

GREEN PROCUREMENT AND CORPORATE VITALITY OF ROAD CONSTRUCTION COMPANIES IN RIVERS STATE.

By

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ABSTRACT

This study examined the correlation between green logistics activities and the corporate viability of road building firms in Rivers State. The study parameters encompass green procurement, eco-design, and reverse logistics, whereas growth, responsiveness, and customer satisfaction serve as measurements of the dependent variable. The study addressed three research issues and evaluated nine null hypotheses. The study population consisted of eighteen (18) functioning construction enterprises in Rivers State, listed in the finelib.com, a Nigerian Directory and Search Engine. The study employed a census approach to distribute three copies of a questionnaire to Site Managers, Logistics Managers, and Supervisors of construction enterprises in Rivers State. A total of 54 participants were utilised for the investigation. Data were collected from respondents using a meticulously designed questionnaire. Pearson's Product Moment Correlation was employed to evaluate the hypotheses utilising Statistical Package for the Social Sciences version 23.0. The p-values were computed to ascertain the significance of the proposed link. Analytical results indicated statistically significant positive correlations between the dimensions of the predictor variable—green logistics initiatives—and the measures of the criterion variable—corporate vitality. The study revealed that green logistics activities are highly associated with the corporate viability of road building enterprises in Rivers State. The study thus advised that managers of road construction firms in Rivers State implement green procurement practices, including eco-labeling, material standards, and product certification, to attain their growth objectives; they should also adopt reverse logistics practices to enhance client satisfaction and overall corporate vitality; furthermore, managers should exercise caution in selecting eco-designs to ensure responsiveness to client needs and optimise operational performance.

Keywords: *Client satisfaction, corporate vitality, green procurement, growth, responsiveness*

INTRODUCTION

Environmental alterations and the associated issues necessitate the implementation of new legislative rules and commercial strategies to mitigate adverse impacts. Due to the progressive exhaustion of resources and a rise in environmental degradation, individuals, corporations, and governments have intensified their emphasis on environmental sustainability (Augustine, 2020). Over time, awareness of global warming and other environmental challenges has markedly increased, prompting firms to prioritise sustainable purchasing practices. Green logistics projects are essential for environmental sustainability and ethical resource management. It entails the procurement of ecologically sustainable goods and services that mitigate the adverse effects of production, utilisation, and disposal (Balin & Sari, 2023). Sari (2017) asserts that green logistics initiatives can mitigate environmental contamination, save natural resources, diminish energy and water consumption, minimise waste, and lower the environmental costs associated with manufacturing, transportation, and disposal.

Green procurement, also known as sustainable procurement, refers to the purchasing of goods and services that have a lower environmental impact throughout their lifecycle. It is increasingly seen as a strategic tool for promoting sustainability while enhancing corporate vitality. Corporate vitality, in this context, refers to a company's ability to thrive in competitive markets through innovation, adaptability, and resilience. When a company integrates green procurement into its operations, it can positively influence its performance, reputation, and long-term sustainability.

One of the core benefits of green procurement is cost efficiency. Although initial investments in eco-friendly products or services may be higher, organizations often experience long-term savings through reduced energy consumption, waste management costs, and regulatory compliance risks (Preuss, 2009). For example, companies that invest in energy-efficient equipment or sustainable supply chains can reduce operating expenses, leading to improved profitability. This aligns with Porter and van der Linde's (1995) argument that environmental innovations often lead to increased efficiency, ultimately enhancing competitiveness and corporate vitality.

Furthermore, green procurement enhances corporate reputation, which is a significant component of corporate vitality. Stakeholders, including customers, investors, and employees, are increasingly prioritizing sustainability. By adopting green procurement practices, companies demonstrate a commitment to environmental stewardship, which can boost their market standing and attract socially conscious consumers (Walker & Jones, 2012). This not only helps companies maintain a loyal customer base but also supports employee engagement and retention, as many workers prefer to be associated with responsible companies (Govindan et al., 2014).

Another aspect of corporate vitality influenced by green procurement is risk mitigation. Companies that prioritize sustainability can better navigate regulatory pressures, such as

environmental laws and carbon emission targets. Proactive adoption of green procurement can help companies stay ahead of stringent regulations, reducing the risk of penalties or reputational damage (Carter & Rogers, 2008). This adaptability to evolving environmental standards reflects a key trait of corporate vitality—resilience in the face of market and regulatory changes.

Moreover, green procurement fosters innovation, a vital component of corporate vitality. Companies engaging in sustainable procurement often collaborate with suppliers to develop innovative products or services with lower environmental impacts. This innovation is not only beneficial for sustainability but also leads to competitive advantages as companies can offer unique, environmentally friendly products that appeal to new markets (Paulraj, 2011).

Literature Review

Theoretical Foundation of the Study

Theories enable the connection of our literary evaluation with certain socio-economic perspectives rooted in established intellectual traditions; hence, a respectable literary work seeks to elucidate the socio-economic settings that underpin its analysis (Ahiauzu, 2012). Therefore, we ground our efforts on ecological modernisation and stakeholder concepts.

