

Green Procurement Practices, Environmental Management and Sustainability of Manufacturing Companies in Kenya

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Abstract

Green procurement practices take center stage in modern organizations globally. It denotes the acquirement of services and products with minimal footprint to the environment. This study concerns practices of green procurement in manufacturing companies in Kenya. Practices of green procurement play a vital role where emphasis is placed on environmental management through responsible purchasing. Environmental management provided the link between practices of green procurement and sustainability in manufacturing companies in Kenya. The study adopted an explanatory design. Target population was 1272 managers with a sample size of 291 using Krejcie-Morgan formula. Questionnaires were used to collect primary data and reliability test was done using Cronbach's Alpha coefficient. Factor analysis was done to establish suitability of questionnaire constructs. Indirect effect of green procurement practices (0.163) on sustainability of manufacturing firms, direct influence (0.551) with overall effect (0.297) with $p < 0.05$ indicated their significance. Moderated result of (0.004) with $p < 0.05$ was also significant. This study recommends manufacturing firms adopt green procurement practices to be competitive in business environment.

Key words: *Green procurement practices, environmental management and sustainability*

INTRODUCTION

Green procurement is gaining prominence in today's procurement and supply chain management. Companies are under pressure from both the consumers and the government to operate in an environmentally suitable atmosphere without which license is revoked. This study was carried out in the Kenyan manufacturing industries. Over the years manufacturing sector in Kenya has witnessed many challenges ranging from shortage of raw materials, unsteady energy supply, environmental degradation to mention just a few. As a result, the focus is now shifting to environmental conservation concerns and recycling of materials. Green procurement can therefore be viewed as a holistic process that encourages people, processes and technological advancements. According to studies by Victor and John (2009), some manufacturing industries realized long term efficacy in use of energy, waste handling and water conservation and use of recycled materials reduced costs.

IBM Global Business Services (2009) indicate that green procurement is grounded on the notion that organizations can concurrently reap benefits from aspects of society, environment and economics. On the other hand, according to the Chartered Institute of Purchasing and Supplies, CIPS (2007), green procurement is delineated as an attention to the social, economic and environmental outcomes of design and materials used considering non-renewable and renewable methods of manufacturing, disposal and logistics. Jerry (2000) states that adoption of green procurement has not been widely implemented and a decade ago, only a few high-profile companies, especially chemical companies or companies dealing in consumer goods experienced direct pressure from green consumers to adopt and practice it.

Over the last decade, environmental concern has increased, more so from the general public and the government. Sarkis et al. (2010) posit that of late, most of the concern is on industrial activities' impact on natural environment. The environment has been negatively impacted as is witnessed through resource scarcity and global warming that have led to critical considerations by companies towards environmental management. In addition, Mohamed (2011) argues that industries have had to take up environmental management as a way of surviving the stringent requirements and regulations imposed on businesses to remedy the negative impact on natural environment.

Hockerts (2018) argues that the achievement of organizational sustainability is perceived as a pivotal goal for the manufacturing industry. According to Lee and Kelly (2019), scarcity of financial resources pushes organizations to be involved in other commercial quests to facilitate the generation of core resources. However, social entrepreneurship complements business sustainability. Doherty et al. (2014) posits that industries need to work hard for purposes of growing and expanding their operations for successful competition with other companies and so as to attain manufacturing sustainability. Consequently, achievement of success in modern industry without making a sacrifice of the present or future requirements is what industrial sustainability entails, which includes economic, environmental and social sustainability.

Kennard (2006) refers to sustainable procurement as a practice through which social and economic development and protection of the environment are balanced against the needs of the company. Kennard (2006) adds that the merits of adoption of sustainable procurements as a business policy are control of costs, enhanced external and internal standards resulting from industries assessing and complying with social and environmental regulations. Bobis and Staniszewski (2009) posit that green procurement is an ongoing concept and as Campbell (1996), Jepson (2001) and Berke (2002) conclude, is a crucial planning paradigm. Various researches have been carried out on measurement of performance and internal operation management in organizations. However, there are limited studies on green procurement practices of manufacturing firms and their environmental concerns (Gunasekaran et al., 2004).

