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Preface

Organizing is an evolutionary phenomenon, distinctive because of the laws of existence and maintaining all structures in all processes of their functioning. As such, it is a civilizational phenomenon also that occurs as a component of human, individual and social activities and as a factor in the overall development of man and society. On the other hand, as a deliberate human activity, organizing involves seeking solutions to problems that occur on the way to achieving specific goals. No goal can be achieved without appropriate or necessary, or at least minimal organization of conditions, factors, and processes needed for goal achievement. However, the new era requires new types of leaders and managers, and new forms of organization; demands those who are willing and able to lead the company/corporation/state, in a distinct competitive environment, with all the good and bad sides brought by the globalization of world economy.

The purpose of the annual LIMEN conference is to support the power of scientific research and dissemination of the research results with the objective to enhance society by advancing knowledge; policy-making change, lives, and ultimately, the world. Our objective is to continue to be the foremost annual conference on cutting-edge theory and practice of leadership, innovations, management, and economics, encouraging advancement via excellence, and interaction.

LIMEN conference aims to bring together the international academic community (experts, scientists, engineers, researchers, students, and others) and enable interactive discussions and other forms of interpersonal exchange of experiences and popularization of science and personal and collective affirmation.

The annual LIMEN conference is committed to the highest standards of publishing integrity and academic honesty ensuring ethics in all its publications. Conformance to standards of ethical behavior is therefore expected of all parties involved: authors, editors, reviewers, and the publisher. The conference organizer follows the Committee on Publication Ethics (COPE) guidelines on how to deal with potential acts of misconduct.

All received full papers prior peer review process are subject to plagiarism check with iThenticate by Turnitin software. Any identified plagiarism automatically disqualifies a paper. Afterward, all full papers are double-blind peer-reviewed by the reviewers drawn from the editorial committee or external reviewers depending on the topic, title, and the subject matter of the paper. Peer reviewers provide a critical assessment of the paper and may recommend improvements. Although the author may choose not to take this advice, we highly recommend that the author address any issues, explaining why their research process or conclusions are correct.

Association of Economists and Managers of the Balkans headquartered in Belgrade – Serbia along with the partner institutions, namely the Faculty of Engineering Management - Belgrade, Serbia; Modern Business School - Belgrade, Serbia; the University of Novo Mesto, Faculty of Business and Management Sciences, Slovenia; the University of Novo Mesto, Faculty of Economics and Informatics, Slovenia; Business Academy Smilevski - BAS, Skopje, North Macedonia; and BAS Institute of Management, Bitola, North Macedonia organized 7th International Scientific-Business Conference titled: Leadership, Innovation, Management, and Economics: Integrated Politics of Research – LIMEN 2021 on December 16, 2021.

Bearing in mind the challenges of a dynamic engagement in contemporary organizations, it is clear that the analysis of these important subjects should be applied interdisciplinary approach. For this reason, the main theme of the conference LIMEN 2021 was processed through the following key topics:

- COVID-19 Pandemic Influence on Business Operations and Management
- · Leaders and Leadership
- Entrepreneurship
- Innovation
- Creativity
- Management of Small and Medium-sized Enterprises
- Contemporary Strategic Management
- Financial Management and Banking
- Marketing Management
- Project Management
- GREEN Management
- Natural Resource Management
- · Quality Management

- Management of New Technologies
- Management Information Systems
- Education Management
- Intercultural Management
- Public Sector Management
- Human Resources Management
- · Organizational Behavior
- · Business Ethics
- Macroeconomics
- Microeconomics
- Finance
- Marketing
- Labour Law
- Business Law

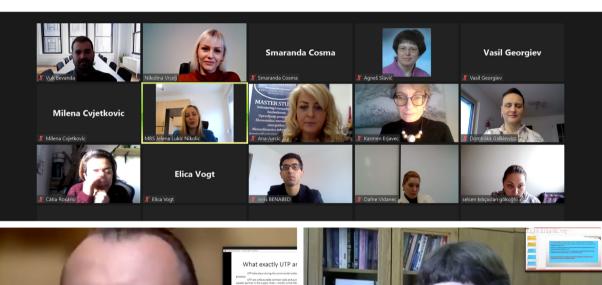
LIMEN 2021 keynote speaker was Prof. Dr Dominika Gałkiewicz representing the University of Applied Sciences Kufstein, Tirol, Kufstein, Austria with the topic "Sustainability Regulation and Reporting: Trends in the Dach Region".

