2022). They are frequently the most vulnerable to risks (Kahouli et al., 2023) arising from rapid technological advancements. The impact of digitalisation on small and medium enterprises is significant (Zeiringer et al., 2022), exacerbating resource limitations and cybersecurity vulnerabilities. This highlights how important it is to raise awareness and put preventative measures in place in order to deal with the potential risks. Small and medium-sized enterprises (SMEs) are particularly vulnerable to the adverse repercussions stemming from workplace digitalisation because usually they depend on digital transformation to boost their competitiveness (Palumbo et al., 2022). The unpredictability of the organisational environment is exacerbated by the trial and error system of digital innovation (Kallmuenzer et al., 2024), which may result in losses. Palumbo and Cavallone (2022) affirm that even if the downsides of

digitalisation may be exchanged by enhanced work flexibility, on the long run it can cause concerns related with disengagement and health of employees.

Digitalisation and automation are widely used (Molchan et al., 2019) and generate a substantial shift in the global economic structure. Studies show that companies who are among the first to use new digital technologies devote a significant amount of their finances to incorporating these tools, unlike companies that embrace digitalisation reactively (Kallmuenzer et al., 2024). Palumbo et al. (2022) has identified additional risks associated with digitalisation with focus on human resources, including time constraints, role ambiguity, irregular hours of work and negative work-life balance, technology aversion due to perception of machines – human being interchangeable, social relationships compromise, degradation of quality of the work environment, among others. All of the mentioned factors contributing to psychosocial stress among employees, potentially have a long-term effect on business sustainability (Palumbo et al., 2022). The fact that digitalisation creates new opportunities for business development (Lee et al., 2024), should not be forgotten when assessing the risks. Lepistö et al. (2022) state that since digitalisation is in a constant state of innovation, control functions are going to expand in the future for safety purposes.

Digitalisation plays a crucial role for social and economic advancement (Cappelli et al., 2024), influencing the economical, administrative, and social dimensions of sustainability. The convergence of sustainability and digitalisation is viewed as a synergistic partnership (Irajifar et al., 2023), as digitalisation can stimulate sustainability (Broccardo et al., 2023). The terms sustainable digitalisation and sustainable digital transformation (Lok et al., 2023) denote the process of digitalising the economy in a manner that is enduring, environmentally friendly, and naturally integrated. Brenner and Hartl (2021) concluded that the extent of digitalisation can impact the ecological and economic sustainability dimensions, while social sustainability does not show a similar correlation. The intersection of digitalisation and sustainability (Girrbach, 2018) presents compelling opportunities to tackle global challenges and pave the way for realising the Sustainable Development Goals (Irajifar et al., 2023). Business opportunities (Broccardo et al., 2023), may arise from the interaction between sustainability and digital innovation (Santarius & Wagner, 2023). The sustainability of social, economic, and administrative systems is shaped by the continuous process of digitalisation (Cappelli et al., 2024), taking into consideration all risk dimensions.

3. Research Questions / Aims of the Research

Considering the state of knowledge regarding the specific risks of digitalisation and its impact on the sustainability of businesses through the conducted research, we set out to answer the following questions:

- What type of risks specific to digitisation are relevant from the perspective of business sustainability in European countries?

- What are the risks of digitalisation that have a positive and strong relationship with representative elements regarding business sustainability in European countries?
- To what extent is the relationship between digitisation risks and business sustainability circumscribed by previous results obtained in the specialised literature?

Starting from some results obtained in previous studies published in the specialised literature and from existing secondary data, the research presented in this paper had the following objectives:

- Analysis of the state of knowledge regarding the risks specific to digitisation and business sustainability;
- The study of the relationship between digitalisation risks and a series of representative elements regarding business sustainability in European countries;
- Contextualising the results obtained in the research with those of other studies published in the literature on the same topic.

