

A Bibliometric Analysis of the Role of the Intellectual Capital in the Organizational Agility and Performance

Mădălina-Elena STRATONE

National University of Political Studies and Public Administration (SNSPA),

Bucharest, Romania¹

madalina.stratone@facultateademanagement.ro

Abstract: *The aim of this paper is to present a bibliometric analysis of the literature focusing on the role of the intellectual capital in the organizational agility and performance. The methodology used is based on a bibliometric analysis that was performed with the specialized software VOSviewer. The analysis graphically illustrates nine semantic clusters that are presenting the co-citation distances between various concepts that are related to the search expressions that were used, including "intellectual capital", "performance" and "agility". When it comes to the database, there were used the papers published in journals that were indexed in Scopus. The outcomes of this research paper are the graphical representation of the semantic clusters for the already mentioned searched expressions and a series of tables that include the content analysis of the nine clusters and other data of interest concerning the publications (such as the top 10 countries that published articles related to the topic of interest and the types of documents retrieved). The findings are demonstrating that there is a consistent link between innovation, intellectual capital, knowledge management, performance and agility. The contribution of this research comes from the fact that it is the first bibliometric analysis of the correlation between intellectual capital, performance and agility, as reflected in the papers retrieved from Scopus.*

Keywords: intellectual capital, performance, agility, bibliometric study.

Introduction

Globalization and developing technology have throughout time produced a competitive business climate that pushes businesses to frequently develop and market new products or services, and organizations have encountered a variety of challenges and opportunities (Stratone, 2021; Farzaneh et al., 2022; Papíková & Papík, 2022). One of the biggest recent challenges was the COVID-19 pandemic, which the World Health Organization classified as a public health emergency of global concern on January 30, 2020, is an illustration of how an organization's intellectual capital has been used in order to address the crisis, to adapt to new and virtual work models and processes, and to create new knowledge (Kański et al., 2022; Stratone et al., 2022; Vătămănescu et al., 2022a).

With the development of the information society, businesses have begun to invest more heavily in intangibles, or what some authors have referred to as intellectual capital, as opposed to the physical (tangible) assets that traditionally accounted for the majority of their operational investments (Vătămănescu et al., 2015, 2016a; Dinu et al., 2023). Intellectual capital, known also as the knowledge of an organization represents a critical force that is in charge nowadays for the economic growth, as it is helping the organizations (no matter their type or size) to both keep and develop their competitive advantage (Sutrisno, 2021). Shortly, the value of organizational intangible assets for improving organizational performance and agility has been continually highlighted by the digital economy (Niwash et al., 2022).

¹ *Doctoral School in Management*

Starting from these aspects, this paper aims to present - within the literature review - three main concepts (intellectual capital, performance and agility), then to provide a bibliometric analysis that is aiming to underline the focus of the researchers on this topic and how they have explored the connection between intellectual capital, the performance of the organizations and the organizational agility. At the end, there will be presented the research conclusions and the limitations.

Literature review

All the knowledge resources a company has at its disposal and can use for a variety of reasons are collectively referred to as intellectual capital (Cristea & Dinu, 2019). In the literature, intellectual capital is divided into human capital, structural capital and relational capital (Brătianu, 2018; Vătămănescu et al., 2017, 2019; Vale et al., 2022). The term "human capital" refers to the human element of an organization, specifically the combination of abilities, knowledge, and expertise that defines an individual's character (Boeske & Murray, 2022; Vătămănescu et al., 2022b, 2022c). It also symbolizes the value of knowledge and talent present in the individuals who make up the organization, including abilities, knowledge, talents, competences, attitudes, intellectual agility, and creativity (Sutrisno, 2021).

On the other hand, the knowledge that remains in the company after personnel leave is referred to as structural capital and includes operational procedures, policies and strategies, processes, routines, organizational charts, and manuals (Ozgun et al., 2022). More exactly, structural capital refers to the non-human knowledge in the organization (such as: hardware, software, databases, organizational structures, patents, trademarks, and everything else that is related to the capabilities of organizations that promote worker productivity) and it is also associated with the effort put forth in establishing organizational structures and systems that enable employees to function at their peak intellectual and organizational potential (Widiartanto et al., 2020).

