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Sustainability in Supply Chains: A Review of Research Trends and Future Directions

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ABSTRACT

It has been discovered that there is a sense of increased awareness of sustainable supply chain (SSC) management in these expanding environmental, social, and economic viewpoints. Businesses are becoming increasingly aware of the importance of integrating sustainability into supply chain operations. It is employed to promote environmental responsibility and increase long-term value and competitiveness. Thus, this study's goals are to identify certain significant research areas, highlight significant discoveries, assess research methodologies, and recommend future SSC research directions in general. Therefore, a thorough assessment of the literature for extensively cited studies identifies four categories of research: theoretical and review-based works, certain uses of analytical tools, holistic supply chain analyses, and interpersonal surveys between suppliers and buyers. The findings then demonstrate that theoretical and conceptual research predominates in SSC literature when it comes to analytical procedures, such as life cycle assessment, carbon footprint analysis, and multi-criteria decision-making techniques. In order to accomplish sustainability goals, partners must be organized. According to different research that focus on a complete supply chains and cooperative partnerships. Therefore, this study emphasizes the necessity for additional experiential research that corrects theory and practice in a range of industrial contexts. Therefore, future research should examine concepts related to the circular economy, certain standardized sustainability metrics, and cutting-edge technologies like blockchain, AI, and digital twins in general. As a result, this assessment provides managers and legislators with helpful information about how to maximize environmental performance, reduce costs, and enhance collaboration for sustainable supply chain excellence.

Keywords: *Sustainability Supply Chain, Research fields, Trends in a Supply Chain, Research Review.*

INTRODUCTION

The Sustainable Development Goals (SDGs) of 2030 and digital technology are intimately related with each other. The digital progressions are essential in dealing with global matters as for example poverty, disparity, and climate change. The rising threat to human life postured by environmental ruin has made maintainable business practices even more vital. Using digital technology to recover the performance, reduce waste, and increase competence, Sustainable Supply Chain Management (SSCM) has become an important tool for mixing sustainability concepts into operations.

Moreover, the organizations have improved attractiveness and reduced costs by achieving real-time data nursing, process optimization, and teamwork among supply chain partners. These can be performed by the uses of automation, data analytics, and the Internet of Things (IoT) (Shashi et al., 2020; Sharma & Kaur, 2021). Making digital has changed obtaining and vendor relationships, promoting openness, competence, and teamwork as organizations shift their focus from short-term success to long-term survival (Bag et al., 2020). The energy management and sustainable results have improved because to Industry 4.0 capabilities including big data analytics and knowledge-sharing platforms (Chauhan & Singh, 2021).

Including sustainability into Supply Chain Functions (SCFs) while matching environmental, social, and economic areas has substituted the outdated purpose of supply chain management, which was a success after all (Jabbour et al., 2019; Tortorella et al., 2021). Measurement of Supply Chain Performance (SCP) has become indispensable for evaluating value networks external to the organizational boundaries and operative outcomes, mainly in emerging economies (Yadav et al., 2020; Dubey et al., 2017). SO, a paradigm fluctuation toward integrating the social, environmental, and fiscal aspects of the triple bottom line into supply chain operations is imitated in the development of SSCM. Therefore, the performance frameworks and the future research gaps have been recognized with the assistance of a systematic literature reviews (Seuring & Müller, 2008).

In modern days, digital technologies facilitate sustainability by enabling businesses to analyze, monitor, and minimize their environmental impact. While digitalization has enhanced supply chains' real-time visibility, agility, and responsiveness, artificial intelligence (AI), IoT, and analytics have enabled data-driven decision-making (Gunasekaran et al., 2019; Bag et al., 2020). Additionally, the shift to circular economy models that prioritize resource efficiency, waste reduction, and sustainable value generation has been expedited by digitalization. Blockchain has improved supply chain transparency and traceability, while Big Data Analytics (BDA) and the Internet of Things (IoT) have been acknowledged as revolutionary technologies for tracking production and consumption patterns (Saberi et al., 2019).

According to the notion of supply chain management, effective planning, sourcing, production, and delivery management guarantees sustainability and customer satisfaction (Mentzer et al., 2001). A comprehensive strategy that balances economic, social, and environmental concerns for both the current and future generations is known as sustainable development. Concerning global statistics highlight the critical need for inclusive, sustainable, and quantifiable progress,

such as the fact that over 40% of people earn less than USD 1.25 a day and that the number of people living in slums is increasing (United Nations, 2015). It has been suggested that Sustainability Indicator Functions (SIFs) be used as instruments to assess performance and implement sustainability measures throughout the supply chain. Achieving effective, transparent, and moral supply chains has been seen to depend on integrating SSCM with SDGs through stakeholder involvement, which includes workers, suppliers, governments, and communities.

