



Assessing the effectiveness of sustainable procurement of public sector organizations in Kingston

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Abstract

The study assesses the effectiveness of sustainable procurement of public sector organizations in Jamaica. The study adopted a survey design that employed quantitative research method. Purposive sampling was used to select 200 professionals based on their experience in the field of procurement and supply chain management in the public sector organization of Kingston. Data analysis was carried out with the use of Statistical Package for Social Sciences (SPSS v21).

The study concludes that government regulation and legislation, desire to mitigate upstream supply chain risk, role of the procurement function in an organisation demand from customers for sustainable products, top management support and guidance and competitor pressure were the drivers of sustainable procurement in Jamaican public sector organizations. Additionally, it was revealed that lack of management support and guidance, inadequate training of procurement professionals and suppliers, lack of financial support, difficulty dealing with government agencies, lack of planning and centralized/decentralized decision making were the factors affecting the implementation of sustainable procurement practices in public sector organizations in Jamaica. Policy implications and directions for future studies are addressed.

Keywords: Sustainable procurement of public sector organizations, Kingston, customers

Introduction

The increasing cost of public procurement is a problem worldwide. Traditionally, the focus of procurement is to ensure efficient purchasing through low cost purchasing of quality materials and award of contracts. However, the dynamism in today's market, coupled with intensified competition requires every organization to be innovative in its delivery of services while ensuring that work delivered is standard. According to a study conducted by the Economic Cooperation and Development (OECD, 2020), the expenditure of government on procurement alone exceeds US \$4,000 billion and this represents 9% of the world's GDP. This implies that to reduce cost and ensure effectiveness in the procurement process, there is the need for outstanding practices through key strategic areas that are connected with the overall process. In buttressing this, Nyamah *et al.* (2023) ^[10] posit that the procurement process in today's world is moving gradually from a clerical unit with no strategic plans to a very efficient socio-economic unit which should have an enhanced strategic plan to maintain effectiveness and add value to services rendered. In most developing countries and for that matter Jamaica, this is lacking (Sayyed *et al.*, 2023) ^[15]. This has therefore made most of these countries to join efforts with international developmental partners such as the World Bank, the International Trade Centre, UNCTAD and many other bodies to bring a change in their procurement process. Most of these countries have therefore reformed their procurement processes, strategies, foundations as well as the entire workforce. These changes and reformations have therefore impacted pressure on how the procurement function works to achieve both its internal and external orders and procedures. The ability to attain a procurement goal is therefore both an internal and an external affair involving the interconnection between various elements, professionalism, employees, resources and the organizational structure of the procurement unit (Fazekas & Blum, 2021) ^[6]. The regulations governing the procurement

process, the structure of the procurement whether centralized or decentralized, the internal policies of the organizations, all need to be factored in during the procurement process since they all influence the performance of the procurement function. However, studies have showed that most organizations fail to heed to this process leading to procurement process infractions (Odei, 2022).

In Jamaica, studies have reported procurement irregularities in public sector organizations such as health, education, securing sectors, among others (Jamaica Observer, 2023). It appears there is lack of comprehensive procurement system in these organizations. Every comprehensive procurement system should ensure that good quality materials, items and services are economically bought from reliable sources, ensures timely delivery through the selection of capable and efficient suppliers, locate and evaluate economical and reliable sources of supply. In a bid to resolving and ensuring sustainable procurement practices, the public procurement ACT 2015 was passed by the government to consolidate and modernized the law relating to public procurement of goods, works and service; and for related matters. Notwithstanding the presence of the ACT 15, its impacts on sustainable procurement in public sector organizations in Jamaica have not been realized effectively. It appears however, that there is lack of procurement systems in place. However, studies on the subject in the context of Jamaican public sector have been scanty as suggested by (Haughton & Ivey, 2023) ^[8]. Every comprehensive procurement system should ensure that good quality materials, items and services are economically bought from reliable sources, ensures timely delivery through the selection of capable and efficient suppliers, locate and evaluate economical and reliable sources of supply. Therefore, a systematic assessment of how the procurement process ensures sustainability is undoubtedly critical. This research thus presents a detailed discussion of the concept of sustainable procurement, its potential challenges and the measures to address the

challenges. This way, potential gaps could be identified and practical implications determined in order to help ensure both effectiveness and sustainability of public procurement in Jamaica.