This study was aimed at establishing the effect of supplier selection, E-procurement and supplier development on sustainability of manufacturing firms in Kenya. The study was also aimed at determining the moderating effect of environmental management on the link between green procurement practices and sustainability of manufacturing firms in Kenya.

2.0 LITERATURE REVIEW

Zhu (2002) refers to green procurement as commitment of all units of business in companies to minimize or eradicate the overuse of materials for cost reduction purposes and for the enhancement of the company's corporate image. According to Martha and Houston (2010), green procurement's objective is waste reduction and the function of procurement focuses on value by taking into consideration the cost totality in the waste removal process. This study augurs with Zsidisin and Hendrick (1998) wider supposition that addresses green procurement practice components. Practices are delineated as exercises repeatedly performed over time periods and subsequently become an organization's custom. In this regard the practices associated with green procurement involve e-procurement, supplier development and supplier selection.

A study carried out by Blomea et al. (2013) on the link between green procurement and performance of supply chain among companies in Western Europe took into consideration three practices of green procurement, thus supplier selection, e-procurement and supplier development. On the other hand, e-procurement was identified as a green purchasing practice by Garcia-Rodriguez (2013). The researcher sought to study these three practices with the manufacturing firms in cities from Kenya. In a research where green supply chain suppliers, Guo and Tsai (2015) established that the foundation for supplier assessment were green materials and supplies, green design, adoption of green selling, packaging and processing in environmental ways, environmental friendly recycling and transportation. Further, Guo and Tsai (2015) utilized twelve principles for evaluation of green suppliers and results were analyzed, concluding that there are four crucial drivers for practices of green procurement, including material use, design, energy conservation and waste reduction. Dowlatshahi (2000) posits that previously, supplier sourcing used to take into consideration elements such as flexibility, price and quality for the identification and selection of desired suppliers. Recently, selection basis is more inclusive due to the fact that different aspects on green concerns are used above and over traditional criterion (Bai & Sarkis, 2010). Seuring and Muller (2008) conclude that supplier selection, auditing and monitoring is believed to maintain green agenda significantly, hence has higher prominence compared to other variables.

According to Croom and Brandon-Jones (2004), e-procurement concerns firms' use of internet platforms in the automation of traditional practices of procurement including planning, selection of suppliers, processing or orders, payment and monitoring and evaluation post-procurement. Hasan and Abidin (2010) opine that e-procurement is essential in facilitating business strategy implementation leading to enhanced profitability. Similarly, e-procurement is an enabler in green procurement practice implementation through the elimination of paper use and use of printing solvents, hence reducing negative environmental impacts. Garcia-Rodriguez (2013) further note that e-procurement adoption is complemented by integration of systems with suppliers and strong relationship with customers, ensuring a waste-free value chain based on implementation of practices including materials reuse and recycling. According to Walters (2008), in order for customer loyalty and satisfaction to be ensured, there is need for companies to work well with both suppliers and customers to ensure that goods are delivered in a timely manner and as desired. Organizations therefore utilize ICTs for the supply chain's efficacy to be enhanced and to achieve value through integration of the supply chain. Rusinko (2007) is for the argument that companies

are now adopting green procurement practices due to strict environmental legislation and demands from stakeholders and customers. Klassen and Vachon (2003) add that companies in manufacturing may minimize activities with negative environmental effects through the adoption of technologies promoting conservation of the environment and may also be proactive by increasing investments in environmental degradation prevention rather than pollution control. Aswathi (2010) adds that businesses are involved in engagement with upstream and tiered suppliers in implementing sustainable approaches through long term arrangements of collaboration.

