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Knowledge Management, Innovation, Sustainable Development, and Romanian Economy Research Interests and Trends

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Abstract: The present investigation aims to explore the research nexus between Knowledge Management (KM), Innovation (INN), and Sustainable Development (SD) in general and with special reference to the Romanian economy. Therefore, this study presents an understanding of the ongoing research themes, significant publications, and focus themes in this line of interdisciplinary research by performing a bibliometric analysis that includes papers listed in the Web of Science (WoS) database. The paper was useful in showing that KM is the basis for building an innovative environment under the principles of sustainable development, which is necessary to address economic issues currently observed in Romania and other countries. This proposed research also recognizes the growing concern of academicians about combining these ideas for equitable economic growth and development objectives. As for the specific results, significant journals, crucial articles, and authoritative terms have been retrieved, and the results provide important information on the intellectual map of the research area. This paper, therefore, adds to this body of knowledge by presenting some trends, potentials, gaps, and directions for future investigations of these linkages. Conclusively, it underlines the importance of these linkages for policymakers, professionals, and scholars. As a result, the conceptual framework and operationalization of the research questions contribute to the development of the study by fostering further research that is more specific to the Romanian context and is in line with the state's socio-economic development priorities in sustainable innovation.

Keywords: knowledge management; innovation; sustainable development; Romanian economy; bibliometric analysis; research interest

Introduction

Organizations encounter previously unseen opportunities and threats in the increasingly interconnected and technologically sophisticated economic environment. In this context, knowledge management (KM) (Alavi & Leidner, 2001; McInerney, 2002), innovation (INN) (Kline & Rosenberg, 2010; Kahn, 2018), and sustainable development (SD) (Chichilnisky, 1999; Parris & Kates, 2003) assume the roles of significant and intertwined factors that drive the growth of societies, enterprises, and economies (Lopes et al., 2017). These concepts are gradually appreciated for their combined ability to work and help solve some of the world's current challenges, including climate change, scarce resources, poor social relations, and economic development. Studying these areas is essential to accumulating academic knowledge and finding answers to problems that will help make the economy truly sustainable for enterprises and populations (Abbas & Sağsan, 2019; Gómez-Marín et al., 2022).

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Knowledge Management can, therefore, be defined as all the activities of formulating, acquiring, organizing, storing, protecting, sharing, and utilizing corporate knowledge. Specialization, know-how, skills, knowledge, and information are the new forms of value in a knowledge-based economy just as much as traditional materials and commodities (Bolisani & Bratianu, 2017). KM has grown important as organizations shift from bureaucratic managerialism to knowledge-intensive networking (Styhre, 2002). Together with the emergence of digital transformation, KM practices have evolved with new technologies such as artificial intelligence, machine learning, and big data analytics that have improved methods of capturing, storing, and applying knowledge (Di Vaio et al., 2021). For instance, predictive analytics in the KM systems help identify future market trends, and simultaneous knowledge-sharing platforms like Microsoft Teams or Slack enhance the real-time knowledge transfer to teams working worldwide (Tiwari, 2022). However, there are still some issues regarding how KM systems should be further optimized according to more general concepts like innovation and sustainable development. More studies should be conducted on how KM strategies can be smoothly incorporated into practices and how they can help organizations overcome current issues such as skills diversity, virtual work, and the growing complexity of the business (Di Vaio et al., 2021; Idrees et al., 2023). Both innovation and sustainable development need strategic thinking and knowledge strategies, especially for knowledge exploration (Bratianu, 2022; Bratianu & Murakawa, 2004).

Innovation and creativity, or new product development, the practice of implementing concepts into tangible forms of value addition, is at the center of economic and social development. Knowledge has been widely regarded as the concept of reaching a high competitive advantage and facing world issues (Farida & Setiawan, 2022). As we race through the first decade of the 21st Century, technology changes with the emergence of artificial intelligence, renewable energy sources, and biotechnology, which has defined industries and opened up virgin space (Kasinathanet al., 2022; Mallik, 2023). External collaboration models, where actors in the organization engage others outside the organization, are rising. Such models foster idea-sharing with the outside world and, at the same time, solve local experts' deficiencies (Bouncken et al., 2021; Bocken & Ritala, 2022). For instance, the generation of new drugs is highly dependent on collaborations between colleges and industries, especially in the pharmaceutical sector. However, several questions have not been answered about the recognized importance of innovation. This article seeks to answer the following question: What strategies can organizations use to promote risk-taking and creativity? What frameworks are most effective in increasing the chances that innovations, in addition to being profitable, are sustainable and responsible? That is why scientific investigations of such problems can contribute to mitigating the deficits of economic development regarding environmental or social aspects for some countries.

Sustainable development, the United Nations' definition of development that can fulfill the requirements of the current generations without barring the generations to come from fulfilling their requirements, is now a global agenda (Tsalis et al., 2020). The plan currently in place for global development is through the framework known as Sustainable Development Goals (SDGs), through which governments, businesses, and civil society organizations are being asked to collaboratively attempt to end poverty, reverse environmental degradation, and bring about growth. Therefore, enormous challenges still exist in the realization of sustainable development all over the world (Halkos & Gkampoura, 2021). Global changes such as climate change, social increase, and natural resource depletion remain factors that endanger stability in the world. In this regard, sustainability principles in KM and innovation can no longer be regarded as desirable but essential. For example, the organization is integrating the Circular Economy Framework, a growing approach to business operations, and concepts such as the 3 R – reduce, reuse,

recycle. More research has to be done on how KM systems can enable the sharing of best sustainability practices. In like manner, there are prospects of new clean energy, technologies in sustainable farming, and waste management to tackle these issues effectively (Lee et al., 2020; Mondejar et al., 2021). However, the economies of scale and relative costs of these solutions must be investigated further.

The academic world has been interested in KM, INN, and SD topics for the last decades. We believe they have reached a new stage, which is determined primordially by the disruptions generated by the COVID-19 health crisis, political crises, military conflicts, and the twin transition. Using these concepts and the previous theoretical and practical experience reached for each of them, the complex constructs are now welcome to explore the synergies and innovative solutions using them together (Arsawan et al., 2022; Akram et al., 2011). Of course, our interest is focused on the topics explored concerning the Romanian economy (RoE).

The main objective of the present paper is to explore the dimensions and evolution of the research interest in KM, INN, SD, and RoE individually and in combinations, researchers and institutions' networks, international experiences, and hot topics. The research questions we address are:
Q1 – How much interest was paid to KM, INN, SD, and RoE individually and in combinations in terms of article number, highly cited, and hot papers?
Q2 – What are the prominent years and the trends?
Q3 – When does the interest in combining the topics?
Q4 – What are the thematic clusters and the other ten items with high co-occurrence?
Q5 – Who are the leading researchers in the field?
Q6 – Who are the leading countries and networks in the field?

Answering these questions, the study will contribute to a better understanding of the already explored areas and envision future research topics.

Methodology framework

The bibliometric analysis used articles, book chapters, early access, and proceeding papers indexed in the Web of Science (WoS) database. The KM, INN, and SD concepts and their relation to the Romanian economy were considered (Figure 1).