Last but not least, the network of connections or ties that an organization has as well as the loyalty and pleasure of its associates are referred to as relational capital (Kalkan et al., 2014; Păduraru et al., 2016; Todericiu, 2021). Relational capital highlights the importance of an organization's relationships with its customers, suppliers, and the rest of society and quantifies the loyalty of those parties to the organization (Szelagowski, 2019). The ability to build relationships "in the long term" with parties outside the organization is a key component of relational capital, which will add excess value to the company; on the opposite, the business will suffer a loss if it is challenging to maintain a relationship with one of the external environment's actors (Widiartanto et al., 2020).

The link between intellectual capital and an organization's performance and agility is another point that needs to be made (Calli & Calli, 2021; Williams & Kelechi, 2021; Lekić et al., 2022). The strive for performance is now connected to an organization's capacity to produce results and benefits that arise from creative processes (Falsol et al., 2021) as a result of the extremely constrained conditions of the twenty-first century (Slimene et al., 2022). Xu and Liu (2020) support that a company's competitiveness is a function of its ability to access important and unique resources, so, in this way enterprises must recognize, protect, and enhance IC resources in order to preserve their market position and achieve better performance (Sotto-Acosta et al., 2016; Vătămănescu et al., 2016b). When it comes to the measurement of a firm's performance, according to Kalkan et al. (2014), this can be done through various methods, including the financial performance (such as return on investment and profitability of the company), the performance of

the product (such as the uniqueness of the product and its reliability) and the market performance (including here the satisfaction of the customer and the market share).

According to Slimene et al. (2022), higher innovation performance is achieved as a result of organizational agility techniques. On the other hand, Yauch (2011) is supporting that agility is a performance outcome. As already mentioned, presently, many organizations and businesses are contending with a growing level of stable and unreliable competition (Asfahani, 2021), which has been exacerbated by technological advancements, shifting market conditions, and shifting client needs and in this way, agility is seen as one method of reacting to the elements of organizational change (Shami & Nastiezaie, 2019). As underlined by Munteanu et al. (2020), an organization becomes agile, meaning that it can adapt quickly and easily to all challenges faced and has the power to approach new opportunities, with the help of the workforce, if they have the needed skills, attitudes, competences and knowledge at the right time, so therefore, the personnel should be considered the hidden value of an organization.

In conclusions, if an organization wants to survive in this continuous changing environment, they need to learn how to adapt and how to reach a better performance (Phonthanukitithaworn et al., 2023), all of these being possible through a better understanding of intellectual capital (Aker & Bhattacharjee, 2021). All of the already mentioned aspects brought into light the motivation to perform a bibliometric analysis on the three main elements already defined (intellectual capital, performance and agility), so in this way it will be understood the semantic links between those concepts and ideas.

Methodology

A bibliometric analysis of the literature focusing on the role of the intellectual capital in the organizational agility and performance was performed using VOSviewer, a specialized software. As the only technique that uses the actual content of the writings to create a similarity measure, the co-occurrence investigation procedure accounts for the majority of the research. This procedure finds connections and links among concepts and notions that co-occurred in document titles, keywords, and abstracts.

The data retrieval is based on Scopus core collection, which is one of the world's leading information, analytical and scientific citation search platform and which provided access to abstracts of scientific articles from more than 22.400 international scientific journals published by more than 5000 international publishers. (e-nformation, n.d). The retrieval was performed on 21st of January 2023, when we have searched the main and core article expressions: "intellectual capital", "performance" and "agility".

Table 1 illustrates data retrieved from Scopus, reflecting the research labels, the first year of appearance of the expression on Scopus, the total number of publications to date on Scopus and the weight of 2022 publications with the selected theme within all years on Scopus. 2022 was chose as a representative year, due to the fact that the research is made at the beginning of the year 2023. Moreover, the data retrieved was limited to subject areas such as "Business, Management and Accounting" and "Social Sciences".