The ecological modernisation concept was introduced by Martin Janicke during a political discussion in the Berlin Community Council in the 1970s. The idea asserts that prioritising the environment may promote economic advancement. Compromising economic growth for environmental quality is no longer necessary (Augustine, 2020). The thesis asserts that organisations must develop the capacity to generate sustainable solutions for environmental challenges. Proponents of ecological modernisation contend that the environmental challenges facing the world today act as a catalyst for future industrial initiatives and economic progress (Murphy, 2000). The justification for utilising this idea is that advocates of ecological modernisation believe that current environmental issues act as a stimulus for future industrial initiatives and economic growth. The idea suggests that prioritising the environment may improve corporate vitality. The concept serves as a catalyst for the execution of green logistics initiatives aimed at enhancing business vitality.

The second theory of this study is the stakeholder theory. The term stakeholder was initially employed in an internal communication at the Stanford Research Institute in 1963 (Ceschin & Gaziulusoy, 2016). The concept sought to challenge the notion that management should be solely accountable to shareholders (Abreu, Cunha & Barlow, 2015). During the late 1970s and early 1980s, academics and professionals endeavoured to develop management theories to clarify management challenges marked by considerable ambiguity and transformation (Adnan et al., 2023). Stakeholder theory is a framework for organisational management and corporate ethics that emphasises moral

and ethical considerations in the administration of an organisation. Originally proposed by R. Edward Freeman in the book *Strategic Management: A Stakeholder Approach*, it defines and conceptualises the groups that make up a corporation's stakeholders, while also recommending strategies for management to adequately address the interests of these groups (Harrison & Wicks, 2013). Traditionally, shareholders are the owners of the company, and the firm has a contractual fiduciary duty to prioritise their interests to maximise profit for them. Stakeholder theory asserts the participation of multiple entities, such as employees, customers, suppliers, financiers, communities, governmental bodies, political groups, trade organisations, and labour unions (Ceschin & Gaziulusoy, 2016). Competitors are sometimes considered stakeholders because of their capacity to affect the firm and its stakeholders (Adnan et al., 2023).

Concept of Green Procurement

The phrase green procurement is equivalent with ecologically responsible procurement (Bakir et al., 2013), sustainable procurement (Aktin et al., 2016), and eco-procurement (Bolton, 2008). It is considered the method by which organisations aim to mitigate the environmental effects of the products and services they acquire. Green procurement entails assessing an organization's supply chain by examining the origin of components, their material composition, their post-use disposal, and fostering environmental consciousness among suppliers and stakeholders within the supply chain (Balin & Sari, 2023). It encompasses the procurement of raw materials, production, manufacturing, packaging, distribution, recycling, maintenance, or disposal of the product or service. Green procurement enquires, Is it composed of recyclable materials? Does the manufacturer implement a diversity program for recruitment? What obstacles arise when incorporating environmental considerations in procurement? It is an ongoing dedication to comprehensive process management that exemplifies social responsibility and exemplary corporate citizenship.

Green procurement can be seen as a customary practice integrated into daily routines. This notion can be applied to every customer-supplier relationship. It encompasses eco-labels, the elimination of environmentally dangerous compounds, energy consumption, the utilisation of recycled materials, the reusability of certain components, recyclability, and disassembly duration. Green procurement necessitates the equilibrium of social, environmental, and economic goals. It must fulfil the three pillars, or triple bottom line, of sustainable development: social development, environmental protection, and economic development (Khoo et al., 2021). Social aspects encompass effects on human health, assistance to marginalised populations, and ethical procurement practices. Environmental factors may encompass the use of hazardous chemicals, energy and water efficiency, minimal packaging, waste generation, greenhouse gas emissions, energy consumption, and the influence on natural resources (Balin & Sari, 2023).

Green buying is essential in combating environmental deterioration and fostering sustainable growth. Organisations and individuals can mitigate climate change, conserve natural resources, and maintain biodiversity by choosing products and services that

exhibit lower carbon footprints, decreased energy usage, and limited waste output (Augustine, 2020). Green procurement is an obligation that promotes environmental sustainability. The International Green Procurement Network (IGPN) (2010) defined green procurement as the acquisition of products and services that yield little environmental impact while utilising comparable pricing to exemplify social responsibility and ethical standards.

Green buying is essential for mitigating the adverse environmental effects associated with manufacturing, utilisation, and recycling processes (Dubey et al., 2013). It enhances community health by fostering a clean atmosphere, decreases healthcare expenses, and promotes environmental sustainability (Balin & Sari, 2023). Furthermore, green procurement improves dynamic and operational capacities while favourably influencing environmental and economic performance (Yook, Choi, & Suresh, 2018); this contributes to the attainment of global sustainable development goals (Al Amosh & Khatib, 2021) and bolsters stakeholder confidence. Abareshi and Molla (2013) define green procurement as the procurement function including various supply chain activities, including life-cycle analysis (LCA) and the conventional 3Rs—reduction, reuse, and recycling—pertaining to product and process design. From a sustainability standpoint, green procurement integrates the green notion into purchasing management, hence enhancing environmental practices within corporate performance (Balin & Sari, 2023).