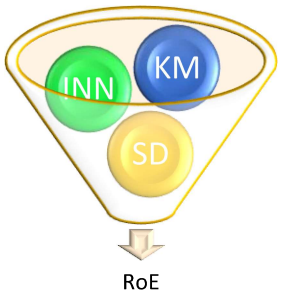

Figure 1. Studied items funnel relations
(authors concept)

The research framework has two steps:

- Data collection – Aimed to determine the interest dimension of the research and the time evolution. It starts with selecting the papers indexed for each item, then the intersection of the items in pairs, and the last step, the complex intersection of main items without and with RoE (Figure 2). The pair section has two parts: one is of main items in pairs and RoE with each item.

- Data analysis—This is a deep analysis of complex intersection papers using VoSviwer to identify trends, co-occurrences, authorship, affiliations, citations, research networks, etc.

VOSviewer is a computer program specialized in making concept maps, illustrating how various elements of a scientific data set are connected (van Eck & Waltman, 2014). This can identify concepts of interest, research groups, scientific trends, and collaborations between authors or institutions involved. With the help of VOSviewer, we can visualize the knowledge structure in a given domain and identify links or deficiencies that are not obvious through other analysis methods.

The analysis was performed based on publications indexed in WoS which brings together the most significant number of publications in the core stream. The software used is VOSviewer version 1.6.20, released in October 2023 by the Center for Science and Technology, Leiden University, The Netherlands. The analysis was carried out from October to November 2024. Data extraction, processing, and interpretation were carried out following the program requirements in the user manual (van Eck & Waltman, 2023).

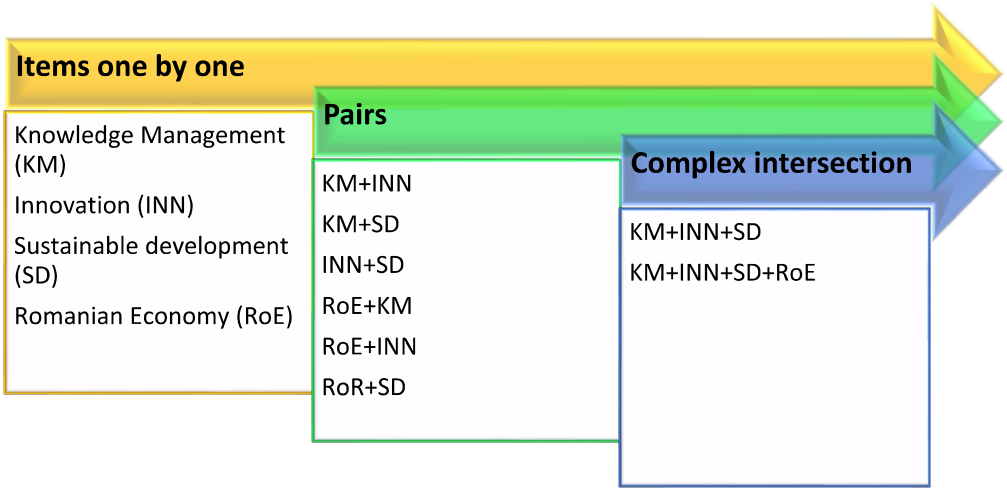

Figure 2. Research framework
(authors concept)

Results

The selection and data extraction were done using the search for KM, INN< SD, and RoE individually, and then the intersection upon the occurrence of the mentioned items in the title, keywords, and abstract. There were selected only articles, book chapters, early access, and proceeding papers, further named generic papers. The number of articles, time of publication, number of highly cited papers, and hot papers were extracted and presented in Table 1.

Table 1. Number of articles indexed in WoS

Keyword	No articles	Period	Highly Cited Papers	Hot papers
KM	287,462	1975 - 2025	1102	29
INN	458,019	1975 - 2025	4405	170
SD	264,511	1979 - 2025	2803	127
RoE	2,350	1983 - 2024	-	-
KM+INN	28,968	1984 - 2025	224	6
KM+SD	10,539	1989 - 2025	93	6

INN+SD	25,325	1990 - 2025	631	33
RoE + KM	330	1998 - 2024	-	-
RoE + INN	895	1996 - 2024	5	1
RoE + SD	684	1999 - 2024	2	-
KM+INN+SD	**2,254**	**1991 - 2025**	**40**	**3**
KM+INN+SD+RoE	**48**	**2008 - 2024**	**-**	**-**

Source: WoS, data extracted by authors

It can be seen that the interest in KM and INN started in 1975 and continues up to the present, compared with SD, which first appeared four years later. Surprisingly, the interest in RoE started in 1983, even if, at that time, it was a socialist planned economy and not a market-based one. The most significant number of papers are about INN, while KM and SD are about 60% (=/-2%), having portfolios of hundreds of thousands. The papers about RoE have recorded only 2350 papers since Romania is a small Eastern European country with a limited and vulnerable economy, generating less interest. Regarding highly cited, the INN and SD have a rate of about 1%, while KM has 0.4%, which is less than half. The hot papers also have comparable portfolios of INN and SD, and only a few are in KM. As a result, we can appreciate that INN was the most attractive topic, followed by SD, while KM is in the same mainstream but a step behind.

The time evolution of the papers is presented in Figure 3.

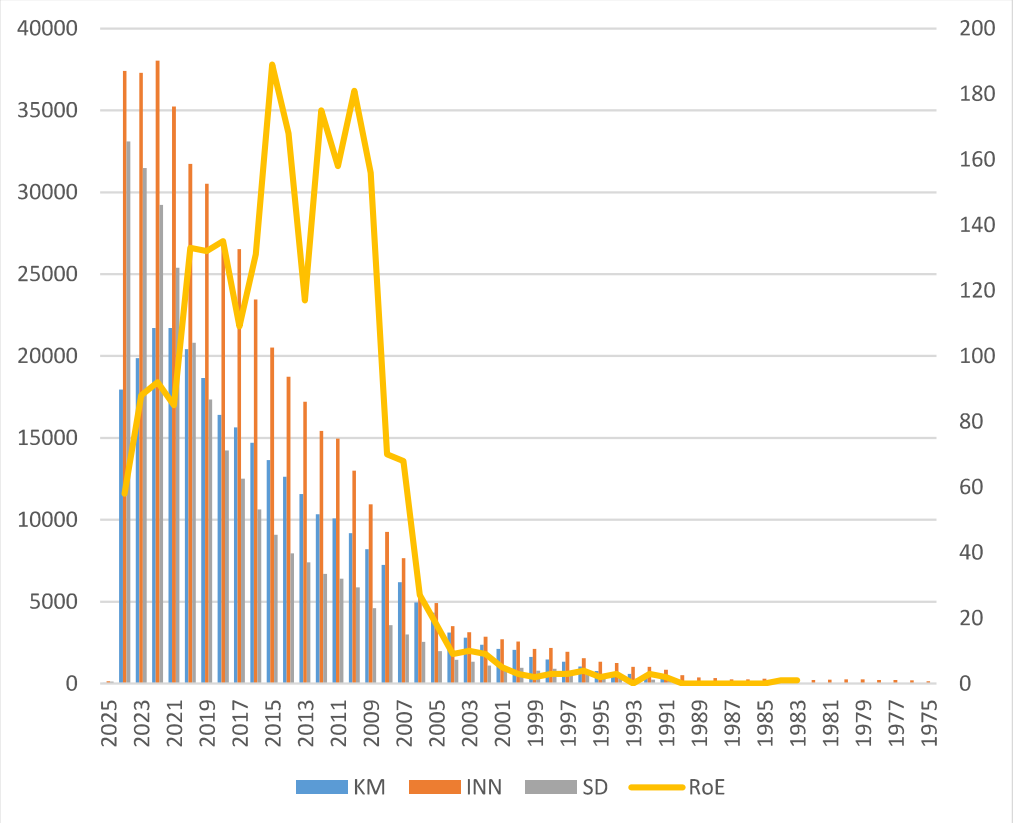

***Figure 3. Time evolution of papers number for* KM, INN, SD, RoE**
(authors representation)

The trends are similar for KM, INN, and SD, with a slight increase during the first 30 years (1975-2005) and consistent growth for the next 10 years. The last years highlighted different evolution: KM looks like it reached the highest number of papers in 2019-2021 and knows a decrease in the

last years; INN reached the highest number in 2021 but stayed in a tray for the following years; SD constantly grows up to nowadays. The RoE papers had an explosion between 2005 and 2010, reached the highest number in 2015, and fell in two steps to the level of 2005.

