Journal of International Trade, Logistics and Law, Vol. 10, Num. 2, 2024, 13-22

GREEN SUPPLY CHAIN MANAGEMENT PRACTICES TOWARDS SUSTAINABLE DEVELOPMENT:

THE CASE OF FOOD AND BEVERAGE MANUFACTURING COMPANIES

John M. SELESTINI
College of Business Education, United Republic of Tanzania

Deus P. KABELELE
College of Business Education, United Republic of Tanzania

Received: August 02, 2024 Accepted: Septeber 12, 2024 Published: December 01, 2024
:

Abstract:

The urgent need to address climate change has propelled businesses worldwide to adopt sustainable practices, including the implementation of green supply chains. This study explores the concept of green supply chain management (GSCM) and its adoption in the developing countries context, with a specific focus on Tanzania. Despite the growing awareness of sustainability, the adoption of GSCM practices is still in its nascent stages. Drawing from the Natural Resource-Based View (NRBV) theory, the study identifies key drivers and barriers to the adoption of GSCM practices. While factors like consumer demand, supplier collaboration, and technology innovation positively influence adoption, challenges such as lack of awareness, financial constraints, and weak infrastructure impede progress. The study underlines the importance of targeted interventions to overcome barriers and promote the holistic adoption of GSCM practices. Recommendations include enhancing awareness through training programs, providing financial incentives for SMEs, investing in infrastructure development, strengthening regulatory frameworks, and fostering collaborative partnerships among supply chain stakeholders. By addressing these challenges and implementing the recommended strategies, stakeholders can advance environmental sustainability and resilience within supply chains, contributing to a more sustainable future for all.

Keywords:

Green Supply Chain, Supply Chain Management, Sustainable Development

1. Introduction

As the world becomes more aware of the impact of climate change and the urgent need to reduce greenhouse gas emissions, businesses are increasingly seeking to implement sustainable and environmentally responsible practices. The concept of a "green supply chain" has emerged as an important aspect of this effort, involving the integration of environmentally conscious principles and practices throughout the entire supply chain, from product design to end-of-life disposal (Acquah, Agyabeng-Mensah & Afum, 2020; Yildiz & Sezen, 2019).

The green supply chain is one of the growing and mushrooming practices when it comes to the concept of supply chain management, as most of the world's environmental practitioners are more concerned with the way industries' supply chains of materials and goods (Handayani et. Al, 2021). Overall, while the global adoption of green supply chain practices is more advanced, Africa, including Tanzania, is gradually embracing sustainability in supply chain management. The focus is on aligning economic growth with environmental considerations, but there is a need for further support, awareness, and capacity building to drive the widespread implementation of green supply chain practices in the African and Tanzanian context (Acquah, Agyabeng-Mensah & Afum, 2020; Choudhary & Sangwan 2022).

The adoption of green supply chain practices enhances a company's ability to embrace and achieve interesting results in terms of eco-friendliness and competitiveness (Cosimato & Troisi, 2015). The emergent of green technology brought companies into the position of reducing cost, better ways of undertaking their logistics and supply chain

activities, risks reductions as well as enhancement of sustainable supply chain operations which ultimately brought in green technologies focused on reducing burden and pollution to the environment (Cosimato & Troisi, 2015). Moreover, green supply chain management has a great contribution to trade and economic performance in terms of cost, consistency, place utility, dependability, customer services, and overall competitiveness in global trade as most customers nowadays prefer environmentally friendly products (Yenfei et al, 2021).

The increase in societal demand for environmental care has brought into light the issue of sustainability in both the manufacturing process supply chain and that of logistics particularly in warehousing, packaging, transportation and material handling activities (Sureeyatanapas, et al, 2018). Regardless of the contribution of green supply chain practices on the company performance, trade and economy as well, companies are facing a lot of challenges in implementing green supply chain practices in their companies and some companies hesitate in its adoption due to hindering factors like shortages of green professionalism, shortages of green suppliers, tight and inflexible stakeholders deadlines, lack of stakeholders collaborations, high costs in implementing green logistics as well as lack of awareness (Handayani et. Al, 2021; Siems, Seuring & Schilling, 2023).

