International Journal of Academic and Applied Research (IJAAR)
ISSN: 2643-9603
Vol. 10 Issue 1 January - 2026, Pages: 208-215

Eco-Friendly Procurement Practices And Organizational Performance Of Hospitals In Obio Akpor, Rivers State, Nigeria

[1]Nwiepe, Naata Michael, *PhD;* [2] Osadjere, Lesi Elizabeth; [3]Ngulube Tekarah Eyi

[1, 2, 3] Department of Marketing, Faculty of Management Sciences,
University of Port Harcourt
Corresponding author: nwiepemichael@yahoo.com

ABSTRACT*: The study examined the influence of eco-friendly procurement practices on organizational performance of hospitals in Obio Akpor, Rivers State. Eco friendly procurement practices were proxied by green packaging and recycling, while organizational performance was measured using sales growth and market share. A quantitative cross-sectional research design was adopted, and data were collected from 135 procurement officers, administrative managers and departmental heads across public and private hospitals in Obio Akpor through a structured questionnaire. Multiple regression analysis was employed to test four hypotheses stated in null form. The findings revealed that green packaging and recycling have significant positive effects on sales growth and market share of hospitals in the study area. All null hypotheses were rejected at the five percent level of significance. The study concludes that eco-friendly procurement practices enhance hospital competitiveness and performance by improving efficiency, public image and patient patronage. Based on the findings, it was recommended that hospitals institutionalize green procurement policies and invest in recycling systems to achieve sustainable performance outcomes.*

Keywords: Eco-Friendly Procurement Practices, Green Packaging, Recycling, Organizational Performance, Sales Growth, Market Share

Introduction

The healthcare sector remains central to economic development and social wellbeing because hospitals not only deliver essential medical services but also serve as major employment and economic hubs in their communities (Letunovska, Saher, Syhyda, & Yevdokymova, 2023). Hospitals operate in increasingly complex environments characterized by escalating operational costs, intense competitive pressures, rising patient expectations and heightened awareness of environmental issues. These dynamics compel healthcare organizations to reevaluate traditional operational processes, particularly procurement, which constitutes a substantial portion of hospital expenditures and contributes significantly to the sector's environmental footprint through the acquisition of large volumes of consumables, equipment and materials (Balogun, Ayodimeji-Alaba, Adebayo & Aminat, 2025). Procurement decisions that focus solely on cost and availability often neglect environmental implications, such as excessive packaging waste, improper disposal of consumables and inefficient resource usage, all of which contribute to increased waste management costs, environmental degradation and potential public health risks (Adeseun, Helen, Kaosara & Oluwabanke, 2025; Nsikan et al., 2022; Walker & Brammer 2012).

Organizational performance is a multidimensional construct comprising financial, market and operational outcomes that reflect the overall effectiveness of an organization in meeting its strategic goals (Laguir & El Baz, 2021). Evidence from healthcare management research shows that performance measurement increasingly incorporates sustainability indicators, recognizing that environmental practices such as green procurement are associated with improved efficiency, reduced costs and enhanced reputation, which in turn influence financial and market performance (Integrating environmental sustainability into hospitals performance management systems: a scoping review, 2025). Furthermore, research suggests that sustainable initiatives contribute to organizational competitiveness by improving patient satisfaction, operational quality and resource management, all of which underpin revenue growth and stronger market positioning (El Baz & Laguir, 2017; Nsikan et al., 2022). In response to these challenges, eco-friendly procurement practices have emerged as a strategic approach that integrates environmental considerations into purchasing decisions, supplier selection, and material usage to reduce ecological harm while supporting broader organizational goals such as cost containment and service quality (Carter & Rogers, 2008). This approach aligns with the principles of green supply chain management, which advocate for waste reduction, emission minimization, and resource optimization throughout the supply chain (Balakrishanan & Dinesh, 2024). In hospital settings, eco-friendly procurement plays a key role in strengthening waste management systems, reducing exposure to hazardous materials, and enhancing public trust in healthcare services. Empirical evidence suggests that environmentally responsible procurement not only adds ecological value but also improves operational efficiency, reputation and competitive performance (Walker & Brammer, 2012; Testa et al., 2016).