The interest in combining the studied items shows up at an average time distance of 10 years. Only INN+SD is still growing, while KM+INN and KM+SD are slightly decreasing. Starting in 1991, the complex studies KM+INN+SD are getting more and more attention and becoming an area of interest with a rate of about 1.8% for highly cited papers. The evolutions are presented in Figure 4.

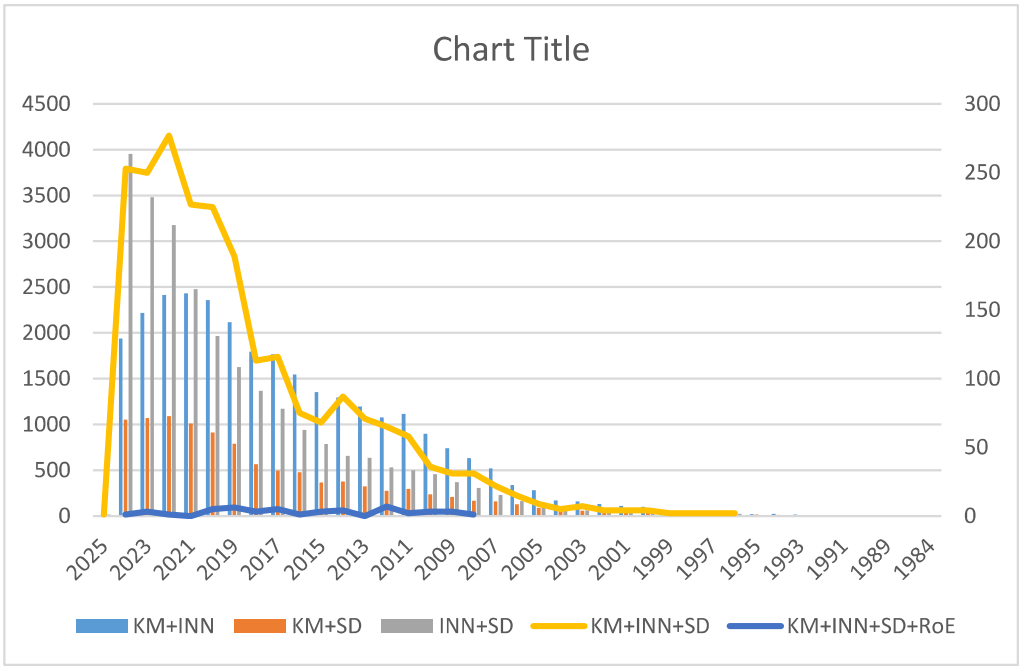

***Figure 4. Time evolution of papers number for combinations of* KM, INN, SD, RoE**
(authors representation)

The analysis was done with WOSviewer on the 2254 papers extracted from the WoS database for KM+INN+SD co-occurrence. They are related to 8322 keywords, 635 of which have five co-occurrences of minim. As can be seen in Figure 5, there are 10 thematic clusters.

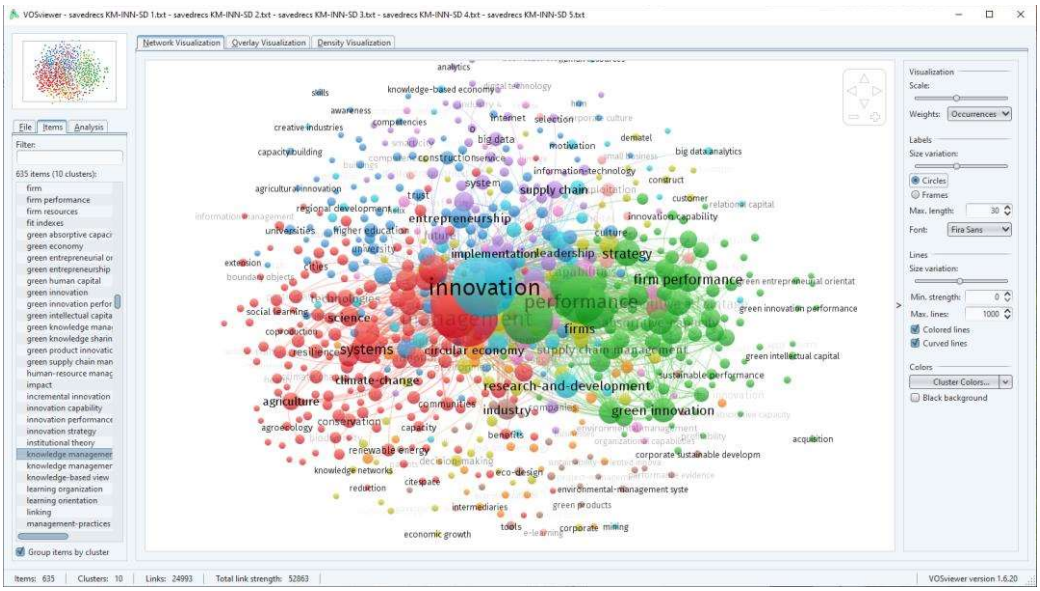

Figure 5. Co-occurrence and clusters representation for KM+INN+SD
(authors extraction from VOSviewer)

KM is related to management, innovation, sustainable development, performance, sustainability green innovation, green human capital, strategy, competitive advantage, research, and development (Figure 6).

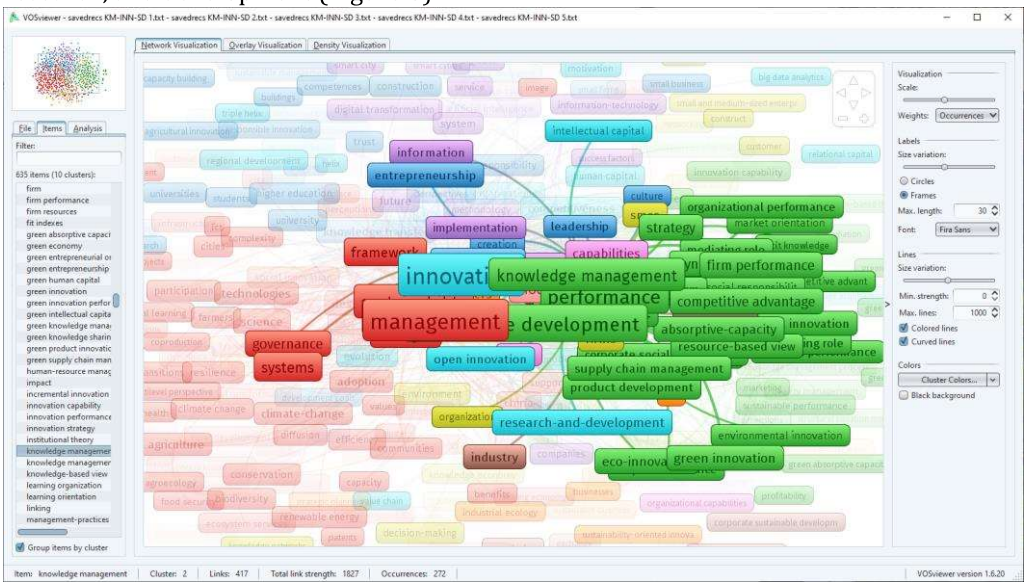

Figure 6. Most related keywords with KM for the intersection of KM+INN+SD
(authors extraction from VOSviewer)

Figure 7 presents the keywords identified in relation to KM+INN+SD in time, and we can appreciate that after 2021 they are totally different than in 2017.

