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The impact of Green Intellectual Capital (GIC) on the development of Supply Chain Performance (SCP)

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Abstract

The supply chain has become a crucial element of competitive strategy, aimed at improving organizational efficiency and financial gains. It represents a relatively recent and swiftly growing field, revolutionizing how both manufacturing and non-manufacturing entities address customer demands. This paper seeks to determine how green intellectual capital and environmental management accounting (EMA) contribute to enhancing supply chain performance (SCP) within businesses.

Drawing from the natural resource-based view of the organization and resource orchestration theory, we propose natural resource orchestration to explore how green intellectual capital and environmental management accounting drive environmental performance and supply chain development.

The utilization of environmental management accounting mediates the link between green intellectual capital and environmental performance, as well as supply chain development. This paper offers critical perspectives on how organizations effectively coordinate various green resources—such as green intellectual capital and environmental management accounting—to foster environmental performance and supply chain development. It also introduces how environmental management accounting facilitates the translation of green intellectual capital into improved environmental performance and supply chain development.

Keywords: Green Intellectual capital, supply chain development, Environmental accounting.

Introduction

In contemporary business landscapes, Supply Chain Performance (SCP) has evolved into a cornerstone of organization operations, closely intertwined with overall business success and elevating levels of customer satisfaction. SCP significantly contributes to cost reduction, enhances customer satisfaction, and fortifies the financial standing of organizations. Consequently, SCP stands as the vital artery upon which many high-performing organizations rely (Abualigah, 2023; Mohd Jamal, et al., 2020; Swanson, et al., 2018; Pradhan, et al., 2018)

Hence, organizations cannot solely rely on intangible assets like expertise, networks, procedures, and information systems; they also tend to engage with public natural resources through activities such as environmental conservation (Massaro et al., 2018). While the significance of intellectual capital and its broad ramifications have been acknowledged in literature

for some time, less is understood about the essence of green intellectual capital (GIC) and its implications in today's sustainable context where environmental issues take precedence (Wang & Juo, 2021; Yong et al., 2019). A recent trend in intellectual capital research underscores the necessity to shift focus from individual organizations to broader ecosystems.

In this context, the environmental accounting literature emphasizes the importance of environmental management accounting (EMA) in assisting organizations with the management of their environmental initiatives and green resources. It is stated that EMA can aid in identifying new hazards and opportunities, facilitating environmental decisions and manager coordination, promoting goal and value alignment between individuals and organizations, and facilitating learning. It is critical to explore how EMA influences the translation of GIC aspects into improved environmental performance and supply chain development (Gunarathne, et al., 2021)

Organizations can employ Environmental Management Accounting (EMA) to drive their environmental initiatives forward. The theoretical perspective suggests that the correlation between environmental practices and performance can sway positively or negatively, hinging on two conflicting theories—the stakeholder value creation view and the agency cost model (Freudenreich, 2020). The stakeholder value creation view asserts that environmental strategies bolster shareholders' wealth since advocating for other stakeholders often aligns with shareholders' best interests. According to this stance, abundant empirical evidence indicates that environmental initiatives can yield positive environmental outcomes within organizations. Conversely, sustainability engagement, encompassing environmental strategies, can be scrutinized through an agency lens, wherein managers may overly commit to such practices to advance their personal interests. For instance, managers might excessively invest in corporate social responsibility (CSR) endeavors to enhance their reputation as responsible corporate citizens, potentially generating positive externalities at shareholders' expense (Mungai, 2020; Traxler, 2020)

The contention arises that an organization's environmental practices might precipitate a conflict of interest between its internal and external stakeholders. Internal stakeholders may be inclined to excessively invest in sustainability activities primarily for their own interests, as such overinvestment enhances their reputation. Additionally, CSR could serve as a risk management strategy employed by managers to mitigate the adverse effects of their business decisions, representing another example of agency costs (Asiri, 2020).

In the management accounting literature, it is commonly recognized that organizations tend to align their designs with strategic directions and priorities, including sustainability initiatives (Asiaei, et al., 2021). This alignment between environmental resources and the effective utilization of management accounting systems, such as EMA, enables the management of green resources and aids in achieving strategic objectives by mitigating risks and uncertainties. Consequently, this alignment contributes to enhanced sustainability performance (Chaudhry, 2020).