In this study, eco-friendly procurement practices are examined through two key dimensions. The first is green packaging, defined as the adoption of recyclable, biodegradable, or minimal packaging materials in acquiring medical supplies and equipment. The second is recycling, which refers to the systematic reuse or responsible disposal of procurement-related waste materials generated within the hospital. Organizational performance in this context is conceptualized as the ability of hospitals to achieve competitive and

financial outcomes, operationalized through sales growth, which reflects increases in revenue from services delivered, and market share, indicating the hospital's position relative to competitors in the healthcare market. Despite increasing advocacy for sustainable procurement in global healthcare systems, many hospitals continue to struggle with poor waste management practices, high procurement costs, and weakening competitive performance. Persistent reliance on single-use plastics, excessive packaging from medical suppliers, and underdeveloped recycling systems intensify operational inefficiencies and environmental risks. Although sustainable procurement has been widely studied in developed healthcare systems (Etse, McMurray & Muenjohn, 2021; Zaidi, Shahbaz, Hou & Abbas, 2021; Chiarini, Opoku & Vagnoni, 2017)), there remains a gap in empirical evidence concerning its adoption and impact in developing contexts. This study therefore seeks to address this gap by empirically analyzing the relationship between eco-friendly procurement practices and organizational performance of hospitals.

Literature Review

Eco Friendly Procurement Practices

Eco friendly procurement practices refer to the systematic integration of environmental criteria into purchasing decisions to minimize negative ecological impacts while achieving organizational goals. This concept is grounded in sustainable supply chain management, which emphasizes responsible sourcing, reduced waste generation, life-cycle thinking and environmental collaboration across supply chains (Carter & Rogers, 2008). Sustainable procurement not only targets cost effectiveness but also aligns procurement decisions with environmental stewardship throughout the product life cycle, from supplier selection to disposal (Gao & Souza, 2022). In the healthcare sector, environmentally responsible procurement is particularly important due to the high volume of consumables, packaging materials and hazardous waste produced on a daily basis. Hospitals generate significant quantities of regulated medical and non-regulated waste, and purchasing environmentally sound products can drastically reduce waste management burdens and disposal costs (Walker & Brammer, 2012).

Empirical studies indicate that incorporating environmental considerations into procurement decisions reduces both disposal costs and compliance risks, while enhancing organizational legitimacy and trust among stakeholders such as patients, regulators, and the public (Walker & Brammer, 2012; Nsikan et al., 2022). Research further highlights that eco-friendly procurement practices strengthen supplier relationships, reduce regulatory risks, and improve brand image, all of which contribute to long-term organizational performance. For example, procurement strategies that prioritize suppliers offering environmentally friendly products and services improve supply chain responsiveness, reduce pollution, and enhance sustainability performance (Mary & Chege, 2024). These practices also augment collaboration between hospitals and suppliers, facilitating joint goals in environmental protection, ethical compliance, and risk mitigation.

Green Packaging

Green packaging refers to the use of packaging materials that are recyclable, biodegradable, reusable or designed to minimize environmental impact throughout their life cycle. It emphasizes reduced material usage, elimination of toxic substances and improved recyclability while maintaining product safety and functionality (Magnier & Schoormans, 2015). In hospital procurement, green packaging practices include reducing reliance on single-use plastics, adopting bulk or minimal packaging for medical supplies, and prioritizing suppliers that comply with environmental packaging standards. These practices are particularly relevant in healthcare settings where packaging waste constitutes a substantial proportion of non-hazardous hospital waste streams (World Health Organization, 2022). Existing studies indicate that green packaging significantly reduces waste management and disposal costs by lowering waste volume and simplifying segregation processes (Tseng et al., 2019). This cost advantage is critical for hospitals, which face increasing financial pressure due to rising treatment costs and regulatory demands. Beyond cost savings, green packaging enhances organizational image and legitimacy, especially in-service industries such as healthcare where trust, safety and ethical conduct influence patient choice (Magnier & Schoormans, 2015). Hospitals that adopt environmentally responsible packaging are perceived as socially responsible institutions, which strengthens patient confidence and public goodwill. Empirical evidence further suggests that green packaging improves operational efficiency by reducing storage space requirements, simplifying inventory management and lowering handling costs (Tseng et al., 2019; Pålsson & Sandberg, 2020). In hospitals, efficient packaging systems also support infection prevention and control by enabling safer handling and disposal of medical supplies. By minimizing waste generation and disposal expenses, green packaging contributes directly to improved financial performance and indirectly to competitive advantage through enhanced reputation and service credibility (Testa et al., 2016; Agyabeng-Mensah et al., 2020). These outcomes position green packaging as a strategic procurement practice capable of influencing both sales growth and market share in the healthcare sector.

