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IMPACT OF ECO-FRIENDLY PROCUREMENT POLICIES ON THE EFFICIENCY OF PUBLIC ENTERPRISES IN RWANDA

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Abstract: Green procurement has become a critical strategy for organizations that aim to achieve environmental sustainability and enhance their performance in the face of increasing competition, market pressure, and regulations. This study aimed to investigate the influence of green procurement management policy on the performance of state corporations in Rwanda. Using a descriptive research design, the study obtained a sample of 119 respondents from a target population of 238 through stratified random sampling. Primary data was collected using a structured questionnaire, and quantitative data was analyzed using descriptive and inferential statistics, including multiple regression analysis to determine the relationship between study variables. The study found that green procurement management policy was statistically significant in enhancing the performance of state corporations in Rwanda ($\beta = 0.531$, $P = 0.001$). The study recommends that state corporations should adhere to green procurement management policies to enhance their performance and inspire other organizations to adopt green practices.

Keywords: Green procurement, environmental sustainability, performance, state corporations, Rwanda, procurement management policy, regulations, competition, market pressure, quantitative data analysis.

1.0 INTRODUCTION

Companies facing increased competition and pressure from the community and regulations have found it important to balance their performance in the economy as well as in the environment (Vaccaro, 2014). The present-day competition characterizing business environments coupled with increasing pressure to be environmentally sustainable has forced enterprises to add strategies for reducing the effects their products and services pose to the environment. Nonetheless, it is more than just being friendly to the environment; it is about increasing profits and having a good sense of business. Actually it is driven by business value and not cost (Liu, Kasturiratne & Moizer, 2012). The basis of green procurement is being certain that firms can benefit concurrently from features of the economy, environment and the society (IBM Global Business Services, 2012). Jerry (2013) described that the use of green procurement in the past decades was restricted, only to a few companies especially the ones dealing with chemicals or operating on consumer goods that experienced direct pressure from consumers practiced it. Consciousness of issues affecting the environment like global warming, emission of carbon, the use of poisonous substance and scarcity of resources increased in the recent past. Advocacy by activists and policies is encouraging the use of green practices and the result is that many companies worldwide are responding positively embracing green practices (Xie & Breen, 2012). There are internal motivations that relate with efficiency i.e. enhanced performance, profitability and productivity. There are also external factors that relate with social pressure from different communities and groups to persuade firms to embrace those practices. However, the

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To foster implementation of green procurement practices many countries have embraced various green procurement management policies. Kenyan government has an Act of 2015 on public procurement and assets disposal and its aim is determining procedures in procuring and disposing unserviceable, outdated or excess provisions and tools by public bodies in order to: make most of efficiency and the economy; encouraging competition and making sure that there is fair treatment of competitors; promoting integrity and fairness of procedures; increasing level of accountability and transparency of procedures; and increasing the confidence of the public on actions and facilitating elevation of local sectors and growth of the economy (Kyalo, 2015). Green procurement is at the centre stage of this legal framework. The government of Rwanda through Rwanda Public Procurement Regulatory Authority (RPRA) makes available instruments and tools required for public procuring; this includes documents for standard bidding, formats of procurement plans and also plan for training sessions for procuring bodies. In addition, the government developed laws that govern public procurement and considers the use of green procurement in diverse sectors.

Using the OECD (2016) public procurement estimates, the public sector organizations in Rwanda is estimated to have procured between US\$4.29B and US\$7.16B in 2017. Given the rising environmental concerns and awareness among various stakeholders in the supply chain as well as interest groups such as consumer groups, public sector organizations may find it appropriate to adopt sustainable or green procurement practice.

Empirical studies include; Gachau and Moronge (2018) did a study on effects green procurement practices have on performance of supply chain in Kenya using the case of Kenya Red Cross Society. Nderitu and Ngugi (2014) studied the impact green procurement practices have on performance of manufacturing firms using the case of EABL. Kahanaali, Laleh and Abbaslu (2014) studied the effects Green Procurement have on management of Green Supply Chain. Most of the studies have not focused on the public sector well as green procurement management policies in Rwanda. Therefore the current study sought to fill this gap through analysing the influence of green procurement policy on performance of public corporations specifically the Rwanda Public Procurement Authority

2.0 LITERATURE REVIEW

Buying of goods and services that are friendly to the environment is defined as green procurement and also involves selecting contractors and the setting of the requirements for the environment set in the contract. The origin of green procurement is the wish to prevent pollution. Green procurement can also be defined as green purchase and usually makes comparisons of products and services prices, technology and effects to the environment. Policies on green purchase are applied in all companies irrespective of the size (Coddington, 2013). Programs of green procurement could be simple practices such as the purchase of renewable energy or even recycling paper or more involving practices like providing suppliers and contractors with environmental requirements. The resources used by green products and services are much less, they also last long and their effects on the environment are minimal. Additionally, because of their high safety standards, the effect of green products and services on human health is minimal. The initial cost for green products and services might be high but in the long run, they save money (Min & Galle, 2015). Humphreys (2013) reached a conclusion that the economic position of a company can improve through reduction of liability and disposal cost and resource conservation and improvement of the overall image of the organization.