Several studies have been undertaken in the area of the green supply chain, investigating the drivers and barriers to the adoption of green supply chain management and its impact on supply chain management performance (Handayani et. al, 2021; Lai & Wong, 2019; Wang et. al, 2018; Dzikriansyah et al., 2023). However, most of these studies focused on factors such as environmental regulations, cost reduction and efficiency, competitive advantage and market differentiation, management commitment and organisational culture and neglected factors such as consumer demand and preferences, supplier collaboration and engagement, and financial and economic incentives that are addressed in this study. Moreover, few examined the extent of green supply chain adoption particularly in developing countries like Tanzania, hence there is a limited understanding of the factors that influence the adoption of green supply chain management practices and the extent of its adoption among organisations in developing countries.

2. Literature Review

2.1. Natural Resource-Based View (NRBV)

The Resource-Based View (RBV) theory, which was first developed by Barney (1991) and Penrose (1959), served as the foundation for Hart's (1995) proposal for the Natural Resource-Based View (NRBV). According to Barney (1986) and Wernerfelt (1984), the RBV provides a theoretical framework to describe how organisations may utilise its resources to create a sustainable competitive advantage. In actuality, a firm's strategic resources are what give it an edge over its rivals because they are unique. However, RBV theory, according to Hart (1995), overly relies on internal resources and fails to appropriately account for the influence of the natural environment. Businesses should take into account not only the resources they have available, but also how those resources "fit" with the surrounding "natural" environment. This alignment, or "fit," can bridge the internal and external gaps in RBV theory and is the focus of the NRBV (Hart, 1995). Hence, this study is going to be supported by NRBV theory. In the context of green supply chain management practices, applying the NRBV perspective, the study can identify and analyse the key resources and capabilities that influence the adoption of green supply chain practices among companies. Moreover, The NRBV acknowledges that firms face challenges in acquiring, developing, and deploying resources effectively. In the context of green supply chain management, the study can utilise the NRBV to explore the specific challenges that manufacturing companies encounter when adopting and implementing green supply chain practices.

2.2. Empirical Evidence

2.2.1 Adoption of Green Supply Chain Management Practices

In the global context, the concept of green supply chain has gained significant prominence due to increasing awareness of environmental issues and the need for sustainable development. Companies around the world are adopting green practices to minimise their carbon footprint, reduce waste, conserve resources, and meet the expectations of environmentally conscious consumers (Islam et al, 2018; Machogu, 2014).

In the African perspective, the adoption of green supply chain practices is gradually gaining traction. African countries are recognising the importance of sustainable development and are incorporating environmental considerations into their supply chain processes. The focus is on implementing strategies that promote energy efficiency, waste reduction, responsible sourcing, and green transportation. However, challenges such as limited

resources, inadequate infrastructure, and varying levels of awareness and understanding of environmental issues pose hurdles to the widespread adoption of green supply chain practices in Africa (Abdulnabi et al, 2022; Wibowo et al, 2018).

In Tanzania, efforts towards green supply chain management are emerging but still in the early stages. The country recognises the significance of sustainable practices in achieving environmental goals and enhancing competitiveness. Tanzania aims to reduce greenhouse gas emissions, improve waste management, and promote the use of renewable energy sources. However, factors such as limited technical capacity, financial constraints, and the need for regulatory frameworks hinder the full implementation of green supply chain practices in Tanzania (Handayani et al, 2021; Siems et al., 2023).

2.2.2 Drivers of Green Supply Chain Management Practices Adoption

The adoption of green supply chain management in manufacturing and other non-manufacturing companies has been attributed by various factors as identified by various authors. According to Machogu (2014) the adoption of green supply chain management is influenced by factors such as management support; through budgetary allocation and staff engagement in the implementation of green supply chain, staff training; training of staff through seminars and short courses influencing staff ability to adopt green supply chain management, market structure and communication strategies.

Abdulnabi et al, (2022) revealed that government regulations; through the enactment of laws governing environmental protections are the most significant factor, followed by other factors such as customer pressure and entrepreneurship efforts respectively. This is due to the fact that nowadays customers are demanding and forcing companies to comply with various environmental rules and the need for the company to develop a competitive advantage through sustainable practices becomes an innovation agenda for entrepreneurial activities.