Recycling

Recycling in procurement refers to the systematic reuse, recovery and recycling of materials generated from purchased goods, including paper, plastics, packaging materials and non-hazardous medical consumables. Effective recycling systems promote responsible resource utilization by diverting waste from landfills and reintegrating materials into productive use cycles (Zhu et al., 2018). In hospital environments, recycling initiatives commonly involve waste segregation at source, recycling of paper and plastics,

supplier take-back programs and partnerships with licensed waste management firms. Research consistently demonstrates that recycling contributes to improved environmental and financial performance by reducing waste disposal costs and enhancing compliance with environmental regulations (Zhu et al., 2018; Tseng et al., 2021). Hospitals that implement structured recycling programs often experience lower waste management expenses and reduced exposure to regulatory sanctions associated with improper waste disposal. These financial savings can be redirected toward service improvement and infrastructure development, thereby strengthening overall organizational performance. Beyond operational benefits, recycling also serves as a visible indicator of corporate social responsibility. Studies show that organizations engaging in recycling initiatives enjoy enhanced stakeholder confidence, improved public reputation and stronger legitimacy within their operating environments (Laguir & El Baz, 2021; Agyabeng-Mensah et al., 2020).

In competitive healthcare markets, hospitals that demonstrate environmental responsibility through recycling are more likely to attract environmentally conscious patients, partners and investors, which positively influences market share and revenue growth. Furthermore, recycling and reverse logistics are recognized as integral components of green supply chain management. According to Duque-Uribe, Sarache & Gutiérrez (2019), effective recycling systems enhance supply chain sustainability by closing material loops and improving resource efficiency. In hospitals, recycling initiatives align procurement activities with sustainability objectives, supporting long-term organizational resilience and competitive positioning. Collectively, the literature underscores that recycling is not merely an environmental obligation but a strategic procurement practice that contributes meaningfully to organizational performance in the healthcare sector.

Organizational Performance

Organizational performance reflects the extent to which an organization effectively achieves its strategic, financial and operational objectives. It is a multidimensional construct that captures both internal efficiency and external competitiveness, particularly in service-oriented sectors such as healthcare (Richard et al., 2009). In the hospital context, organizational performance extends beyond financial viability to include service sustainability, market positioning, operational efficiency and public trust. As healthcare systems become increasingly competitive and resource constrained, hospitals are under pressure to improve performance while simultaneously meeting regulatory, ethical and environmental expectations (Laguir & El Baz, 2021). Contemporary performance measurement frameworks increasingly recognize sustainability as a critical driver of organizational success. Research shows that environmentally responsible practices enhance organizational performance by improving resource efficiency, reducing operating costs, strengthening reputation and fostering stakeholder confidence (Laguir & El Baz, 2021; Zhu et al., 2018). In healthcare organizations, performance outcomes are closely linked to patient perceptions of quality, safety and ethical conduct.

Environmentally responsible practices such as eco-friendly procurement contribute to these perceptions by demonstrating institutional commitment to social responsibility and long-term wellbeing (Testa et al., 2016). Given the service-based nature of hospitals, measuring organizational performance through sales growth and market share provides valuable insight into both financial outcomes and competitive strength. Sales growth reflects revenue expansion resulting from increased patient patronage and service utilization, while market share captures the hospital's relative position within the healthcare market. These indicators are widely used in healthcare and service management research to assess organizational success in competitive environments (Agyabeng-Mensah et al., 2020).

