ISSN 2349-7807

International Journal of Recent Research in Commerce Economics and Management (IJRRCEM)
Vol. 6, Issue 4, pp: (185-191), Month: October - December 2019, Available at: www.paperpublications.org

DETERMINANTS OF IMPLEMENTATION OF SUSTAINABLE PROCUREMENT PRACTICES IN OIL AND GAS SECTOR IN KENYA. (A CASE OF KENYA PIPELINE)

[1]BETH GASHERI MURUNGI, [2]DR. ANAYA W. SENELWA

Abstract: **The aim of the study was to find out the factors influencing adoption of sustainable procurement practices in the energy sector particularly oil and gas sector in Kenya. The specific objectives of the study were to examine the effects of resource capacity, legal & regulatory framework, supplier participation and management commitment. The study used a target population of 150 employees from the procurement department while the sample size of 45 employees was determined by 30%, since it has been argued that such a sample size is adequate for a descriptive survey study (Patton, 2002). Stratified random sampling technique was also used to select respondents in the study population since it ensured that all the respondents had an equal and unbiased chance of participating in the study. A descriptive research design as well as use of questionnaires was also used in order to acquire the findings.Quantitative data was analyzed using tally sheet and presented by use of tables. In addition the study used multiple regression analysis to analyze the data.Regarding resource capacity, the study indicates that resource capacity significantly and positively influenced on the implementation of sustainable procurement in oil and gas sector in Kenya.The study further concluded that legal & regulatory framework have a significant and a positive effect on the implementation of sustainable procurement in oil and gas sector in Kenya.The study further concluded that supplier participation had significant and a positive effect on the implementation of sustainable procurement in oil and gas sector in Kenya.The study finally concluded that management commitment had a significant and positive effect on the implementation of sustainable procurement in oil and gas sector in Kenya.**

Keywords: **resource capacity, legal & regulatory framework,supplier participation and finally management commitment.**

1. INTRODUCTION

Enterprise competitive means have developed gradually from the quality competition, with the change of the social economic development level and market environment, service competition, the brand competition to the green competition. The export of products is threatened by "international green trade barriers" which directly affect business competitiveness in the global market. In addition, customers increasingly incline to the environmentally friendly products due to a large number of unethical business practices in the consumer goods industry that have been exposed. Facing to a variety of competitive pressure from the external environment, country's enterprises must start the green transformation and management to the whole supply chain from purchasing raw materials to delivering the products to enhance its competitiveness by reducing the number of raw materials and waste, recovering, collecting, reusing, recycling and reprocessing the scrap and old product and packing commonly referred to as Reverse Logistics. The company green purchasing which is the source of green transformation process is the key factors to carry out the green transformation (Min and Galle, 1997).

Statement of the problem

Business organizations should be the back bone of the society in saving our environment by spearheading the green practices due to the size and visibility of these companies (ElTayeb et al. 2009). However, oil and gas companies are actually deteriorating the environment and ecology severely with irreversible impacts in consideration of the enormous amount of un-recyclable resources consumed. Lee and Chen (2010) have identified 30% of pollutants on Earth are discharged by oil & gas industry which might cause severe destruction towards environment such as global warming, ozone depletion and air pollutions. According to an estimate as stated in Green Purchasing Network Kenya, (2013) in the 1990s, the average solid waste disposal by Kenya was 0.7 kg per day and today the solid waste disposal of Kenya has risen to about 2.2 kg per day. Part of this solid waste disposal is believed to be from the oil & gas industry. If this trend continues, there will be severe destruction towards environment issues. Experts do believe that, a landfill can last 10 years longer if Kenyans recycled 50% of their solid waste (Green Purchasing Network Kenya, 2013). Therefore, it is extremely important for the energy sector specifically oil and gas industry, mostly to adopt green purchasing practices to save both the environment and the society, as the energy firms are recognized as the major contributor towards the GDP of the country (Green Purchasing Network Malaysia, 2003).