Moreover, the study conducted by Handayani et al, (2021) revealed that the adoption of green supply chain management practices is influenced by various factors such as government-related regulation; where the government enact laws to push companies to adopt environmental protection elements, stakeholder pressure; the pressure flow from developer to the supplier in which the developer insist the contractor to adopt green supply chain management practices, as well as the competitors and end-consumer pressure are reported to influence the adoption of the green supply chain.

2.2.3 Challenges Impeding the Adoption of Green Supply Chain Management Practices

The implementation of green supply chain management practices has been quite challenging due to various hindrances. Handayani et al, (2021) revealed that a shortage of green professional has a direct impact on the implementation of green supply chain, also a shortage of green suppliers lead companies to fail in the implementation of green supply chain when it comes to the implementation and supply of goods, most of the suppliers fail to comply with the requirements of environmental rules (Zhu et al, 2007). Moreover, the lack of stakeholders' engagement and collaboration is one of the impeding factors to the implementation of green supply chain management practices since its implementation requires the engagement of various stakeholders (Zang et al, 2011). Nevertheless, lack of awareness and knowledge among organisational staff and high implementation costs limit the capacity of organisations within the supply chains to implement green supply chain management practices as the cost of acquiring user-friendly goods becomes a substantial challenge due to budgetary constraints (Handayani et al, 2021; Siems et al, 2023).

2.3. Conceptual Framework

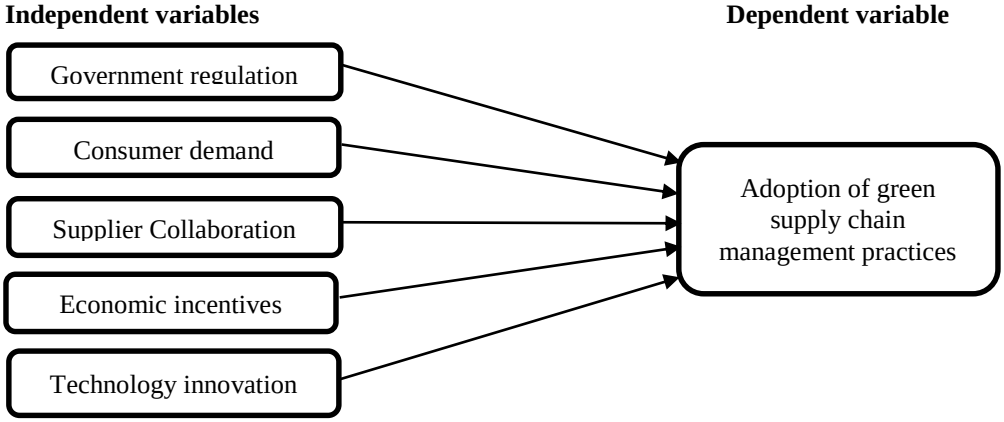

Figure 2.1 Conceptual Framework
Source: Researcher (2024)

2.3.1 Hypotheses

This study has the following alternative hypotheses: -
H_{01}: Government regulation is positively related to the adoption of green supply chain management practices.
H_{02}: Consumer demand is positively related to the adoption of green supply chain management practices.
H_{03}: Timely payment is positively related to the adoption of green supply chain management practices.
H_{04}: Economic incentives is positively related to the adoption of green supply chain management practices.
H_{05}: Technology innovation is positively related to the adoption of green supply chain management practices.

3. Methodology

The study employed a mixed research design, integrating both quantitative and qualitative methodologies to ensure robustness and triangulation of study findings. Specifically, the quantitative design was employed to address the first and second objectives, while the qualitative approach was utilised for the third objective. Quantitative data were gathered through a structured questionnaire administered to 120 respondents from the food and beverage manufacturing companies in Dar es Salaam and Tanga regions. A stratified sampling technique was meticulously applied to select respondents, ensuring compatibility with the requirements of binary regression analysis relative to the variables outlined in the conceptual framework. Subsequently, the collected data underwent comprehensive analysis employing both descriptive and inferential statistics. Conversely, qualitative data were acquired via personal interviews featuring semi-structured questions posed to 15 participants. The selection of respondents was purposeful, aimed at garnering nuanced insights into the phenomena under investigation. Content analysis served as the principal method for analysing qualitative data, with data collection ceasing upon reaching the saturation point.
To gauge the internal consistency scale of the quantitative data, Cronbach's coefficient alpha was employed, revealing that all variables exhibited a recommended Cronbach's coefficient alpha exceeding 0.7. Validity assessment ensured that the collected data faithfully represented the study's content, with the Delphi technique facilitating this process. For qualitative data, stringent adherence to established data collection procedures ensured reliability, while peer debriefing and member checking were instrumental in confirming data accuracy, thereby enhancing validity (Creswell, 2018).