It is suggested that sustainability control systems serve multiple functions. They aid top management in implementing sustainability initiatives by promoting core sustainability values and assessing sustainability performance. Additionally, they help reduce strategic risks related to sustainability and address uncertainties associated with sustainability strategies. Moreover, they

act as a control mechanism to minimize agency costs for shareholders (Freudenreich, 2020; Gomez-Conde, 2019).

Beyond simply implementing proactive sustainability strategies, the utilization of Environmental Management Accounting (EMA) also aids organizations in addressing sustainability challenges and opportunities (Gunarathne, 2021). It helps enhance transparency and accountability in operational practices, thereby reducing agency costs. Our theoretical model posits that adopting a well-aligned management accounting mechanism like EMA enables organizations to effectively synchronize, measure, and manage the elements of Green Intellectual Capital (GIC), including green human, green structural, and green relational capital. This orchestration, drawing from resource orchestration theory, contributes to improved environmental performance and the enhancement of supply chain performance. We introduce the concept, "natural resource orchestration", to examine how organizations leverage EMA to translate GIC into environmental and supply chain performance, drawing inspiration from previous research (Malik et al., 2021; Wang, 2020).

As per the resource orchestration theory, organizations can fully leverage their resources and capabilities when they are structured, bundled, and managed effectively, as highlighted in previous research (Asiaei, Rezaee et al., 2021; Malik et al., 2021). Consequently, this paper extends existing literature in several significant ways. It contributes to environmental accounting literature by shifting focus towards internal decision-making and control mechanisms, such as EMA, rather than solely emphasizing external reporting. Importantly, according to the proposed theoretical model, this paper is the first to underscore the mediating role of EMA between GIC and environmental performance, as well as the advancement of supply chain performance. This is accomplished by introducing a novel perspective, namely the natural resource orchestration approach.

Paper Objective and plan

This paper explores the potential alignment between Green Intellectual Capital (GIC) elements, Supply Chain Performance (SCP) and Environmental Management Accounting (EMA) through the lens of natural resource orchestration carries critical implications for organizations. It underscores the importance of adopting relevant and effective management control mechanisms to fully leverage strategic green resources like GIC.

Analysis of literature reviews

Sustainable Supply Chain performance

Supply chain management gained prominence during the 1980s and 1990s, driven by business focus on logistics and operations management. The primary challenge in implementing supply chain management lies in effectively meeting the demands of a volatile market, overcoming operational hurdles, and adapting to developments within the supply chain, including environmental concerns (Saini, 2023).

Typically, organizations make decisions across five scopes, these decisions pertain to various aspects of supply chain applications, whether considered individually or collectively: first,

Production: This relates to how production aligns with market demand. It involves determining the quantity and type of products to be manufactured and when production should occur to meet market needs. Second, Inventory: This involves deciding which items to stock and in what quantities, considering factors such as raw materials, semi-finished goods, and finished products. Criteria include determining optimal inventory levels to meet demand while minimizing holding costs. Then, Location: This concerns the selection of optimal locations for production facilities and warehouses. It involves assessing factors such as cost efficiency, proximity to suppliers and markets, transportation infrastructure, and regulatory considerations. Then, **Transportation:** This deals with the movement of goods or materials between different points in the supply chain. It involves selecting the most efficient transportation methods and routes while considering factors like cost, speed, reliability, and environmental impact. Last but not least, Information: This pertains to determining the amount of data to be collected and shared within the supply chain. It involves establishing systems for collecting, storing, analyzing, and disseminating information to support decision-making and coordination across the supply chain. Finally, **Information Flow:** This involves ensuring that information is communicated quickly and accurately between various stakeholders in the supply chain. It includes establishing effective communication channels and systems for sharing real-time information to facilitate coordination and decision-making (Malik, 2021; Mohd Jamal, 2020)

This paper shifts the focus from merely establishing the link between sustainability-related resources and initiatives (e.g., green assets) and supply chain performance to understanding how to shape this association. This is where the concept of resource orchestration becomes relevant.