Thus, "intellectual capital", as a research expression, was first captured by Scopus in 1965 and appeared in 40.434 publications since the day the retrieved was performed; year 2022 represented 7,09% (4997 publications) of the total Intellectual Capital-related publications. The "performance" search on Scopus returned 1.822.099 results, being firstly captured in 1886 and had in 2022 a 9,38% (170980 publications) share of total related publications. "Agility" was first introduced on Scopus in 1961, appeared in 24.284 publications since the day the retrieved was

performed and had in 2022 a 19,09% (4633 publications) share of the total related publications. When it comes to searching all the expressions together ("intellectual capital", "performance" and "agility"), they first appeared on Scopus in 2000 and up to the day the retrieved was performed the expressions appeared in 1737 publications together, out of which 31,08% in 2022 (540 publications).

Table 1. Main concepts frequencies and weight on Scopus

Research Labels	The first Year of Appearance on Scopus	Total Number of Publications to Date on Scopus	Weight of 2022 Publications with the Selected Theme within all years – on Scopus
"intellectual capital"	1965	40,434	7,09%
"performance"	1886	1,822,099	9,38%
"agility"	1961	24,284	19,09%
"intellectual capital" AND "performance" AND "agility"	2000	1,737	31,08%

Source: authors' own research.

As it can be observed in Table 1, the three expressions ("intellectual capital", "performance" and "agility") were firstly used together starting with 2000. In the next tables, the focus will be only on the mentioned expressions, this being the topic of interest of this research paper. The literature format for the search was defined as "all type". The most frequent document type is article (1423 articles, representing 81,92% of the total number of publications), followed by book chapters (100, 5,75%), reviews (81, 4,66%), books (68, 3,91%), conference papers (61, 3,51%) and other publications, such as: notes, conference reviews and editorials (4, 0,23%).

Table 2. Types of retrieved documents for "intellectual capital", "performance" and "agility" on Scopus

Type of Document	Frequency	Share in total
Article	1423	81,92%
Book Chapter	100	5,75%
Review	81	4,66%
Book	68	3,91%
Conference Paper	61	3,51%
Other (Note, Conference Review & Editorial)	4	0,23%

Source: authors' own research

In terms of literature origins, as stated in Figure 1, the leading analyzed publications came from United States (266 articles, representing 15,31% of the total number of publications), followed by United Kingdom (212 articles, representing 12,20% of the total number of publications) and China (178 articles, representing 10,24% of the total number of publications). Moreover, it should be underlined that the study has a global approach that relies on the published specialized literature from 59 countries.

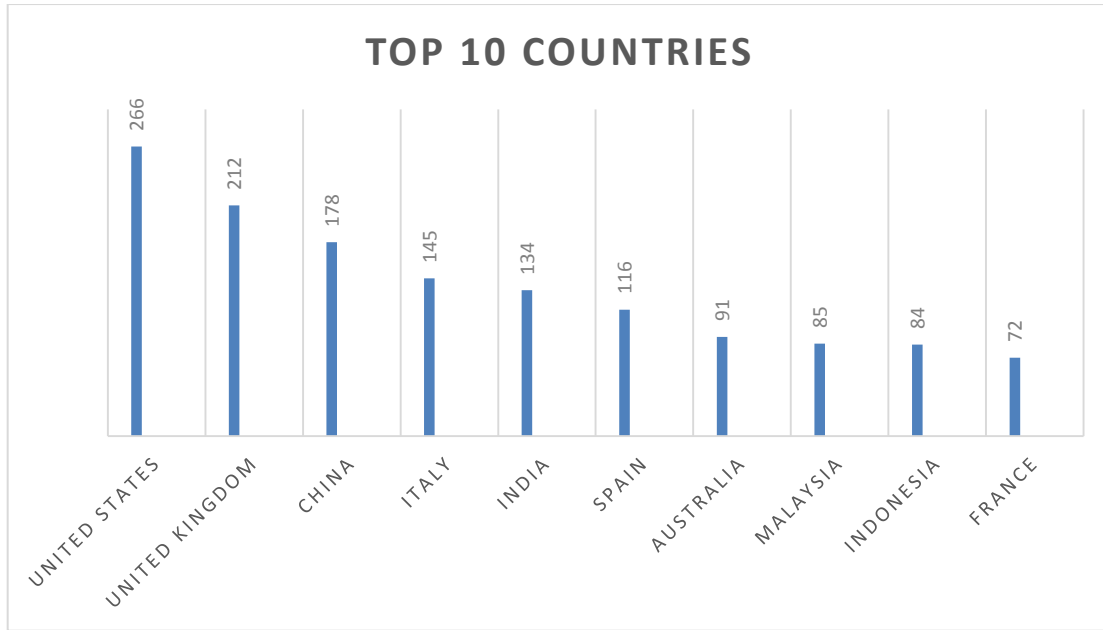


Figure 1. Top 10 "intellectual capital", "performance" and "agility"-related publications by Country

Source: authors' own research.