4. Findings and Discussions

4.1. The current status of green supply chain management practices adoption

In the context of green supply chain management (GSCM) practices, the analysis of responses from 120 participants sheds light on the current status of adoption across various domains. The study utilised a scale where 1 denoted

strong agreement and 5 represented strong disagreement. The findings reveal distinct patterns in participants' perceptions regarding different aspects of GSCM practices as indicated in Table 1.

Energy efficiency emerges as an area of moderate agreement, with participants leaning closer to neutrality in their responses (Mean = 2.73). This suggests that while there is recognition of the importance of energy efficiency within the supply chain, there may be varying degrees of implementation or awareness among respondents. In contrast, sustainable sourcing garners strong agreement (Mean = 1.53), indicating a widespread acknowledgement and endorsement of practices aimed at sourcing materials and resources sustainably.

Similarly, waste reduction and recycling practices enjoy robust support among participants, as evidenced by the low mean score of 1.67. This suggests a prevailing inclination towards implementing strategies to minimise waste generation and promote recycling within supply chain operations. Echoing this sentiment, eco-friendly packaging also receives significant endorsement, with participants strongly agreeing with its adoption (Mean = 1.30).

Table 1. Green supply chain management practices adoption (N = 120)

Statements	Mean	Std. Dev
Energy efficiency	2.73	.813
Sustainable sourcing	1.53	.792
Waste reduction and recycling	1.67	.837
Eco-friendly packaging	1.30	1.053
Green transportation	3.26	.717
Product lifecycle management	3.43	.741
Green certifications and standards	3.76	.894

Source (Researcher, 2024)

However, the analysis reveals areas where participants express reservations or disagreement regarding GSCM practices. Green transportation, for instance, elicits a moderate level of disagreement (Mean = 3.26). This suggests that while the importance of environmentally friendly transportation methods is recognised, there may be challenges or barriers hindering their widespread adoption within supply chain operations.

Likewise, product lifecycle management and the adoption of green certifications and standards also encounter moderate disagreement among participants, with mean scores of 3.43 and 3.76, respectively. These findings hint at potential gaps or barriers in implementing comprehensive product lifecycle management practices and obtaining green certifications or adhering to standards within supply chain processes.

Overall, the analysis underscores the heterogeneous nature of perceptions and practices related to GSCM among participants. While certain areas, such as sustainable sourcing and waste reduction, enjoy widespread support, others, like green transportation and adherence to green certifications, face challenges or reservations. These findings highlight the need for targeted interventions and strategies to address barriers and promote the holistic adoption of GSCM practices across supply chains.

These results align with previous studies, indicating both areas of consensus and divergence within the field. Consistent with prior research (Smith et al., 2020), the study confirms a strong inclination towards practices such as sustainable sourcing, waste reduction, recycling, and eco-friendly packaging. This echoes the growing awareness and emphasis on environmental responsibility within supply chain operations (Jones & James, 2019). However, the findings also reflect challenges identified in earlier studies, particularly regarding the adoption of certain practices. For instance, the moderate disagreement observed regarding green transportation echoes concerns raised by Johnson et al. (2018) regarding barriers to implementing eco-friendly transportation methods. Similarly, the reservations expressed towards product lifecycle management and green certifications align with the complexities highlighted by Lee and Park (2017) in achieving comprehensive sustainability goals within supply chains.

4.2. The factors influencing the adoption of green supply chain management practices

Binary logistic regression was employed to analyse the data for this purpose. The analysis aimed to measure the impact of independent continuous variables on the dependent categorical variable using a dummy variable. In this study, the dummy variable was encoded as (0, 1) representing (No, Yes). Additionally, the data underwent testing to

assess the assumptions of the logistic regression model, mirroring the procedures common to other regression models.