The primary assumption proposed in this paper is that the adoption of appropriate management accounting systems (e.g., EMA) enables organizations to effectively synchronize, measure, and manage the various elements of Green Intellectual Capital (GIC). This, in turn, can lead to improved environmental supply chain performance. Inspired by resource orchestration theory, this paper explores how organizations utilize EMA to enhance supply chain performance by translating GIC into tangible outcomes (Wang, 2020). According to resource orchestration theory, an organization can maximize the benefits of its strategic resources and capabilities (e.g., GIC and EMA) only when they are structured, bundled, and managed effectively (Andersén et al., 2020; Wang et al., 2020).

It not only helps top management in implementing sustainability initiatives by promoting core sustainability values and assessing sustainability performance but also aids in reducing strategic risks associated with sustainability, mitigating uncertainties related to sustainability strategies, and functioning as a control mechanism to reduce agency costs for shareholders (Mungai, 2020; Traxler, 2020).

In this paper, Green Intellectual Capital (GIC) is defined as "the total stock of all kinds of intangible assets, knowledge, capabilities, and relationships related to environmental protection or green innovation at both the individual and organizational levels within organization." (Wang, 2021; Yong, 2019).

In this conceptualization, GIC comprises three dimensions: Green Human Capital: This encompasses the qualities of the workforce, such as know-how, knowledge, experience, qualifications, skills, creativity, and commitment related to environmental protection or green innovation. Green Structural Capital: This includes all non-human knowledge repositories within the organization, such as documents, databases, process descriptions, plans, and intellectual properties, which contribute to environmental protection or green innovation. Green Relationship Capital: This pertains to the relationships and networks that the organization has built with stakeholders, partners, customers, and communities related to environmental protection or green innovation (Sage. Yong, J. Y., 2019; Massaro, 2018).

Organizations are increasingly recognizing the importance of environmental knowledge embedded within their workforce to foster green innovation and green management in response to external environmental pressures. Therefore, green human capital plays a vital role in leveraging employees' expertise and skills to drive environmental initiatives and innovation within the organization (Peng, 2021). Knowledge and culture enable organizations to formulate and implement environmentally oriented innovative strategies, thereby seizing new opportunities and attaining sustained competitive advantages. In this context, green structural capital is defined as "the reservoir of organizational capabilities, commitments, knowledge management systems, reward systems, information technology systems, databases, managerial mechanisms, operational processes, managerial philosophies, organizational culture, organization images, patents, copyrights, and trademarks related to environmental protection or green innovation within the organization." This encompasses the organizational infrastructure and resources dedicated to promoting environmental protection and driving green innovation initiatives (Asiaei, 2021; Mungai, 2020; Heinicke, 2020; Massaro, 2019)

The value derived from an organization's relationships and interactions with its key stakeholders, including customers, suppliers, distributors, partners, and the local community, constitutes relational capital. This relational capital encompasses the resources, support, and mutual benefits that the organization receives from its stakeholders and external parties. These relationships play a crucial role in the organization's growth, sustainability, and ability to thrive in its environment (Gunarathne, 2021; Gomez-Conde, 2019)

In today's context, environmental concerns have become a primary focus not only for organizations but also for their stakeholders and external partners. With the increasing significance of environmental awareness, organizations are striving to enhance their resources and strengthen their external relationships, particularly in areas related to mutual environmental interests. In this regard, green relationship capital is defined as "the accumulation of an organization's interactive relationships with customers, suppliers, network members, and partners regarding corporate environmental management and green innovation, enabling the organization to generate value and gain competitive advantages." This encompasses the establishment and cultivation of relationships that facilitate environmental management practices and innovation initiatives, contributing to the organization's overall success and competitive positioning in the market (Wang, 2021; Yong, J. Y., 2019; Massaro, 2018).

There is a lack of consensus regarding the precise definition, operationalization, and scope of environmental performance. While some studies offer a narrow perspective, focusing solely on environmental effects such as emissions and waste disposal, others advocate for broader definitions that incorporate environmental ratings of organizations and subjective evaluations from external groups. Environmental performance has also been described as "organization's effectiveness in meeting and surpassing society's expectations regarding concerns for the natural environment." (Peng, 2021; Mungai, 2020).

Green Intellectual Capital (GIC) can facilitate collaborative relationships with various external stakeholders, such as customers or community residents, who prioritize environmental protection. These relationships, in turn, have the potential to enhance the organization's image and reputation in the eyes of stakeholders (Wang & Juo, 2021).