The Concept of Corporate Vitality

Organisations parallel human beings in that, akin to the necessity for a balanced diet, lifestyle, and mental and physical activity to sustain health, organisations require some fundamental components to achieve and retain vitality. The term 'vitality' generally signifies health or growth and characterises the vigorous existence of an organisation (Bishwas, 2015). The term corporate vitality often signifies a corporation that is thriving (Bishwas, 2015). The degree of financial, intellectual, and creative advancement within a company is a dependable indicator of its vitality (Gabriel et al., 2021). A corporation demonstrates corporate vitality by maintaining its viability and stability throughout time while consistently fulfilling the performance expectations of its customers, employees, stakeholders, and relevant communities (Adim and Poi, 2021). Corporate vitality furnishes the essential capabilities and talents that drive actions towards objectives. It also assessed the ability of business management to utilise resources critical for industry competitiveness. Thus, an essential organisation must address the requirements of the firm's stakeholders while concurrently executing plans that ensure the attainment of the company's overarching objectives (Jeruz, 2014).

A continuous revitalisation process is crucial for maintaining organisational health throughout time. Corporate vitality is the dynamic organisational force that permeates all departments and resources, enabling the achievement of objectives. Palmer (2011) characterises corporate vitality as the holistic operational capability of businesses sustained for enduring sustainability. Organisations generally focus on formulating

strategic alternatives that position them within their environment to attain specified goals and objectives. Corporate vitality provides the sustained ability and skills that guide actions towards goals. Mavis (2011) evaluated the vitality of businesses about their ability to acquire resources critical for competitiveness. Corporate vitality relies on the accessibility of organisational resources, encompassing human capital, machinery, procedures, and materials utilised by management to achieve the firm's tactical and strategic goals (John-Eke & Gabriel, 2021).

Corporate vitality denotes the economic and operational health of an organisation that ensures its continuous functioning. Akpotu and Konyefa (2018) posited that corporate vitality embodies a firm's energy expressed through its resources, talents, and competences, enabling advantageous competitiveness, sustainability, and the achievement of competitive advantage. The vitality of an organisation signifies the strong capacity of the workplace crucial for the firm's growth and sustainability. Akpotu and Konyefa (2018) characterise corporate vitality as the impetus that drives a company's competitiveness and the realisation of its goals and objectives. Vicenzi and Adkins (2000) contend that the financial, intellectual, and creative advancement of an organisation are critical factors influencing its vitality. Corporate vitality, as articulated by Smith, Ehala, and Giles (2017), denotes the impetus that propels organisations and organisations towards success. Thus, a firm's vitality signifies the operational strength of the workplace, which is crucial for the company's growth and sustainability. Smith et al. (2017) describe corporate vitality as the impetus that propels individuals and organisations towards achievement.

Churchill (2013) defined organisational vitality as the health of an organisation, marked by resource availability and the energy required to improve its progress towards objectives. Companies seeking vitality demonstrate zeal in developing new resources or enhancing the value of existing ones, thoroughly evaluating all elements essential for competitiveness and industry positioning. They are associated with a significant asset portfolio that supports administrative, operational, and market-related functions (Scuotto et al., 2017). Organisational vitality basically denotes the strength of functions, resources, staff competencies, capabilities, procedures, and activities essential for sustaining competitiveness and attaining objectives. Wyner, Donohoe, and Matthews (2009) characterised corporate vitality as the ability to harness organisational energy across all roles and dimensions that facilitate the achievement of objectives. This signifies that vitality elucidates the efficient and adept functioning of the organisation in its daily operations and its final transformation into a creative, market-focused, and objective-oriented entity.

Afema (2014) posits that corporate vitality encompasses the aggregate momentum derived from a firm's strengths, capabilities, and processes that facilitate strategic endeavours to attain competitive advantage. Vitality in organisations denotes the strength and overall health that supports various initiatives for corporate sustainability. Corporate

vitality encompasses the dynamic and resilient characteristics of organisations that enable them to adapt, thrive, and maintain a competitive advantage in changing business environments. It denotes an organization's ability to innovate, grow, and effectively manage internal and external challenges while maintaining enduring viability and relevance (Hambrick & D'Aveni, 1988). The notion of corporate vitality offers a significant framework for understanding business operations and their adaptability to environmental challenges (Akpotu & Konyefa, 2018). It relates to organisations that possess the attributes and characteristics essential for future success. Thriving companies prioritise long-term sustainability over immediate outcomes.