Research on the measurable effects of digital technology on sustainability outcomes is still scarce, despite notable progress (Mangla et al., 2021). Examining how Technology Adoption (TA) in Digital Supply Chain Management (DSCM) improves SSCM efficacy is what makes current research novel. Future studies should concentrate on creating useful models and experimentally validated frameworks for combining sustainability with digitalization. Two research topics have been developed to fill this gap:

RQ1: How can sustainable practices and digital technology be successfully used to build supply chains that are ecologically conscious?

RQ2: How may supply chains apply sustainability functions to improve long-term performance?

In order to ensure equitable and sustainable industrial growth, future research can help build robust, flexible, and morally sound global supply chains that are in line with the SDGs.

SUPPLIES AND PROCEDURES

The association between supply chain management, some digital enablers, concept of sustainable development, and also for sustainable supply chain management (SSCM) can be determined, a systematic review was carried out by Koberg & Longoni, 2019; and Attaran, 2020. The terms "sustainability and sustainable supply chain management" and also "digital supply chain," found in some articles from 2011 to 2022 and those are mainly belongs to Scopus databases. Moreover, 543 papers were ultimately considered for review out of the 989 publications where those terms are mostly used. The reason behind this review was to examine the relationship between SSCM and sustainable development. It is for this to offer some visions into the mass of current research.

The concept mentioned by Hayes and Krippendorff (2007) was accepted to conduct a reliability test for a content analysis. Hence, as a result of an analysis using SPSS software yield the value of Cronbach's alpha is 0.83. This value is an indication for satisfactory reliability. Again, as a result of some significant research mechanism the frequency of used keywords and sustainability related topics in supply chain management were also analysed along with the previous one.

Considering the extensive coverage and dependability, which is recognised as a source of peer-reviewed research, the bibliometric and some bibliographic data were used from Scopus databases mainly for descriptive analysis as stated by Goodell et al., 2021; Baas et al., 2020; AlRyalat et al., 2019. As a result of data retrieval from some pertinent papers, the most frequently used keywords, collected from earlier bibliometric research were employed

followed by Asgari et al., 2017; El Baz & Iddik, 2022; Hushko et al., 2021. Further, considering the bibliometric criteria from the original dataset was prepared. This can be done to remove contradictions and unjustified claims as performed by Donthu et al., 2021.

Based on some descriptive statistics collected from renowned publication sources the annual growth rates and the research themes were created. These ca further taken for analysing the cleaned data. Hence, some famous publications for SSCM research were found to be the part of International Journal of Production Economics, Sustainability, and the Journal of Cleaner Production.

The interconnection between SSCM and sustainability performance the inferential statistical analysis was done by using content analysis as performed by Yontar & Ersöz, 2021. After that, the text analytics was used also to quantify thematic occurrences and also to create reversing networks between SSCM and sustainability altogether. So, the idea conceptualizes that SSCM has a beneficial impact on sustainable development is nurtured by the fact that the three dimensions of sustainability *viz.* economic, environmental, and social were found in approximated 49% of the estimated literatures.

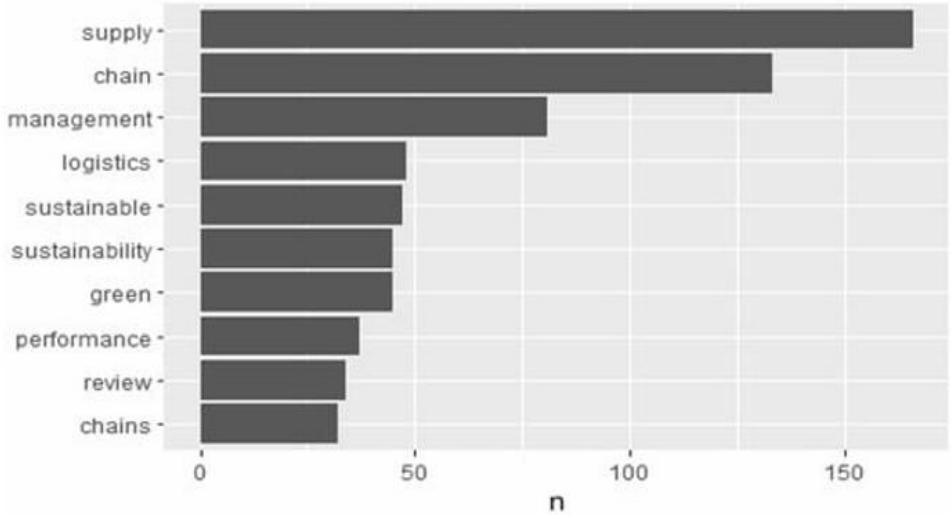

Figure-1: Frequencies of used Keyword in various reviewed publications.
Source: Kumar, A., Shrivastav, S. K., Shrivastava, A. K., Panigrahi, R. R., Mardani, A., & Cavallaro, F. (2023).