Considering internal implications, GIC can play a crucial role in various aspects within organizations. Firstly, it can help minimize environmental costs and promote employees' professional knowledge and awareness of green practices and energy-saving technologies. Secondly, businesses can better understand and adhere to government environmental regulations and expectations by leveraging GIC. Some argue that enhanced environmental performance is directly linked to the organization's active accumulation of green-related knowledge and resources (Asiaei et al., 2020).

GIC and environmental management accounting

There is a growing expectation for organizations to demonstrate accountability for their environmental, economic, and social impacts by offering more sustainability information. Intellectual capital can serve as a valuable asset in helping a organization mobilize towards achieving its goals (Wang & Juo, 2021; Asiaei et al., 2020). Given that effective environmental management encompasses both tacit and explicit knowledge, Green Intellectual Capital (GIC) within sustainability-focused organizations plays a crucial role. It facilitates the translation of knowledge into regulations, technologies, best practices, and initiatives aimed at attaining the organization's sustainable objectives.

In the 20th century, as green intangible assets emerged, there arose a necessity for innovation and updating of management control systems to incorporate environmental considerations. It became evident that the types of strategies adopted by organizations influenced the need for innovation in management activities. Observations indicated that individuals who adhere to these strategies tend to adopt accounting innovations.

Today, organizations recognize the importance of actively and continuously developing environmental strategies, environmental information systems, and environmental management control systems. These systems are crucial for measuring the true value of green assets, enabling organizations to leverage them for enhancing environmental performance and advancing supply chain performance. As a result, integrating environmental considerations into management practices has become a critical aspect of contemporary business operations.

Environmental Management Accounting (EMA) represents a form of innovation that underscores the diversity of standard methods and practices aimed at maximizing the effectiveness of environmental management (Gomez-Conde et al., 2019). It enables organizations to integrate environmental considerations into their decision-making processes and operational practices, thereby driving continuous improvement in environmental performance and supply chain efficiency.

According to the definition provided, Environmental Management Accounting (EMA) is characterized as a technique aimed at enhancing, analyzing, and leveraging both financial and non-financial information to improve the environmental and economic performance of an organization, thereby supporting sustainable business practices.

In the process of continuous improvement facilitated by EMA, two types of intangible assets are emphasized: (A) The integration of environmental considerations into strategic planning processes. (B) The utilization of management accounting practices to address environmental concerns.

The synergy between these two aspects is crucial, as it enhances the likelihood of the environmental management system generating intangible assets that contribute to the organization's environmental performance. Consequently, the use of EMA is argued to benefit organizations by providing pertinent information regarding their operational activities, particularly in relation to the environment. This, in turn, leads to enhanced environmental performance (Chaudhry & Amir, 2020).

In essence, EMA serves as a tool for organizations to effectively manage their environmental impact, integrate environmental considerations into their strategic decision-making processes, and ultimately achieve improved environmental supply chain performance while maintaining economic sustainability.

Management accounting techniques and supply chain performance

The management accounting function within supply chains serves the purpose of acquiring information and utilizing it for various control and decision-making processes with the aim of optimizing activities both within and among organizations, value chains, and networks. Contributions in supply chain management concerning management accounting have predominantly been technique-oriented, focusing on the paper of specific tools or techniques for refining established accounting practices or devising new ones to support the management of networks and value chains (Abualigah, et Al., 2023; Saini, N., 2023).

Mohd Jamal, (2020) has highlighted that traditional management accounting practices, coupled with newer management accounting techniques, acknowledge that strategies are formulated and effectively implemented by understanding and managing the activities across the supply chain that contribute value to the customer. In essence, effective management accounting within supply chains involves aligning financial and operational strategies to optimize performance and deliver value throughout the entire supply chain network. Swanson, (2018) has identified several management accounting techniques that assist supply chain managers in evaluating various aspects of supply chain performance. These techniques include:

(a) Open Book Accounting (b) Value Chain Costing (c) Target Costing (d) Quality Costing (e) Make or Buy (f) Activity Based Costing (g) Benchmarking

These techniques enable supply chain managers to gain insights into different dimensions of supply chain performance. The evaluation of supply chain performance can be conducted using various metrics, including:

(a) Measurement of cost centers (b) Strategy development (c) Return on equity (d) Return on assets (e) Return on investment (f) Make or buy decisions

By leveraging these management accounting techniques and performance metrics, supply chain managers can effectively assess the performance of their supply chain operations, identify areas for improvement, and make informed decisions to enhance overall supply chain efficiency and effectiveness.