Cristea et al. (2017) argue that selection of suppliers is of crucial concern in supply chain decision making. The supplier selection process is key for the enhancement of organizational competitiveness and as such, requires the assessment of supplier based on varied criteria. Tookey (2011) posits that selection of suppliers is a core component of supply chain management and is considered to be a multiple criteria decision making (MCDM) issue comprising both quantitative and qualitative criteria (Cengisa et al., 2017). Further, Frej et al. (2017) opines that suitable selection of suppliers is critical in reducing costs associated with purchases, enhances profit margins, decreases lead times for products, improves satisfaction of customers and enhances competitiveness. Therefore, it is a primary focus for all purchasing companies (Cengisa et al., 2017), though supplier selection is not standardized and as such, is applied subjectively in different organizations. Frej et al. (2017) argues that while wrong supplier choices can cause losses to be suffered by the supply chain, which would have a negative effect on company performance, it is in fact challenging for purchasing managers to always make right choices of suppliers, especially considering the changing needs in the criteria for selecting suppliers. There are three significant steps: firstly, the identification criteria involving quality, performance of delivery, capability, cost and price, but price is not a primary concern. Selection is largely hinged on purchasing situations. Secondly, is the questionnaire survey separated in results analysis and criteria weight determination. The questionnaire is structured with main and sub-criteria including questions to investigate additional criteria for selection of suppliers. Thirdly, is the multi-criteria method upon which decisions are implemented and consists of determining the method used for selection of best suppliers.

According to Dominick (2006), supplier development is delineated as a collaborative process of working with suppliers for the improvement or expansion of their capacities. Krause and Handfield (2011) posit that the process is bilateral, involving joint efforts by the supplying and buying organizations to enhance capabilities or performance of suppliers in one or more areas of delivery lead time, quality, technological advancement, cost, managerial capability, financial viability, environmental responsibility and safety. Further, the process involves buying organizations directly working with specific suppliers for the improvement of their performance to benefit the buying organization. Buying organizations seek the accomplishment of a variety of objectives in undertaking supplier development which include, improvement of performance of supplies, reduction of costs of products, reduction of lead times, resolving issues on quality, development of new supply routes, development of new products etc. Prior to buying organizations undertaking development of suppliers, purchasing professionals need to decide on ideal suppliers that the organization can develop based on current capacity vis a vis ideal capacity, cooperation with the

organization, service or product supplied and scope and nature of development needed (Krause & Handfield, 2011).

Klassen and Vachon (2003) aver that companies in manufacturing may minimize activities with negative environmental effects through the adoption of technologies promoting conservation of the environment and may also be proactive by increasing investments in environmental degradation prevention rather than pollution control. Rusinko (2007) further argues that companies are now adopting green procurement practices due to strict environmental legislation and demands from stakeholders and customers. Aswathi (2010) adds that businesses are involved in engagement with upstream and tiered suppliers in implementing sustainable approaches through long term arrangements of collaboration. Krause and Scannel (2002) specify that green supplier development is a green practice involving different activities such as collaborating with suppliers for the development of their capacity with regard to green issues, performing supplier visits for purposes of reviewing performance metrics, upholding consistent communication with regard to metrics on green performance and gratifying suppliers who improve by in their adoption of green strategies.

Sarkis et al. (2010) posit that of late, most of the concern is on industrial activities' impact on natural environment. The environment has been negatively impacted as is witnessed through resource scarcity and global warming that have led to critical considerations by companies towards environmental management. In addition, Mohamed (2011) argues that industries have had to take up environmental management as a way of surviving the stringent requirements and regulations imposed on businesses to remedy the negative impact on natural environment. According to Hasan (2013), it is essential for people and organizations to uptake consumption and production that is environmentally responsible so as to recover quality of the environment, minimize poverty and spur growth of the economy, with subsequent improvement in sustainability and healthy conditions in the work environment. Jaju (2011) opines that it is equally instrumental for all companies to effectively and efficiently utilize natural resources for growth to be sustainable. Therefore, all companies need to incorporate practices that are environmentally friendly across all their activities. Similar to any other activity of business, activities in the scope of supply chain are no exception.

Sustainable manufacturing practices have interpreted the concept differently and have been seen to vary in many manufacturing industries. According to Russell and Millar (2014) there is not much collection of literature in sustainability of manufacturing industries which have been categorized into manufacturing processes, manufacturing inputs, packaging and supplier processes. This study aimed at establishing whether green procurement practices had a relationship with sustainability of manufacturing companies.