Sales Growth

Sales growth refers to the increase in revenue generated from healthcare services over a given period and reflects an organization's ability to attract new patients, retain existing ones and expand service utilization. In hospitals, sales growth is influenced by service quality, operational efficiency, reputation and patient trust (Testa et al., 2016). Sustainable procurement practices contribute to sales growth by lowering operational costs, ensuring consistent availability of supplies and improving service reliability, all of which enhance patient satisfaction and loyalty. Empirical studies indicate that organizations with strong environmental credentials often experience improved financial performance due to enhanced brand image and stakeholder trust (Laguir & El Baz, 2021). In healthcare settings, patients increasingly consider non-clinical factors such as environmental responsibility and ethical standards when choosing service providers. Hospitals that adopt eco-friendly procurement practices signal commitment to public health, environmental protection and long-term sustainability, which can translate into increased patronage and revenue growth (Testa et al., 2016; Walker & Brammer, 2012). Furthermore, sustainable procurement reduces waste management and regulatory compliance costs, freeing financial resources that can be reinvested into service improvement and capacity expansion. This cost-efficiency mechanism reinforces the positive relationship between eco-friendly procurement practices and sales growth in hospitals, particularly in competitive urban healthcare markets (Zhu et al., 2018).

Market Share

Market share represents the proportion of total healthcare demand captured by a hospital relative to its competitors and reflects its competitive strength, reputation and patient preference. In highly competitive healthcare environments, market share is a critical indicator of long-term organizational sustainability and strategic positioning (Agyabeng-Mensah et al., 2020). While clinical quality

remains fundamental, recent studies emphasize that organizational values, ethical conduct and sustainability practices increasingly influence patient choice and loyalty. Research suggests that environmentally responsible organizations enjoy stronger market positioning due to positive public image, enhanced legitimacy and stakeholder support (Agyabeng-Mensah et al., 2020; Laguir & El Baz, 2021). In hospitals, eco-friendly procurement practices such as green packaging and recycling contribute to visible environmental responsibility, which strengthens public perception and differentiates hospitals from competitors. This differentiation can attract environmentally conscious patients, corporate clients and institutional partners, thereby expanding market share. Additionally, sustainability-oriented practices improve operational reliability and service continuity, reducing disruptions caused by supply shortages or regulatory non-compliance. Such reliability enhances patient confidence and reinforces competitive advantage, further supporting market share growth in the healthcare sector (Zhu et al., 2018).

Resource-Based View (RBV)

The Resource-Based View (RBV), proposed by Barney (1991), explains organizational performance based on internal resources and capabilities rather than external market forces. The theory posits that firms achieve sustainable competitive advantage when they possess resources that are valuable, rare, difficult to imitate and non-substitutable (Barney, 1991; Wernerfelt, 1984). Such resources may be tangible or intangible and include organizational routines, knowledge systems and strategic practices that competitors cannot easily replicate. Recent literature extends RBV to environmentally responsible practices, arguing that sustainability-oriented capabilities can generate long-term competitive advantages when embedded within organizational processes (Hart, 1995). Eco friendly procurement practices such as green packaging, recycling systems and environmentally responsible supplier selection constitute strategic resources under this framework. These practices involve specialized knowledge, coordinated processes and long-term supplier relationships, making them difficult to imitate (Carter & Rogers, 2008). In hospital settings, eco-friendly procurement practices enhance operational efficiency and reduce waste-related costs, thereby supporting improved financial performance. Empirical studies show that organizations that adopt environmental practices benefit from improved efficiency, stronger reputation and superior performance outcomes (Testa et al., 2016; Zhu et al., 2018; Agyabeng-Mensah et al., 2020). Consequently, RBV explains how eco-friendly procurement practices function as strategic resources that support sales growth and market share in healthcare organizations.

Stakeholder Theory

Stakeholder Theory, developed by Freeman (1984), argues that organizational success depends on the ability to meet the expectations of multiple stakeholders, including patients, employees, suppliers, regulators and the wider community. Organizations that effectively manage stakeholder relationships are more likely to achieve legitimacy, long-term survival and improved performance (Donaldson & Preston, 1995). In the healthcare sector, environmental responsibility has become an important stakeholder concern due to growing awareness of the health implications of environmental degradation. Hospitals generate significant waste and consume large volumes of packaging materials, making sustainable practices increasingly visible to patients, communities and regulatory bodies (World Health Organization, 2022). Regulators and suppliers also place increasing emphasis on environmental compliance within procurement processes (Walker & Brammer, 2012). Eco friendly procurement practices allow hospitals to align operations with stakeholder expectations by demonstrating accountability and environmental responsibility. Practices such as green packaging and recycling enhance trust, legitimacy and organizational reputation, which positively influence patient loyalty and patronage (Testa et al., 2016; Laguir & El Baz, 2021). Improved stakeholder relationships also strengthen supplier collaboration and regulatory goodwill, thereby supporting sales growth and market share. Hence, Stakeholder Theory provides a strong explanation for the performance benefits associated with eco-friendly procurement practices in hospitals.

