GREEN PROCUREMENT NEXUS PERFORMANCE OF MANUFACTURING FIRMS: EMPIRICAL REFLECTIONS

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ABSTRACT
Purpose: This literature-based study assessed green procurement practices as a strategic tool for protecting the environment in favour of the performance of manufacturing firms.
Design/Methodology/Approach: A systematic qualitative scrutiny aided by nomothetic content analysis from the published papers centred on green procurement as a global strategic approach to protecting the environment was employed.
Findings: Green procurement practices are documented as useful for the performance of firms. Moreover, little has been pronounced on relevant practices in Tanzania. Manufacturing firms are charged for environmental compliance and hence call for a related conceptual study.
Research Limitation/Implication: The study limited itself to the literature alone out of no cause-effect relationship testing of green procurement practices against performance hence calling for the quantitative study guided by hypothesis testing.
Practical Implications: The practical implications of the green procurement nexus on the performance of manufacturing firms are significant and can influence various aspects of a company’s operations, sustainability efforts, and overall success.
Social Implications: The study contributes to the Environmental Social Governance (ESG) agenda by highlighting the green procurement practices to be taken on board for the social wellbeing of the delivery of materials to manufacturing firms in consistency with the governance mechanisms.
Originality/Value: Suggestion: The novelty of the study on the green procurement nexus and manufacturing firm performance lies in its empirical, multidimensional, and forward-looking approach to understanding how sustainable procurement practices can impact various facets of a manufacturing firm's operations and long-term sustainability. It contributes to the growing body of knowledge on the intersection of sustainability and business performance.

Keywords: Cost reduction. green procurement. performance. reduction. waste

1.0 INTRODUCTION
Environmental conservation is generally described as of vital concern (Benti & Asfaw, 2022). The optimal performance of organizations significantly relies on the prompt availability of appropriate goods and services to support operations, and this is a function of organizational procurement efforts. Firms, particularly those that are state-owned have the prime goal of, procuring and providing adequate infrastructure and public services, which make up a significant part of a nation’s GDP. The majority of nations’ ability to realize their economic, environmental,
technological, and social goals (World Bank, 2016) significantly depends on public procurement. Similarly, privately owned manufacturing firms also require the capability of promptly meeting consumer demands to achieve and sustain a competitive edge, and this is, to a great extent a procurement function. Thus, owing to the subtle nature of the procurement, public and state-owned enterprises are the likely consumers of dirty and carbon-intensive goods, that are a threat to the environment and subsequently life.

In an attempt to save nature, there is a global call for organizations, enterprises, and manufacturing firms to adopt sustainable procurement practices (green procurement). Green procurement refers to best practices aimed at purchasing eco-friendly goods and services that not only sustain human existence but are generally pro-life through environmental protection (Masudin, 2022). The performance of manufacturing firms is vital (Magoma, Mbwambo, & Kasheshi, 2022; Kimario and Mwagike, 2021). Thus, organizations that practice green procurement provide tenders to contractors whose services align with environmental sustainability, as quoted in their tender proposals (Kipkorir & Wanyoike, 2015). Organizations are therefore urged to approach with caution and ensure that purchases are not only health-sustaining but are also environmentally friendly (Agyepong & Nhamo, 2015). As a result, green procurement plans look into the acquisition of goods which are taking care of environmental sustainability (Kipkorir & Wanyoike, 2015).