As already mentioned, the most relevant research areas are "Business, Management and Accounting" (1492 publications) and "Social Sciences" (459 publications) and the main language is English (1721 publications, representing 99,07% of the total number of publications with the selected theme on Scopus since the day the data was retrieved). The most influential authors for the three expressions searched are: Demetris Vrontis, Alkis Thrassou and Sheshadri Chatterjee and the top 5 journals include: *Sustainability* (77, representing 4,43% of the total number of publications), *Journal of Knowledge Management* (57, representing 3,28% of the total number of publications), *Journal of Business Research* (45, representing 2,59% of the total number of publications), *Technological Forecasting and Social Change* (39, representing 2,24% of the total number of publications) and *Business Process Management Journal* (21, representing 1,20% of the total number of publications).

A summary of the research protocol is introduced in the below table (Table 3):

Table 3. Research protocol and characteristics and types of "intellectual capital", "performance" and "agility" research sample

Research Protocol	Description/Explanation
Search expressions	"intellectual capital", "performance" and "agility".
Search database	Scopus.
Search fields	All fields.
Type of publications	All types of publications indexed in the Scopus database.
Subject areas	"Business, Management and Accounting" and "Social Sciences", up until 21st of January 2023.
Timespan	2000-2023.
Language	All languages.
Software for bibliometric research	VOSviewer.

Source: authors' own research.

The 1737 documents were exported as a CSV Excel format, including information such as: citation information, bibliographical information, abstract & keywords, funding details, other information, then the bibliometric software VOSviewer was used to process the systematic literature review and then to both analyze and visualize the co-occurrence of keywords by generating a map embedded on the already mentioned bibliographic data.

Results and Discussions

This paper’s center of attention is seeing how many papers were published with the focus on the three expressions ”intellectual capital”, ”performance” and ”agility”. As observed in table 4, a number of 1737 publications that mention the above expressions were found; among them, a total of 5751 keywords were found, out of which 409 meet the threshold for a minimum number of occurrences of a keyword of 5, accounting for 7,11%.

Table 4. Searched expressions meet the threshold

Searched Expressions	Results in Scopus	Number of Keywords (VOSviewer)	Keywords Meeting the Threshold for a Minimum Number of Occurrences of a Keyword of 5
”intellectual capital”, ”performance” and ”agility”	1737	5751	409

Source: authors` own research

The software VOSviewer is used to create the network visualizations. The graph's nodes and words are sized according to how much weight they have. The weight increases as the node and word frequencies increase. The nodes with the same colors are collected into a cluster, and the colors indicate how closely two keywords are related to one another. The separation between two nodes reveals how strong their connection is. The line's length explains the relationship between the two words, and the line's thickness emphasizes the degree of their co-occurrence. VOSviewer portrays the keywords of ”intellectual capital”, ”performance” and ”agility”-related publications into nine clusters. The red cluster (Figure 2, cluster 1, mid-right, 66 items) focused on ”innovation”; the below table (Table 5) exposes the first cluster, in red colour, in order to acknowledge the structure and the relevant information, as it was provided by the VOSviewer software.

Table 5. Cluster 1: most relevant 11 items by VOSviewer

Term	Links	Total link strength	Occurrences
Innovation	291	853	169
Sustainability; sustainability development	174; 170	392; 304;	64; 41
Supply chain management	168	331	61
Small and medium-sized enterprises	122	207	26
Knowledge	119	225	41
Human capital; personnel	104; 111	158; 158	45; 20
Organizational agility	106	159	33
Business; business development; business model	95; 63; 47	153; 85; 64	23; 12; 17
Digital technology; digitalization; digitization	85; 67; 46	123; 91; 60	19; 16; 9
Competitiveness	83	113	21
Relational capital	68	101	21

Source: authors` own research.