Corporate vitality is classified into four categories: i) operational; ii) intellectual; iii) emotional; and iv) spiritual (Sushil, 2005). The operational and intellectual vitality enables the organisation to execute daily activities efficiently and agilely while advancing into innovative and challenging areas with minimal time and effort. Corporate vitality allows organisations to acknowledge the need for change to maintain efficient operations and prepares them to manoeuvre through a dynamic environment. Kark and Carmeli (2009) suggest that participation in creative activities facilitates the achievement of an elevated vital state. The vitality of an organisation is enhanced by the plethora of new opportunities in an unpredictable environment, aiding its survival (Loverde, 2005). Corporate vitality denotes the organisational energy exhibited through its resources, talents, and capacities, which enable advantageous rivalry, survival, and the achievement of competitive advantage (Akpotu & Konyefa, 2018).

The importance and benefits of corporate vitality are indisputable. Corporate vitality enhances employee engagement and productivity by fostering an environment where employees feel connected, motivated, and invested in their work. Engaged employees are more likely to surpass expectations, leading to increased productivity and improved organisational success (Saks, 2016). It promotes organisational agility and adaptability. In a constantly shifting business world, businesses must be nimble and flexible to preserve competitiveness. Corporate vitality supports the construction of adaptive structures, processes, and systems that permit firms to respond efficiently to altering market conditions and consumer demands (Hitt, Ireland & Hoskisson, 2014). An essential organisation supports and facilitates innovation and creativity. Organisations can create a competitive edge by developing a culture of experimentation, risk-taking, and learning, which generates new ideas, products, and processes (Amabile, 2018).

In our research context, the characteristics of corporate vitality encompass growth, responsiveness, and customer satisfaction (John-Eke & Gabriel, 2021).

Growth denotes the quantitative augmentation of an organisation in terms of its size, including market share, capitalisation, total subsidiaries, workforce, branch networks, and overseas subsidiaries, among other elements (Stoner et al., 2013). An upward trend in these variables indicates organisational progress. Growth may also signify increased sales, earnings, return on investment, return on assets, productivity, and analogous

indicators for a business (Hanaysha, 2016). Keh, Chu, and Xu (2016) define growth as a holistic improvement in a company's performance or productivity, evaluated by criteria like sales volume, profitability, asset expansion, and book value. An organisation is expanding when there is an augmentation in these characteristics. The factors employed in growth measurement are crucially utilised in decision-making, marketing, and productivity assessment (Keh et al., 2016).

Responsiveness is described as the 'time to respond' to client enquiries, which is crucial for competing in dynamic marketplaces. Responsiveness denotes the ability of service providers to aid clients and offer timely service. This illustrates the staff's ability to execute programs efficiently and expeditiously. Previous research indicates that responsiveness pertains to the willingness to aid clients and provide prompt service (Shukri et al., 2020). In supply chain management, responsiveness denotes the ability to consistently and swiftly address client demands or market changes, while simultaneously establishing or sustaining a competitive advantage (Rojagopal et al., 2016). Holweg (2005) posited that responsiveness is the ability to respond intentionally and in a timely manner to customer needs or market developments, to secure or sustain a competitive edge.

Client satisfaction is characterised by the degree to which consumers obtain greater benefits than the expenses incurred. Hsu and Wang (2015) contend that client satisfaction is the essential tenet of an organization's marketing strategy and is crucial to its success. Hsu and Wang (2015) observed that client satisfaction is crucial for brand loyalty, acting as a key determinant in cultivating connection to a particular brand. Client satisfaction has consistently been seen as a vital determinant of enduring client behaviour. Mohamed (2012) posits that elevated client satisfaction is associated with more retention, improved good word-of-mouth, and increased financial benefits for the businesses that serve them. Thus, it is expected that the main goal of businesses is to manage and improve customer satisfaction, especially within the realm of competitive global marketing. Client satisfaction is defined as a thorough evaluation of a company's products (Lai & Wong, 2012).

Correlation between Green Procurement and Corporate Vitality

Prior empirical research indicates a consensus regarding the correlation between green procurement and business vitality. Balin and Sari (2023) investigated the influence of green buying practices (GPP) on the financial performance (FP) of enterprises, as well as the mediating effect of environmental performance (EP) within the setting of Türkiye, a developing nation. The research examined the impact of GPP on FP and the mediating function of EP using survey data collected from 455 enterprises in Türkiye. The data indicate that GPP generally contributes positively to both the EP and FP of enterprises in Türkiye. EP significantly elevates FP and somewhat mediates the impact of GPP on FP. Hlavacek et al. (2023) investigated the influence of environmental concerns, climate change perceptions, trust in EU policies, and media exposure on green purchasing using a representative sample of 904 respondents (aged 15–95 years, $M \pm SD: 47.74 \pm 17.66$;

51.40% female, 19.40% possessing higher education) in the Czech Republic. The study employed principal component analysis, correlations, and a series of ordinal regression analyses as its methodological framework. The findings indicate that the public views environmental conservation and climate change as distinct objectives. Environmental protection views and climate concerns positively influence green consumption in the context of EU integration approval. The influence of media exposure was contentious: traditional media and online discussion platforms and blogs positively correlated with green purchasing, whereas exposure to online social networks adversely affected the purchase of organic food; additionally, the frequency of television viewing negatively correlated with the acquisition of environmentally friendly products.