Findings of the study will expose public procurement managers to the various sustainable procurement practices for adoption which will practically help public procurement managers and stakeholders streamline the procurement processes. Also, multiple challenges in achieving sustainable procurement practices will be examined and organized as guide to assist public sector organizations in Jamaica to develop appropriate measures to deal with such challenges.

Research Objective

The objective of the study is to assess the effectiveness of sustainable procurement of public sector organizations in Jamaica. Specifically, the study seeks to examine the potential drivers of sustainable procurement implementation in public sector organizations in Jamaica and examine the factors affecting the implementation of sustainable procurement practices of public sector organizations in Kingston.

Theoretical Review

Institutional Theory

The present study aligns with the Institutional theory. The institutional theory provides an explanation about how external pressures influence an organization to adopt organizational practice (Sarkis *et al.*, 2011). Since its original development, the institutional theory works on the cause of isomorphism and is defined as the “constraining process that forces one unit of a population to resemble other units that face the same environmental pressure” (DiMaggio & Powell, 1983). There are two types of pressures that lead to isomorphic change: coercive isomorphism and normative isomorphism. Coercive isomorphism is defined as the pressure of organisations in which the firm is dependent (Sarkis *et al.*, 2011). Coercive pressure can be imposed by governments through laws and regulations or by pressure from environmentally-aware customers. Normative isomorphism is defined as the pressures coming from media, civil society (such as non-governmental organisations), industry associations, or consumers (Sauer & Seuring, 2018).

Conceptual Review

Concepts of Procurement

Procurement, according to Changalima & Mdee (2023) ^[4], entails the process through which goods and services are obtained through the processing and preparation of requisition by issuing a receipt and approval of invoice for payment and services from preparation and processing of a requisition through to receipt and approval of the invoice for payment. It involves the plan for purchases, determination for standards, development for specifications, research and selection of appropriate supplier and value analysis of a product or a service to be delivered (Harju *et al.*, 2023) ^[7]. It also entails the financing of goods and services, negotiations for effective price, making the purchase, administration of the contracts, inventory controls and disposal of waste and other related functions that involves the delivery of products and services. Procurement, in the view of Szucs (2024) ^[18] is the process of acquiring goods and services from a supplier which could be an individual or organization.

Sustainable Public Procurement

Procurement is of significance to key stakeholders (practitioners, researchers and policy makers) in any country (Opoku *et al.*, 2022) ^[12]. Every comprehensive procurement system should ensure that good quality materials, items and services are economically bought from reliable sources, ensures timely delivery through the selection of capable and efficient suppliers, locate and evaluate economical and reliable sources of supply (Etse *et al.*, 2022) ^[5]. Public procurement is at the forefront of most reformation efforts because it plays a significant role in the promotion of accountability and transparency. Public sectors have important roles to play in the sustainable development of their countries. Their most powerful tool to achieve this is to control their spending power which can influence numerous sectors including the private sector (Setiadi & Abduh, 2020) ^[16]. In Jamaica, public procurement has direct impact on the successful delivery of government projects, hence, improving public sector procurement system can directly impact the overall economy of the nation (Setiadi & Abduh, 2020) ^[16]. Public procurement affects production and consumption trends, while at the same time creating substantial demand for sustainable products and services (Ogunsanya *et al.*, 2022) ^[11].