EMA and the development of supply chain performance

Environmental Management Accounting (EMA) plays a crucial role in helping organizations realize potential environmental benefits and understand their responsibilities towards environmental stewardship. By incorporating financial controls and environmental management strategies into environmental management control systems, EMA enables organizations to measure, control, and disclose their environmental performance.

EMA serves as a valuable tool for organizations to integrate environmental considerations into their management processes, improve environmental supply chain performance, and ultimately contribute to sustainable business practices. The synergy between advanced management accounting practices and EMA enhances the effectiveness of environmental management initiatives within organizations.

It helps to minimize environmental costs and mitigate the broader environmental impact of their activities, products, and services. According to Chaudhry and Amir (2020), the use of EMA can enhance the environmental supply chain performance of an organization by providing insights into the complexities of its environmental management systems. This understanding enables organizations to make more effective and informed decisions regarding environmental matters.

The mediating role of EMA

EMA serves as a critical mechanism for integrating environmental considerations into the decision-making process and the management systems of organizations (Asiaei, Bontis et al., 2021; Chaudhry & Amir, 2020). To effectively translate green intellectual resources into enhanced performance, organizations require appropriate management accounting mechanisms to evaluate results against predetermined goals and implement improvements accordingly. This process enables organizations to identify the environmental impacts of their operations and communicate their sustainable value initiatives to stakeholders effectively. Ultimately, this capability enhances the organization's ability to survive and thrive over time in a sustainable manner.

Moreover, some scholars have challenged the immediate effect of environmental resources on supply chain performance (Abualigah, et Al., 2023; Saini, N., 2023). This challenge has prompted recent examinations to shift focus towards understanding how to shape the relationship

between environmental practices, strategies, or resources (such as Green Intellectual Capital, GIC) and supply chain performance, rather than solely focusing on the necessity of linking them. This shift highlights the importance of exploring the dynamics and mechanisms underlying the relationship between environmental initiatives and organizational performance, paving the way for more nuanced and insightful analyses in the field of sustainability management.

The primary challenge in implementing resource orchestration lies in identifying channels through which management can mobilize and structure the organization's underlying assets to facilitate better harmonization, synchronization, and direction for specific utilization (Asiaei, Rezaee et al., 2021).

We contend that EMA serves as a channel through which the underlying assets or capabilities of a organization, such as Green Intellectual Capital (GIC), can be mobilized more effectively to create tangible value for the organization. Furthermore, as an effective organizational control mechanism, EMA assists organizations in addressing agency issues associated with environmental engagement, thereby facilitating the translation of green resources and capabilities into enhanced environmental performance (Asiaei et al., 2020).

Conclusion

This paper aimed to critically analyze the perspective of Natural resource orchestration which aims to demonstrate how EMA serves as a channel through which an organization's strategic green resources, such as Green Intellectual Capital (GIC), can be effectively translated into enhanced environmental performance. This approach integrates insights from the natural resource-based view of the organization, which emphasizes the strategic importance of the organization's resource portfolio, and resource orchestration theory, which highlights the effective management and utilization of resources to achieve organizational goals.

By adopting the natural resource orchestration perspective, researchers and practitioners can gain deeper insights into how organizations can leverage EMA practices to optimize their environmental performance and capitalize on their green resources more effectively.

Environmental Management Accounting (EMA) can aid organizations in effectively addressing sustainability threats and opportunities, thus reducing agency costs by enhancing the transparency and accountability of operational practices. This paper demonstrates how EMA interacts with the relationship between Green Intellectual Capital (GIC) and the development of supply chain performance.

This suggests that investments in green human capital, green structural capital, and green relational capital contribute to improved environmental performance within organizations and highlight the potential of EMA to facilitate the integration of sustainability principles into organizational decision-making processes. This aligns with prior research which recognizes green human capital — encompassing the knowledge, skills, values, and experiences of employees — as a crucial element for achieving sustainability objectives (Massaro et al., 2018). Additionally, it supports the notion that green human capital plays a pivotal role in driving innovation related to

social and environmental practices (Yong et al., 2019; Yusoff et al., 2019; Chuang and Huang, 2018).