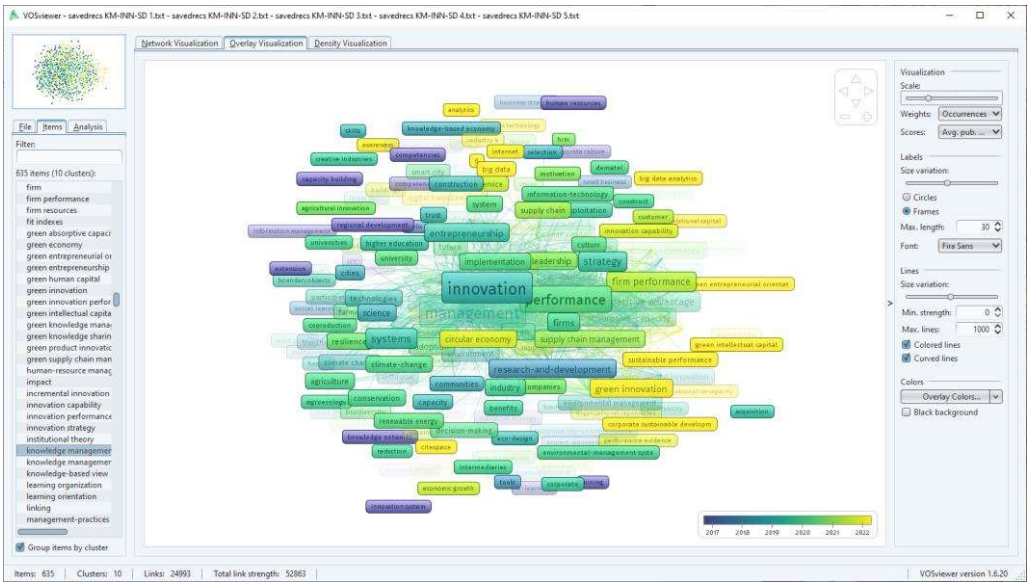

Figure 7. Keywords evolution in time
(authors extraction from VOSviewer)

In 2017, the top keywords related to KM+INN+SD were human resources, capacity building, regional development, innovation system, knowledge network, and information management. Starting with 2021, the top keywords are big data, big-data analytics, internet, circular economy, green innovation, green human capital, green entrepreneurial orientation, digital technology, etc. It is obvious that the digital revolution and the greening economy significantly impacted the research topics, looking for solutions coming from the complex approach of KM, INN, and SD.

The authorship is broad, having a total of 7099 authors, but only 76 with a three-time occurrence and 11 interconnected (Figure 8 and Figure 9).

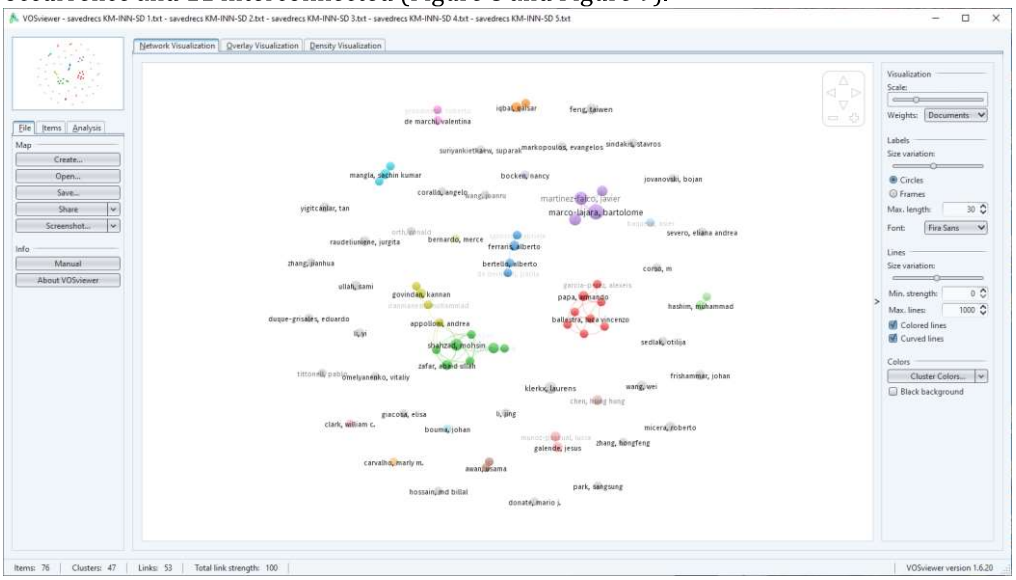

Figure 8. Authorship for KM+INN+SD
(authors extraction from VOSviewer)

The very small number of authors with a co-occurrence of a minimum of three, about 1% of the total, is driving us to the conclusion that they accidentally approached this topic in addition to their primary area of research. At the same time, the almost inexistence of research networks shows that complex studies on KM+INN+SD are a fertile playground where the academic environment should draw their attention.

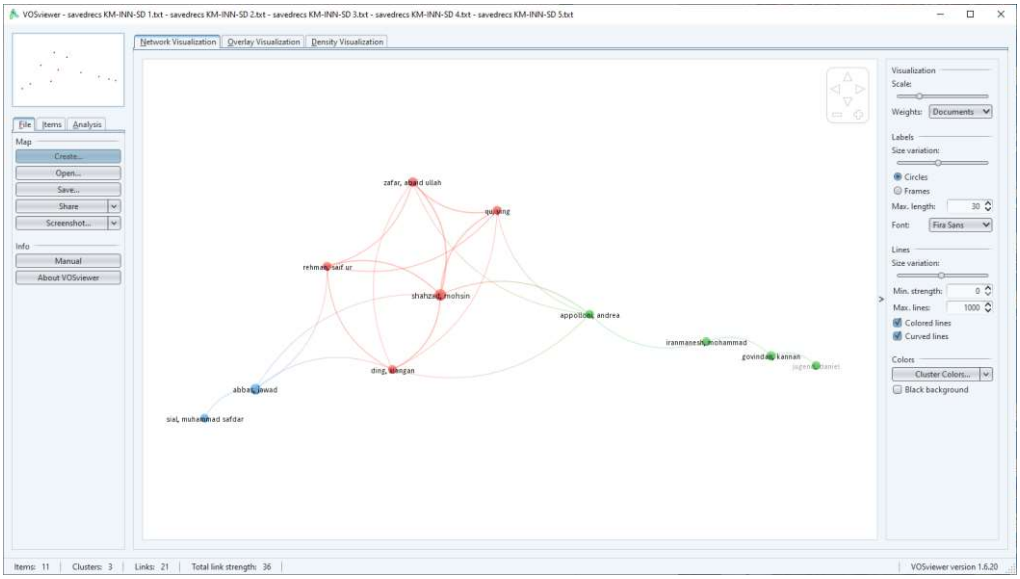

Figure 9. The interconnected authorship for KM+INN+SD
(authors extraction from VOSviewer)

The researcher's papers came from 133 countries, 94 of which had three occurrences and 77 of five, organized in seven clusters (Figure 10). The top five countries are PR of China, USA, Italy, Spain, and Germany.