As observed, the three concepts analysed ("intellectual capital", "performance" and "agility") are interconnected and represent a topic of interest for the nowadays research, especially due to the fact that when it comes to organizations (no matter their type or size), they are focusing now on the intangible resources and got to the conclusion that people are a better investment. The contribution of the present paper comes from the fact that it is the first one reviewing the literature that is dedicated to intellectual capital and its role in the organizational agility and performance. Moreover, the bibliometrical analysis is presenting the distribution of papers on the types of the retrieved documents (articles, book chapters, reviews, books, conference papers, notes, conference reviews and editorials) and the top 10 countries that published these documents. The graphical illustrations are offering a better view of the clusters constructed within the semantic ecosystems of the concepts "intellectual capital", "performance" and "agility".

The main limitation of this research paper comes from using only Scopus as a database and further research should include Web of Science and Google Scholar in order to enlarge the area of publishing papers in international conferences, books and proceedings of conferences.

References

- Akter, R. & Bhattacharjee, S. (2021). Intellectual capital efficiency and firm performance: evidence from an emerging knowledge-economy. *International Journal of Learning and Intellectual Capital*, 19(1), 30-52. Doi: 10.1504/IJLIC.2021.10038760
- Asfahani, A.M. (2021). The Impact of Modern Strategic Human Resources Management Models on Promoting Organizational Agility. *Academy of Strategic Management Journal*, 20(2). <https://www.researchgate.net/publication/360526043>
- Brătianu, C. (2018). Intellectual Capital Research and Practice: 7 Myths and One Golden Rule. *Management & Marketing: Challenges for the Knowledge Society*, 13(2), 859-879. 10.2478/mmcks-2018-0010
- Boeske, J., & Murray, P. A. (2022). The Intellectual Domains of Sustainability Leadership in SMEs. *Sustainability*, 14(4), 1978. <http://dx.doi.org/10.3390/su14041978>
- Calli, B.A., & Calli, L. (2021). Relationships between Digital Maturity, Organizational Agility, and Firm Performance: An Empirical Investigation on SMEs. *BMJI*, 9(2), 486-502. <https://doi.org/10.15295/bmij.v9i2.1786>
- Cristea, G., & Dinu, E. (2022). Leveraging Intellectual Capital Management in Virtual Teams: What the Covid-19 Pandemic Taught Us. *Management Dynamics in Knowledge Economy*, 10(2), 106-123. DOI 10.2478/mdke-2022-0008
- E-nformation (January 3, 2023). Profile access. Retrieved from <https://www.e-nformation.ro/>
- Falsol, H., Astuti, P., & Winarko, S.P. (2021). The Role of Technology Usage in Mediating Intellectual Capital on SMEs Performance During the Covid-19 Era. *Etikonomi*, 20(2), 411-426. <https://doi.org/10.15408/etk.v20i2.20172>.
- Farzaneh, M., Wilden, R., Afshari, L., & Mehralian, G. (2022). Dynamic capabilities and innovation ambidexterity: The roles of intellectual capital and innovation orientation. *Journal of Business Research*, 148, 47-59. <https://doi.org/10.1016/j.jbusres.2022.04.030>
- Kalkan, A., Bozkurt, Ö. Ç., & Arman, M. (2014). The Impacts of Intellectual Capital, Innovation and Organizational Strategy on Firm Performance. *Procedia – Social and Behavioral Sciences*, 150, 700-707. doi: 10.1016/j.sbspro.2014.09.025
- Kański, Ł., Chadam, J., & Kłosowski, G. (2022). Intellectual Capital: A New Predictive Indicator for Project Management Improvement. *Sustainability*, 14(22), 15182. <http://dx.doi.org/10.3390/su142215182>