Likholo and Senelwa (2022) examined the impact of green procurement on performance within the manufacturing sector at Del Monte Company Limited, Kenya. The study employed a descriptive research design to comprehensively examine the specified research objectives. The study focused on a research population of 243 firm employees, from which a sample of 73 employees was utilised for data collection and subsequent analysis. A census methodology was thereafter utilised on all sample respondents to guarantee that every targeted individual inside the sample size had their perspectives recorded. Data were gathered by a questionnaire addressing all study goals. The sample size consisted of senior managers (15), middle-level managers (28), and procurement personnel (30). The collected data was analysed and interpreted utilising the Statistical Package for Social Sciences version 24, from which pertinent statistical tables were generated for analysis and interpretation through multiple regression, correlation, and ANOVA to ascertain the relationships among the variables. The study's findings indicated a statistically significant impact of green procurement on performance within the manufacturing sector of Del Monte Company Limited, Kenya.

Augustine (2020) examined the impact of green buying practices on organisational performance. Ghana Water Company Ltd. and Bayport Savings and Loans Plc as a nexus. This study employed a comparative analysis of Ghana Water Company. Ltd and Bayport Savings and Loans Plc on Green Procurement practices and organisational performance by evaluating the moderating influence of supplier collaboration. This study utilised a quantitative research methodology, employing a structured questionnaire to gather primary data. The data was analysed using SPSS. A straightforward sampling strategy was employed to obtain a representative sample of 160 respondents from a target population of 250 employees. Likert-scale questionnaires were developed and distributed to the personnel of Ghana Water Company. The study revealed that green procurement was a crucial factor influencing organisational success at Ltd and Bayport Savings and Loans Plc.

with significant market competitiveness. This study presents the subsequent hypotheses:
H₀₁: There exists no substantial correlation between green procurement and the growth of road construction firms in Rivers State.

Ho2: There exists no substantial correlation between green procurement and the responsiveness of road construction firms in Rivers State.

Ho3: There exists no substantial correlation between green procurement and client happiness among road construction enterprises in Rivers State.