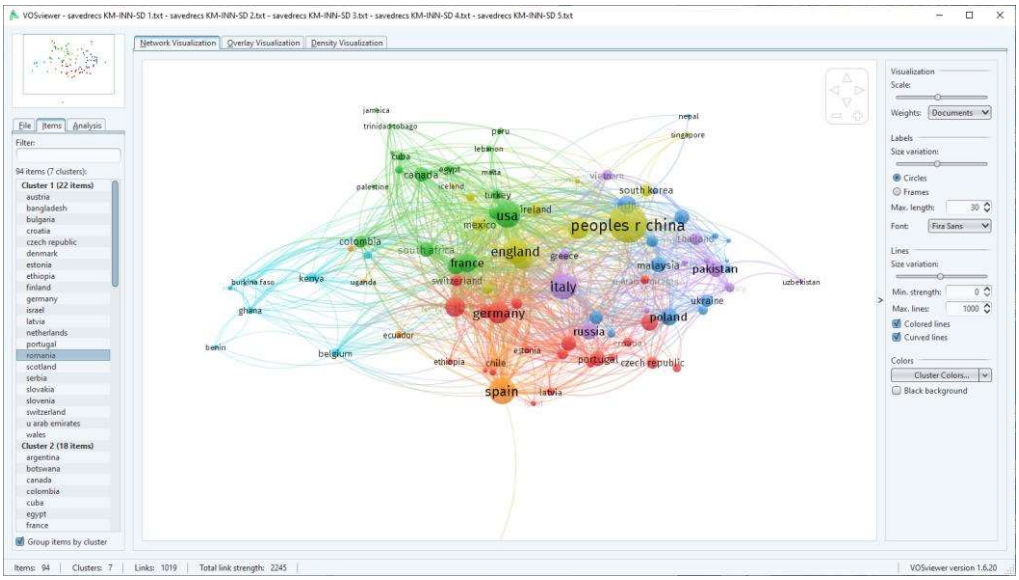

Figure 10. Countries of authorship affiliation for KM+INN+SD
(authors extraction from VOSviewer)

In Figure 11, we highlight the relations between Romanian authorship and other countries and should appreciate the link with four of the five top actors.

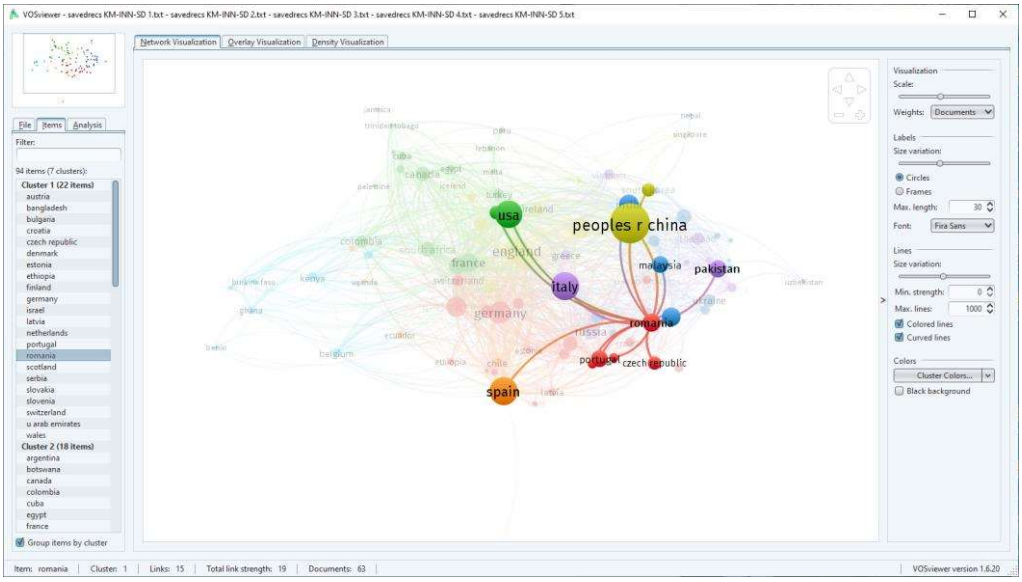

Figure 11. Romania authorship connections for KM+INN+SD
(authors extraction from VOSviewer)

Regarding the value of the papers based on the citations, only 205 papers out of a total of 2254 have a minimum of 50 citations, and the distribution is presented in Figure 12.

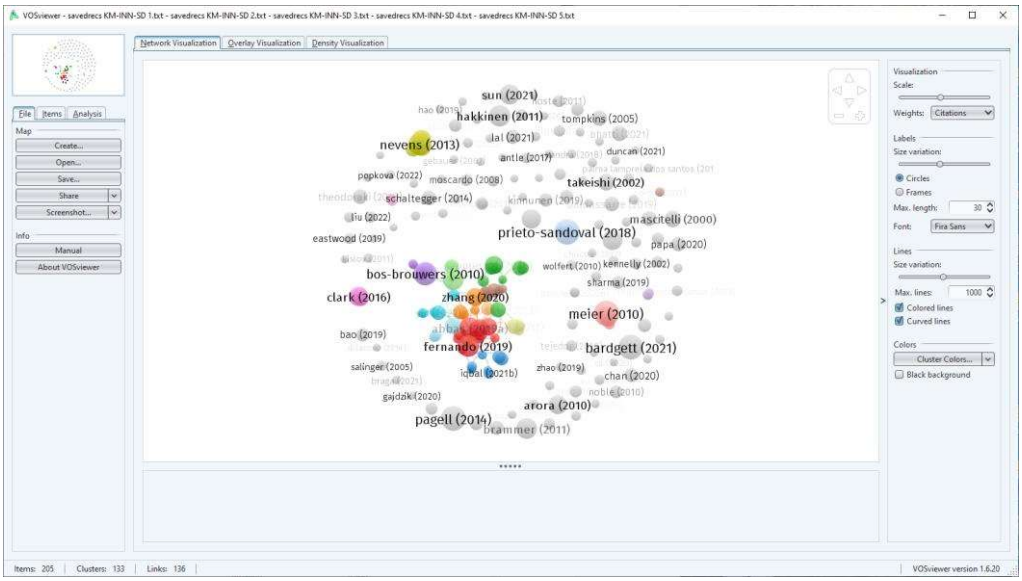

Figure 12. Citations distribution for KM+INN+SD papers
(authors extraction from VOSviewer)

We are very interested in researching KM+INN+SD+RoE. Therefore, we extracted the 48 identified papers for the second analysis. 258 keywords were identified, 11 with a co-occurrence of at least three, 26 with two, and 24 interrelated, organized in 4 clusters (Figure 13).