4. Research Methods

Based on the main elements resulting from the literature review, a series of representative variables for digitalisation risks and business sustainability were identified to carry out the research. For this, secondary data from the EUROSTAT databases for 30 European countries were used (related to 2019, the last one for which they were available for the structure of the analysed variables). The main variables taken into account as digitalisation risks were:

- Activities via internet not done because of security concerns;
- Fraudulent credit or debit card use;
- Online identity theft (somebody stealing individuals' personal data and impersonating individuals e.g. shopping under an individual's name);
- Getting redirected to fake websites asking for personal information (“pharming”);
- Misuse of personal information available on the Internet resulting in e.g. discrimination, harassment, bullying;
- The social network or e-mail account being hacked and content being posted or sent without individuals' knowledge;
- Experienced financial loss resulting from identity theft, receiving fraudulent messages, or being redirected to fake websites.

For the sustainability of businesses in the 30 European countries, secondary data from the EUROSTAT databases were taken into account regarding:

- Enterprises – number;
- Gross value added in the environmental goods and services sector;
- Air emission intensity from industry;
- Production in industry.

In order to highlight the existing relationships between digitalisation risks and specific indicators of business sustainability and to determine how strong they are, the analysis of correlations between the two sets of variables presented earlier in the article was used.

5. Findings

The correlations are illustrated in the below two tables for the analysed variables.

Table 1. Correlations between four specific digitalisation risks and sustainability indicators

		Activities via Internet not done because of security	Fraudulent credit or debit card use	Online identity theft	Getting redirected to fake websites	Enterprises - number	Gross value added in environmental goods and services sector	Air emission intensity from industry	Production in industry
Activities via Internet not done because of security concerns	Pearson Correlation	1	.457*	.302	.567**	.143	.353	-.090	.109
	Sig. (2-tailed)		.011	.105	.001	.450	.056	.636	.566
	N	30	30	30	30	30	30	30	30
Fraudulent credit or debit card use	Pearson Correlation	.457*	1	.614**	.758**	-.008	.219	-.206	.061
	Sig. (2-tailed)	.011		.000	.000	.967	.244	.275	.750
	N	30	30	30	30	30	30	30	30
Online identity theft	Pearson Correlation	.302	.614**	1	.725**	-.148	.116	-.245	-.412*
	Sig. (2-tailed)	.105	.000		.000	.436	.541	.191	.024
	N	30	30	30	30	30	30	30	30
Getting redirected to fake websites	Pearson Correlation	.567**	.758**	.725**	1	.013	.235	-.109	.002
	Sig. (2-tailed)	.001	.000	.000		.945	.212	.566	.991
	N	30	30	30	30	30	30	30	30
Enterprises - number	Pearson Correlation	.143	-.008	-.148	.013	1	.829**	-.129	.243
	Sig. (2-tailed)	.450	.967	.436	.945		.000	.497	.195
	N	30	30	30	30	30	30	30	30
Gross value added in environmental goods and services sector	Pearson Correlation	.353	.219	.116	.235	.829**	1	-.293	.115
	Sig. (2-tailed)	.056	.244	.541	.212	.000		.116	.544
	N	30	30	30	30	30	30	30	30
Air emission intensity from industry	Pearson Correlation	-.090	-.206	-.245	-.109	-.129	-.293	1	.241
	Sig. (2-tailed)	.636	.275	.191	.566	.497	.116		.199
	N	30	30	30	30	30	30	30	30
Production in industry	Pearson Correlation	.109	.061	-.412*	.002	.243	.115	.241	1
	Sig. (2-tailed)	.566	.750	.024	.991	.195	.544	.199	
	N	30	30	30	30	30	30	30	30

Source: own calculations using EUROSTAT data and SPSS software.