Conceptual Framework

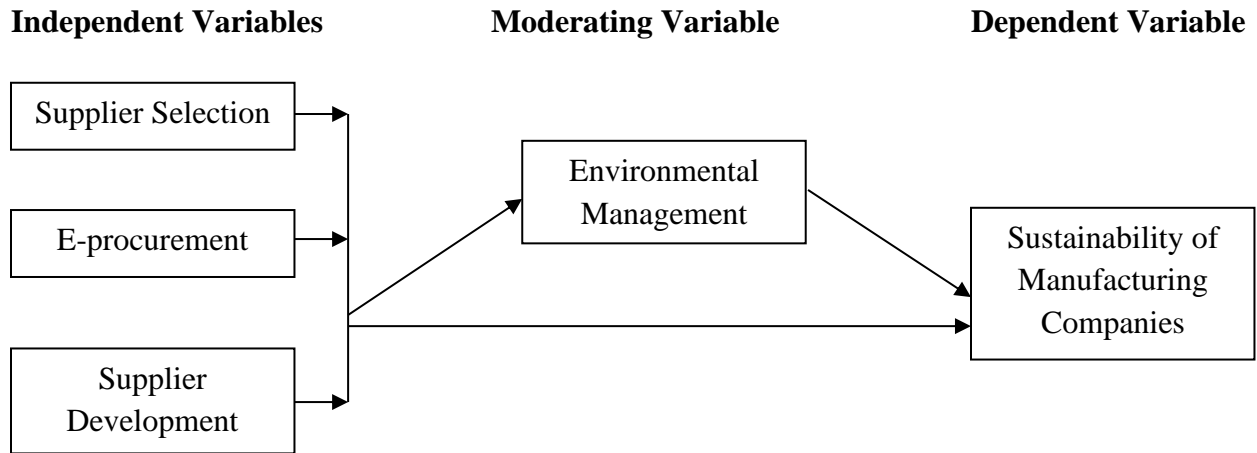


Figure 1 Conceptual Framework

As shown in the conceptual framework in Figure 1, the independent variables that is; the supplier selection, E-procurement and supplier development revealed a positive and direct effect on manufacturing firms' sustainability in Kenya. Also, environmental management had a significant moderating effect on the relation between green procurement practices and sustainability of manufacturing companies.

Hypothesis Testing

Companies in the manufacturing sector are experiencing difficulties in sustaining themselves due to malpractices that cause harm to humanity as well as the environment coupled with changes in the operating environment. However, many manufacturing industries are trying to adapt to these changes through the adoption of green procurement practices, (Bretas & Alon, 2020). This study hypothesized that:

H₀₁: There is no significant link between supplier selection and sustainability of manufacturing industries in Kenya.

H₀₂: There is no significant link between E- procurement and sustainability of manufacturing industries in Kenya.

H₀₃: There is no significant link between Supplier development and sustainability of manufacturing industries in Kenya.

3.0 Theoretical Framework

3.1. Ecological Modernization

The theory was established by Huber, Janickie and Simonis in the 1980s. According to Watson et al. (2004), the theory posits that environmentalism benefits the economy. The theory is founded on the presumption that companies depend on the environment and not the other way round. Hence, companies that comply with and observe environmental legislation have a higher probability of performing well. On the other hand, companies that don't comply with and observe environmental legislation register poor performance. UNDP (2015) avers that ecological modernization is related to environmental pre-adaptation of industrial development and economic progression. Ecology and economy can thus be combined favorably based on enlightened self-interest. Santos and Brito (2012) argue that the key philosophy of ecological modernization places emphasis on resource efficacy as well as process and product innovativeness for example sustainability in supply chain management, environmental management, substitution of dangerous materials, environmentally friendly product design and clean technologies.

Bailey et al. (2011) and Bailey and Wilson (2009) have used ecological modernization as an approach of framing climate change discourse. Nonetheless, despite growing significance of ecological modernization as a pragmatic strategy and as theory, geographers have not widely and explicitly taken up engagement with debate around it, hence its development has not been advanced in the same capacity compared to other fields such as politics and environmental policy. However, other works such as Hudson (2000, 2001) and Hayter and Le Heron (2002) have revealed strong parallels. Drawing on Freeman (1992) research on techno-economic paradigms (TEPs), Hayter and Le Heron developed the supposition that future economic advancement will be informed by a 'green paradigm'. Hayter and Le Heron posited that the 'green paradigm' will comprise both institutional and technological changes. Further, their suggestion was that the 'green paradigm' will be centered on economic dematerialization, internalization of environmental principles, environmental prioritization in research and development, a shift in selling services instead of products and take-back approaches. Freeman originally theorized that new TEPs emerge when economies are confronted by issues that prevailing TEPs cannot solve.