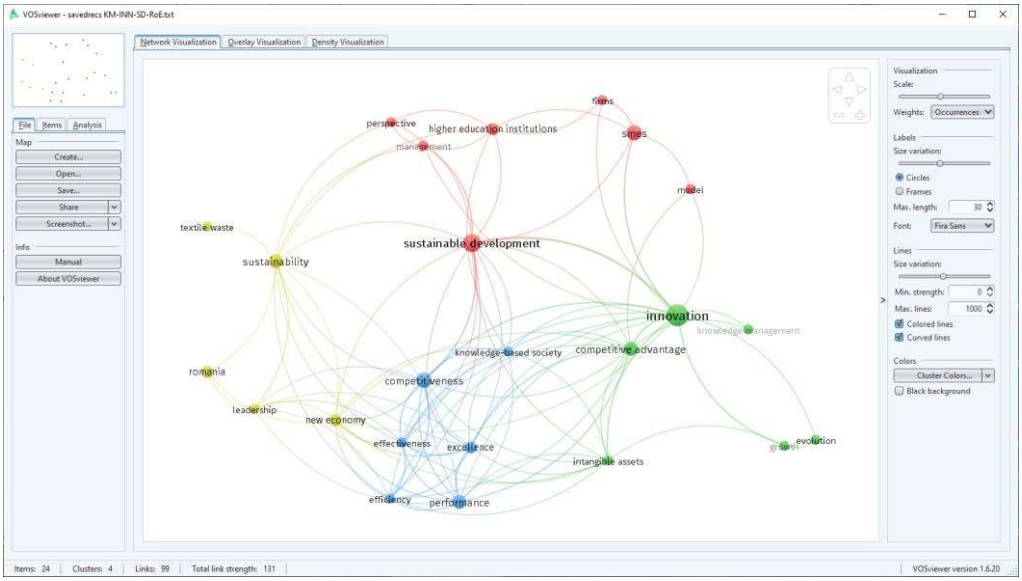

Figure 13. Keyword identification for KM+INN+SD+RoE papers
(authors extraction from VOSviewer)

The authorship reunites 142 researchers with at least one paper, 19 with strong relations. As expected, the larger share belongs to the Romanian authors, as can be seen in Figure 14, who have at least two papers on KM+INN+SD+RoE.

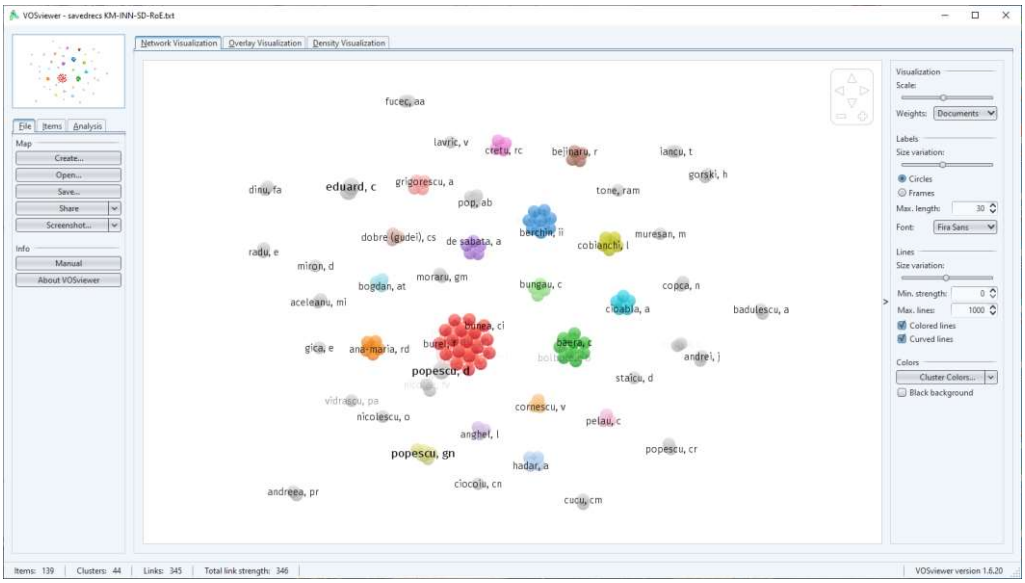

Figure 14. Authors with at least two papers on KM+INN+SD+RoE
(authors extraction from VOSviewer)

The nucleus of 19 authors with strong relations (Figure 15) can be a great advantage for the Romanian scientist, consolidating interest in complex studies on KM+INN+SD and its implications for RoE and developing new economic, business, or managerial models applicable locally or internationally.

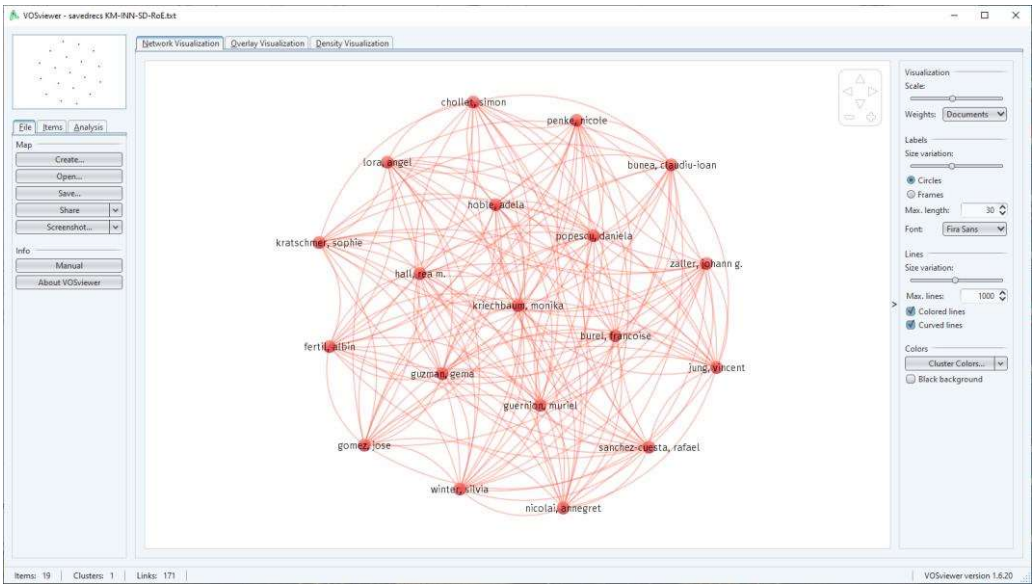

Figure 15. Authors network nucleus on KM+INN+SD+RoE
(authors extraction from VOSviewer)

In terms of the country of affiliation, the papers were developed in 28 countries, 27 of them interrelated (Figure 16).