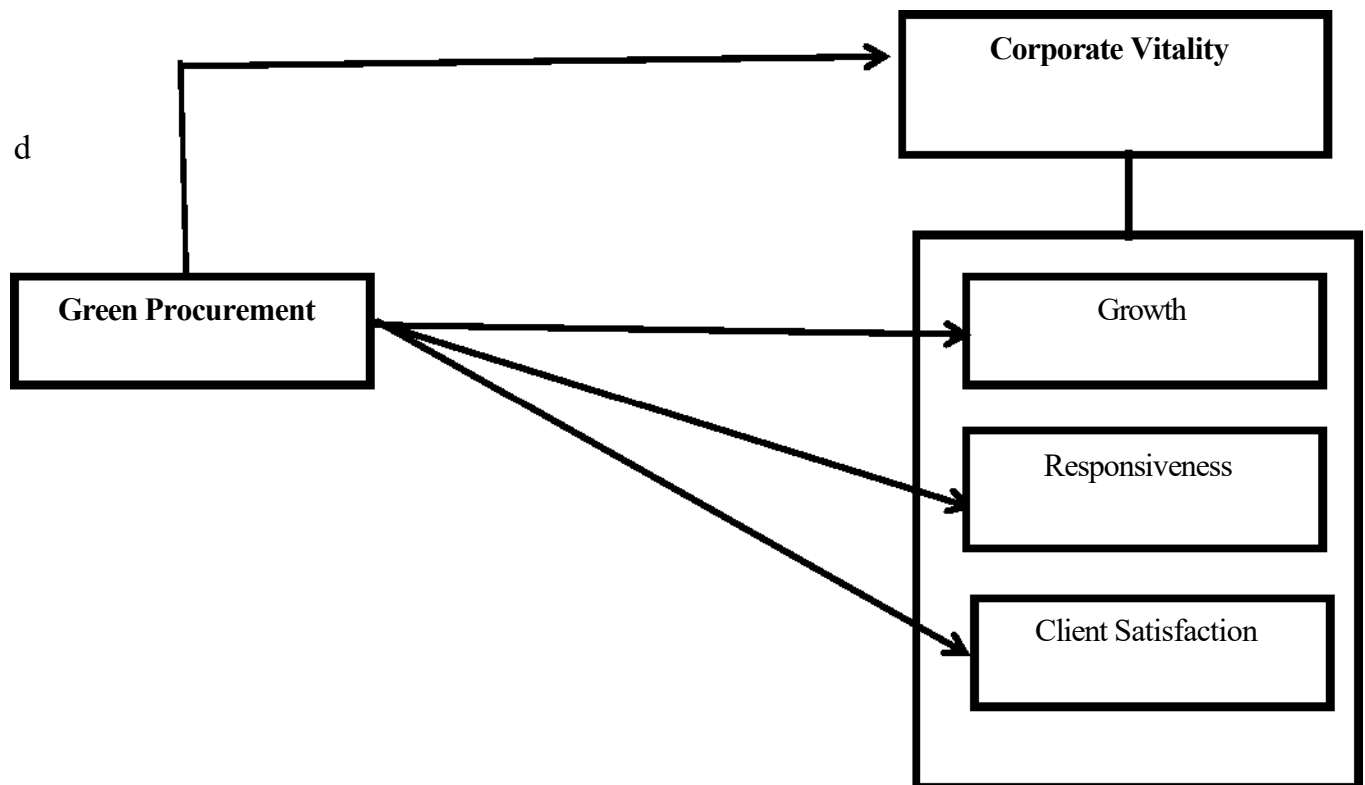


Figure 1: Conceptual framework of the relationship between green procurement and corporate vitality of road construction companies in Rivers State. Source: Researcher's Model, 2024.

Methodology

This study employed a cross-sectional survey research design utilising a correlational investigation method to analyse the association between green procurement practices and corporate vitality of road building enterprises in Rivers State, within a natural setting. Our degree of participation was negligible. The study population consisted of eighteen (18) functioning construction enterprises in Rivers State, listed in the finelib.com Nigerian Directory and Search Engine (2021).

This study employed a Census Method to distribute three copies of a questionnaire to Site Managers, Logistics Managers, and Supervisors of construction enterprises in Rivers State. A total of 54 respondents were utilised for the study. Two primary sources of data were utilised in this investigation. The principal data collection methods comprise questionnaires and potentially interviews. The research instrument was presented to two supervisors in the Department of Marketing to validate that the questions align with the study variables. All statistical analyses were conducted utilising the Statistical Package for Social Sciences (SPSS) version 23.0. This version can convert scaled data into discrete or continuous data and vice versa.

Data Analysis and Discussion of Findings

Table 1: Questionnaire Administration and Use

Questionnaire	Frequency	Percent
Produced Copies	54	100
Distributed Copies	54	100
Retrieved Copies	51	94.44
Copies not Retrieved	3	5.56
Valid Copies	49	90.74
Invalid Copies	2	3.70

Source: Field Survey, 2024.

As shown from the statistics in Table 4.1 with regard to the production, administration and use of questionnaire, a total of 54 copies (100%) of the questionnaire were produced and distributed to target respondents. Out of the 54 copies distributed, 51 copies (94.44%) were retrieved and 3 copies (5.56%) were not returned. Also, out of the 51 copies retrieved, only 49 copies (90.74%) were used for the analysis as 2 copies (3.70%) were invalid.

Table 2: Strength and Direction of Relationship between Variables

Range of r values	Description
± 0.80 to 1.00	Very Strong
± 0.60 to 0.79	Strong
± 0.40 to 0.59	Moderate
± 0.20 to 0.39	Weak
± 0.00 to 0.19	Very Weak

Source: Dun, S.D. (2001).

Table 3 Correlations between Green Procurement and Growth

		Green Procurement	Growth
Green Procurement	Pearson Correlation	1	.632**
	Sig. (2-tailed)		.000
	N	49	49
Growth	Pearson Correlation	.632**	1
	Sig. (2-tailed)	.000	
	N	49	49

** . Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS Output, 2024.

The SPSS output on Table 4.12 reveals a correlation coefficient of 0.632** between green procurement and growth, indicating a strong positive relationship between green procurement and growth. More so, the probability value (0.000) is less than the critical value (0.05), this shows that there is a strong significant relationship between green procurement and growth. This further implies that green procurement can be used to achieve growth among road construction companies in Rivers State. Based on this, we reject the null hypothesis that there is no significant relationship between green procurement and growth of road construction companies in Rivers State and accept the alternate hypothesis that there is a strong, significant relationship between green procurement and growth of road construction companies in Rivers State.

Ho2: There is no significant relationship between green procurement and responsiveness of road construction companies in Rivers State

Table 4: Correlations between Green Procurement and Responsiveness

		Green Procurement	Responsiveness
Green Procurement	Pearson Correlation	1	.345*
	Sig. (2-tailed)		.015
	N	49	49
Responsiveness	Pearson Correlation	.345*	1
	Sig. (2-tailed)	.015	
	N	49	49

*. Correlation is significant at the 0.05 level (2-tailed).

Source: SPSS Output, 2024.

Table 4.13 of the SPSS output demonstrates a correlation coefficient of 0.345**, signifying a weak positive association between green procurement and responsiveness. Furthermore, the probability value (0.000) is below the essential threshold (0.05), indicating a weak meaningful link between green procurement and responsiveness. This suggests that green procurement can enhance responsiveness in road construction enterprises in Rivers State. Consequently, we reject the null hypothesis asserting no significant relationship between green procurement and the responsiveness of road construction companies in Rivers State, and accept the alternative hypothesis indicating a weak, significant relationship between the two variables..