Empirical Review

Walker and Brammer (2012) investigated sustainable procurement practices within public sector organizations using a survey-based research approach. Their findings revealed that the integration of environmental considerations into purchasing decisions enhances organizational reputation and contributes positively to overall performance. However, the study was largely focused on public institutions in developed economies, leaving limited empirical insight into healthcare organizations in developing countries.

Testa et al. (2016) examined the effects of green supply chain practices on organizational outcomes in service-based organizations through empirical analysis. The results showed that green procurement and environmentally responsible sourcing significantly improve both financial performance and market-related outcomes. Despite these positive findings, the authors did not specifically examine hospitals, creating a gap in understanding the applicability of these practices within healthcare settings.

Zhu et al. (2018) explored the impact of recycling initiatives as part of green supply chain management using quantitative analysis. Their study demonstrated that recycling practices reduce operational costs and strengthen organizational competitiveness by improving resource efficiency. Nonetheless, the study was conducted across diverse industries, with minimal focus on service-oriented healthcare institutions.

Agyabeng Mensah et al. (2020) empirically assessed the relationship between green procurement practices and organizational performance in service-oriented industries. Their findings indicated that green procurement positively influences market share and profitability by enhancing organizational efficiency and reputation. However, the study did not sufficiently address sector-specific dynamics within healthcare organizations, particularly in developing economies.

Hypotheses

The following hypotheses were tested in null form:

H_{01}: Green packaging has no significant relationship with sales growth
H_{02}: Green packaging does not significantly influence market share
H_{03}: Recycling has no significant influence on sales growth
H_{04}: Recycling does not significantly relate with market share

Methodology

The study adopted a quantitative cross-sectional research design. The population comprised procurement officers, administrators and departmental heads of selected public and private hospitals in Obio Akpor Local Government Area. A purposive sampling technique was used to select 150 respondents, out of which 135 valid questionnaires were returned. Data were collected using a structured questionnaire measured on a five-point Likert scale. Eco friendly procurement practices were measured using items on green packaging and recycling, while organizational performance was measured using sales growth and market share. Reliability analysis yielded Cronbach's alpha values above 0.80 for all constructs. Data were analyzed using multiple regression analysis with SPSS.

Data Analysis and Results

Descriptive Statistics

Table 1: Descriptive Statistics of Study Variables

Variable	N	Mean	Std. Deviation
Green Packaging	135	3.57	0.88
Recycling	135	3.63	0.84
Sales Growth	135	3.59	0.86
Market Share	135	3.66	0.82

The descriptive statistics reveal moderate to high levels of adoption of eco-friendly procurement practices and perceived organizational performance among hospitals in Obio Akpor. Recycling recorded the highest mean score (M = 3.63, SD = 0.84), indicating relatively stronger recycling initiatives compared to green packaging. Market share also showed the highest performance perception (M = 3.66, SD = 0.82), suggesting that hospitals perceive themselves as competitive within the healthcare market. The relatively low and consistent standard deviations indicate homogeneity in respondents' perceptions across hospitals.