Several rules, laws, and regulations have been harmonized and/or introduced to guide the implementation of green procurement. The European Union, for example, has published a new legal agenda for procurement that includes environmental aspects in its acquisition logistics. Policies are very important for decision-making (Ibrahim, Msumanje, & Manda, 2023). Several metropolitans in South Africa decided to establish policies to guide their implementation of green procurement practices (Agyepong & Nhamo, 2015). Unlike prior regulations, Tanzania's new Public Procurement Act 2011 (as revised in 2016), Public Procurement Regulations 2013 and 2016, and Public Procurement Policy (2012) all emphasize the importance of green procurement methods. Even though rules, laws, and regulations explicitly advocate for improved and sustainable procurement methods that are environmentally conscious, the adoption of these practices is gradual. As a result, in the public sector, such policies are more prominent, whereas, in the private sector, the legal framework and policy advice are rarely proclaimed and/or executed. According to Agyepong and Nhamo (2015), South Africa appears to be making slow progress in embracing the green procurement goal from a dipstick perspective. The current tendering methods are too focused on onion rings and meeting business needs, while the tender evaluation criteria make no mention of green procurement. This shows, among other things, that the progression of defining and thereafter fulfilling environmental procurement standards has not been adequately implemented within government regulatory organizations, and that some of them are simply incapable of driving the work and policy program. Lack of structural and organizational change, a poor legislative and governing framework, insufficient resources, and high acquisition cost of sustainable items in the manufacturing sector of Kenya are described as the stumbling blocks towards the adoption of green procurement (Gatari & Were 2014).
The high prices and expectations for resource investment appear to hinder the implementation of green procurement, as businesses are wary of the effects on corporate performance. However, some of the actors in the green procurement process are more concerned about the extra cost that they will bear. Supporters emphasize the great potential for moving the market in the correct direction and believe they can illustrate the financial benefits of green procurement (Kipkorir & Wanyoike, 2015). Based on the foregoing talks, the study's particular goals were to identify business characteristics that influence organizations' adoption of green buying techniques, analyse the role of green procurement on waste reduction, and thereafter assess the sway of green procurement towards firm performance.

Manufacturing organisations in Tanzania have been charged with environmental compliance despite the presence of a procurement department which is responsible for buying requirements which are user-friendly to the environment (URT, 2016). The manufacturing sector of Tanzania is anticipated to alter the country’s economy into semi-industrialized by 2025 (URT, 2017). The government of Tanzania has put in place the use of the National Environment Management Act since 2005 to care for all in compliance (URT, 2004). Charges resulting from environmental incompliance affect the reputation, profit and the entire performance of the manufacturing entities. It is along with this background the study empirically analyses the green procurement practices from different settings to be adopted appropriately in the context of the manufacturing setting of Tanzania.

1.2 Theoretical Review

The Resource dependence and the Resource Based View theories guided the current study were found in 1978 by Pfeffer and Salancik and in 1959 by Penrose respectively. The theories complement each other in explaining how organizations are established depending on available resources to optimize benefits and build resilience while taking into account the vulnerable circumstances in which organizations must survive. While the RBV solely focuses on organizational resources, the Resources Dependence Theory RDT interests itself with environmentally acquired resources (natural and business). Because businesses are rarely resource and investment self-sufficient, it is recommended to extensively source and fully utilize both their internal and external resources, which is critical for sufficient implementation of green procurement policies. Therefore, the two theories are positively associated, implying that businesses that recognize the value of resources in decision-making processes are those most likely to fully exploit their external and internal resources (Wronka & Szymaniec, 2012).

The Resource Dependence Theory describes organizations as an open system that significantly relies on external contingencies and recognizes the impact of external factors on organizational behaviour. Similarly, Pfeffer and Salancik (1978) believe that organizations are particularly vulnerable to external interest groups' influence because they have resources that are vital for their wellbeing The same may be seen in the implementation of green procurement methods, where the business would be unable to succeed without resources. The sustainability of green purchasing...
relies on external resources and support from stakeholders like investors, suppliers, customers, and the government (as a policymaker). As a result, organizations must evaluate the quality and the extent to which they utilize their resources regularly, as this is crucial for the effective response to the constantly evolving business environment, including green procurement practices.

The Resource-Based View (RBV), on the other hand, focuses on various performance resources (Su, Lai & Huang 2009). The RBV is primarily an economic instrument for determining the strategic resources available to firms, which serves as the footing for effectiveness. Moreover, global competitors are focused on long-term resources, adopting sustainable resources. Therefore, adopting green procurement is inevitable in attempts aimed at enhanced performance. RBV highlights that valued, uncommon, non-imitable, and irreplaceable business possessions result in a competitive advantage based on its assumptions (Miles & Covin, 2010). The resources needed to successfully adopt green procurement procedures vary depending on the type of company (Dickinson & Sommers, 2010). According to Hoffman and Sandelands (2005), the main assumption of RBV campaign is that green procurement practices are an organisational tool for dealing with competitors to have full control of owning their vital resources. The theories under study have been more commonly used to study behavioural issues than performance-based studies. Knowing, how one behaves to the environment can influence the performance of the firms and hence they were used to study performance issues in this study.