- Lekić, N., Carić, M., Soleša, D., Vapa Tankosić, J., Rajaković-Mijailović, J., Bogetić, S., & Vučićević, M. (2022). Employees' Perceptions on the Relationship of Intellectual Capital and Business Performance of ICT Companies. *Sustainability*, *14*, 275. <https://doi.org/10.3390/su14010275>
- Niwash, M. N. K., Cek, K., & Eyupoglu, S. Z. (2022). Intellectual Capital and Competitive Advantage and the Mediation Effect of Innovation Quality and Speed, and Business Intelligence. *Sustainability*, *14*(6), 3497. <http://dx.doi.org/10.3390/su14063497>
- Ozgun, A.H., Tarim, M., Delen, D., & Zaim, S. (2022). Social capital and organizational performance: The mediating role of innovation activities and intellectual capital. *Healthcare Analytics*, *2*, 100046. <https://doi.org/10.1016/j.health.2022.100046>
- Papíková, L., & Papík, M. (2022). Intellectual capital and its impacts on SMEs profitability during COVID-19 pandemic. *Journal of Eastern European and Central Asian Research (JEECAR)*, *9*(3), 521-531. <https://doi.org/10.15549/jeecar.v9i3.894>
- Păduraru, T., Vătămănescu, E.-M., Andrei, A.G., Pînzaru, F., Zbucnea, A., Maha, L.G., & Boldureanu, G. (2016). Sustainability in Relationship Marketing: An Exploratory Model for the Industrial Field. *Environmental Engineering and Management Journal*, *15*(7), 1635-1647. http://omicron.ch.tuiasi.ro/EEMJ/pdfs/accepted/569_226_Paduraru_15.pdf
- Phonthanakitithaworn, C., Srisathan, W. A., Ketkaew, C., & Naruetharadhol, P. (2023). Sustainable Development towards Openness SME Innovation: Taking Advantage of Intellectual Capital, Sustainable Initiatives, and Open Innovation. *Sustainability*, *15*(3), 2126. MDPI AG. Retrieved from <http://dx.doi.org/10.3390/su15032126>
- Shami, S. & Nastiezaie, N. (2019). The Relationship between Intellectual Capital and Organizational Agility through the Mediating of Organizational Learning. *The New Educational Review*, 184-194. DOI: 10.15804/tner.2019.56.2.15
- Slimene, S.B., Fessi, I., & Lakhal, L. (2022). The mediating role of the intellectual capital in the relationship between organizational agility practices and innovation performance study by the role of intellectual capital in Tunisian SMEs. *Journal of Business and Management Research*, *15*, 277-290.
- Soto-Acosta, P., Cismaru, D.-M., Vătămănescu, E.-M., & Ciochină, R.S. (2016). Sustainable Entrepreneurship in SMEs: A Business Performance Perspective. *Sustainability*, *8*(4), 342. <http://www.mdpi.com/2071-1050/8/4/342>
- Stratone, M.-E. (2021). IMM-urile din România în context pandemic, absorbția de fonduri și conștientizarea nevoii de digitalizare. In Pinzaru, F., & Zbucnea, A. (Eds.), *După COVID-19: provocări de management între digitalizare, sustenabilitate și reziliență*. Bucharest: Tritonic.
- Stratone, M.-E., Vătămănescu, E.-M., Treapăt, L.-M., Rusu, M., & Vidu, C.-M. (2022). Contrasting Traditional and Virtual Teams within the Context of COVID-19 Pandemic: From Team Culture towards Objectives Achievement. *Sustainability*, *14*, 4558. <https://doi.org/10.3390/su14084558>
- Sutrisno, S. (2021). Intellectual Agility Stimulation to Improve Organizational Performance. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)*, *4*(1), 1397-1409. <https://doi.org/10.33258/birci.v4i1.1768>
- Szelagowski, M. (2019). Dynamic Business Process Management in the Knowledge Economy. *Springer Nature Switzerland*, 203-210. <https://doi.org/10.1007/978-3-030-17141-4>