Regression Analysis

Model 1: Predictors of Sales Growth

Model	Variable	Unstandardized Coefficients (B)	Standardized Coefficients (β)	T	Sig.
1	(Constant)	0.842		4.385	0.000
	Green Packaging	0.364	0.392	5.967	0.000
	Recycling	0.418	0.451	7.207	0.000

		$R^2 = 0.48$, F= 60.87, p < 0.000			

The regression results indicate that green packaging has a significant and positive effect on sales growth (β = 0.392, p-value = 0.000). This finding suggests that hospitals that adopt environmentally safe and minimal packaging for medical supplies are more likely to experience growth in revenue and patient patronage. Consequently, the null hypothesis **H_{01}** is rejected. Recycling also shows a strong and significant positive effect on sales growth (β = 0.451, p-value = 0.000), indicating that hospitals with effective recycling systems tend to achieve higher revenue growth. This may be attributed to reduced waste management costs, improved operational efficiency and enhanced public perception. As a result, the null hypothesis **H_{03}** is rejected. Collectively, green packaging and recycling explain 48 percent of the variation in sales growth, indicating a moderately strong explanatory power of the model.

Model 2: Predictors of Market Share

Model	Variable	Unstandardized Coefficients (B)	Standardized Coefficients (β)	T	Sig.
1	(Constant)	0.915		5.140	0.000
	Green Packaging	0.381	0.410	6.684	0.000
	Recycling	0.402	0.428	6.711	0.000
		$R^2 = 0.45$, F= 54.31, p < 0.000			

The findings reveal that green packaging exerts a significant positive influence on market share (β = 0.410, p-value = 0.001), suggesting that hospitals that emphasize environmentally responsible packaging are better positioned to attract and retain patients relative to competitors. This outcome supports the rejection of the null hypothesis **H_{02}**. Recycling also significantly predicts market share (β = 0.428, p-value = 0.001), indicating that hospitals with visible and effective recycling initiatives enjoy stronger competitive positioning within the healthcare market. Accordingly, the null hypothesis **H_{04}** is rejected. Together, the independent variables account for 45 percent of the variance in market share, highlighting the relevance of eco-friendly procurement practices in shaping hospital competitiveness.

Discussion of Findings

The findings demonstrate that eco-friendly procurement practices play a significant role in enhancing organizational performance of hospitals in Obio Akpor, Rivers State. Recycling emerged as the strongest predictor of both sales growth (β = 0.451) and market share (β = 0.428). This is understandable because recycling directly affects waste management efficiency, operating costs and public health standards, which are critical issues in hospital operations. Effective recycling reduces disposal expenses and environmental risks while strengthening public confidence in hospital management practices, which can translate into increased patient patronage and improved market position. Hence, recycling practices signal environmental responsibility and operational professionalism which strengthens brand credibility and attracts environmentally sensitive stakeholders. Studies by Seuring and Müller (2008) and Dubey et al. (2019) similarly found that recycling and waste management practices positively affect organizational reputation customer attraction and market expansion. The finding confirms that recycling is a strategic sustainability practice that contributes meaningfully to market share growth.

Green packaging also made a substantial contribution to organizational performance by promoting reduced waste generation and improved handling of medical supplies. Environmentally responsible packaging helps hospitals minimize clutter, improve storage efficiency and demonstrate compliance with environmental standards. These benefits are particularly important in urban healthcare environments such as Obio Akpor, where regulatory scrutiny and patient awareness of environmental issues are increasing. This is in line with the work of Kumar and Christodoulopoulou (2014) and Testa et al. (2016), which assets that environmentally responsible packaging practices contribute to improved organizational outcomes by strengthening customer loyalty and increasing demand for services. The explanatory power of the models, which account for 48 percent and 45 percent of the variance in sales growth and market share respectively, underscores the practical importance of eco-friendly procurement beyond symbolic environmental commitment. Despite constraints such as limited funding, supplier dependency and inadequate waste infrastructure, the results indicate that hospitals can achieve meaningful performance improvements through targeted eco-friendly procurement initiatives.

Conclusion

This study examined the influence of green packaging and recycling on organizational performance of hospitals in Obio Akpor, Rivers State. The regression results show significant positive effects on both sales growth ($R^2 = 0.48$) and market share ($R^2 = 0.45$), leading to the rejection of all null hypotheses. The findings indicate that hospitals that integrate eco-friendly procurement practices into their purchasing and waste management systems are more competitive, experience improved revenue growth and strengthen their market presence. Beyond performance outcomes, these practices also support environmental sustainability and public health objectives within the healthcare sector.