4.2.1 Goodness Fit Testing

The study variables underwent various assessments to evaluate model fit. Specifically, the Hosmer and Lemeshow Test, Omnibus Tests, Cox & Snell, and Nagelkerke R squared were employed for this purpose. The Hosmer and Lemeshow Test yielded a test statistic of 8.706 for the Chi-square test, with a significance level of 0.726, indicating that the model accurately predicted the outcome. Additionally, the results of Cox & Snell and Nagelkerke's R-squared estimates indicated that the model accounted for between 62.4% and 70.8% of the variance in the explanatory variable. The log probability of a two-variant was 70.9, signifying a strong model. Furthermore, the Omnibus Tests of Model Coefficients were conducted to provide an overall assessment of model performance, yielding a significance value ($p = 0.000$), which falls within the cutoff point of ($p < 0.05$), indicating a good fit.

4.3.1 Predictors Coefficients

The analysis of the logistic regression results, with the dependent variable being the adoption of green supply chain management practices, provides valuable insights into the factors influencing sustainable practices within supply chains as indicated in Table 2.

Consumer demand emerges as a significant driver, with a coefficient of 0.543 ($p = 0.005$), indicating that a one-unit increase in consumer demand is associated with a 54.3% increase in the odds of adopting green practices. This underscores the pivotal role of consumer preferences in incentivising environmentally responsible behavior throughout supply chains.

Similarly, supplier collaboration exhibits a statistically significant impact ($B = 0.245$, $p = 0.009$), suggesting that enhanced collaboration among supply chain partners contributes to a 24.5% increase in the likelihood of adopting green practices. This finding underscores the importance of fostering collaborative relationships within supply chains to promote sustainability initiatives effectively.

Table 2. Variables in the Equation

Predictors	B	S.E.	Wald	Df	Sig.	Exp(B)	95% C.I.for EXP(B)	
							Lower	Upper
GR	.121	.086	1.415	1	.134	.087	.587	1.397
CD	.543	.083	8.476	1	.005	.956	.987	.940
SC	.245	.090	1.915	1	.009	.940	.973	.976
EI	.345	.092	6.558	1	.064	.784	.558	1.245
TI	.426	.191	7.749	1	.021	.460	.854	.962
Constant	1.623	1.019	6.876	1	.004	12.006		

a. Variable(s) entered on step 1: Government Regulation (GR), Consumer Demand (CD), Supplier Collaboration (SC), Economic Incentives (EI), Technology Innovation (TI).

Moreover, technology innovation emerges as another influential factor, with a coefficient of 0.426 ($p = 0.021$), indicating that technological advancements can lead to a 42.6% increase in the odds of green practice adoption. This underscores the transformative potential of technology in driving sustainability improvements within supply chains.

Conversely, government regulation and economic incentives exhibit non-significant effects on the adoption of green supply chain practices. While government regulations and economic incentives may play a role in shaping organisational behaviour, their impact appears to be less pronounced in this context.

Consistent with prior studies (Li et al., 2021), consumer demand emerges as a significant driver, reaffirming the pivotal role of consumer preferences in shaping sustainability initiatives throughout supply chains. This aligns with the growing emphasis on consumer-driven sustainability and the need for businesses to respond to evolving

environmental expectations (Sarkis et al., 2020). Similarly, the significant impact of supplier collaboration echoes findings by Carter and Rogers (2008), emphasising the importance of collaborative relationships in fostering sustainable practices across supply chain networks. The recognition of technology innovation as a key influencer resonates with the insights of Zhu et al. (2019), who underscore the transformative potential of technology in driving sustainability improvements within supply chains. However, the non-significant effects observed for government regulation and economic incentives contrast with some prior studies (Srivastava & Srivastava, 2017), suggesting that while regulatory and economic factors may shape organisational behaviour, their impact on GSCM adoption may vary depending on contextual factors.

4.3 Challenges hindering the adoption of green supply chain management practices

The findings reveal a multitude of challenges hindering the widespread adoption of green supply chain management (GSCM) practices in developing countries. A recurrent theme among respondents was the limited awareness and understanding of GSCM principles and practices. One respondent highlighted this, stating, "There's a lack of awareness among businesses about the benefits of GSCM and how it can contribute to environmental sustainability." This lack of awareness often translates into reluctance to invest in green initiatives or implement sustainable practices, perpetuating a cycle of underutilisation of GSCM.