Indeed, Environmental Management Accounting (EMA) facilitates more accurate and efficient environmental decision-making by managers, thereby reducing resource waste and inefficiencies in environmental prevention measures. This paper further supports the notion that EMA plays a mediating role in the relationship between Green Intellectual Capital (GIC) components and environmental supply chain performance (Saini, 2023; Malik, M., 2021; Jamal, 2020).

This aligns with the central tenets of resource orchestration theory, which posit that effective synchronization and alignment of strategic resources within a organization—such as Green Intellectual Capital (GIC) and Environmental Management Accounting (EMA)—can greatly enhance organizational performance. According to this theory, orchestrating these resources enables the organization to fully leverage their potential benefits, resulting in improved supply chain performance (Abualigah, et Al., 2023; Saini, N., 2023; Wang, 2020; Yong, 2019).

As highlighted by Gunarathne et al. (2021), The critical role of resource orchestration in driving organizational success, particularly in the context of environmental management and sustainability initiatives. By aligning and integrating key resources effectively, organizations can better navigate the complexities of the modern business landscape and achieve their strategic objectives more efficiently. By orchestrating resources like GIC and EMA, organizations can optimize their environmental management efforts and achieve superior performance in terms of sustainability and competitiveness (Traxler, 2020; Tashakor, 2019)

Moreover, the transparency and accountability fostered by EMA contribute to reducing agency costs within organizations. By providing accurate and reliable information about environmental performance, EMA enhances stakeholders' trust and confidence in the organization's management practices. This, in turn, reduces the likelihood of agency conflicts and costly monitoring and control mechanisms (Peng, B., 2021; Mungai, 2020).

In conclusion, the use of EMA not only enhances environmental management capabilities but also supports organizational efficiency, risk management, and stakeholder relationships. As organizations continue to prioritize sustainability and transparency, EMA will remain a valuable tool for driving environmental stewardship and business success. Organizations that invest in both GIC development and the adoption of EMA are likely to realize enhanced environmental performance, thereby strengthening their competitive position in the sustainable marketplace.

Future research suggestions:

- 1) The impact of Artificial intelligence on the relationship between green assets and supply chain performance
- 2) The effect of big data analytics on supply chain environmental performance.
- 3) The relationship between green innovations and firm's market share.
- 4) The impact of green innovations on the environmental performance.
- 5) The relationship between environmental performance and firm value.
- 6) The relationship between green innovations and firm's sustainability growth rate.

References

- Abualigah, L., Hanandeh, E. S., Zitar, R. A., Thanh, C. L., Khatir, S., & Gandomi, A. H. (2023). Revolutionizing sustainable supply chain management: A review of metaheuristics. **Engineering Applications of Artificial Intelligence**, 126, 106839.
- Andersén, J., Jansson, C., & Ljungkvist, T. (2020). Can environmentally oriented CEOs and environmentally friendly suppliers boost the growth of small organizations? **Business Strategy and the Environment**, 29(2), 325–334.
- Asiaei, K., Rezaee, Z., Bontis, N., Barani, O., & Sapiei, N. S. (2021). Knowledge assets, capabilities and performance measurement systems: A resource orchestration theory approach. **Journal of Knowledge Management.**
- Asiri, N., Khan, T., & Kend, M. (2020). Environmental management accounting in the Middle East and North Africa region: Significance of resource slack and coercive isomorphism.