2.0 METHODOLOGY
Multiple strategies were employed to gather relevant literature using a systematic literature review. Database resources such as Web of Science, Scopus, and Google Scholar undoubtedly were used to describe the terms green procurement, procurement performance, cost reduction, and waste reduction. The rationale behind the choice of the three is based on the fact that they are highly reliable sources of information. To discover relevant publications and those previously acquainted with the authors, reference and citation tracking from the period between 2013 to 2023 were used. Forward snowballing uses built-in capabilities in databases to ascertain research cited in known studies, whereas backward snowballing entails evaluating the reference slant of revealed literature using tracing the quoted references. Furthermore, literature was also obtained from institutional repositories and reliable internet sources as conducted by Kimario, Mwagike and Kira (2021). A rigorous qualitative synthesis was carried out employing nomothetic-based content analysis. Common themes relating to the essential elements were examined, and evidence of outcome based on current literature about green procurement practices, factors intermediating green procurement practices, cost reduction, and waste reduction linked with green procurement implementation was investigated.

3.0 RESULTS AND DISCUSSION
3.2 Business Environment Dynamics Manipulating Embracing of Green Procurement
Recycling of wastes, usage of paperless technology, and the habit of using biodegradable resources are the key drivers of business environmental factors influencing manufacturing organizations to implement green procurement practices (Wijayasundara et al., 2022). The most important
Determinants of business environmental actions are pressure to align with corporate environmental criteria (Siraj et al., 2022; Yang et al., 2022) and amplified personnel environmental attentiveness (Zameer & Yasmeen, 2022). Studies looked into the variables that make it difficult for businesses to execute green supply chain management efforts pointed out cost and lack of legitimacy to be internal barriers (Moslehpour et al., 2023; Sharma et al., 2023), whereas regulation (Chege & Arani, 2023) discovered to be external impediments (OECD, 2021) identified multiple reasons for aggressively upholding green procurement across value chains, including stimulating new product innovations; mushrooming number of environmentally beneficial products, collaboration breaks, and curiosity from the investment civic and lenders. Zhu, Geng, and Gao (2022) investigated the precarious factors persuading green procurement enactment in China and realized that top management commitment and supplier involvement were the most important criteria for adoption and implementation. How close actors in the business integrate matters a lot (Kimario & Mwagike, 2023; Kimario & Kira, 2023). Equally important, top management needs to cooperate with the procurement department for the acquisition of environmentally user-friendly products. Other aspects of government agencies include green procurement-friendly rules and regulations. Investment is an aspect that needs assessment before engaging it (Kasambala, 2019; Kasambala, 2017). Therefore, investors are encouraged to make sure their investments are environmentally user-friendly by promoting awareness to the stakeholders (Lăzăroiue et al., 2020).

Financial resources, as most firms reveal immediate expenses, such as higher purchase values, and long-term expenditures including power and environmental clean-up costs, were highlighted as central prerequisites of green procurement adoption (Kumar et al., 2023). Kipuyo (2020) in her case study described lack of proper leadership, unsatisfactory enforcement of green procurement, inadequate top management commitment to the cost of the procedure and prolonging procedures during the adoption of green procurement are stumbling blocks towards the adoption of green procurement in manufacturing firms in Lodhia steel company in Arusha.