Ho3: There is no significant relationship between green procurement and client satisfaction of road construction companies in Rivers State

Table 5: Correlations between Green Procurement and Client Satisfaction

		Green Procurement	Client Satisfaction
Green Procurement	Pearson Correlation	1	.858**
	Sig. (2-tailed)		.000
	N	49	49
Client Satisfaction	Pearson Correlation	.858**	1
	Sig. (2-tailed)	.000	
	N	49	49

** . Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS Output, 2024.

The SPSS output on Table 4.14 reveals a correlation coefficient of 0.858** between green procurement and client satisfaction, indicating a very strong positive relationship between green procurement and client satisfaction. More so, the probability value (0.000) is less than the critical value (0.05), this shows that there is a very strong significant relationship between green procurement and client satisfaction. This further implies that green procurement can be used to achieve client satisfaction among road construction companies in Rivers State. Based on this, we reject the null hypothesis that there is no significant relationship between green procurement and client satisfaction of road construction companies in Rivers State and accept the alternate hypothesis that there is a very strong, significant relationship between green procurement and client satisfaction of road construction companies in Rivers State.

Conclusion

The research examined the relationship between green procurement practices and the corporate health of road building firms in Rivers State. Consequently, green procurement activities are essential to the corporate health of the road construction business in Rivers

State. They influence growth, responsiveness, client satisfaction, and overall organizational vitality.

Based on the conclusion drawn from findings of the study, the researcher puts forward the following recommendations:

- Managers of road construction companies in Rivers State should adopt green procurement practices such as eco labeling, material standards and product certification as a way to achieve their growth objective.
- Managers of road construction companies in Rivers State should adopt reverse logistics practices in their quest to improve their client satisfaction and overall corporate vitality.
- Managers of road construction companies in Rivers State should be careful in their choice of eco-design to ensure responsiveness to clients and overall performance in their operations.

References

- Adriana, G. (2013). Adaptability – A strategic capability during crisis. *Economics Questions, Issues and Problems*, 5(2), 234-264.
- Afema, P.J. (2014). Innovativeness and Corporate Relationship Mark-Ups, *Journal of Business Management*, 1(3), 16-28.
- Akpotu, C., & Konyefa, R. (2018). Managerial mentoring behaviour and corporate vitality in the Nigerian aviation sector. *Advances in social sciences Research Journal*, 5(10), 44-50.
- Al-Haddad, S. & Kotnour, T. (2015). Integrating the organizational change literature: A model for successful change. *Journal of Organizational Change Management*, (28), 234-62.
- Aljohani, M. R. (2016). Change management. *International Journal of Scientific and Technology Research*, 5(5), 319-323.
- Awasthi, A., Chauhan, S. S. & Goyal, S. K. (2011). A multi-criteria decision-making approach for location planning for urban distribution centers under uncertainty. *Mathematical and Computer Modeling*, 53(1-2), 98-109.
- Balin, A. I. & Sari, K. (2023). The effect of green purchasing practices on financial performance under the mediating role of environmental performance: Evidence from Türkiye.
- Bishwas, S. K. (2015). Achieving organizational vitality through innovation and flexibility: An empirical study. *Global Journal of Flexible Systems Management*, 3(1), 1-16.
- Blomea, C., Hollos, D. & Paulraj, A. (2013). GP and green supplier development: antecedents and effects on supplier performance. *International Journal of Production Research*, 2(1), 32- 49.
- Boenzi, F., Digiesi, S., Facchini, F., Mossa, G., & Mummolo, G. (2015). Greening activities in warehouses: a model for identifying sustainable strategies in material handling. *Annals of DAAAM & Proceedings*, 26(1), 0980-0988.