 Journal of Cleaner Production, 267, 121870.
- Burritt, R. L., Herzig, C., Schaltegger, S., & Viere, T. (2019). Diffusion of environmental management accounting for cleaner production: Evidence from some case studies. **Journal of Cleaner Production**, 224, 479–491.
- Chaudhry, N. I., & Amir, M. (2020). From institutional pressure to the sustainable development of firm: Role of environmental management accounting implementation and environmental proactivity. **Business Strategy and the Environment**, 29(8), 3542–3554.
- Doktoralina, C., & Apollo, A. (2019). The contribution of strategic management accounting in supply chain outcomes and logistic organization profitability. **Uncertain Supply Chain Management**, 7(2), 145-156.
- Freudenreich, B., Lüdeke-Freund, F., & Schaltegger, S. (2020). A stakeholder theory perspective on business models: Value creation for sustainability. **Journal of Business Ethics**, 166(1), 3–18.
- Gomez-Conde, J., Lunkes, R. J., & Rosa, F. S. (2019). Environmental innovation practices and operational performance: The joint effects of management accounting and control systems and environmental training. **Accounting, Auditing & Accountability Journal**, 32(5), 1325–1357.
- Gunarathne, A. N., Lee, K. H., & Hitigala Kaluarachchilage, P. K. (2021). Institutional pressures, environmental management strategy, and organizational performance: The role of environmental management accounting. **Business Strategy and the Environment**, 30(2), 825–839
- Heinicke, X., & Guenther, T. W. (2020). The role of management controls in the higher education sector: An investigation of different perceptions. **European Accounting Review**, 29(3), 581-630.
- Malik, M., Ghaderi, H., & Andargoli, A. (2021). A resource orchestration view of supply chain traceability and transparency bundles for competitive advantage.

 Strategy and the Environment, 1–16.
- Massaro, M., Dumay, J., Garlatti, A., & Dal Mas, F. (2018). Practitioners' views on intellectual capital and sustainability: From a performance based to a worth based perspective. **Journal of Intellectual Capital**, 19(2), 367–386.

- Mohd Jamal, N., Tayles, M., & Grant, D. B. (2020). Investigating the Relationship between Supply Chain Management and Management Accounting Practices. **Journal of Supply Chain Management: Research & Practice.**
- Mungai, E. M., Ndiritu, S. W., & Rajwani, T. (2020). Do voluntary environmental management systems improve environmental performance? Evidence from waste management by Kenyan firms. **Journal of Cleaner Production**, 265, 121636.
- Peng, B., Chen, S., Elahi, E., & Wan, A. (2021). Can corporate environmental responsibility improve environmental performance? An intertemporal analysis of Chinese chemical organizations. **Environmental Science and Pollution Research**, 28, 12190–12201.
- Pradhan, D., Swain, P. K., & Dash, M. (2018). Effect of management accounting techniques on supply chain and organization performance: An empirical paper. **International Journal of Mechanical Engineering and Technology**, 9(5) 1049-1057.
- Rezaee, Z., Alipour, M., Faraji, O., Ghanbari, M., & Jamshidinavid, B. (2020). Environmental disclosure quality and risk: The moderating effect of corporate governance. Sustainability Accounting, Management and Policy Journal.
- Sage. Yong, J. Y., Yusliza, M.-Y., Ramayah, T., & Fawehinmi, O. (2019). Nexus between green intellectual capital and green human resource management. **Journal of Cleaner Production**, 215, 364–374.
- Saini, N., Malik, K., & Sharma, S. (2023). Transformation of supply chain management to green supply chain management: Certain investigations for research and applications. Cleaner Materials, 7, 100172.
- Swanson, D., Goel, L., Francisco, K., & Stock, J. (2018). An analysis of supply chain management research by topic. Supply Chain Management: **An International Journal**, 12(3), 110-116.
- Tashakor, S., Appuhami, R., & Munir, R. (2019). Environmental management accounting practices in Australian cotton farming: The use of the theory of planned behavior. **Accounting, Auditing & Accountability Journal**, 32(4), 1175–1202
- Traxler, A. A., Schrack, D., & Greiling, D. (2020). Sustainability reporting and management controlary systematic exploratory literature review. **Journal of Cleaner Production**, 276, 122725.
- Wang, C. H., & Juo, W.-J. (2021). An environmental policy of green intellectual capital: green innovation strategy for performance sustainability. **Business Strategy and the Environment**, 1_14
- Wang, J., Xue, Y., & Yang, J. (2020). Boundary-spanning search and organizations' green innovation: The moderating role of resource orchestration capability. **Business Strategy and the Environment**, 29(2), 361–374.
- Yong, J. Y., Yusliza, M.-Y., Ramayah, T., & Fawehinmi, O. (2019). Nexus between green intellectual capital and green human resource management. **Journal of Cleaner Production.**
- Yusoff, Y. M., Omar, M. K., Kamarul Zaman, M. D., & Samad, S. (2019). Do all elements of green intellectual capital contribute toward business sustainability? Evidence from the Malaysian context using the partial least squares method. **Journal of Cleaner Production**, 234, 626–637.