The focus of green procurement is to reduce the negative effects supply chain practices poses to the environment by ensuring that items bought are eco-friendly and ensuring that assessment systems for suppliers are sensitive to the environment and collaborating with suppliers with suppliers (Colicchia *et al*, 2011). green acquisition positively affect firm execution, the Chinese organizations concentrated on the effect of item put

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together green obtainment with respect to their operational effectiveness just as the directing pretended by partner fulfillment. Kahanaali, Khaksar and Abbaslu (2015) considered the effect of green acquisition on results of green inventory network the executives. This investigation concentrated on the upstream inventory network to decide the viability of green acquirement results Green Production network The executives in the concrete business that is one of the significant ventures in Iran. The investigation of the parts of the cross connection depended on basic condition displaying. The number of inhabitants in this examination was to incorporate all supervisors and specialists concrete processing plants of Fars region in Iran. In the wake of looking at suspicions, it was discovered that green obtainment and noteworthy positive effect on results of green inventory network the board that incorporates four of the outcomes of operational, monetary, ecological and elusive.

Blome, Hollos and Paulraj (2013) considered green acquirement and green provider advancement: predecessors and impacts on provider execution. The investigation embraced the contradicting hypothetical perspectives on authenticity – institutional and key – in assessing firm execution and top administration responsibility as predecessors to green obtainment and green provider advancement. Moreover, the effect of green acquirement and green provider advancement on provider execution was broke down. Utilizing an example of western European organizations, the examination built up an auxiliary condition model to test our theories. The investigation found that the purchasing association's market execution decidedly identifies with the reception of green obtainment. While monetary execution has no impact on green obtainment, top administration duty was seen as a significant driver of both green acquirement and green provider advancement.

Wallace and Omachar (2016) considered the impacts of green procurement activities on operational productivity at Kenya Aviation in Kenya. The fundamental target of this examination is to build up the impacts of green procurement activities on operational productivity at Kenya aviation. The objective populace of this examination included fifty workers in the finance department of Kenya Aviation. The researcher utilized descriptive survey to gather essential information for making conclusions and recommendations. The investigation discovered that Kenya Aviation obtains item that are explicitly structured making an item more ecologically friendly and that materials at organization are sourced from solid providers that give quality products. Intensive procurement choice is done to guarantee supply merchandise provided can be reused, fusing the idea of green in the plan procedure, the force utilization can be diminished to more prominent degree through low production cost and that there is solid relationship working among providers and the organization. Machio and Keitany (2018) examined the impacts of green sourcing on the performance of sugar processing plants in Western Kenya Sugar Zone. The goal of the investigation was to look at impacts of green sourcing on company performance of. The examination used descriptive exploration plan. The target populace was 173 employees; organized poll as used for data collection. The examination discoveries indicated that green sourcing affects company performance.

Kimira (2016) contemplated the impact of green procurement on competitiveness of assembling firms in Kenya: an instance of Unilever Kenya. The target populace was 60 directors of the company who incorporates the senior, middle and lower level administrators. Both descriptive and inferential insights were used for investigation. The investigation discovered that selection of providers, procurement of items with less destructive substance, green procurement procedures and green coordination's affected competitiveness of the organization. The examination discovered that green items and competitiveness of the company were positively and significantly related; green procurement procedures; green coordination." Mutangili (2019) studied effects of green procurement practices on the management and leadership of managing supply chain

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using the case of KQ and KPA. Empirical literature was critically reviewed to identify main thematic concepts of the paper. It was established that green procurement practices improves overall performance of a firm. Reverse logistics, green distribution, green purchasing, supply selection and green marketing have a significant effect on overall performance of government parastatals. The current study focuses on green procurement policies and organizational performance.

3.0 RESEARCH METHODOLOGY

The study adopted descriptive research design. The researchers considered this plan since it contributed towards limiting predisposition thus boost dependability of the information. The target population of the study was 238 employees of Rwanda procurement Regulatory authority, where a sample of 119 respondents was selected through stratified random sampling. Primary data was collected through a questionnaire. Data was analysed through use of both descriptive and inferential statistics and presented in tables.