Within publications from LIMEN 2021 conference:

- 15 double peer-reviewed papers have been published in the Selected Papers International Scientific-Business Conference LIMEN 2021,
- 39 double peer-reviewed papers have been published in the Conference Proceedings International Scientific-Business Conference LIMEN 2021,
- 70 abstracts have been published in the Book of Abstracts International Scientific-Business Conference LIMEN 2021.

Altogether LIMEN 2021 publications have more than 600 pages. All full papers have DOI numbers and ORCID iD integration.

Participation in the conference took nearly 140 researchers with the abstracts/papers representing 16 different countries from different universities, eminent faculties, scientific institutes, colleges, various ministries, local governments, public and private enterprises, multinational companies, associations, etc.







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Are SMEs Ready for the Transition Towards Circular Economy? Proposal for an Assessment Framework

Francesca Gennari¹

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Keywords:

Small and medium enterprises (SMEs); Circular economy; Business model; Framework; Transition management

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Abstract: Small and medium enterprises (SMEs) contribute significantly to the European GDP and have a pivotal role in the ecological transition from linear to a circular economy (CE). SMEs, however, have more trouble than bigger firms making their business models circular. This article analyses the key factors that SMEs should manage for a strategic transition towards CE. Based on qualitative content analysis on the existing literature about CE in SMEs, we identify governance, relations with stakeholders and innovation as CE key pillars. It is also found that SMEs' attitude toward them changes during the transition process. The article contributes to filling a gap in the research about SMEs' transition towards circularity and provides a conceptual framework for SMEs' self-assessment in the transition path.

1. INTRODUCTION

The health emergency caused by Covid-19 stressed the vulnerability of the traditional development model concerning the environment, economy and wealth protection, emphasising the importance of resilience as an attitude able to generate economic opportunities whilst returning environmental and social benefits. The change from linear to circular economy (CE) can be the legitimate answer to many critical issues in the current economic development situation concerning the overproduction of waste, global warming, and the unbalanced consumption of resources by people in the world.

CE is more sustainable management of the natural resources incorporating a regenerative system (Ellen MacArthur Foundation, 2013; European Commission, 2015; Bocken et al., 2016; Korhonen et al., 2018) which is characterized by a closed loop achievable through long-lasting design, maintenance, repair, reuse, remanufacturing, refurbishing and recycling (Geissdoerfer, 2017).

European small and medium enterprises (SMEs) account for 99% of total EU business and the European Union remarked their pivotal role in the shift to a more sustainable economic development. Some characteristics of SMEs, as the owner-manager and the informal relations and communication processes, however, slow down the transition to formalised and structured sustainability practices (Russo and Tencati, 2009). Therefore, the sustainability approach of SMEs tends to remain silent (Jenkins, 2004; Matten and Moon, 2004; Ormazabal et al., 2018) highlighting the importance to encourage the SMEs' strategic transition to CE by means of a change in their business models.

In this paper, we refer to transition management theory to emphasize both the role of firms in structural and global changes and the role of regulators, policymakers and institutions in creating the conditions to facilitate the circular transition.

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The research question leading our study is the following: What are the most important factors/pillars on which the transition towards CE is based within SMEs?

To answer this question, we aim at offering a novel conceptualization of SMEs' CE transition suggesting a conceptual framework to understand the complex and long-term process, characterized by different maturity steps, which distinguishes the circular shift of small and medium enterprises.

This paper contributes to the academic research filling an existing gap in the literature about SMEs and circular economy with a novelty approach. It also provides a firm-level tool to assess the circular transition with potential applicative impacts.