Inferential Statistics-This method is recognized as most trustworthy for such a kind of research where content analysis was used to create data and find emergent themes as stated by Hallinger, 2021. Hence to check the existing relationship between sustainability performance and Sustainable Supply Chain Management (SSCM), the aforesaid 543 already evaluated articles were taken care off. Therefore, the model was modified by Yontar and Ersöz ,2021 that basically used to illustrate that how text analytics help to generate a directional link between SSCM and sustainability.

It is praiseworthy to examine the hypothesis to justify whether a positive correlation between sustainable development and SSCM because is about 48.96% of the evaluated literature. The

literatures must cover the three aspects of sustainability e.g., economic, environmental, and social as mentioned by Yontar & Ersöz, 2021. Again, it is mentionable that 43, out of the 71 papers that covered all three characteristics indicated a favourable relationship, 10 from those presented a negative association, and 18 from the lists did not specifically cover the concept and word sustainability. Therefore, the most of the literatures considered as a whole and was supported by a favourable relationship between SSCM and sustainable development. Further, the association between SSCM practices as for example green procurement, green manufacturing, green logistics, and recycling are considered as a sustainability performance indicator across three dimensions namely economic, environmental, and social. Those dimensions were examined using cross-tabulation and chi-square tests as done by Rajesh, 2020. Moreover, a considerable correlation exists between SSCM practices and sustainability outcomes that was confirmed by the chi-square statistics. This may consist a p-value better than 0.05. The results clearly illustrate that SSCM is a complicated and internationally relevant phenomenon as mentioned by Yontar & Ersöz, 2021, before.

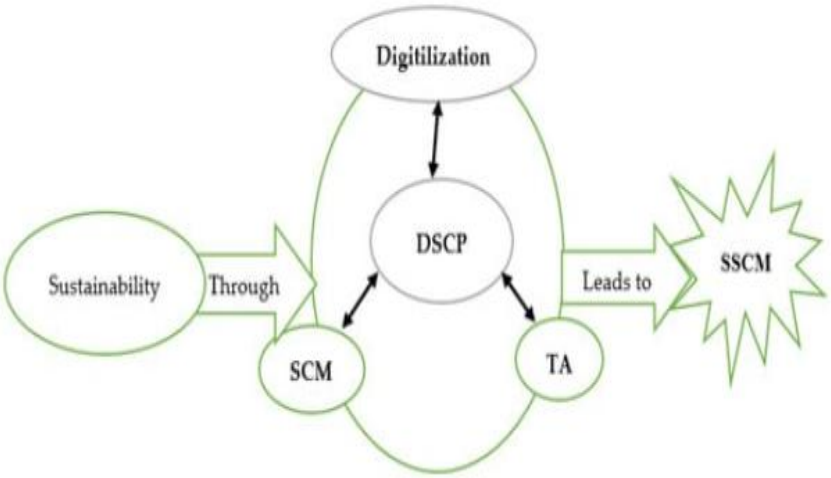

Figure-2: Sustainability and SSCM's Reciprocal Relationship
Source: Büyüközkan, G.; Göçer, F.,2018.

- **Supply Chain Management and Sustainability (SSCM)-** it is required to identify whether SSCM could help to achieve the Millennium Development Goals (MDGs), a systematic review of the literature was conducted. As an example of traditional production systems that naturally incorporate human and environmental well-being were given, including agriculture and handcraft as per Sharma et al., 2021. Again, the AMUL and GOPALJEE dairy supply chains in India are considered as prime examples of participating planning and economic cooperation al together. This can be recognized as vital markers of supply chain management sustainability and inclusivity. So, a system-based perspective of the supply chain was highlighted to understand the interconnections of human needs and sustainability. The study underlined that sustainable supply chain management targeted to maximize supply chain surplus, defined as a customer value minus total supply chain cost.

In this connection, the costs incorporate certain environmental, social, and economic factors e.g., as waste production and carbon emissions as mentioned by Gopal & Thakkar, 2015.

- **Digital supply chain management (DSCM) and Sustainability** -The interconnection between digital supply chain management (DSCM) and sustainability was examined thoroughly. It was found that the digital transformation is required to improve traceability, transparency, and data-driven decision-making in entire supply chains, whereas the sustainability concept was defined by the removal of certain negative environmental effects and the responsibilities for the use of resources as stated by Sharma et al., 2021; Kumar et al., 2022. Moreover, the terms *viz.* Blockchain, Big Data Analytics, and Cloud Computing are some examples of digital technologies that have been identified to enhance inter-organizational synchronization and also required to streamline supply chain integration mentioned by Stroumpoulis & Kopanaki, 2022 in their researches. Hence, through enabling the visibility and traceability altogether. So, these technologies are supposed to allow businesses to evaluate the concept of sustainability of suppliers and operating procedures as a whole. Further evaluation some possible risks and creation of some change management plans are required for successful implementation as per Zhang et al., 2022. Again, the examination found that existing sustainability measurement pointers are often unpredictable. SO, the sustainability reporting is directed by widely used indices as discussed by Gopal & Thakkar, 2015; Zhang & Awasthi, 2014. Hence, some other research oppose that these directories are insufficient and unclear as mentioned and identified by Ting et al., 2014. Last but not the least, the top 10 Fortune 500 corporations' sustainability reporting programs were analysed and taken care off. It has been identified that there are still variances and a lack of standards exist. Altogether the analysis presented a shift from traditional Corporate Social Responsibility (CSR) to a structured sustainability reporting as per Shashi et al., 2021.