3.3 Green Procurement Practices and its influence on Cost Reduction

According to Wanja and Achuora (2020), sustainable procurement which takes care of green procurement is vital for ensuring acquisition of the items which are user-friendly in return for the reduction of unnecessary costs in organisations’ operations. Actors of procurement have been evading green products on the thought that they are reducing procurement costs while in reality, the total acquisition costs remained high at the expense of environmental deterioration (Thiga, Chege & Arani, 2023). All of this led to the development of strong relationships between suppliers and the buying entities, resulting in more enhanced entities’ efficiency. Kenya Airways also employs green procurement to provide ecologically friendly items to its clients, including green packaging, waste minimization, and emission reduction on low-energy-consuming goods. Sustainable procurement, according to Shale (2020) sustainable procurement which takes care of environmental concerns is just as vital as corporate needs. Cost management enhanced intrinsic and extrinsic canons through performance benchmarks, and strict compliance through environmental and social statutes are just a few of the advantages of having sustainable or specific
procurement policy in place. According to Yue et al. (2020) from China, environmentally conscious purchasing can improve a company's financial performance by increasing net income and lowering overall expenditures and hence reasonable prices to be charged for the marketed goods. Similarly, it has been stated green abilities once practised stimulate the outcome of manufacturing corporations (Khan, Yu, & Farooq, 2023). Cost reduction is one of the performance indicators that need to be indexed as it is one of the important attributes of the performance of firms. Similarly, by using the green manufacturing process, power costs will decrease to a greater extent. Furthermore, green products use less energy resources. Masudin et al., (2020) described green procurement practices in terms of supplier sustenance, top management backing, Information and Communication Technology infrastructure upkeep, and passivity of laws and regulations as of great essence. Further, implementation cost is highly acknowledged as of great factor for the execution of green procurement. The same factors are documented as the important aspects that affect the adoption of green procurement in Malaysia (Alqadami et al., 2020). Green procurement significantly minimizes waste since these products are typically designed with the ultimate goal of waste reduction. According to Oxborrow and Brindley (2013), who conducted their exploratory study on supporting supply chain operations to green marketing requirements in the United Kingdoms, the procurement or use of eco-friendly products, such as solar panels, auditing initiatives to minimize waste, more energy-efficient warehousing, or a variety of other sustainability initiatives would lead to cost-cutting, resulting in eco-advantage in the business arena.

3.4 Green Procurement Practices on Waste Reduction in Manufacturing Firms

Different firms have integrated environmental requirements into their purchasing procedures to implement green procurement whilst reducing waste (Song & Zhang, 2017). Green procurement is regarded as the resort for the tendency of safeguarding exhaustion of non-renewable environmental possessions which ultimately results in environmental continuous degradation. According to Muraguri, Waweru, and Musyini (2015) who conducted a descriptive statistical study reveals green procurement minimizes carbon emission and air pollutant waste reduction, supports re-use and recycling, use of biodegradable materials, reduces harmful materials, and toxic substances, thus strengthening the green supply chain management ideology of eliminating or minimizing waste along the supply chain. Mathu (2019) reveals green procurement as a tool that eliminates resource outsourcing and the rest of the logistic operations of manufacturing, transportation, warehousing and outbound operations whilst speeding up the distribution process. The use of reimbursement items in reverse logistics for reuse, recycling, and remanufacturing helps to conserve the environment while also adding value to returned goods. Green procurement aids appropriate waste disposal, which purchasing departments should value by taking the overall cost of waste elimination into account. It is also recommended that organizations should consider waste disposal before procuring products, and a company's ability to recycle and reuse is at the heart of green purchasing (Chelagat & Ismail, 2018). Green procurement is regarded as and feeder to environmental sustainability and hence there is a great emphasis of the firms to stick to green innovations so that the produced items (Wang & Ozturk, 2023). It is recommended that actions that include energy saving, recycling, reusing, and usage of biodegradable and generally
environmentally friendly materials are of great essence in government-owned institutions in Kenya (Dido & Shale, 2023).

3.5 Implications of Green Procurement Practices on Firm Performance

The ultimate results of cost reduction and environmental generally result in the overall firm’s performance. Green procurement practices are very useful for the performance of firms. Developed countries have been encouraging the use of environmentally sensitive suppliers, designing specifications in favour of the environment, and enacting green procurement policies and regulations. The adopted green procurement practices facilitate firms to perform much more comparatively (Vejaratnam et al., 2023). Therefore, it is further described that organizations should also require vendors to provide complete product descriptions that include safety and environmental considerations. Product content restrictions stipulating environmental features and demanding suppliers to submit data about ecological considerations were found to have a statistically significant association.