However, other than the perspective that the argument is technological determinist, similar to ecological modernization it emphasizes on the necessity of developing a set of institutional forms including, labor relations, structures of research and development, international regulations and business organization. Despite Hayter and Le Heron (2002) not using the term TEP, there exists strong parallels in how they view green TEPs and ecological modernization. Hayter and Le Heron posit that in green TEPs, environmental obligations motivate the uptake of wider systemic changes and innovation priorities are focused on energy reduction and efficacy in systems of construction, manufacturing and transportation. In the same vein, the notion of "eco-Keynesianism" was developed by Hudson (2000, 2001) to resolve competing forces of profit generation, work provision and environmental protection. Hudson (2001) argued that "eco-Keynesianism" is a radical reform is attempt, combining social and environmental sustainability with less negative effects to the capitalist economy's profitability imperative. Despite 'sustainable eco-capitalism' strongly emphasizing social justice, similar to ecological modernization, the adoption of environmentally friendly production and utilization of clean technologies is fundamental.

3.2 Stakeholder Theory

According to Samantha (2012), Freeman propounded the stakeholder theory in 1983 and Mile reviewed it later on. Florida and Davidson (2001) surmised that in the corporate scope of environmental management, the stakeholder approach comprises any group of individual that has the capacity of affecting the performance of a firm or who is impacted by the firm achieving its objectives. The theory is two-fold, involving the strategic stakeholder emphasizing active managing of interests of stakeholders, and moral stakeholder whose interest in in achieving a balance of interests of stakeholders. Freeman and Phillips (2002) argue that companies should not have a narrow focus of strategic management decisions in creation of shareholder value. Instead, their objectives should be broadened so as to counter the interests and expectations of their various salient stakeholders. Subsequently, Chang et al. (2013) posit that low environmental performance negatively affects the relationship between stakeholders and the company. In addition, the company's reputation is negatively impacted and financial losses are experienced by shareholders if it is established that the company is liable to damage caused to the environment. Chang et al. add that companies that have a poor record of environmental management are considered by financial institutions and shareholders to be riskier for investment and as such, higher risk premiums may be demanded.

A significant and interesting aspect of the theory is its comprehensive approach. The theory pushes for treatment of stakeholders with generosity, honesty and fairness. Harrison, Bosse and Harrison, (2011) indicate that, "A firm that manages for stakeholders allocates more resources to satisfying the needs and demands of its legitimate stakeholders than what is necessary to simply retain their willful participation in the productive activities of the firm." Other disciplines of business have a tendency of focusing on one or focusing on subsets of groups of stakeholders, for example, human resource theory is focused on employees, financial theory is focused on financiers and shareholders, and marketing theory is focused on customers. According to Parmar et al. (2010) and Tantalo and Priem (2014), with regard to stakeholder theory, when all stakeholders are treated well, synergy in the company is achieved. Therefore, how companies treat customers has a significant influence on behavior and attitude of employees, and how companies behave towards communities where they operate has a significant effect on behavior and attitude of customers and suppliers (Cording et al., 2014; du Luque et al., 2008). Ekeh (1974) and Harrison et al. (2010) refer to this concept as "generalized exchange" which is the fundamental aspect that differentiates the stakeholder theory.

4.0 Research Methodology

Descriptive design was adopted in the study to establish the link between green procurement practices, environmental management and sustainability of manufacturing firms in Kenya. The design provides an accurate and detailed picture of behaviors and characteristics of subjects of population under study. Through observation and collection of data on certain topic, the design helps in deeply understanding specific issues and provides key insights pivotal for informing future research. Explanatory design was adopted for the purpose of understanding the population and factors studied. The design also allowed regressions to be used in determining the association

between variables in bivariate, multivariate and univariate analysis. According to Hair et al. (2010), it allowed for hypotheses testing through inferential statistics in the determination of correlational significance between the dependent and independent variables.