EVALUATION OF SUSTAINABILITY AND ITS MEASURES

It is to be detected that how a sustainability performance is measured and managed, an extensive survey was done. The result of this survey-based analysis exhibited a strong association between SSCM and the 17 goals and 169 targets that are basically used to make up the Sustainable Development Goals (SDGs) of the United Nations as discussed by Hallinger, 2021. S0, to measure the sustainability the previously used frameworks like the Triple Bottom Line (TBL), Dow Jones Sustainability Index (DJSI), and Global Reporting Initiative (GRI) have been widely used as used by Gopal & Thakkar, 2015; Dey & Cheffi, 2012. Further, several numbers of studies have conducted to determine the coverage and applicability of these tools and how they differ from each other depending on the industry perspective as experimented by Rajesh, 2020. SO, there arise three key questions those must be addressed in order to measure and manage sustainability performance, according to the surveyed literature, these are as follows:

1. First to know that what kind of performance is being evaluated?

2. Second one is to identify that what indicators are in use?
3. The last and third one is to find out that who is in charge of reporting and evaluating performance? As per Awasthi & Zhang, 2014.

Hence, to generate an overall structured understanding of indicators relevant throughout the social, environmental, and economic dimensions, an overall comprehensive set of SSCM performance measurement and management tools was estimated n generated.

Social Measures- The literature survey based on Rajesh, 2020 a clear outline of the features and hierarchical levels of sustainability assessment in the light of reference model is constructed that is fully based to measure the social sustainability. Therefore, it is also required to detect the social aspect of Sustainable Supply Chain Management (SSCM), this mentioned model was incorporated into the larger framework. The incorporation is needed for social supply chain management, too. Moreover, some concepts like employee well-being, community development, fair labour practices, health and safety, gender equality, and stakeholder participation were also used to classify social sustainability indicators as stated Yu & Tseng, 2014. Hence, the recommended metrics were used to estimate that how businesses maintain supply chain competence while endorsing social welfare as a whole. So, as a vital constituent of corporate responsibility and ethical business practices and the social aspect of SSCM has received more attention as discussed by Touboulic & Walker, 2015. Hence by combination of these metrics a business can start a new connection between social justice and operational effectiveness that is required to guarantee for an overall sustainability success.

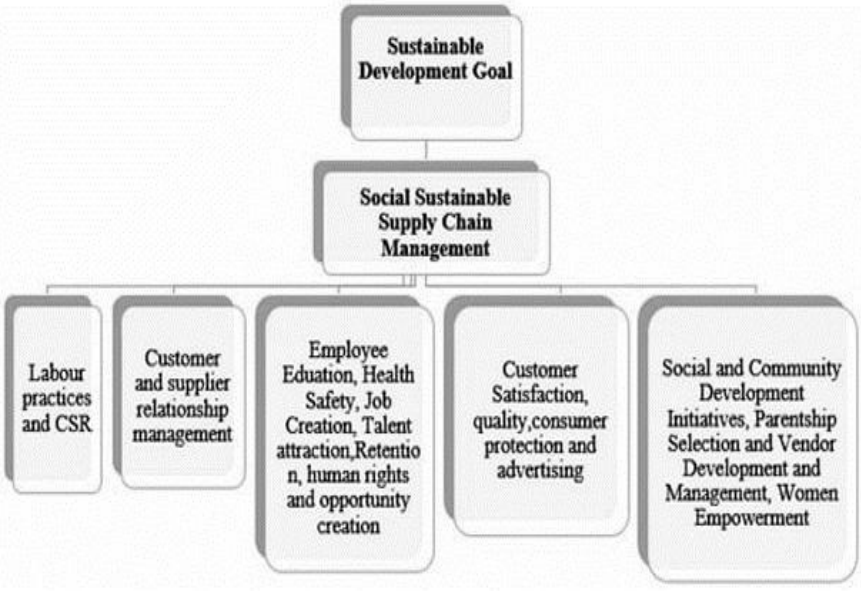

Figure-3: Social Indicators of sustainable development using SSCM.
Source: Büyüközkan, G.; Göçer, F.,2018.