2. BACKGROUND AND LITERATURE REVIEW

This paper refers to the Transition Management theory as the theoretical background to deal with problems linked to complex societal sustainability challenges (Van Bakel et al., 2009). The transition approach embraces two literature branches: The Multi-Level Perspective (MLP), which focuses on the actions by multiple actors to achieve the desired outcomes, and the Transition Management (TM) which states the deliberate influence by actors in the transition process. TM literature suggests frameworks for aligning the different stakeholders' actions on some common key factors to achieve the desired results, but they have been criticized for their limitations as the scarce consideration of multi-system interactions and the politics of transition (Hoppe et al., 2016; El Bilali, 2020), their disregard of the firm-level perspective (Mendoza et al., 2017; Brendzel-Skowera, 2021), the lack of an integrated vision of the business within a general concept of sound governance (Loorbach, 2007), the absence of the explanations about the way firms move forward from one stage of transition to the next (Jabbour, 2010; Ormazabal et al., 2015)

In this paper we aim at identifying and analysing the key factors for a transition towards CE regarding the SMEs, going beyond the existing frameworks and contributing to the existing literature. In fact, many types of research about the topic exist, debating the reasons why or why not SMEs are approaching the circular principles (Rizos et al., 2016; Pheifer, 2017; Kirchherr et al., 2018; Yadow et al., 2018; Siegel et al., 2019; Tura et al., 2019), the conceptualization of Circular Business Models (Brendzel-Skowera (2021), the different stages firms go through in the progress for green practices (Ormazabal et al., 2015; Brendzel-Skowera, 2021), the different SMEs' attitude to environmental matters in assessing their 'green management' maturity (Hubbard, 2009; Jabbour, 2010; Klewitz and Hansen, 2011). These contributions, however, highlight a research gap regarding the key factors of the sustainability transition that SMEs should manage to drive towards circularity (Bassi and Dias, 2019; Brendzel-Skowera, 2021) according to a strategic and long-term vision.

3. RESEARCH: METHODOLOGY AND RESULTS

This study applies a qualitative content analysis on selected academic contributions in the field of circular economy applied within SMEs for answering our research question: What are the most important factors/pillars on which the transition towards CE is based within SMEs?

We searched the Web of Science (WoS) database for academic publications using the query string 'Circular Economy + Small and Medium Enterprise' in all fields. Figure 1 shows the

selection process. On the selected papers we looked for CE barriers and enablers as points to which we pay special attention to understand the main factors of the transition to CE.

Qualitative content analysis (Sargeant et al., 2006; Munn et al., 2018; Chen et al., 2020) gave us a series of firms' factors enabling or limiting the application of CE within SMEs.

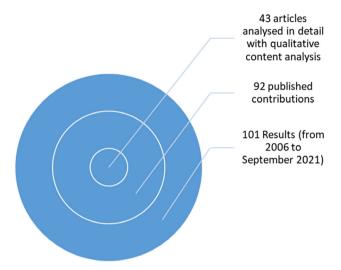


Figure 1. The selection process **Source:** Web of Science (WoS) database

These factors have been coded first in sub-categories and then in categories obtaining three fundamental pillars for CE transition (Figure 2): (a) governance (structures, processes and information flows which guarantee the transformation of resources in value for stakeholders); (b) relations with stakeholders (that ensure closing the circular loop); (c) innovation in product, processes, business models and organization (that is the base for the transition from the linear economy to the CE).

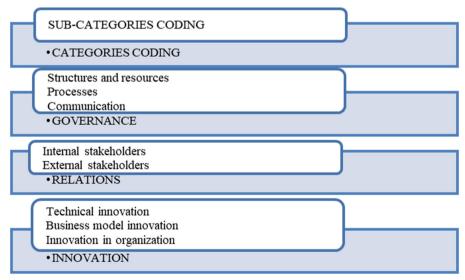


Figure 2. The Coding Frame **Source:** Web of Science (WoS) database

The business management literature confirms the importance of the identified pillars for the long-term success of firms, but it doesn't approach them according to an integrated approach (Gennari and Cassano, 2020).

Based on the literature review concerning the three identified CE pillars, we were able to propose a conceptual framework (Table 1) according to the TM approach. In fact, the transition process towards sustainability goes through different stages (Noci and Verganti, 1999; Jabbour, 2010; Girotra and Netessine, 2011; Klewitz and Hansen, 2011; Ormazabal et al., 2015; Saidani et al., 2017; Chen et al., 2020; Brendzel-Skowera, 2021; Holzer et al., 2021), which can be summarized in three firms' approaches: reactive approach (sustainability behaviours are dominated by external pressures, as regulations from governments, authorities and stakeholders); proactive approach (the effort to reduce environmental impacts goes forward external and upcoming pressures); innovative approach (the impetus for innovation involves every activity carried out within the firm depicting a new vision of the future and transforming the firm in one of the leading companies thanks to focused marketing and communication).