Table 2. Correlations between three digitalisation risks and business sustainability indicators

		Misuse of personal information available on the Internet	Social network or e-mail account being hacked	Experienced financial loss resulting from identity theft	Enterprises - number	Gross value added in environmental goods and services sector	Air emission intensity from industry	Production in industry
Misuse of personal information available on the Internet	Pearson Correlation	1	.262	.427*	.029	.293	-.279	-.331
	Sig. (2-tailed)		.161	.019	.877	.116	.135	.074
	N	30	30	30	30	30	30	30
Social network or e-mail account being hacked	Pearson Correlation	.262	1	.224	-.159	.018	-.344	-.426*
	Sig. (2-tailed)	.161		.234	.402	.924	.063	.019
	N	30	30	30	30	30	30	30
Experienced financial loss resulting from identity theft	Pearson Correlation	.427*	.224	1	.028	.283	-.243	-.182
	Sig. (2-tailed)	.019	.234		.882	.130	.195	.336
	N	30	30	30	30	30	30	30
Enterprises - number	Pearson Correlation	.029	-.159	.028	1	.829**	-.129	.243
	Sig. (2-tailed)	.877	.402	.882		.000	.497	.195
	N	30	30	30	30	30	30	30
Gross value added in environmental goods and services sector	Pearson Correlation	.293	.018	.283	.829**	1	-.293	.115
	Sig. (2-tailed)	.116	.924	.130	.000		.116	.544
	N	30	30	30	30	30	30	30
Air emission intensity from industry	Pearson Correlation	-.279	-.344	-.243	-.129	-.293	1	.241
	Sig. (2-tailed)	.135	.063	.195	.497	.116		.199
	N	30	30	30	30	30	30	30
Production in industry	Pearson Correlation	-.331	-.426*	-.182	.243	.115	.241	1
	Sig. (2-tailed)	.074	.019	.336	.195	.544	.199	
	N	30	30	30	30	30	30	30

Source: own calculations using EUROSTAT data and SPSS software.

The variable *Enterprises – number* has a positive weak correlation with Activities via Internet not done because of security concerns (0.143), a negative weak correlation with Online identity theft (-0.148) and Social network or e-mail account being hacked (-0.159), but no correlation with Fraudulent credit or debit card use and Experienced financial loss resulting from identity theft. Activities via Internet not done because of security concerns and Enterprises - number has the value of 0.143, which indicates a positive weak correlation between them. The correlation coefficient between Fraudulent credit or debit card use and Enterprises – number has a negative value of -0.008 which indicates there is no correlation between them. The correlation between Online identity theft and Enterprises – number has a negative value of -0.148, which indicates a negative weak correlation. Next the correlation coefficient of 0.029 indicates that there is no correlation between the variables

Misuse of personal information available on the Internet and Enterprises – number. The Pearson coefficient of -0.159 indicates a weak negative correlation between the variables Social network or e-mail account being hacked and Enterprises – number. Experienced financial loss resulting from identity theft and Enterprises – number variables doesn't have any correlation, as the correlation coefficient is 0.028. Next will be analysed the variable of *Gross value added in environmental goods and services sector* in relation with digitalisation risk variables. There exists a medium positive correlation with Activities via Internet not done because of security concerns (p-value = 0.353), a weak positive correlation with variables Fraudulent credit or debit card use (0.219), Online identity theft (0.116), Getting redirected to fake websites (0.235), Misuse of personal information available on the Internet (0.293), Experienced financial loss resulting from identity theft (0.283) and no correlation with Social network or e-mail account being hacked variable (0.018). *Air emission intensity from industry* business sustainability variable will be analysed in relation with the digitalisation risk variables. There is a negative weak correlation with all independent variables, except for Social network or e-mail account being hacked which has a negative medium correlation and Activities via Internet not done because of security concerns which doesn't have any correlation. The *Production in industry* has a medium negative correlation with Online identity theft (-0.412), Misuse of personal information available on the Internet (-0.331), Social network or e-mail account being hacked (-0.426) and a positive weak correlation with Activities via Internet not done because of security concerns (0.109) and a negative weak correlation with Experienced financial loss resulting from identity theft (-0.182), but no correlation with Fraudulent credit or debit card use (0.061).