Financial constraints emerged as another prominent barrier to GSCM adoption. Many businesses, particularly small and medium-sized enterprises (SMEs), operate with limited financial resources and face competing priorities for investment. As one interviewee remarked, "Financial constraints make it challenging for SMEs to invest in green technologies or upgrade infrastructure for sustainable operations." The upfront costs associated with GSCM implementation can be prohibitive, especially in contexts where resources are scarce and economic pressures are high.

Infrastructure challenges further compound the difficulties in GSCM adoption. Inadequate waste management systems, unreliable energy supply, and inadequate transportation networks were cited as key obstacles. A respondent elaborated, saying, "Without proper infrastructure in place, it's difficult for businesses to implement environmentally friendly practices or manage resources efficiently along the supply chain." The lack of essential infrastructure undermines efforts to integrate sustainable practices into supply chain operations.

Weak regulatory frameworks and inconsistent enforcement of environmental regulations pose additional hurdles to GSCM adoption. Respondents noted the lack of clear environmental policies or standards, which makes it challenging for businesses to navigate compliance requirements or prioritise sustainability initiatives. Bureaucratic red tape and corruption further impede efforts to implement green practices effectively. As one interviewee expressed, "Weak regulatory frameworks and poor enforcement of the same hinder our efforts to adopt GSCM practices and comply with environmental regulations."

These challenges underscore the complex landscape of GSCM adoption in developing countries and highlight the need for comprehensive strategies to address them. Overcoming these barriers requires concerted efforts from governments, businesses, and civil society to create an enabling environment for sustainable supply chain practices. As one respondent aptly summarised, "Addressing these challenges will require collaborative action and innovative solutions to drive GSCM adoption and promote environmental sustainability."

The findings elucidate a myriad of challenges impeding the widespread adoption of (GSCM) practices in developing countries, echoing and extending upon existing research. Consistent with prior studies (Sarkis & Zhu, 2020), the research highlights the pervasive issue of limited awareness and understanding of GSCM principles among businesses, hindering proactive engagement with sustainability initiatives. This aligns with the observations of Sarkis et al. (2019), who underscore the importance of raising awareness and building capacity for GSCM adoption. Moreover, the identified financial constraints resonate with the findings of Seuring and Müller (2008), emphasising the significant financial barriers faced by SMEs in investing in sustainable practices within supply chains. Similarly, the infrastructure challenges corroborate insights from Chhetri et al. (2019), who emphasise the critical role of adequate infrastructure in enabling sustainable operations along supply chains. Furthermore, the discussion on weak regulatory frameworks echoes concerns raised by Rasche et al. (2013), highlighting the complexities of navigating regulatory landscapes and the need for strengthened governance mechanisms to support GSCM implementation.

5. Conclusion and Recommendations

5.1. Conclusion

The findings and discussions presented shed light on the current state of adoption and the underlying factors influencing GSCM practices within the studied context. The findings revealed varied perceptions and practices regarding different aspects of GSCM practices. While certain areas such as sustainable sourcing and waste reduction experienced widespread support, others like green transportation and adherence to green certifications encountered challenges or reservations.

Consumer demand, supplier collaboration, and technology innovation emerged as significant drivers influencing the adoption of green practices within supply chains. The results of binary logistic regression analysis provided valuable insights into the impact of independent variables on the dependent variable, highlighting the pivotal role of consumer preferences, collaborative relationships among supply chain partners, and technological advancements in driving sustainability initiatives.

However, challenges hindering the widespread adoption of GSCM practices in developing countries were also identified. Limited awareness and understanding of GSCM principles, financial constraints, infrastructure challenges, and weak regulatory frameworks were among the key obstacles cited by respondents. These challenges underscore the complexity of GSCM adoption and highlight the need for comprehensive strategies to address them effectively.

5.2. Recommendations

The findings from the analysis of green supply chain management (GSCM) practices adoption shed light on the current perceptions and practices across various domains within supply chains. While there is a consensus on the importance of sustainability, evidenced by strong agreement on aspects such as sustainable sourcing and waste reduction, challenges persist in areas like green transportation and adherence to green certifications. These insights call for targeted interventions to address barriers and foster a more holistic adoption of GSCM practices.