4.0 RESEARCH FINDINGS AND DISCUSSION

The study targeted 119 respondents; 110 of the respondents filled and returned the questionnaire forming a response rate of 92%. A response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent (Mugenda & Mugenda, 2008). Hence in our case the response rate is excellent. A Cronbach's alpha of 0.835 was obtained making the questionnaire reliable. According to the findings 42% of the respondents indicated that they had worked in the organization for a period between 4-6 years, 35% for a period between 7-9 years, 15% for a period between 1-3 years and 10% for a period above 10 years. This implies that the respondents had worked in the organization long enough to provide information needed for the study. The respondents were requested to indicate their level of agreement on the statements about the effect of green procurement policy on the performance of Rwanda Public Procurement Authority in the Scale; 1 –Strongly disagree, 2- disagree, 3-moderate, 4- agree, 5- Strongly agree as shown in Table 1.

Table 1: Effect of Green Procurement Policy on organisational Performance

Statements	1	2	3	4	5	Mean	Std. Dev
Company has written down waste management policies	2	4	10	63	31	4.064	1.001
The employees have knowledge on green procurement practices in the organization	4	6	13	58	29	3.927	0.900
The management is committed to ensure full adoption of procurement practices	3	5	16	52	34	3.991	0.863
Green procurement policy leads to improved government efficiency	6	9	14	44	37	3.882	0.798
purchasing guidelines often require that particular products contain a minimum amount of recycled content	4	7	15	60	24	3.845	0.891
Government policy results in higher prices for green products or lower prices for brown products	5	6	18	46	35	3.909	0.795
The main goal of environmental policy is to limit the harmful effects of production or consumption on the environment	3	8	15	56	28	3.891	0.856

From the findings the respondents agreed that RPRA had written down waste management policies as shown by a mean of 4.064, the management is committed to ensure full adoption of procurement practices as shown by a mean of 3.991, the employees had knowledge on green procurement practices in the organization as shown by a mean of 3.927, government policy results in higher prices for green products or lower prices for brown products as shown by a mean of 3.909, the main goal of environmental policy was to limit the harmful

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effects of production or consumption on the environment as shown by a mean of 3.891, green procurement policy leads to improved government efficiency as shown by a mean of 3.882 and purchasing guidelines often require that particular products contain a minimum amount of recycled content as shown by a mean of 3.845. The findings are related to those of Song, Yu and Zhang (2017) who indicated that although both product-based and process-based green procurement have a positive effect on firm performance. However, the findings differed with those of Blome, Hollos and Paulraj (2013) who found that the purchasing association's market execution decidedly identifies with the reception of green obtainment. While monetary execution has no impact on green obtainment, top administration duty was seen as a significant driver of both green acquirement and green provider advancement.

The researchers conducted correlation analysis and multiple regression analysis to test the influence of green procurement policy on the organizations performance. Correlation analysis results indicated that there was a positive correlation between green procurement policy and performance of state corporations in Rwanda as shown by $r = 0.838$, statistically significant $p = 0.001$. The findings concur with those of Nderitu and Ngugi (2014) that organizational performance improved due to the attributes of green procurement. Dubey *et al.* (2013) explained that properly implementing green procurement strategies allows a company to manage performance of its supplier environment and the result is enhanced performance of operations. The findings concurs with those of Blome, Hollos and Paulraj (2014) that the practice of green procurement is instrumental in its achievement of enhanced performance; this is because it ensures that processed materials are of high quality.

The regression equation was $Y = 1.269 + 0.531X + E$ indicating green procurement policy significantly influence the performance of state corporations in Rwanda by a constant = 1.269

Table 2: Coefficients

Model	Unstandardized Coefficients			Standardized Coefficients	t	Sig.
	B	Std. Error	Beta			
1 (Constant)						
Green Procurement	0.531	0.096	0.494	5.531	0.001	

Green procurement policy was statistically significant to performance of state corporations in Rwanda as shown by ($\beta = 0.531$, $P = 0.001$). This shows that green procurement policy had significant positive relationship with performance of state corporations in Rwanda indicating that a unit increase in green procurement policy would lead to a unit increase in performance of state corporations in Rwanda. The findings are in agreement with those of Kahanaali, Khaksar and Abbaslu (2015) whom discovered that green obtainment and noteworthy positive effect on results of green inventory network.

In conclusion enhancement of green procurement management policy would lead to improvement in performance of state corporations. The study concluded that green procurement policy is positively related to performance of state corporations. The study therefore recommends that state firm's should adhere to the green procurement policy. This is because when the state corporations comply with the policies then other organizations would also adhere to the green policies. This would improve green procurements practices in Rwanda. The study suggests that other studies should be conducted to examine the influence of other green procurement practices on other institutions in Rwanda.

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