Indicators of the Environment – To include some incorporate environmental factors into supply chain operations the idea behind Green Supply Chain Management (GSCM) was constructed. Therefore, the recycling, remanufacturing, reverse logistics, green purchasing, and

waste management are all included in this strategy as stated by Fahimnia et al., 2015. The Frameworks that inspect important criteria like carbon emissions, energy efficiency, waste reduction, resource optimization, and pollution management were used to assess environmental sustainability. So, based on the result of literature studies a sustainability reporting framework was constructed to demonstrate how SSCM and environmental performance are related as directed by Gopal & Thakkar, 2015. Hence, some environmental variables, including energy consumption, greenhouse gas emissions, and resource recovery, are important forecasters of sustainable development outcomes. This can be stated as according to the evaluated studies by Reefke & Sundaram, 2017. Henceforth, these metrics support organizations and controllers to match with environmental performances with some global sustainability goals.

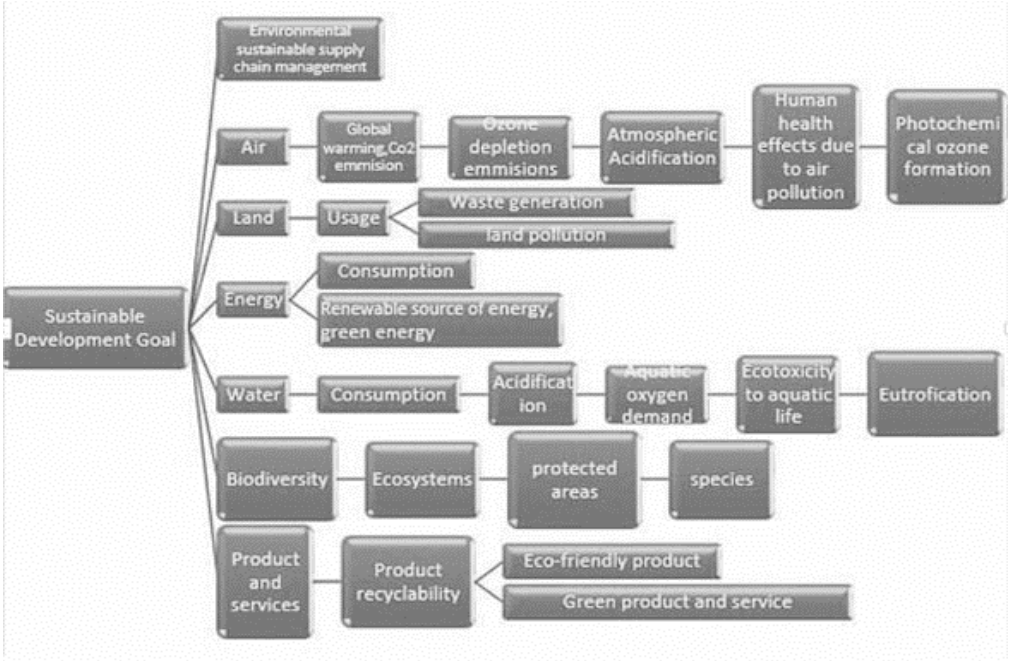

Figure-4: Environmental Indicators of sustainable development using SSCM.
Source: Büyüközkan, G.; Göçer, F.,2018.

Economic Measures – One of the important principles of SSCM are the economic sustainability. Primarily the supply chain management performance measurement was mostly related with operational productivity, service delivery, and cost effectiveness altogether. At the beginning of 2020 a concept of combining economic, social, and environmental factors became more important as mentioned by Colicchia et al., 2011. Experimented research commonly mentioned economic metrics as resource efficiency, innovation adoption, cost savings, and return on investment as directed by Chia et al., 2009; Shepherd & Köter, 2006. So, the majority of the literatures supported a multi-layered approach for performance evaluation. In those aforesaid litertures it has been found that 40% focusing solely on economic indicators as directed by Kumar et al., 2022. Therefore, as an understanding of the interconnection between financial performance and social and environment and also related effects, a conceptual

framework for economic sustainability management was generated. Moreover, in order to maintain a long-term keenness and responsible growth, the framework is used to highlight the necessity of a balanced performance measurement as mentioned by Gopal & Thakkar, 2015.