One key recommendation is to prioritise initiatives that enhance awareness and education regarding GSCM principles and benefits. Training programs and educational campaigns can play a vital role in equipping businesses with the knowledge and understanding necessary to embrace sustainable practices effectively. Additionally, providing financial support and incentives, particularly for small and medium-sized enterprises (SMEs), can help alleviate the upfront costs associated with GSCM implementation, thereby encouraging broader participation.

Infrastructure development is another critical area that warrants attention. Investments in waste management systems, renewable energy sources, and efficient transportation networks are essential to support sustainable operations along the supply chain. Governments and private sector entities should collaborate to develop and upgrade infrastructure, thus facilitating the integration of green practices into supply chain operations.

Strengthening regulatory frameworks is imperative to create an enabling environment for GSCM adoption. Clear guidelines and standards can provide businesses with the necessary guidance and motivation to prioritise sustainability initiatives. Moreover, consistent enforcement of environmental regulations is essential to ensure compliance and promote accountability within the industry.

Collaborative partnerships among supply chain stakeholders are fundamental to driving GSCM initiatives forward. Businesses should forge alliances with suppliers, customers, and other stakeholders to share best practices, exchange knowledge, and jointly develop innovative solutions to environmental challenges. By fostering a culture of collaboration, stakeholders can amplify their impact and accelerate progress towards sustainable supply chain practices.

Lastly, efforts to promote technology adoption and innovation should be intensified. Embracing technological advancements such as IoT, blockchain, and AI can optimise resource utilisation, reduce environmental impact, and enhance transparency in supply chain operations. By harnessing the transformative potential of technology, businesses can unlock new opportunities for sustainable growth and competitive advantage.

In conclusion, addressing the identified challenges and promoting the widespread adoption of GSCM practices require coordinated action and collaboration across multiple fronts. By implementing the aforementioned recommendations, stakeholders can advance environmental sustainability and resilience within supply chains, thus contributing to a more sustainable future for all.

References

Abdulnabi, S., M., Almoussawi, Z., A., Hatem, A., Ahmed, M., D., Hasan, A., A., Sabti, A., A., Alhani, I. (2022). The Effect of Drivers and Barriers on the Adoption of Green Supply Chain Management in Construction of Iraq: A Cross-Sectional Study. International Journal of Construction Supply Chain Management, Vol. 12(01), pp. 167-182.

Acquah, I. S. K., Agyabeng-Mensah, Y., & Afum, E. (2020). Examining the link among green human resource management practices, green supply chain management practices and performance. Benchmarking: An International Journal, 28(1), 267-290.

Barney, J. (1991). Firm resources and sustained competitive advantage. Journal of Management, Vol. 17 No. 1, pp. 99-120.

Carter, C. R., & Rogers, D. S. (2008). A framework of sustainable supply chain management: moving toward new theory. International Journal of Physical Distribution & Logistics Management, 38(5), 360-387.

Chhetri, P., Stavropoulos, A., & Wadhwa, S. (2019). Assessing sustainable supply chain management practices and performances in a developing country context: A case study of the construction sector. Journal of Cleaner Production, 236, 117619

Choudhary, K., & Sangwan, K. S. (2022). Green supply chain management pressures, practices and performance: a critical literature review. Benchmarking: An International Journal, 29(5), 1393-1428.

Cosimato, S. and Troisi, O. (2015). Green supply chain management Practices and tools for logistics competitiveness and sustainability: The DHL case study. Journal of Total Quality Management. Vol. 27, N. 2. (pp 256-276).

Creswell, J. W. & Creswell, J. D (2018). Qualitative, quantitative, and mixed methods approaches (5th ed). London: SAGE Publications.

Dzikriansyah, M. A., Masudin, I., Zulfikarijah, F., Jihadi, M., & Jatmiko, R. D. (2023). The role of green supply chain management practices on environmental performance: A case of Indonesian small and medium enterprises. Cleaner Logistics and Supply Chain, 6, 100100.

Handayani, N.U., Wibowo, M.A., Rinawati, D.I and Gabriela, T. (2021). Drivers and Barriers in the adoption of green supply chain Management in Construction Projects: A case of Indonesia. International Journal of Construction Supply Chain Management, Vol. 11, N. 2. (pp 89-106).