- Todericiu, R. (2021). The Impact of Intellectual Capital on the SMEs Performance: A Study of the Romanian Central Region SMEs. *Studies in Business and Economics*, 16(1), 198-209. <https://doi.org/10.2478/sbe-2021-0016>
- Vale, J., Miranda, R., Azevedo, G., & Tavares, M. C. (2022). The Impact of Sustainable Intellectual Capital on Sustainable Performance: A Case Study. *Sustainability*, 14(8), 4382. <http://dx.doi.org/10.3390/su14084382>
- Vătămănescu, E.-M., Andrei, A.-G., Leovaridis, C., & Dumitriu, L.-D. (2015). Exploring network-based intellectual capital as a competitive advantage. An insight into European universities from developing economies. In Cegarra Navarro, J.G. (Ed.), *Proceedings of the 7th European Conference on Intellectual Capital ECIC 2015* (pp. 350-358). Academic Conferences and Publishing International Limited.
- Vătămănescu, E.-M., Pînzaru, F., Andrei, A.G., & Zbucnea, A. (2016a). Investigating SMEs sustainability with partial least squares structural equation modeling. *Transformations in Business & Economics (TIBE)*, 15(3), 259-273. <http://www.transformations.knf.vu.lt/39/article/inve>
- Vătămănescu, E.-M., Andrei, A.G., Dumitriu, D.-L., & Leovaridis, C. (2016b). Harnessing network-based intellectual capital in online academic networks. From the organizational policies and practices towards competitiveness. *Journal of Knowledge Management*, 20(3), 594-619. <http://www.emeraldinsight.com/doi/abs/10.1108/JKM-05-2015-0208?journalCode=jkm>
- Vătămănescu, E.-M., Andrei, A.G., Nicolescu, L., Pînzaru, F., & Zbucnea, A. (2017). The Influence of Competitiveness on SMEs Internationalization Effectiveness. Online versus Offline Business Networking. *Information Systems Management*, 34(3), 205-219. <http://www.tandfonline.com/doi/full/10.1080/10580530.2017.1329997>
- Vătămănescu, E.-M., Gorgos, E.-A., Ghigiu, A.M., & Pătruț, M. (2019). Bridging Intellectual Capital and SMEs Internationalization through the Lens of Sustainable Competitive Advantage: A Systematic Literature Review. *Sustainability*, 11(9), 2510. <https://doi.org/10.3390/su11092510>
- Vătămănescu, E.-M., Dinu, E., Stratone, M.-E., Stăneiu, R.-M., & Vintilă F. (2022a). Adding Knowledge to Virtual Teams in the New Normal: From Leader-Team Communication towards the Satisfaction with Teamwork. *Sustainability*, 14(11), 6424. <https://doi.org/10.3390/su14116424>
- Vătămănescu, E.-M., Cegarra-Navarro, J.-G., Martínez-Martínez, A., Dincă, V.-M., & Dabija, D.-C. (2022b). Revisiting online academic networks within the COVID-19 pandemic – From the intellectual capital of knowledge networks towards institutional knowledge capitalization. *Journal of Intellectual Capital*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/JIC-01-2022-0027>
- Vătămănescu, E.-M., Bratianu, C., Dabija, D.-C., & Popa, S. (2022c). Capitalizing online knowledge networks: from individual knowledge acquisition towards organizational achievements. *Journal of Knowledge Management*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/JKM-04-2022-0273>
- Widiartanto, W., Wahyudi, F.E., Rahman, A.Z., Dewi, R.S., & Saputra, J. (2020). A Study of Intellectual Capital and Its Supply Chain Strategy for Business Performance in Small Medium Enterprise (SMEs). *International Journal of Supply Chain Management*, 9(4), 267-275. <https://ojs.excelingtech.co.uk/index.php/IJSCM/article/view/5066>

- Williams, G., & Kelechi, A.J. (2021). Intellectual Capital and Performance in Organizations: An Exploration of Issues. *International Journal of Management and Entrepreneurship*, 3(1), 1-20. <https://ijmecoou.org/index.php/ijme/article/view/37/37>
- Xu, J., & Liu, F. (2020). The Impact of Intellectual Capital on Firm Performance: A Modified and Extended VAIC Model. *Journal of Competitiveness*, 12(1), 161–176. <https://doi.org/10.7441/joc.2020.01.10>
- Yauch, C.A. (2011). Measuring Agility as a Performance Outcome. *Journal of Manufacturing Technology Management*, 22(3). DOI: 10.1108/1741038111112738