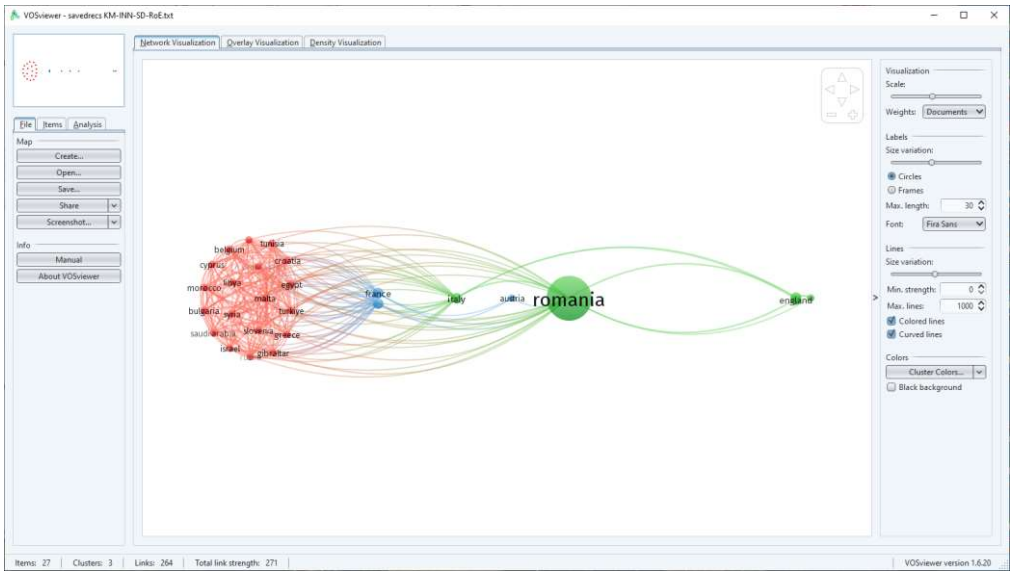

Figure 16. Countries network on KM+INN+SD+RoE
(authors extraction from VOSviewer)

The results above show that the interest paid to KM, INN, SD, and RoE individually was consistent for the main items and less for RoE, as expected. Considering combinations of items (pairs), the interest was 10 to 40 times less for the main items and between 71 to 386 times less for the main items with RoE. The evolution was of increasing the number of papers in two stages: slightly for the first 30 years and faster for the next 15, with different tendencies from 2019. The years 2019 to 2021 were marked by the COVID-19 crisis, which seems to be a prominent time that generates consistent changes. Interest in combining the topics appears 10 years later and, in our opinion, still has the potential to be explored consistently. The thematic clusters are reorganized, and the new keywords identified in co-occurrence are related to the twin transition, digital transformation, and green economy being on top.

It is difficult to talk about leading researchers in the field. Authorship is very widespread, with only 1% of the total having at least three papers. At the same time, we didn't identify networks or nuclei of researchers for KM+INN+SD. Hopefully, for KM+INN+SD+RoE, we can benefit from a network nucleus of 19 authors (Romanian and foreigners) that can be developed and strengthened.

The leading countries are the PRs of China, the USA, Italy, Spain, and Germany, and Romanian scientists collaborate with all of them except Germany.

Conclusions

Based on the present study's findings, we can identify potential areas for research in the context of KM, INN, and SD complex studies. Together, the domains provide an array of approaches to address interconnected intricate issues.

The best KM systems guarantee the availability of relevant knowledge by the right individuals at the right time to enhance innovation (Grigorescu et al., 2022). For example, knowledge repositories may contain best practices, allowing future projects to avoid bad practices and build on good ones. This is important, especially in industries such as renewable energy, in which updating oneself to industry knowledge, particularly the technological changes and market trends, is key (Shehzad et al., 2024).

Technological advancement and processes are essentials that help a company to attain sustainable development. New knowledge in green technology, including the use of solar energy and electric cars, points to the fact that innovation is pre-programmed to enhance ecological welfare. Likewise, innovations within education, including e-learning sources, help achieve SDG 4 (Quality Education) by availing learning in the farthest corners of society and among underprivileged groups (Khan et al., 2022; Shulla et al., 2020).

KM and innovation management can follow principles of sustainable development. Companies are beginning to incorporate sustainability KPIs into innovation management while considering ESG goals to meet their new product or process development objectives.

While the importance of these interconnections is widely recognized, several research gaps need to be addressed:

- Most of the KM systems introduced within organizations address efficiency and financial objectives, not sustainability ones. It is also important to uncover how knowledge management frameworks can be effectively developed to target important forms of knowledge, including sustainable practices and results.
- While much is said about how innovations help in achieving sustainability, there is scant research available on how they really work. For example, electric vehicles emit fewer greenhouse gases. However, their manufacturing utilizes scarce earth minerals with their impact on the environment and society.
- Building an organizational culture for KM and innovation while embracing sustainability remains a major task. It is crucial to continue studying how changes can occur in organizations and make many disparate stakeholders pull in the same direction.
- It is, however, important to note that developments in KM and innovation are facilitated through advanced technologies, which are out of reach in most organizations in developing countries. There is a dearth of empirical work that can identify cost-effective and feasible ways to make these tools more accessible to a significantly larger population.

KM, INN, and SD research are essential to solving the multifaceted problems of the contemporary world. The findings can have practical implications across various sectors. The synergy between knowledge management and innovation may provide organizations with potential means to enhance their efficiency and improve the sustainability of the practices adopted within firms (Li et al., 2023). This assists in attaining a competitive edge and in satisfying legal and customer requirements of environmentalism. Regulators can apply systematic knowledge about the factors that lead to sustainable technologies, such as tax benefits for green products or research subsidies for circular systems. Research can encourage cross-border cooperation as it enlightens the world on how other countries work under different conditions and allows the sharing of knowledge and technology between these countries (Lam et al., 2021; Ghobakhloo et al., 2021; Grigorescu et al., 2021).

There is a vast and relatively uncharted area of research at the intersection of KM, INN, and SD. It is, therefore, informative to comprehend how these fields relate to the current environment of emergent technology and premier global issues. Therefore, by bridging existing research gaps for this sort of knowledge contribution and by focusing our knowledge creation on practical applications, scholars and practitioners can help to establish a more sustainable and equitable future (Bratianu et al., 2024). Further research in these areas will contribute to expanding knowledge in specific disciplines help formulate vital changes in organizational and societal conduct and prepare them for

sustainable development in the future. The study limits are the exploration of papers indexed only in the WoS database; a comparison with other databases, such as Scopus and Google Scholar, could offer a more accurate perspective. At the same time, the analyses were done only on the keywords for title, author keywords, and abstract and were not based on the content. From the analyzing tools, only WOSviewer was used.

Further study developments can include using multiple databases to extract information and content and multiple analyzing tools such as R-Bibliometrix, Biblioshiny interface, CiteSpace, text mining, etc. A deep analysis of the content of highly cited papers and hot papers will reveal, in our opinion, the most important research topics to be explored in the near future.

References

Abbas, J., & Sağsan, M. (2019). Impact of knowledge management practices on green innovation and corporate sustainable development: A structural analysis. *Journal of cleaner production*, *229*, 611-620.

Akram, K., Siddiqui, S. H., Nawaz, M. A., Ghauri, T. A., & Cheema, A. K. H. (2011). Role of knowledge management to bring innovation: An integrated approach. *Cell*, *92*(333), 6183035.

Alavi, M., & Leidner, D. E. (2001). Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS Quarterly*, 107-136.

Arsawan, I. W. E., Koval, V., Rajiani, I., Rustiarini, N. W., Supartha, W. G., & Suryantini, N. P. S. (2022). Leveraging knowledge sharing and innovation culture into SMEs sustainable competitive advantage. *International Journal of Productivity and Performance Management*, *71*(2), 405-428.