Drivers of Sustainable procurement

As the driving factors for the implementation of sustainability in the organisational functions may vary depending on the type of the sector, the nature of the business, and the geographical location of the organisation, several different drivers for sustainable procurement implementation practices are available in the literature. Those resources include: top management support and guidance (Shaikh *et al.*, 2020) ^[17]; government regulation and legislation (Santos *et al.*, 2024) ^[14]. In the study of Owen (2023), competitor pressure, pressure from NGOs, suppliers’ sustainable initiatives were found to be some of the drivers of sustainable procurement. Kwakye & Agyei (2021) in their study also revealed trust towards suppliers and their products, demand from customers for sustainable products, training and education programs with regard to sustainability and desire to mitigate upstream supply chain risk were also found to be sustainable procurement drivers. Kayode (2022) identified an organisation’s commitment to environmental management, collaboration capability of the organisation, strategic role of the procurement function in an organisation, absorptive capacity and policy benefits from the government were found to be the sustainable procurement drivers in Ghanaian public organizations. Although there is a great deal of literature under different geographical contexts (i.e., Ghana, USA, Nigeria.) that deals with analysis of the drivers of SP implementation, there is a lack of literature particular in the context of Jamaica along with analysis of the interrelationships among sustainable procurement drivers.

Sustainable Procurement Implementation Challenges

Myriad of literature has reported sustainable procurement implementation challenges. For example, Al Nuaimi *et al.* (2020) ^[2] conducted a study entitled: Implementing sustainable procurement in the United Arab Emirates public sector. Among other things, the results of the study revealed that cost is the highest ranked critical factor, followed by an organization, whereas innovation capability is the lowest

ranked of the main factors. The initial cost of green products and their life-cycle cost are the most prioritized of cost factors. An individual's commitment to change, top management support and organizational commitment are the highest-ranked sub-factors. Social awareness is the most important sub-factor among culture, and the supplier's capability is the highest ranked sub-factor in the market. Agyekum & Pittiri (2022) ^[1] identified the barriers to sustainable procurement as financial, informational, legal, managerial/structural, political/cultural and product quality priority. Similarly, despite the advantages for the adoption of sustainable procurement at the organisational level, the following factors by Qazi & Appolloni (2022) ^[13] were considered critical barriers to its uptake. First is 'inertia' within the company. Inertia develops from the institutionalization of a routine within an organisation. As firms try to maintain a sense of reliability, processes become routine. Thus, the implementation of changes become more difficult, as it will be an upheaval to the existing routine (Qazi & Appolloni, 2022) ^[13]. Another is the conflict of incentives. The procurement staff could feel pressured to make decisions that do not align with sustainable procurement strategy. This could indicate that there is a conflict between the pressures on staff and the greater driving them towards maintaining, the more traditional approach. The third barrier relates to a meaningless formality. Even though many companies are documenting sustainable procurement strategies in their annual reports, it would be interesting to find out to what extent these policies influence the procurement decisions within a company. Also, the study of Ofori (2021) suggested that inconsistencies in decision making; centralized/decentralized decision making; difficulty in imposing change; difficulty dealing with government agencies; collusion among stakeholders; lack of planning; lack of budgetary allocation; and inadequate training of procurement professionals and suppliers are the eight key barriers that hinder the successful implementation of sustainable procurement in Ghanaian public universities.

Methodology

Research Design

Hussey & Hussey (2017) noted that research design refers to the science or art of planning procedures for conducting studies to obtain the most valid findings. In order to achieve this, there must be an orderly, objective and systematic way of collecting data. The study adopted a survey design that employed quantitative research method. This was due to the statistical nature of the study (Creswell, 2007).

Population

Polit & Hunglar (1999) as cited in Ringui (2012) defined the population of the research as the totality of all subjects which conform to the set of specifications comprising of all person of interest to the researcher and to whom the results obtained can be generalised. Mugo (2002) noted that the population of the research is the larger group of persons, objects or items from which representative sample size is obtained. The population of this research consists of procurement managers, supervisors, management and CEOs of three public sector organizations in Kingston.

Sampling Technique and Size

Sampling is the procedure of selecting a representative portion of the target population for determining

characteristics of the whole population (Mugo, 2002). The purposive sampling technique was adopted in the study. Alvi (2016) revealed that purposive sampling is a technique where the researcher selects participants based on specific criteria or to achieve an aim by selecting those participants. Purposive sampling was used to select professionals based on their experience in the field of procurement and supply chain managers (Cohen *et al.*, 2007). 200 respondents participated in the study. According to Cochran (1963), a sample size of 100 and above is appropriate for quantitative study. Since the determined sample size is more than 100, it is considered appropriate for the study.