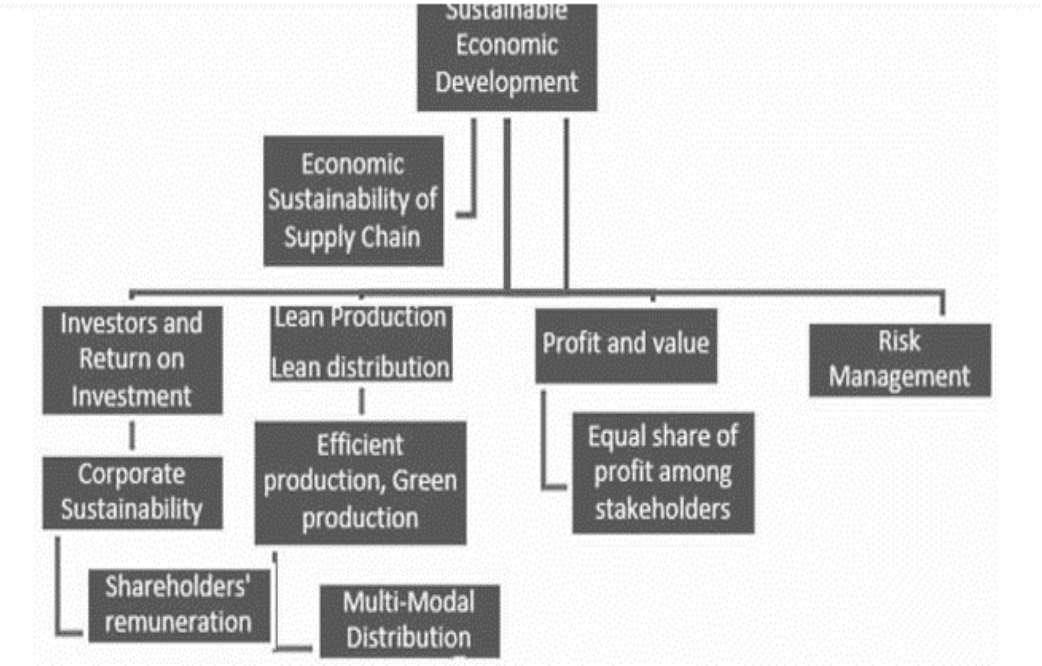

Figure-5: Economic Indicators of sustainable development using SSCM.
Source: Büyüközkan, G.; Göçer, F.,2018.

Additional Measures -The Sector-Specific Sustainability Aspects were recognized in addition to the predictable three pillars of sustainability. The examples of these aspects are industry-specific technological, ethical, and transparency factors as stated by Ting et al., 2014; Gopal & Thakkar, 2015. Further, Dai and Blackhurst, 2012 was developed the House of Sustainability related idea for various industries like coal mining. In this example the moral and ethical sustainability are very vital. Moreover, in case of food and agricultural supply chains the consumer self-assurance and traceability are considered as very vital as well as transparency indicators were highlighted as said that Ting et al., 2014. Again, some growing position of political and informational sustainability considering the of globalized and digitally networked supply networks, was also underscored in the examined literature as indicated by Sharma et al., 2021. Hence, those new pointers highlight that how sustainability evaluation is altering and how flexible outlines are required.

ASSUMPTION

It can be stated that now-a-days a Green Supply Chain Management or GSCM concept is the inclusion of sustainability and environmental philosophies along with a traditional supply chain operations as mentioned by Fahimnia et al., 2015. Therefore, the GSCM's target is not only to go beyond protecting the environment but also to include profitability, stakeholder satisfaction,

and operational effectiveness, and some more. Next, after a detailed analysis of various literatures the GSCM is considered as a subset of SSCM though SSCM takes into consideration the economic, social, and environmental aspects of sustainability as stated by Reefke & Sundaram, 2017. Moreover, as most as half of the reviewed studies decided that SSCM directly participates to achieve the United Nations' Sustainable Development Goals (SDGs). Hence, to show the mutual strengthening between these two conceptions a conceptual framework discussing or mentioning the relationship between sustainable development and SSCM was constructed. As a result of some content analysis the SSCM practices found to support systemic sustainability among supply chain stakeholders along with an improvement of organizational performance as discussed by Rajesh, 2020.

SSCM and Sustainable Development -A detailed content analysis of the reviewed literature was used to examine the research goal. Sustainable development was exactly stated in almost 80% of the SSCM investigations as per Hallinger, 2021. So, thr long-term capacities of supply chain systems were found to be definitely correlated with sustainability actions. The 300 sustainability indicators included in the United Nations' Millennium Development As mentioned by Goals (UN MDG, 2015) these were found to match with the social, economic, and environmental pointers used in SSCM. This analysis also presented that, with collaboration from the public, corporate, and civil society sectors, SSCM could successfully achieve sustainable development. Hence, an organized SSCM management system was planned. This system would incorporate some performance measurement methods, matrices, and indices throughout all three sustainability dimensions as stated by Gopal & Thakkar, 2015.

SSCM Deployment - It was decided that the deployment of SSCM is a vital stage that calls for clearness on roles, frameworks, and indicators for various sectors. So, a four-phase Quality Function Deployment i.e., QFD model that was previously discussed now its practical use was restricted due to its complexity as per Dai & Blackhurst, 2012.

Again, Zhang and Awasthi in 2014 established the Sustainability Deployment Function or SDF. The SDF is require to align with sustainability functions with corporate needs rather than consumer viewpoints, in order to overcome this restriction. Further, there are still limits in fully addressing every feature of sustainability. As a result, a House of Sustainability framework was put up to make industry-wide application easier than before. Then the Stakeholders can choose sustainability pointers that are relevant to their activities, give relative weights, and calculate total impression scores using this flexible framework as per Gopal & Thakkar, 2015. Hence, the method makes it easier to compare presentation across supply chain networks and assurances that sustainability deployment is in line with company policies.