Bocken, N., & Ritala, P. (2022). Six ways to build circular business models. *Journal of Business Strategy*, *43*(3), 184-192.

Bolisani, E., & Bratianu, C. (2017). Knowledge strategy planning: An integrated approach to manage uncertainty, turbulence, and dynamics. *Journal of Knowledge Management*, *21*(2), 233-253.

Bratianu, C. (2022). *Knowledge strategies*. Cambridge University Press, Cambridge.

Bratianu, C., & Murakawa, H. (2004). Strategic thinking. *Transactions of JWRI*, 33(1), 79-89.

Bratianu, C., Garcia-Perez, A., Dal Mas, F., & Bedford, D. (2024). *Knowledge Translation,* Emerald Publishing Limited, Leeds.

Bouncken, R. B., Kraus, S., & Roig-Tierno, N. (2021). Knowledge- and innovation-based business models for future growth: Digitalized business models and portfolio considerations. *Review of Managerial Science*, *15*(1), 1-14.

Chichilnisky, G. (1999). What is sustainable development? In *Man-Made Climate Change: Economic Aspects and Policy Options* (pp. 42-82). Heidelberg: Physica-Verlag HD.

Di Vaio, A., Palladino, R., Pezzi, A., & Kalisz, D. E. (2021). The role of digital innovation in knowledge management systems: A systematic literature review. *Journal of business research*, *123*, 220-231.

Farida, I., & Setiawan, D. (2022). Business strategies and competitive advantage: The role of performance and innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, *8*(3), 163.

Ghobakhloo, M., Iranmanesh, M., Grybauskas, A., Vilkas, M., & Petraitė, M. (2021). Industry 4.0, innovation, and sustainable development: A systematic review and a roadmap to sustainable innovation. *Business Strategy and the Environment*, *30*(8), 4237-4257.

Gómez-Marín, N., Cara-Jiménez, J., Bernardo-Sánchez, A., Álvarez-de-Prado, L., & Ortega-Fernández, F. (2022). Sustainable knowledge management in academia and research organizations in the innovation context. *The International Journal of Management Education*, *20*(1), 100601.

Grigorescu, A., Zamfir, A. M., Sigurdarson, H. T., & Lazarczyk Carlson, E. (2022). Skill needs

among European workers in knowledge production and transfer occupations. *Electronics*, *11*(18), 2927.

Grigorescu, A.; Ion, A.-E.; Lincaru, C.; Pirciog, S. (2021). Synergy analysis of knowledge transfer for the energy sector within the framework of sustainable development of the European Countries. *Energies* 2022, *15*, 276. https://doi.org/10.3390/en15010276

Halkos, G., & Gkampoura, E. C. (2021). Where do we stand on the 17 Sustainable Development Goals? An overview on progress. *Economic Analysis and Policy*, *70*, 94-122.

Idrees, H., Xu, J., Haider, S. A., & Tehseen, S. (2023). A systematic review of knowledge management and new product development projects: Trends, issues, and challenges. *Journal of Innovation & Knowledge*, *8*(2), 100350.

Kahn, K. B. (2018). Understanding innovation. *Business Horizons*, *61*(3), 453-460.

Kasinathan, P., Pugazhendhi, R., Elavarasan, R. M., Ramachandaramurthy, V. K., Ramanathan, V., Subramanian, S., ... & Alsharif, M. H. (2022). Realization of sustainable development goals with disruptive technologies by integrating industry 5.0, society 5.0, smart cities and villages. *Sustainability*, *14*(22), 15258.

Khan, P. A., Johl, S. K., Akhtar, S., Asif, M., Salameh, A. A., & Kanesan, T. (2022). Open innovation of institutional investors and higher education system in creating open approach for SDG-4 quality education: a conceptual review. *Journal of Open Innovation: Technology, Market, and Complexity*, *8*(1), 49.

Kline, S. J., & Rosenberg, N. (2010). An overview of innovation. *Studies on science and the innovation process: Selected works of Nathan Rosenberg*, 173-203.

Lam, L., Nguyen, P., Le, N., & Tran, K. (2021). The relation among organizational culture, knowledge management, and innovation capability: Its implication for open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, *7*(1), 66.

Lee, K. H., Noh, J., & Khim, J. S. (2020). The blue economy and the United Nations' sustainable development goals: Challenges and opportunities. *Environment International*, *137*, 105528.

Li, X., Wu, T., Zhang, H. J., & Yang, D. Y. (2023). National innovation systems and the achievement of sustainable development goals: Effect of knowledge-based dynamic capability. *Journal of Innovation & Knowledge*, *8*(1), 100310.

Lopes, C. M., Scavarda, A., Hofmeister, L. F., Thomé, A. M. T., & Vaccaro, G. L. R. (2017). An analysis of the interplay between organizational sustainability, knowledge management, and open innovation. *Journal of cleaner production*, *142*, 476-488.

Mallik, A. K. (2023). The future of the technology-based manufacturing in the European Union. *Results in Engineering*, *19*, 101356.

McInerney, C. (2002). Knowledge management and the dynamic nature of knowledge. *Journal of the American Society for Information Science and Technology*, *53*(12), 1009-1018.

Mondejar, M. E., Avtar, R., Diaz, H. L. B., Dubey, R. K., Esteban, J., Gómez-Morales, A., ... & Garcia-Segura, S. (2021). Digitalization to achieve sustainable development goals: Steps towards a Smart Green Planet. *Science of The Total Environment*, *794*, 148539.

Parris, T. M., & Kates, R. W. (2003). Characterizing and measuring sustainable development. *Annual Review of environment and resources*, *28*(1), 559-586.

Shehzad, M. U., Zhang, J., Dost, M., Ahmad, M. S., & Alam, S. (2024). Knowledge management enablers and knowledge management processes: A direct and configurational approach to stimulate green innovation. *European Journal of Innovation Management*, *27*(1), 123-152.

Shulla, K., Filho, W. L., Lardjane, S., Sommer, J. H., & Borgemeister, C. (2020). Sustainable development education in the context of the 2030 Agenda for sustainable development. *International Journal of Sustainable Development & World Ecology*, *27*(5), 458-468.

Styhre, A. (2002). The knowledge-intensive company and the economy of sharing: rethinking utility and knowledge management. *Knowledge and Process Management*, *9*(4), 228-236.

Tiwari, S. P. (2022). Knowledge management strategies and emerging technologies--An overview of the underpinning concepts. *arXiv preprint arXiv:2205.01100*.

Tsalis, T. A., Malamateniou, K. E., Koulouriotis, D., & Nikolaou, I. E. (2020). New challenges for corporate sustainability reporting: United Nations' 2030 Agenda for sustainable development and the sustainable development goals. *Corporate Social Responsibility and Environmental Management*, *27*(4), 1617-1629.

Van Eck, N.J., & Waltman, L. (2014). Visualizing bibliometric networks. In Y. Ding, R. Rousseau, & D. Wolfram (Eds.), *Measuring scholarly impact: Methods and practice* (pp. 285–320). Springer. http://dx.doi.org/10.1007/978-3-319-10377-8_13.

Van Eck, N.J., Waltman, L. (31 October 2023) Manual for VOSviewer version 1.6.17, Centre for Science and Technology, Leiden University, The Netherland. Disponibil la VOSviewer - Visualizing scientific landscapes