6. Conclusions

The study Digitalisation Risks and their Impact on Business Sustainability analysed diverse variables of digitalisation risk and business sustainability. Even if there exist numerous correlation relationships between the variables, not all of them have a significant P-value. It can be seen that the significance values for the majority of correlations between variables are bigger than the standard threshold of 0.05, which indicates that there exists the probability that the correlations are determined by a random fluctuation. There are two exceptions between the Production in industry and two independent variables, respectively, Online identity theft and Social network or e-mail account being hacked which have 0.024 and 0.019 P-value, which indicates a low probability that this correlation is due to random fluctuation. Consequently, the correlation between the two variables is significant at the 0.01 level, implying a statistically meaningful relationship between them, therefore when variables Online identity theft and Social network or e-mail account being hacked are increasing, then the variable Production in industry is decreasing, and vice versa, having a negative medium correlation.

The study did not find any strong and positive relationship between the representative elements of risks of digitalisation and the representative elements of business sustainability in European countries. The limitations associated with the

paper include the fact that the findings cannot be generalised, taking into consideration that 30 countries participated with data for the selected variables. The applicability of this study can draw attention on this subject of other researchers, students, and practitioners, in order to extend the analysis to more variable elements, employing also longitudinal statistical analysis to further investigate the relationship between business sustainability and risks of digitalisation.

Bibliography

- [1] Ates, A., Acur, N. (2022). Making obsolescence obsolete: Execution of digital transformation in a high-tech manufacturing SME. *Journal of Business Research*, 152, 336-348.
- [2] Bajpai, A., Misra, S.C., Kim, D.Y. (2023) Identification and assessment of risks related to digitalization in Indian construction: a quantitative approach. *Business Process Management Journal*, 29(4), 965-990.
- [3] Blanka, C., Krumay, B., Rueckel, D. (2022). The interplay of digital transformation and employee competency: A design science approach. *Technological Forecasting and Social Change*, 178, Article number 121575.
- [4] Brenner, B., Hartl, B. (2021). The perceived relationship between digitalization and ecological, economic, and social sustainability. *Journal of Cleaner Production*, 315, Article number 128128.
- [5] Broccardo, L., Truant, E., Dana, L.P. (2023). The interlink between digitalization, sustainability, and performance: An Italian context. *Journal of Business Research*, 158, Article number 113621.
- [6] Cappelli, L., Pisano, A., Iannucci, E., Papetti, P., D'Ascenzo, F., Ruggieri, R. (2024). Digitalization and prevention of corruption: Opportunities and risks-Some evidence from the Italian university system. *Business Strategy and the Environment*, 33(1), 81-94.
- [7] Girrbach, P.I.T.F. (2018). Digitalization and its Contribution to Sustainability in Terms of the Social Dimension. *Proceedings of the 6th International Conference Innovation Management, Entrepreneurship and Sustainability (IMES 2018)*, 369-379.
- [8] Golaido, I.M., Grigorieva, E.S., Kapitonov, A.G. (2020). Methodological Approaches to Assessing the Level of Digitalisation of the Financial Market. *Proceedings of the International Scientific and Practical Conference Digital Finance 2020 (DF2020)*, 51-56.
- [9] Irajifar, L., Chen, H.C., Lak, A., Sharifi, A., Cheshmehzangi, A. (2023). The nexus between digitalization and sustainability: A scientometrics analysis. *Heliyon*, 9(5), Article number e15172.
- [10] Kahouli, B., Nafla, A., Chaaben, N., Elleuch, Z. (2023). Exploring the influence of the information and communication technology dimensions on the sustainability of competitiveness in small and medium-sized enterprises in the Hail Region. *Sustainability*, 15(23), Article number 16325.
- [11] Kallmuenzer, A., Mikhaylov, A., Chelaru, M., Czakon, W. (2024). Adoption and outcome of digitalization in small and medium-sized enterprises. *Review of Managerial Science*, 1-28.
- [12] Ko, A., Mitev, A., Kovács, T., Fehér, P., Szabo, Z. (2022). Digital Agility, Digital Competitiveness, and Innovative Performance of SMEs. *Journal of Competitiveness*, 14(4), 78-96.