CONCLUSIONS

Finally, through this research work, the paper concludes that how the Sustainable Development Goals (SDGs) and Sustainable Supply Chain Management (SSCM) are going on in a systematic way. It can be stated that the SSCM practices make a considerable involvement to sustainability in terms of social, environmental, and economic aspects that can be proved through the bibliometric study and content analysis. Therefore, a holistic framework was constructed to

highlight that how supply chain participants *viz.* manufacturers, suppliers, consumers, and legislators, might work together to go with sustainability. So, an effective tool for including sustainability pointers into an operational framework. This framework was found to be the House of Sustainability and the Sustainability Deployment Function (SDF) as illustrated by Zhang & Awasthi, 2014; Gopal & Thakkar, 2015. Therefore, it was realized that SSCM practices can statistically influence sustainable performance along with positive their significance in accomplishing the SDGs of the UN as per Hallinger, 2021. Hence, the results are found also reliable with stated earlier in Elsevier,2022 research that highlighted the increasing scholarly and multidisciplinary interest in sustainability science.

LIMITATIONS

In this research only SCOPUS-indexed papers were included for the analysis. Therefore, some important information from other databases or grey literature might be overlooked unintentionally. Further, in this paper only secondary bibliometric data were considered so some results may be different in comparison with an analysis based on original or primary data. Hence, the primary data collection and analysis is also neglected here.

FURTHER RESEARCH SCOPE

The future research should be extended further as per the the database's breadth and also to incorporate expert viewpoints e.g., such as supply chain manager interviews for the sake of improvement of sustainability frameworks. SO, the strength of sustainability distribution models can also be improved by incorporating the concept of digital traceability along with data and social media analytics.

REFERENCES

AlRyalat, S. A. S., Malkawi, L. W., & Momani, S. M. (2019). Comparing bibliometric analysis using PubMed, Scopus, and Web of Science databases. *Journal of Visualized Experiments, 152*, e58494.

Asgari, A., Abdul Hamid, A. B., & Ebrahim, N. A. (2017). Supply chain integration: A review and bibliometric analysis. *International Journal of Economics and Management Sciences, 6*(1), 1000447.

Attaran, M. (2020). Digital technology enablers and their implications for supply chain management. *Supply Chain Forum: An International Journal, 21*(3), 158–172.

Baas, J., Schotten, M., Plume, A., Côté, G., & Karimi, R. (2020). Scopus as a curated, high-quality bibliometric data source for academic research. *Quantitative Science Studies, 1*(1), 377–386.

Bag, S., Gupta, S., & Foropon, C. (2020). Examining the role of digital technologies in supply chain sustainability management. *Technological Forecasting and Social Change, 159*, 120204.

Büyüközkan, G., & Göçer, F. (2018). Digital supply chain: Literature review and a proposed framework for future research. *Computers & Industrial Engineering, 97*, 157–177.

Chauhan, C., & Singh, A. (2021). A review of Industry 4.0 in sustainable supply chain management. *International Journal of Production Research, 59*(16), 4888–4907.

Chia, A., Goh, M., & Hum, S. H. (2009). Performance measurement in supply chain entities: Balanced scorecard perspective. *Benchmarking: An International Journal, 16*(5), 605–620.

Colicchia, C., Melacini, M., & Perotti, S. (2011). Benchmarking supply chain sustainability: Insights from a field study. *Benchmarking: An International Journal, 18*(5), 705–732.

Dai, J., & Blackhurst, J. (2012). A four-phase AHP–QFD approach for supplier assessment: A sustainability perspective. *International Journal of Production Research, 50*(19), 5474–5490.

Dey, P. K., & Cheffi, W. (2012). Green supply chain performance measurement using the analytic hierarchy process. *Production Planning & Control, 24*(8–9), 702–720.

Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis. *Journal of Business Research, 133*, 285–296.

Dubey, R., Gunasekaran, A., & Papadopoulos, T. (2017). Green supply chain management: Theoretical framework and further research directions. *Benchmarking: An International Journal, 24*(2), 317–339.

El Baz, J., & Iddik, S. (2022). Green supply chain management and organizational culture. *International Journal of Organizational Analysis, 30*(1), 156–179.

Fahimnia, B., Sarkis, J., & Davarzani, H. (2015). Green supply chain management: A review and bibliometric analysis. *International Journal of Production Economics, 162*, 101–114.

Gopal, P. R. C., & Thakkar, J. (2015). Composite sustainable supply chain performance index. *International Journal of Sustainable Engineering, 8*(5), 366–385.

Goodell, J. W., Kumar, S., Lim, W. M., & Pattnaik, D. (2021). AI and machine learning in finance. *Journal of Behavioral and Experimental Finance, 32*, 100577.