Proactive Reactive Innovative Beyond compliance Pressures by market demand Sustainability into the strategy Development of No special expertise or skills Green communication Governance organizational capabilities Occasional environmental No systematization of Maximum engagement practices environmental activities of entrepreneur and management Pressures by stakeholders Local cluster Industrial symbiosis Relations Occasional relations in the Collaboration with some Collaboration with value chain stakeholders categories knowledge institutions Emphasis on costs reduction Partial innovation in products Radical innovation engaging Innovation and services the business model

Table 1. The Transition Process to CE

Source: Own research

4. DISCUSSION

The results of this paper identify in governance, relations with stakeholders and innovation, the three CE pillars for a strategic transition to CE by SMEs. These pillars were already studied by business administration literature but without an integrated approach and without emphasizing the transition management approach. Based on the results we developed a conceptual framework that contributes to highlight that the three founding pillars act together and evolve in the CE transition.

The conceptual framework was tested in a small enterprise operating in the bioenergy industry in the Region of Lombardy (Italy). The tested firm belongs to the agricultural sector and started the biogas business in 2012 with an average production of 5 GWh energy per annum. Biogas is considered a clear example of CE because the gas production comes from crop residues and animal manure allowing to close the circular loop inside the farm.

We proposed our framework to the entrepreneur, asking him to indicate on a scale of value the firm's attitude with regard to the different issues in the framework (1. Totally agree with/Things done; 2. Partially agree with/Things partially done; 3. Things to do).

We first observed that the transition speed of the firm is not homogeneous concerning the different pillars. The firm can be positioned halfway between reactive and proactive steps, committed to anticipating only a few challenges of circular transition without an integrated

approach. The entrepreneur started the biogas project because of external opportunities and convenience (government incentives), but without prior knowledge in the CE and engagement by the employees. He passed from the initial reactive step pressured by an external factor to the proactive one thanks to more awareness about the benefits project would take in the future. He is conscious of the importance that a radical innovation on the whole existing business model (biogas plant and farm) could have for the market growth of the firm.

The most critical aspect seems to be the relations with external stakeholders, in particular the difficulties in creating networks and stable relations with suppliers to catch all the opportunities of closing the loop in the entire value chain.

5. CONCLUSION

This study contributes to the existing literature filling a gap in the research about the transition of SMEs towards CE, emphasizing the need for a dynamic vision and integrated management of key different dimensions. This paper goes beyond the fragmented and focused research on CE giving importance to two aspects: approaching the circularity business as a strategic and new vision of the future that cannot be confined in occasional and fragmented actions, and gaining awareness that the transition to CE should be managed both by firms and institutions as a dynamic process.

We conceptualize the findings in a theoretical framework that depicts the different attitudes SMEs can have with respect to the CE founding pillars depending on their knowledge and awareness of circularity. This framework can contribute to practice as an assessment tool. The example case proved that CE transition in SMEs can move with different speeds regarding the different key pillars. For this reason, SMEs have to be educated to gain full consciousness about the need to rethink their business models according to the three CE pillars when they decide to embrace the circular approach. Furthermore, the awareness by policymakers about the different SMEs' attitudes for these pillars can be a valid support in the definition of global or industry policies.

Our study suffers from some limitations. We conceptualized the theoretical framework based on the academic literature to date and tested it on a single example case. Hence, we suggest some directions for future research. Additional qualitative or quantitative research is welcome to give evidence of different ways to manage CE practices by SMEs. Further studies could apply the conceptual framework to other SMEs, also at the industry (meso) or national (macro) level to give evidence about the effectiveness of CE support actions by policymakers.

The European Union is actively involved in encouraging SMEs to make a faster transition to green business by international funds as the Next Generation EU programme, which binds a part of the sums received by countries in green initiatives, the European measures of the Just Transition Fund and InvestEU, the many initiatives available on the European Cluster Collaboration Platform. The path for a green and fair transition is traced. More contributions from scholars are needed to make SMEs more conscious about the need to face it according to a strategic vision of the future.