Source of Data

Primary questionnaire was used in collecting the data. The questionnaires were administered to the research participants by the researcher. The research participants were 200 in numbers and they were the procurement managers, supervisors, management and CEOs of three public sector organizations in Kingston. The study also made use of secondary data form journals and text books. Each respondent spent about 10 minutes in responding to the questions. The questionnaire was in three sections. Demographics, drivers of sustainable procurement implementation and factors affecting the implementation of sustainable procurement practices.

Validity and Reliability

A content validity test was first conducted using two personalities in the area of procurement with in-depth knowledge about procurement sustainability. The comments from the professionals helped in revising any of the questions that were not clear. Based on the revision, a much modified version of the questionnaire was arrived at and further administered to the proposed respondents. The reliability of the responses received from respondents was ascertained with the use of Cronbach Alpha. To ensure ethical consideration, names of respondents were concealed as respondents participated at their own volition.

Data Analysis

The primary data were analysed with the Statistical Package for Social Sciences (SPSS v21). The descriptive statistical tools that were used for the analysis included mean, frequency, percentage, standard error, standard deviation, and Cronbach's alpha coefficient. The analysed data were presented with tables and figures with insightful commentaries for easy understanding.

Results and Discussions

Demographic

The findings from the administration of questionnaires regarding gender of respondents revealed that 70(35.0%) of respondents were males whereas 130 (65.0%) of the respondents were females.

The statistics from this gender grouping confirmed prior notion that majority of the respondents would be females.

It can be observed from the statistics that the percentage of respondents who are between the ages of 30-35 years was 20(20.0%) while those between the age of 36-41 years was found out to be 55(27.5%). Also, the percentage of respondents who are between the ages of 42-47 years was 60(30.0%) while those of 48 and above years was found out to be 45(22.5%).

Regarding qualification, the findings showed that bachelor degree holders accounted for 35(17.5%), master degree holders accounted for 20(10.0%), professional qualification holder accounted for 80(40.0%) whilst respondents with other qualification accounted for 65(32.5%).

The dataset on years of respondents' experience in their various roles revealed 25(12.5%) of the respondents have 1-5 years' experience on the job, 80(40.0%) of the respondents have 6-10 years' experience on the job, 45(22.5%) of the respondents have 11-15 years' experience on the job whilst 50(25.0%) of the respondents have 16 and above years of experience on the job. From the statistics, it is obvious that respondents have varied qualification and years of experience on the job which is considered essential for the study. Table 1 presents the results.

Table 1: Demographics of Respondents

Characteristics	Frequency	Percent
Gender (N=200)		
Male	70	35.0
Female	130	65.0
Age (N=200)		
30-35	20	20.0
36-41	55	27.5
42-47	60	30.0
48 and above	45	22.5
Education (N=200)		
Bachelor	35	17.5
Masters	20	10.0
Professional	80	40.0
Others	65	32.5
Years of Experience (N=200)		
1-5 years	25	12.5
6-10 years	80	40.0
11-15 years	45	22.5
16 years and above	50	25.0

Source: Fieldwork, 2024

Objective One: To examine the potential drivers of sustainable procurement implementation in public sector organizations in Jamaica

Reliability Test

In examining the potential drivers of sustainable procurement implementation in public sector organizations, the Cronbach's alpha coefficient value of the responses were established. According to Tavakol and Dennick (2011), a Cronbach's alpha coefficient value between 0.800 and 0.900 is good for research hence the study's internal consistency of the responses received is validated. Table 2 presents the reliability statistics of the responses received on the drivers of sustainable procurement implementation