In this study, 1272 managers of manufacturing industries formed the population. 291 managers comprised the randomly selected sample achieved by using the Krejcie-Morgan (1970) formula. Primary data was gathered using questionnaires. The green procurement practices measures were informed by Tarkianinen and Sundqvist (2009), Rousseau and Venter (1992), Newbert (2008) and Wioldmann et al. (2011). Questionnaire reliability and validity was evaluated. Validity was assessed after conducting a pilot study and using specialist judgments. Cronbach's alpha was used to measure dependability, and according to Fraenkel and Wallen (2000), a 0.7 value was acknowledged. Analysis of data was preceded by coding and processing using the statistical program Analysis of Moment Structures (AMOS) v.25 for hypothesis evaluation. The study utilized a route diagram and structural equation modeling (SEM) for the determination of mediation effect.

Target Population

The population consisted of 1272 employees of manufacturing industries from four cities in Kenya. The respondents of the study included operations managers, Purchasing and supplies managers, finance managers, occupational and safety managers, Transport managers

Sampling Procedure and Sample Size

The study utilized Krejcie-Morgan, (1970) table to obtain sample size of 1200 managers of manufacturing factories in the four cities of Kenya. Therefore the sample size for this study is 291 managers.

5.0 Analysis

The researcher used different descriptive fit statistics for evaluation of the data's overall model. Table 1 shows the model's goodness of fit summary (0.004), hence was found to be significant. As Table 1 shows, CMIN/DF = .002 and CMIN is .004; df = 2 which indicates that the model fit is significant.

Table 1 Model Fit

Model	NPAR	CMIN	DF	P	CMIN/DF
Saturated model	16	.000	0		
Default model	12	.004	2	.000	.002
Independence model	10	181.21	6	.000	31.72

As shown in Table 2, GFI = 0.91, compared to the >0.90 recommended value. However, the coefficient of AGFI = 0.92 compared to the >0.90 recommended value. Subsequently, coefficients of NFI, RFI, CFI and TLI were 0.94, 0.93, 0.96 and 0.97. The RMR of 0.004 was significantly below the guideline of 0.02, whereas RMSEA = 0.02, which was also significantly below the 0.05 recommended limit. This shows that in general, the model worked well.

Fit statistic	Recommended	Obtained
χ^2	-	.004
Df	-	2
χ^2 significance	$p \leq 0.05$	0.000
χ^2/df	< 5.0	0.002
GFI	> 0.90	0.91
AGFI	> 0.90	0.92
NFI	> 0.90	0.94
RFI	> 0.90	0.93
CFI	> 0.90	0.96
TLI	> 0.90	0.97
RMSEA	< 0.05	0.02
RMR	< 0.02	0.004

The study examined the hypotheses by establishing the connection of latent variables. The hypotheses test results are as shown in Table 3. The effect of green procurement practices on manufacturing companies' sustainability was significant ($c = .551$, $p .001$). Therefore, hypothesis 1 was rejected. Manufacturing companies' sustainability was thus impacted significantly by green procurement practices.

Environmental management was impacted positively by green procurement practices. The results showed that the influence was positive with a 0.640 path coefficient value and a 0.000 p-value. The H_{02} was rejected. This revealed that the proposition was statistically significance. Environmental management of manufacturing companies was significantly and positively impacted by green procurement practices.

Table 3 Maximum Likelihood Estimates

Hypotheses			Estimate	S.E.	C.R.	P	Decision
Environmental Management	<---	Green Procurement Practices	.640	.04	12.10	***	Supported & Significant
Sustainability of Manufacturing	<---	Green Procurement Practices	.551	.054	9.437	***	Supported & Significant
Sustainability of Manufacturing	<---	Environmental Management	.297	.054	5.216	***	Supported & Significant

When controlling for the GI of firms, the study observed a significant direct effect of green procurement practices on manufacturing companies' sustainability. Environmental management was strongly correlated with manufacturing companies' sustainability where $c = .297$ and $p .000$. Hence, hypothesis 3 was rejected. Environmental management has a significant impact on green procurement practices as a competitive force. Taking green procurement practices into account, environmental management was a strong predictor for manufacturing companies' sustainability.