REFERENCES

- Bassi, F., & Dias, J. G. (2019). The use of circular economy practices in SMEs across the EU. *Resources, Conservation & Recycling*, 146, 523-533. https://doi.org/10.1016/j.resconrec.2019.03.019
- Bocken, N.M.P., de Pauw, I., Bakker, C., & van der Grinten, B. (2016). Product design and business model strategies for a circular economy. *Journal of Industrial and Production Engineering*, 33, 308–320. https://doi.org/10.1080/21681015.2016.1172124
- Brendzel-Skowera, K. (2021). Circular Economy Business Models in the SME Sector. *Sustainability, 13*, 7059. https://doi.org.10.3390/su13137059
- Chen, L., P. Hung, & Ma, H. (2020). Integrating circular business models and development tools in the circular economy transition process: A firm-level framework. *Business Strategy and the Environment*, 29, 1887-1898. https://doi.org/10.1002/bse.2477
- El Bilali, H. (2020). Transition heuristic frameworks in research on agro-food sustainability transitions. *Environment, Development and Sustainability, 22*, 1693–1728. https://doi.org/10.1007/s10668-018-0290-0
- Ellen MacArthur Foundation (EMF) (2013). Towards the Circular Economy. https://www.ellen-macarthurfoundation.org/assets/downloads/publications/Ellen-MacArthur-Foundation-Towards-the-Circular-Economy-vol.1.pdf. Accessed on Aug. 2, 2021.
- European Commission (2015). Closing the loop An EU action plan for the Circular Economy COM/2015/0614 final. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52015DC0614. Accessed on Nov. 5, 2021
- Geissdoerfer, M., P. Savaget, N. M., Bocken, P., & Hultink, E. J. (2017). The circular economy a new sustainability paradigm?. *Journal of Cleaner Production*, *143*, 757-768. https://doi.org/10.1016/j.jclepro.2016.12.048
- Gennari, F., & Cassano, R. (2020). Circular Economy and Strategic Risk. *Symphonya*, *1*, 136-148. http://dx.doi.org/10.4468/2020.1.11gennari.cassano
- Girotra, K., & Netessine, S. (2011). How to build risk into your business model? Smart companies design their innovations around managing risks. *Harvard Business Review*, 89(5), 100-105.
- Holzer, D., Rauter R., Fleiß, E., & Stern, T. (2021). Mind the gap: Towards a systematic circular economy encouragement of small and medium-sized companies. *Journal of Cleaner Production* 298(1), 126696.https://doi.org/10.1016/j.jclepro.2021.126696
- Hoppe, T., Kuokkanen, A., Mikkilä, M., Kahiluoto, H., Kuisma, M., Arentsen, M., & Linnanen, L. (2016). System merits or failures? Policies for transition to sustainable P and N systems in The Netherlands and Finland. *Sustainability*, 8(5), 463. https://doi.org/10.3390/su8050463
- Hubbard, G. (2009). Measuring organizational performance: Beyond the triple bottom line. *Business Strategy and the Environment*, 18, 177-191. https://doi.org/10.1002/bse.564
- Jabbour, C. J. C. (2010). Non-linear pathways of corporate environmental management: A survey of ISO 14001-certified companies in Brazil. *Journal of Cleaner Production*, *18*, 1222–1225. https://doi.org/10.1016/j.jclepro.2010.03.012
- Jenkins, H. M. (2004). A critique of conventional CSR theory: An SME perspective. *Journal of General Management*, 29(4), 37–57. https://doi.org/10.1177/030630700402900403
- Kirchherr, J., Piscicelli, L., Bour, R., Kostense-Smit, E., Muller, J., Huibrechtse-Truijens, A., & Hekkert, M. (2018). M. Barriers to the Circular Economy: Evidence From the European Union (EU), *Ecological Economics*, 150, 264-272. https://doi.org/10.1016/j.ecolecon.2018.04.028
- Klewitz, J., & Hansen, E. G. (2011). Sustainability-oriented innovation in SMEs: A systematic literature review of existing practices and actors involved. Paper presented at the XXII International Society for Professional Innovation Management (ISPIM) Conference, Hamburg, Germany, 12-15 June 2011.