Table 2: Reliability Statistics

Cronbach Alpha	Number of Items
0.907	6

Source: Researcher's Fieldwork, 2024

Findings and Discussions

Analysis of dataset on the potential drivers of sustainable procurement implementation in Jamaican public sector

organizations revealed that Government regulation and legislation ranked 1st with a mean of 4.82 and a standard deviation of 0.138, Desire to mitigate upstream supply chain risk ranked 2nd with a mean of 4.78 and a standard deviation of 0.142, Role of the procurement function in an organisation ranked 3rd with a mean of 4.72 and a standard deviation of 0.154, Demand from customers for sustainable products ranked 4th with a mean of 4.70 and a standard deviation of 0.162, Top management support and guidance ranked 5th with a mean of 4.64 and a standard deviation of 0.172, and Competitor pressure ranked 6th with a mean of 4.20 and a standard deviation of 0.178. Allen and Seaman (2007) asserted that a five-point Likert scale with a confidence interval of 95% should be at least 3.50 to be considered significant. This implies that most of the respondents agreed on the potential drivers of sustainable procurement implementation in Jamaican public sector organizations. Again, this assertion is buttressed by the fact that the standard errors (S.E) were small (that is, relatively close to zero), thus implying that the potential drivers of sustainable procurement implementation in Jamaican public sector organizations as chosen by the respondents were a true reflection of the study population.

According to Altman & Bland (2005), the S.E is the standard deviation of the sampling distribution of the mean and also a degree of how likely a sample represents the population. Therefore, a large S.E relative to the sample mean implies that there is a lot of variations between the means and the samples while a small S.E relative to the sample mean implies that most sample means are similar to the population. Table 3 presents the potential drivers of sustainable procurement implementation in Jamaican public sector organizations.

The findings of the study espouse the works of various authors. For example, Kannan (2021) [9] found top management support Government regulation and legislation as drivers of sustainable procurement implementation. The results of Kyei (2022) also revealed desire to mitigate upstream supply chain risk, government regulation and legislation, role of the procurement function in an organisation, pressure from customers for sustainable products drivers of sustainable procurement implementation. Clearly, the drivers of sustainable procurement implementation are envisaged to stem from pressure from all these various groups. For example, governments are a common source of pressure for organizations to adopt certain practices. Governments mandate the compliance of specific practices or policies. Customers can be a powerful influence that shape firm practices and product offerings. The findings support the Institutional theory. The institutional theory provides an explanation about how external pressures influence an organization to adopt organizational practice. For instance, coercive pressure can be imposed by governments through laws and regulations or by pressure from environmentally-aware customers' demands which will drive organizations to implement sustainable procurement practices.

Table 3: Drivers of Sustainable Procurement Implementation

NS	Drivers	Mean		S.D	N	Ranked
		Statistics	S.E			
1	Desire to mitigate upstream supply chain risk	4.78	0.044	0.142	200	2 nd
2	Role of the procurement function in an organisation	4.72	0.042	0.154	200	3 rd
3	Demand from customers for sustainable products	4.70	0.054	0.162	200	4 th
4	Top management support and guidance	4.64	0.042	0.172	200	5 th
5	Government regulation and legislation	4.82	0.054	0.138	200	1 st
6	Competitor pressure	4.20	0.038	0.178	200	6 th

Source: Researcher’s Fieldwork, 2024

Objective Two: Factors affecting the implementation of sustainable procurement practices

Reliability Statistics

The responses received from respondents were ascertained with the use of Cronbach alpha. Cronbach alpha enables a researcher to ascertain the internal consistency and stability of a study’s data (Creswell, 2007). According to Creswell (2007), a Cronbach alpha of 0.7 is found reliable. From the study, the coefficient value of Cronbach alpha realized for the six variables is above 0.7 indicating a high internal consistency. Table 4 presents the results obtained

Table 4: Reliability Statistics

Cronbach Alpha	Number of Items
0.790	6

Source: Researcher’s Fieldwork, 2024

Findings and Discussions

The findings of the analysis of the factors affecting the implementation of sustainable procurement practices revealed that; Lack of management support and guidance (M = 4.84, S.D = 0.137) ranked 1st, inadequate training of procurement professionals and suppliers (M = 4.80, S.D = 0.142) ranked 2nd, Lack of financial support (M = 4.62, S.D = 0.168) ranked 3rd, difficulty dealing with government

agencies (M = 3.98, S.D = 0.171) ranked 4th, lack of planning (M = 3.68, S.D = 0.178) ranked fifth and centralized/decentralized decision making (M=3.84, S.D= 0.172) ranked 6th. Table 5 presents the factors affecting the implementation of sustainable procurement practices in public sector organizations in Jamaica.