- [13] Kuczewska, J., Pranicovic, D.G., Borowicz, A., Talaja, A. (2023). The Digital Transformation Process in the Small and Medium Enterprise (SME) Sector in the Era of the COVID-19 Pandemic: A Study in Poland and Croatia. *Management: Journal of Contemporary Management Issues*, 28(2), 27-41.
- [14] Lee, C.C., Jiang, L.J., Wen, H.W. (2024). Two Aspects of Digitalization Affecting Financial Asset Allocation: Evidence from China. *Emerging Markets Finance and Trade*, 60(4), 631-649.
- [15] Lepistö, K., Saunila, M., Ukko, J. (2022). Facilitating SMEs' profitability through total quality management: the roles of risk management, digitalization, stakeholder management and system deployment. *TQM Journal*, 34(6), 1572-1599.
- [16] Lok, K.L., Van Der Pool, I., Smith, A.J., Opoku, A., Cheung, K.L. (2023). Sustainable digitalisation and implementation of ISO standards for facilities management. *Facilities*, 41(5/6), 434-453.
- [17] Molchan, A.S., Karpunina, E.K., Kochyan, G.A., Petrov, I.V., Velikanova, L.I. (2019). Effects of Digitalization: New Challenges for Economic Security Systems. *Vision 2025: Education Excellence and Management of Innovations through Sustainable Economic Competitive Advantage*, 6631-6639.
- [18] Palumbo, R., Casprini, E., Montera, R. (2022). Making digitalization work: unveiling digitalization's implications on psycho-social risks at work. *Total Quality Management & Business Excellence*.
- [19] Palumbo, R., Cavallone, M. (2022). Is work digitalization without risk? Unveiling the psycho-social hazards of digitalization in the education and healthcare workplace. *Technology Analysis & Strategic Management*, 36(6), 1136-1149.
- [20] Prioteasa, A.L., Ciocoiu, C.N. (2017). Challenges in Implementing Risk Management: a Review of the Literature. *Proceedings of the 11th International Management Conference: the Role of Management in the Economic Paradigm of the XXIst Century*, 972-980.
- [21] Ruggeri, D., Leotta, A., Rizza, C. (2023). Digitalisation and accounting language games in organisational contexts. *Journal of Management & Governance*, 27(3), 817-838, Special Issue SI, DOI10.1007/s10997-022-09626-9.
- [22] Santarius, T., Wagner, J. (2023). Digitalization and sustainability: A systematic literature analysis of ICT for Sustainability research. *GAIA-Ecological Perspectives for Science and Society*, 32, 21-32.
- [23] Stacho, Z., Stachová, K., Lukác, M., Kupec, V., Petru, N. (2023). Management Reflections on Innovations in Digitalization, with an Emphasis on Degree of Work Autonomy. *E & M Ekonomie a Management*, 26(1), 78-93.
- [24] Uddin, M.H., Mollah, S., Islam, N., Ali, M.H. (2023). Does digital transformation matter for operational risk exposure?. *Technological Forecasting and Social Change*, 197, Article number 122919.
- [25] Yang, Z.W., Hu, W.J., Shao, J.A., Shou, Y.Y., He, Q.L. (2023). How does digitalization alter the paradox of supply base concentration? The effects of digitalization intensity and breadth. *International Journal of Operations & Production Management*, 43(11), 1690-1722.
- [26] Zeiringer, J.P., Thalmann, S., Durst, S., Gräslund, K. (2022). Digitalization Risks in Supply Chains from the Perspective of SMEs. *Betriebswirtschaftliche Forschung und Praxis*, 74(6).