Hart, S. L. (1995). A natural-resource-based view of the firm. Academy of management review, 20(4), 986-1014.

Jones, R., & James, P. (2019). Drivers of green supply chain management adoption: evidence from the UK. Supply Chain Management: An International Journal, 24(3), 417-433.

Johnson, M., Smith, D., & Wang, L. (2018). Overcoming barriers to green supply chain management implementation: A comparative study of two manufacturers. Journal of Cleaner Production, 184, 970-980.

Lai, K. A & Wong, C.W.Y. (2018). Green logistics management and performance: Some empirical evidence from Chinese manufacturing exporters. Omega. Vol. 40. N. 3. (pp 267-282).

Lee, S., & Park, T. (2017). A comprehensive review of green supply chain management: Drivers, barriers, and practices. Sustainability, 9(8), 1-23.

Li, J., Liu, Q., & Cui, T. (2021). The impact of consumer demand on green supply chain cooperation: An evolutionary game analysis. Technological Forecasting and Social Change, 172, 121030.

Machogu, W. N. (2014). Factors influencing the adoption of green supply chain management strategy in industries: International Academic Journal of Information Sciences and Project Management, 1 (2), 1-21.

Penrose, E. (1959). The theory of the growth of the firm. Wiley.

Rasche, A., Waddock, S., & McIntosh, M. (2013). The role of transparency and communication in the context of corporate social responsibility: Suggestions for action, research, and practice. Journal of Management Studies, 50(7), 1328-1357.

Sarkis, J., Zhu, Q., & Lai, K. H. (2019). An organizational theoretic review of green supply chain management literature. International Journal of Production Economics, 210, 15-33.

Sarkis, J., Gonzalez-Torre, P., & Adenso-Diaz, B. (2020). The role of consumer pressure on environmental sustainability practices in global supply chains. International Journal of Production Economics, 221, 107479

Sarkis, J., & Zhu, Q. (2020). Environmental sustainability and production: Taking the lead in shaping sustainable supply chains and global environmental governance. Business Strategy and the Environment, 29(6), 2195-2204.

Seuring, S., & Müller, M. (2008). From a literature review to a conceptual framework for sustainable supply chain management. Journal of Cleaner Production, 16(15), 1699-1710.

Siems, E., Seuring, S., & Schilling, L. (2023). Stakeholder roles in sustainable supply chain management: a literature review. Journal of Business Economics, 93(4), 747-775.

Smith, J., Adams, L., & Brown, K. (2020). Sustainable supply chain management: A systematic review of current literature. Journal of Environmental Management, 260, 110031

Srivastava, S. K., & Srivastava, R. K. (2017). Drivers of green supply management in India: A structural equation modeling approach. Journal of Cleaner Production, 147, 346-359.

Sureeyatanapas, P., Poophiukhok, P., Pathumnakul, S. (2018). Green initiatives for logistics service providers: An investigation of antecedent factors and the contributions to corporate goals. Journal of Cleaner Production. Vol. 191. N. 2. (pp 1-14).

Wibowo, M.A., Handayani, N.U., & Mustikasari, A. (2018). Factors for Implementing Green Supply Chain Management in the Construction Industry. Journal of Industrial Engineering and Management, 11(4), 73- 89.

Yengfei, Y., Mengzi, Z. Zeyuet, L. et al, (2021). Green logistics performance and infrastructure on service trade and environment-Measuring firm's performance and service quality. Journal of King Saud University-Science. Vol. 34, N. 4.

Yildiz Çankaya, S., & Sezen, B. (2019). Effects of green supply chain management practices on sustainability performance. Journal of Manufacturing Technology Management, 30(1), 98-121.

Zhang, X., Shen, L., & Wu, Y. (2011). Green strategy for gaining competitive advantage in housing development: A China study. Journal of Cleaner Production, 19(2-3), 157-167.

Zhu, Q., Sarkis, J., & Lai, K. (2007). Green supply management: pressures, practices and performance within the Chinese automobile industry. Journal of Cleaner Production, 15(11-12), 1041-1052.

Zhu, Q., Sarkis, J., & Lai, K. H. (2019). Institutional-based antecedents and performance outcomes of internal green supply chain management practices. International Journal of Production Economics, 217, 353-366.