The findings of the analysis on the factors affecting the implementation of sustainable procurement practices in public sector organizations buttress the findings of earlier researches (Al Nuaim *et al.*, 2020; Opoku *et al.*, 2022) [12]. The results of Al Nuaim *et al.* (2020) revealed top management support, cost and organizational commitment as the highest-ranked ranked critical factor impeding implementation of sustainable procurement practices in public sector organizations. Powell (2022) also found we find that poor financial standing, top management indifference, lack of knowledge/training factor and red-tapism among government agencies factor impeding implementation of sustainable procurement practices in public sector organizations. The amalgam of factors delineates in literature make the implementation of sustainable procurement practices in public sector organization cumbersome. Commitment is needed from top management including the employees. Discussing the need for the implementation and offering training and support to employees is regarded imperative prior to implementation

Table 5: Factors affecting the implementation of sustainable procurement practices

NS	Drivers	Mean		S.D	N	Ranked
		Statistics	S.E			
1	Lack of financial support	4.62	0.044	0.168	200	3 rd
2	centralized/decentralized decision making	3.84	0.096	0.172	200	6 th
3	difficulty dealing with government agencies	3.98	0.064	0.171	200	4 th
4	Lack of management support and guidance	4.84	0.042	0.137	200	1 st
5	inadequate training of procurement professionals and suppliers	4.80	0.054	0.142	200	2 nd
6	lack of planning	3.68	0.092	0.178	200	5 th

Source: Fieldwork, 2024

Conclusion

The study assesses the effectiveness of sustainable procurement of public sector organizations in Jamaica. The study adopted a survey design that employed quantitative research method. The population of this research consists of procurement managers, supervisors, management and CEOs of three public sector organizations in Kingston. Purposive sampling was used to select professionals based on their experience in the field of procurement and supply chain managers (Cohen *et al.*, 2007). 200 respondents participated in the study. Data analysis was carried out with the use of Statistical Package for Social Sciences (SPSS v21). It can be concluded that female respondents dominate the public sector organizations in Kingston Findings of the

study also revealed that the ages group 42-47 years are slightly majority of public sector organizations in Kingston. Also, majority of the study’s respondents hold professional qualification certificates. Fairly majority have between 6-10 years’ experience in the sector.

The study concludes that government regulation and legislation, desire to mitigate upstream supply chain risk, role of the procurement function in an organisation demand from customers for sustainable products, top management support and guidance and competitor pressure were the drivers of sustainable procurement in Jamaican public sector organizations.

Additionally, it was concluded that lack of management support and guidance, inadequate training of procurement

professionals and suppliers, lack of financial support, difficulty dealing with government agencies, lack of planning and centralized/decentralized decision making were the factors affecting the implementation of sustainable procurement practices in public sector organizations in Jamaica.

Policy Implication

The study has some implications for the government of Jamaica and stakeholders.

The government of Jamaica should issue a standard practices handbook for sustainable procurement practices to be used by public organizations (Augmenting the Procurement ACT, 2015) indicating a clear method for conducting a proper cost-benefit analysis to evaluate and decide on sustainable purchases that fit the economy and society and meet the national sustainability agenda. The government agencies responsible for sustainable procurement compliance should eradicate measures that impede seamless relationships with public organizations. For example, decisions on sustainable procurement can be centralized and, also decentralized to enhance decisions making.

The Consumer Affairs Commission division of the Ministry of Industry Investment and Commerce should be enforced to inform, educate and empower consumers to demand sustainable procurement practices from public sector organizations.

More so, top management and government officials must reevaluate their own personal values and commitment to sustainability issues as they participate in forming policies, rules and regulations. Training programs should be designed for procurement managers, procurement professionals and suppliers within the public sector organizations to appreciate the nuances of sustainable procurement.

Limitations and Direction for Future Studies

The major limitation of the study was time and response to the questionnaire by respondents. Busy schedule of the researcher and questionnaire administration was a hurdle. Respondents were apathy in volunteering information during the inception. The study leans to the positivist paradigm, adopting the quantitative posture. Future studies could be examined qualitatively to enrich the subject.

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