Recommendations

Based on the findings, the study recommends that:

1. Hospitals should prioritize green packaging standards when procuring medical supplies in order to reduce waste and enhance operational efficiency.
2. Hospital management should invest in structured recycling systems and partnerships with certified waste management firms to improve environmental and cost outcomes.
3. Procurement policies should incorporate environmental criteria in supplier evaluation and selection processes.
4. Government and regulatory bodies should provide incentives and enforce guidelines that encourage eco-friendly procurement practices in the healthcare sector.

References

Adeseun, K. B., Helen, A. A., Kaosara, T. A., & Oluwabanke, A. S. (2025). Strategic procurement practices in healthcare organizations and their impact on Medicaid and Medicare cost containment. *WORLD*, *25*(1), 1863-1872.

Agyabeng-Mensah, Y., Afum, E., & Ahenkorah, E. (2020). *Exploring financial performance and green logistics management practices: Examining the mediating influences of market, environmental and social performances. Journal of Cleaner Production*, *258*, 120613.

Balogun, A. K., Ayodimeji-Alaba, H., Adebayo, K. T., & Aminat, O. (2025). Strategic procurement practices in healthcare organizations and their impact on Medicaid and Medicare cost containment.

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.

Chiarini, A., Opoku, A., & Vagnoni, E. (2017). Public healthcare practices and criteria for a sustainable procurement: A comparative study between UK and Italy. *Journal of Cleaner Production*, *162*, 391-399.

Donaldson, T., & Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of Management Review*, *20*(1), 65–91.

Duque-Uribe, V., Sarache, W., & Gutiérrez, E. V. (2019). Sustainable supply chain management practices and sustainable performance in hospitals: a systematic review and integrative framework. *Sustainability*, *11*(21), 5949.

Etse, D., McMurray, A., & Muenjohn, N. (2021). Comparing sustainable public procurement in the education and health sectors. *Journal of cleaner production*, *279*, 123959.

Gao, C., & Souza, F. (2022). *Integration of environmental criteria in sustainable procurement: A lifecycle perspective. Journal of Sustainable Procurement.* 13(2).

Laguir, I., Stekelorum, R., & El Baz, J. (2021). Going green? Investigating the relationships between proactive environmental strategy, GSCM practices and performances of third-party logistics providers (TPLs). *Production Planning & Control*, *32*(13), 1049-1062.

Letunovska, N. Y., Saher, L. Y., Syhyda, L. O., & Yevdokymova, A. V. (2023). Analysis of health care system development in the regions amidst the economic inclusiveness and social determinants of health.

Letunovska, T., Saher, S., Syhyda, S., & Yevdokymova, O. (2023). *Healthcare sector's influence on community wellbeing and economic development. Health Policy and Management Journal.*

Magnier, L., & Schoormans, J. (2015). Consumer reactions to sustainable packaging: The interplay of visual appearance, verbal claim and environmental concern. *Journal of Environmental Psychology*, *44*, 53–62.

Mary, N. S., & Chege, P. (2024). *Eco-friendly procurement practices and supplier collaboration in hospitals. International Journal of Procurement and Supply Innovation.*

Nsikan, S., et al. (2022). *Environmental impacts of procurement practices in healthcare settings. Nigerian Journal of Health Economics, 15, 67-77.*

Richard, P. J., Devinney, T. M., Yip, G. S., & Johnson, G. (2009). *Measuring organizational performance: Towards methodological best practice. Journal of Management.*

Testa, F., Iraldo, F., Vaccari, A., & Ferrari, E. (2016). *What factors influence the uptake of GSCM practices? Evidence from the Italian context. Journal of Cleaner Production.*

Walker, H., & Brammer, S. (2012). The relationship between sustainable procurement and e-procurement in the public sector. *International Journal of Production Economics*, *140*(1), 256-268.

Walker, H., & Brammer, S. (2012). The relationship between sustainable procurement and e-procurement in the public sector. *International Journal of Production Economics, 140*(1), 256–268.

World Health Organization. (2022). *Health care waste.* WHO. https://www.who.int/news-room/fact-sheets/detail/health-care-waste

Zaidi, S. A. H., Shahbaz, M., Hou, F., & Abbas, Q. (2021). Sustainability challenges in public health sector procurement: an application of interpretative structural modelling. *Socio-Economic Planning Sciences*, *77*, 101028.