- Bor, J. M., Ngugi, P. K. & Odhiambo, R. (2019). Effect of green purchasing on performance of food and beverage processing sector in Kenya. *European Journal of Logistics, Purchasing and Supply Chain Management*, 7(4), 25-34.
- Boysen, N. de-Koster, R. B. M. & Weidinger, F. (2019). Warehousing in the e-commerce era: A survey. *European Journal of Operational Research*, 277(2), 396–411.
- Burinskiene, A., Lorenc, A., & Lerher, T. (2018). A simulation study for the sustainability and reduction of waste in warehouse logistics. *International Journal of Simulation Modelling*, 17(3).
- Burinskiene, A., Lorenc, A., & Lerher, T. (2018). A simulation study for the sustainability and reduction of waste in warehouse logistics. *International Journal of Simulation Modelling*, 17(3).
- Ceschin, F. & Gaziulusoy, I. (2016). Evolution of design for sustainability: From product design to design for system innovations and transitions. *Design Studies*, 47, 118–163.
- Chin, T. A., Malik, N. F. I. A., Tat, H. H. Sulaiman, Z. & Choon, T. L. (2020). Green purchasing practices and environmental performance. *International Journal of Supply Chain Management*, 9(1), 291-298.
- Chrisostom, A. O. & Monari, F. (2018). Influence of green logistics management on performance of registered automotive firms in Kenya. *International Journal of Academic Research in Business and Social Sciences*, 8(4), 346–361.
- Constantin B., Hollos, D. & Paulraj, A. (2014). Green procurement and green supplier development: antecedents and effects on supplier performance. *International Journal of Production Research*, 6(3), 21-34.
- Dalay, M. & Sari, K. (2022). Exploring the importance of green criteria in supplier selection: The case of the Turkish food industry. *J. Ind. Eng.*, 33, 500–5013.
- Dubey, R., Bag, S., Ali, S. S. & Venkatesh, V. (2013). Green purchasing is key to superior performance: An empirical study. *Int. J. Procure. Manag.*, 6, 187.
- Dubey, R., Bag, S., Ali, S. S. & Venkatesh, V. (2013). Green purchasing is key to superior performance: An empirical study. *Int. J. Procure. Manag.*, 6, 187.
- Elgazzar, M. (2024). The impact of eco-design strategies in improving industrial product lifecycle. *International Design Journal*, 14(1), 381-395.
- Eltayeb, T. K., Zailani, S.; & Jayaraman, K. (2010). The examination on the drivers for green purchasing adoption among EMS 14001 certified companies in Malaysia. *J. Manuf. Technol. Manag.*, 21, 206–225.
- Esther, S.-M., Lozano, R. G., Farreny, R., Oliver-Sola, J., Gasol, C. M. & Rieradevall, J. (2015). Introduction to the eco-design methodology and the role of product carbon footprint. *Institute of Environmental Science and Technology*.
- Foo, M.; Kanapathy, K.; Zailani, S. & Shaharudin, M. R. (2021). Green purchasing: Capabilities, practices and effects on firms' triple bottom line performance. *Study of Applied Economics*, 39(6), 78-90.
- Garcia, A.M. (2006). La Norma de ecodiseño UNE1503001, CONAMA, Congreso Nacional del.

- Gupta, S. & Vijayvargy, L. (2021). Selection of green supplier in automotive industry: An expert choice methodology. *IOP Conf. Ser. Earth Environ. Sci.* 79(5), 1203612045.
- Ha-bek, P. & Villahoz, J. J. L. (2020). Socially responsible supplier development. Practices of automotive industry. *Multidiscip. Asp. Prod. Eng.*, 3, 707–719.
- Hlaváček, M., Cabelkova, I., Broz, D., Smutka, L. & Prochazka, P. (2023). Examining green purchasing. The role of environmental concerns, perceptions on climate change, preferences for EU integration, and media exposure. *Front. Environ. Sci.*, 11 (4), 113-123.
- Khodaparasti, R. B., Garabollagh, H. B. & Mohammadpour, R. (2020). Engagement in green procurement: Antecedents and outcomes on manufacturing small and medium-sized enterprises from Iran. *Amfiteatru Econ.* 22, 102–120.
- Kimira, C. W., Getuno, P. & Kiarie, D. (2016). Effect of green procurement practices on competitiveness of manufacturing firms in Kenya: A case of Unilever Kenya Limited. *Journal of Agricultural Research*, 2(5), 9-23.
- Journal of Agricultural Research*, 2(5), 9-23.
- Lee, B., & You, H. (2014). A case study of eco-design for a small-size electric heater by performance, usability, and life-cycle assessments. *Journal of the Korean Institute of Industrial Engineers.* 40(2), 223-232.
- Likholo, H. S. & Senelwa, W. (2022). Effect of green procurement on performance in manufacturing sector in Del Monte company limited, Kenya. *International Journal of Scientific and Research Publications*, 12(2), 492-505.
- Sari, K. A. (2017). Novel multi-criteria decision framework for evaluating green supply chain management practices. *Computer Industrial Engineering*, 105, 338–347.
- Schulze, H., Bals, L. & Johnsen, T. E. (2019). Individual competences for sustainable purchasing and supply management (SPSM): A literature and practice perspective. *International Journal of Physical Distribution & Logistics Management*, 49(3), 287-304.
- Singhal, P. (2013). Green supply chain and Eco-design in Electronic Industry- An Empirical study
- Wakulele, S.R., Odock, S., Chepkulei, B., & Kiswili, N.E. (2016). Effect of eco-design practices on the performance of manufacturing firms in mombasa county, kenya. *International Journal of Business and Social Science.* 7(8)
- 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.
- Yee, F.M., Shaharudin, M. R., Ma, G., Zailani, S. H. M. & Kanapathy, K. (2021). Green purchasing capabilities and practices towards firm's triple bottom line in Malaysia. *Journal of Clean Production*, 87(9), 307-321.
- Yook, K.H., Choi, J. H. & Suresh, N. C. (2018). Linking green purchasing capabilities to environmental and economic performance: The moderating role of firm size. *Journal of Purchasing and Supply Management*, 24, 326–337.