Gunasekaran, A., Subramanian, N., & Rahman, S. (2019). Supply chain resilience: Role of digitalization and analytics. *International Journal of Production Economics, 211*, 57–68.

Hallinger, P. (2021). A meta-synthesis of bibliometric reviews of sustainability research. *Sustainability, 13*(6), 3469.

Hayes, A. F., & Krippendorff, K. (2007). A standard reliability measure for coding data. *Communication Methods and Measures, 1*(1), 77–89.

Hushko, S., Botelho, J. M., Maksymova, I., Slusarenko, K., & Kulishov, V. (2021). Sustainable development of global mineral resources. *IOP Conference Series: Earth and Environmental Science, 628*, 012025.

Jabbour, A. B. L. S., de Sousa Jabbour, C. J. C., Godinho Filho, M., & Roubaud, D. (2019). Industry 4.0 and circular economy. *Business Strategy and the Environment, 28*(8), 2666–2682.

Koberg, E., & Longoni, A. (2019). A systematic review of sustainable supply chain management. *Journal of Cleaner Production, 207*, 1084–1098.

Kumar, A., Shrivastav, S. K., Shrivastava, A. K., Panigrahi, R. R., Mardani, A., & Cavallaro, F. (2023). Sustainable supply chain management review. *Sustainability*, *15*(6), 5290.

Kumar, A., Srivastava, S. K., & Singh, S. (2022). Blockchain for agrifood supply chains. *Journal of Global Operations and Strategic Sourcing*, *15*(3), 380–405.

Mangla, S. K., Sharma, R., & Luthra, S. (2021). Achieving SSCM through digital technologies. *Resources, Conservation & Recycling*, *164*, 105142.

Mentzer, J. T., DeWitt, W., Keebler, J. S., Min, S., Nix, N. W., Smith, C. D., & Zacharia, Z. G. (2001). Defining supply chain management. *Journal of Business Logistics*, *22*(2), 1–25.

Rajesh, R. (2020). Sustainable supply chains in India. *Technology in Society*, *61*, 101230.

Reefke, H., & Sundaram, D. (2017). Themes and research opportunities in SSCM. *Omega*, *66*, 195–211.

Saberi, S., Kouhizadeh, M., Sarkis, J., & Shen, L. (2019). Blockchain and sustainable supply chains. *International Journal of Production Research*, *57*(7), 2117–2135.

Seuring, S., & Müller, M. (2008). A conceptual framework for SSCM. *Journal of Cleaner Production*, *16*(15), 1699–1710.

Sharma, S., & Kaur, G. (2021). Performance measurement in sustainable supply chains. *Sustainability*, *13*(5), 2590.

Sharma, M., Kamble, S., Mani, V., Sehrawat, R., Belhadi, A., & Sharma, V. (2021). Industry 4.0 adoption for sustainability. *Journal of Cleaner Production*, *281*, 125013.

Shashi, Cerchione, R., Singh, R., & Centobelli, P. (2020). Sustainability and digitalization in SCM. *Sustainability*, *12*(17), 7068.

Shepherd, C., & Günter, H. (2006). Measuring supply chain performance. *International Journal of Productivity and Performance Management*, *55*(3–4), 242–258.

Stroumpoulis, A., & Kopanaki, E. (2022). Sustainable SCM and digital transformation. *Sustainability*, *14*(9), 4862.

Ting, S., Tse, Y., Ho, G., Chung, S., & Pang, G. (2014). Logistics data mining for sustainable food supply chains. *International Journal of Production Economics*, *152*, 200–209.

Tortorella, G. L., Giglio, R., & van Dun, D. H. (2021). Industry 4.0 adoption and operational performance. *International Journal of Operations & Production Management*, *41*(3), 248–273.

Touboulic, A., & Walker, H. (2015). Collaboration in sustainable supply chains. *Journal of Purchasing and Supply Management*, *21*(3), 178–191.

United Nations. (2015). *The Millennium Development Goals Report 2015.*

Yadav, G., Kumar, A., & Luthra, S. (2020). SSCM performance measurement in emerging economies. *Journal of Cleaner Production*, *258*, 120734.

Yontar, E., & Ersöz, S. (2021). Sustainability assessment in fresh food supply chains. *Environmental Science and Pollution Research*, *28*(30), 39558–39575.

Yu, V. F., & Tseng, L.-C. (2014). Measuring social compliance performance. *Journal of Information and Optimization Sciences*, *35*(1), 47–72.

Zhang, Z., & Awasthi, A. (2014). Sustainable supply chain planning. *International Journal of Production Research*, *52*(17), 5131–5154.

Zhang, J., Zhang, X., Liu, W., Ji, M., & Mishra, A. R. (2022). Critical success factors of blockchain for sustainable supply chains. *Technological Forecasting and Social Change*, *182*, 121881.