- Korhonen, J., Honkasalo, A., & Seppälä, J. (2018). Circular Economy: The Concept and its Limitations. *Ecological Economics*, *143*, 37–46. https://doi.org/10.1016/j.ecolecon.2017.06.041
- Loorbach, D. (Ed.). (2007). *Transition Management: new Mode of Governance for Sustainable Development*, Utrecht: International Books.
- Matten, D., & Moon, J. (2004). A conceptual framework for understanding CSR. In A. Habisch, J. Jonker, M. Wagner, & R. Schmidpeter (Eds.), *Corporate social responsibility across Europe* (pp. 335–356). Berlin: Springer.
- Mendoza J. M. F., Sharmina, M., Gallego-Schmid, A., Heyes, G., & Azapagic, A. (2017). Integrating back casting and eco-design for the circular economy: the BECE framework. *Journal of Industrial Ecology*, 21(3), 526-544. https://doi.org/10.1111/jiec.12590
- Munn, Z., Stern, C., Aromataris, E., Lockwood, C., & Jordan, Z. (2018). What kind of systematic review should I conduct? A proposed typology and guidance for systematic reviewers in the medical and health sciences. *BMC Medical Research Methodology, 18*(1), 1–9. https://doi.org/10.1186/s12874-017-0468-4
- Noci, G., & Verganti, R. (1999). Managing 'green' product innovation in small firms. *R&D Management*, 29, 3-15. https://doi.org/10.1111/1467-9310.00112
- Ormazabal, M., Sarriegi, J. M., Barkemeyer, R., Viles, E., & McAnulla, F. (2015). Evolutionary pathways of environmental management in UK companies. *Corporate Social Responsibility and Environmental Management*, 22, 169-181. https://doi.org/10.1002/csr.1341
- Ormazabal, M., Prieto, V., Sandoval, Puga-Leal, R., & Jaca, C. (2018). Circular economy in Spanish SMEs: challenges and opportunities. *Journal of Cleaner Production*, *185*, 157–167. https://doi.org/10.1016/j.jclepro.2018.03.031
- Rizos, V., Behrens, A., Van der Gaast, W., Hofman, E., Ioannou, A., Kafyeke, T., Flamos, A., Rinaldi, R., Papadelis, S., Hirschnitz-Garbers, M., & Topi, C. (2016). Implementation of Circular Economy Business Models by Small and Medium-Sized Enterprises (SMEs): Barriers and Enablers. *Sustainability*, 8(11), 1212. https://doi.org/10.3390/su8111212
- Russo, A., & Tencati, A. (2009). A. Formal vs. informal CSR strategies: Evidence from Italian micro, small, medium-sized, and large Firms. *Journal of Business Ethics*, 85, 339–353. https://doi.org/10.1007/s10551-008-9736-x
- Saidani, M., Yannou, B., Leroy, Y., & Cluzel, F. (2017). How to Assess Product Performance in the Circular Economy? Proposed Requirements for the Design of a Circularity Measurement Framework. *Recycling*, 2(1), 6. https://doi.org/10.3390/recycling2010006
- Sargeant, J. M., Rajic, A., Read, S., & Ohlsson, A. (2006). The process of systematic review and its application in agri-food public-health. *Preventive Veterinary Medicine*, 75(3–4): 141–151. https://doi.org/10.1016/j.prevetmed.2006.03.002
- Siegel, R., Antony, J., Garza-Reyes, J. A., Cherrafi, A., & Lameijer, B. (2019). Integrated green lean approach and sustainability for SMEs: From literature review to a conceptual framework. *Journal of Cleaner Production*, 240, 118205. https://doi.org/10.1016/j.jclepro.2019.118205
- Tura, N., Hanski, J., Ahola, T., Ståhle, M., Piiparinen, S., & Valkokari, P. (2019). Unlocking circular business: A framework of barriers and drivers. *Journal of Cleaner Production*, *212*(1), 90-98. https://doi.org/10.1016/j.jclepro.2018.11.202
- Van Bakel, J., Loorbach, D., Whiteman, G., & Rotmans, J. (2009). Business Strategies for Transitions Towards Sustainable Systems. *Business Strategy and the Environment*, 19(2), 133-146. https://doi.org/10.1002/bse.645
- Yadow, N., Gupta, K., Rani, L., & Rawat, D. (2018). Drivers of Sustainability Practices and SMEs: A Systematic Literature Review. *European Journal of Sustainable Development*, 7(4), 531-544. https://doi.org/10.14207/ejsd.2018.v7n4p531