Environmental management in the manufacturing sector in Kenya provides long-term competitive advantage. The 0.297 path coefficient and 0.000 p-value revealed that green procurement practices provide a sustainable competitive advantage that is favourable and considerable. Consequently, the findings acknowledge the hypothesis; though the level of significance seems high. Hassan (2013) empirical study, indicating that it is essential for people and companies to adopt consumption and production that is environmentally responsible for recovery of quality of environment, spurring economic growth and reducing poverty with significant enhancements in sustainability and healthy conditions of working, supports the study's finding.

The results of this study and the prior studies analyzed show that green procurement practices was boosted by manufacturing companies adoption of environmental management. The results of this study corroborate Jaju (2011) who argued that it is pivotal for all companies to ensure efficacy and effectiveness in natural resource use in order to achieve sustainable growth. Every manufacturing sector therefore needs to incorporate environmental management and green procurement practices in all its activities so as to remain viable.

SEM Total Effects

The direct effect of green procurement practices is .551 on manufacturing companies' sustainability. Results in Table 4 reveal the indirect effect from environmental management is $(.640 * .297 = .190)$. The total effect is the sum of direct and indirect effects $(.551 + .190 = .741)$. Green procurement practices had a total indirect effect (.190) on the manufacturing companies'

sustainability, whereas direct effect was (.551). Consequently, the total effect of green procurement practices and sustainability of manufacturing companies was (.190 +.551) =.741.

Table 4 Moderation Matrices

	Total Effects		Direct Effects		Indirect Effects	
	Green Procurement	Environmental management	Green Procurement	Environmental Management	Green procurement	Environmental management
Environmental Management	.640	.000	.640	.000	.000	.000
Manufacturing companies sustainability	.741	.297	.551	.297	.190	.000

The findings indicate that the link between green procurement practices and the sustainability of manufacturing companies is fairly mediated by green innovation. The focus on green procurement practices stands with the sustainability of manufacturing companies when environmental management is viewed as an important undertaking in the manufacturing sector. The results showed that green procurement practices and the sustainability of manufacturing companies are related through environmental management to great extent. Figure 1 shows the path model diagram produced using path coefficients. The green procurement practices effect on manufacturing companies' sustainability is positively related. By combining supplier selection, E-Procurement, supplier development and environmental management, long term sustainability of the firm is achieved.

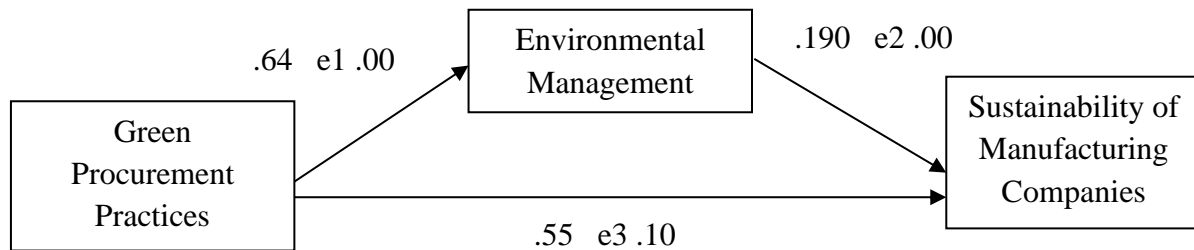


Figure 1: Path Model Diagram

Conclusion

The findings show that green procurement practices had significant effect on manufacturing companies' sustainability and in turn had effect on environmental management. It can therefore, be stated that environmental management of manufacturing companies in Kenya should be strengthened with green procurement practices. The study further concluded that strong sustainability of manufacturing by ensuring environmental management coupled with the green

procurement practices. This will also lower costs of production and elimination of health hazards. Manufacturing companies in Kenya shall have a competitive edge from those who do not adopt green procurement practices and manage their environmental concerns. Green procurement practices are required in every organization and hence management should put in place strategies that would enable growth for the manufacturing sector so as to achieve Kenya's 2030 vision since this represents one of the most potential sectors for creating employment in Kenya.

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