Greening/monitoring the composition of suppliers’ products would eventually result in a green process and, as a result, ecologically sustainable business performance. Sari and Yanginlar (2015) looked at linking green logistics and business efficiency performance in Turkey's healthcare enterprises. Three metrics were used to evaluate the firm's performance: operational, economic, and environmental. Green logistics practices were found to be favourably related to all three parameters of business performance in Turkish hospitals.

Abaresheia and Molla (2013) explored the function of absorptive strength in embracing green sustainable logistics techniques plus its sway on the outcome of Green Logistics Performance. The study included 279 operators and the data were examined using structural equation modelling. Green logistics knowledge exploitation was recognized as critical to the advancement of GLP. Changes in logistical operations and the incorporation of new knowledge into green practices can help to reduce CO₂ emissions, fuel consumption, and the cost of regulatory performance. It was also discovered that dealing with environmental issues necessitates the collecting, assimilation, transformation, and utilization of environmental data. The study reviewed the adoption of the same practice in the manufacturing sector of Tanzania (Yang et al., 2019). Generally, green procurement and performance are closely linked to each other (Thiga et al., 2023; Ghosh, 2019). However, it is unclear whether incorporating green procurement techniques improves operational efficiency and supply chain performance. Kyalo (2019) investigated supply chain management in favour of the environment in alcoholic beverage makers’ operational performance in Kenya. The author espoused descriptive design and census modality to approach individual people as respondents. Manufacturers were discovered to use lean manufacturing and complete quality control in their processes, as well as biodegradable materials.

4.0 CONCLUSION

The results reveal green procurement is of very great essence for the performance of manufacturing firms. The methods have enhanced the business operations and performance of large industrial enterprises and public entities in terms of cost savings and improved resource control by reducing waste along production lines. Moreover, most of the studies conducted revealed several green
purchasing practices which are in place are implemented in developed countries. The results show that little green procurement is practised in developing countries in the public sector while the private sector has been undefined in terms of this strategic adoption. Tanzanian large manufacturing firms have been charged despite its procurement efforts and hence calling for scholarly attention. Green procurement practices have practical implications that extend beyond environmental considerations. They can drive cost savings, enhance market access, reduce risks, and foster innovation, ultimately contributing to the overall performance and sustainability of manufacturing firms. Green procurement often involves selecting energy-efficient equipment and materials. This can upshots energy safeguarding hence low operational costs. Also, the study contributes to the Environmental Social Governance (ESG) agenda by highlighting the green procurement practices to be taken on board for the social wellbeing of the delivery of materials to the manufacturing firms in consistency with the governance mechanisms to be employed by manufacturing firms.

**Recommendations**

This study has disclosed the green procurement practices which are conducted in diverse angles of the realm. However, owing presence of considerable variations across different nations and industries, it is suggested that those practices should be tested in the context of other countries including Tanzania. Equally important, considering the manufacturing sector is envisioned to be the central heart of the economy, it is also imperative to institute the causality of the green procurement practices nexus the efficacy of firms using positivism paradigm for wide generalizability to enhance national action plans and policy making. The study delves into the causality between green procurement practices and the efficiency of manufacturing firms. While green procurement is a recognized sustainability strategy, its direct impact on performance metrics is an evolving area of research. Therefore, instead of focusing solely on financial performance, the study takes a holistic approach by considering a range of performance metrics. This includes environmental impact indicators, reputation and market access, regulatory compliance, and supply chain resilience. Furthermore, considering Tanzania is a developing country it is also recommended to undertake conceptual studies with an emphasis on green procurement practices and its implications in different settings. Equally important, conceptual studies of a related nature in the form of quantitative or mixed approaches can be conducted to test the existing causality. Furthermore, bearing in mind that the circular economy is an emerging worldwide contemporary issue, it is further recommended that the effect of green procurement on the circular economy should be studied.

**REFERENCES**


OECD (2021) OECD Green Public Procurement. Paris


Siraj, A., Taneja, S., Zhu, Y., Jiang, H., Luthra, S., & Kumar, A. (2022). Hey, did you see that label? It's sustainable! Understanding the role of sustainable labelling in shaping...


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