Kenyan fully owned oil & gas firms have the lowest level of participation in the green initiatives compared to foreign based companies (ElTayeb et al. 2009). One of the reasons that Kenyan owned firm`s are having the lowest participation in GP is because it is still a very new concept in Kenya (Green Purchasing Network Kenya, 2013). Lee, (2008) added that Kenya Pipeline Company usually lack information resources or expertise to deal with the environmental issues. Therefore, oil & gas firms are recognized as the main source of environmental risk and bottleneck in pursuing the goal of green supply chain management (Goh and Zailani, 2010). According to Goh and Zailani (2010), with the increasing trend of global environment protection awareness, oil & gas firms in Kenya will be out of the competition if green initiatives are not adopted in their business strategy. The empirical studies on green purchasing are considered low as the drivers for green purchasing adoption is not given importance in the previous studies (Chien and Shih, 2007; ElTayeb et al. 2009; Hsu and Hu, 2008; Srivastara, 2007)

Thus it is important to research on the factor that influences the energy sector specifically the gas and oil firms in adopting green purchasing practices. Therefore this study aimed to fill the gap in the already researched and existing literatures by investigating factor influencing effective adoption of sustainable procurement practices in Kenya Pipeline Company. Thus it is believed that the results from this study will serve as a useful model for the companies concerned in Kenya in getting better understanding on these factors and its significant relationship towards Green Purchasing adoption.

Objectives

i. To establish the effects of resource capacity on the implementation of sustainable procurement in oil and gas sector in Kenya.

ii. To find out the effects of legal & regulatory framework implementation of sustainable procurement in oil and gas sector in Kenya.

iii. To determine the effects of supplier participation on the implementation of sustainable procurement in oil and gas sector in Kenya.

iv. To examine the effects of management commitment on the implementation of sustainable procurement in oil and gas sector in Kenya.

2. THEORETICAL REVIEW

Porter's Theory of Competitive Advantage

According to Porter's Theory of Competitive Advantage, cost leadership strategy is one of the options available to organizations for gaining competitive advantage which is that this study can be achieved through promoting sustainable procurement. Porter, (1985) purports only one firm in an industry can be the cost leader and if this is the only difference between a firm and competitors, the best strategic choice is the low cost leadership role (Malburg, 2000). This strategy focuses on gaining competitive advantage by having the lowest cost in the industry (Porter, 1996). In order to achieve a low-cost advantage, an organization must have a low-cost leadership strategy, low-cost manufacturing, and a workforce committed to the low-cost strategy (Malburg, 2000).

Agency Theory

Adoption of green procurement as espoused in the Public Procurement Policy of 2009 According to Jensen and Meckling (2003), an agency relationship is "a contract under which one or more persons (principals) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent." In this relationship, the agent must act in an honest way since the chosen actions have consequences for both parties. Consistent with the tenets of agency theory, it is assumed that agents i.e. purchasing officials are rational, self-interested people. This concept assumes that the principal and agent do not share the same levels of information, and as such, the agent can exploit a situation, sometimes to the disadvantage of the principal. Agency theory is most relevant in public contracting. Situations arise where there is a substantial conflict of interest between principals and agents and sufficient outcome uncertainty to trigger the risk implications of the theory (Eisenhardt, 1989). This is particularly relevant to public procurement functions as staff may have conflicting interests contrary to laid down procedures thus affecting the organizations processes.

Stakeholder Theory

A stakeholder is "any group or individual who can affect or is affected by the achievement of an organization's objectives" (Freeman, 2004). It is well known that companies produce externalities that affect different stakeholders. These externalities often cause stakeholders to increase pressures on companies to reduce negative impacts and increase positive ones. The theory suggests that a firm should pursue strategies that consider the parties affected by decisions while trying to minimize damage or maximize benefits to the representative groups (Freeman, 2004).Staff of the manufacturing firms are one of their key stakeholders. This calls for companies to think beyond financial performance but have obligations towards their staffs or employees in other words, (Jones, 2003). In this interplay businesses' obligations go beyond the traditional fiduciary duties to shareholder and extend to the employees of the company. (Jones, 2003).Public sector in particular has to meet the different needs of stakeholders, particularly when environmental issues are introduced so as to avoid any attempt of resistance from them (de Brito et al., 2008).

Institutional theory

Institutional Theory provides a theoretical lens through which researchers can identify and examine influences that promote survival and legitimacy of organizational practices, including factors such as culture, social environment, regulation (including the legal environment), tradition and history, as well as economic incentives, whilst acknowledging that resources are also important (Baumol et al., 2009, Brunton et al., 2010, Lai et al., 2006).

Kurt Lewin Theory

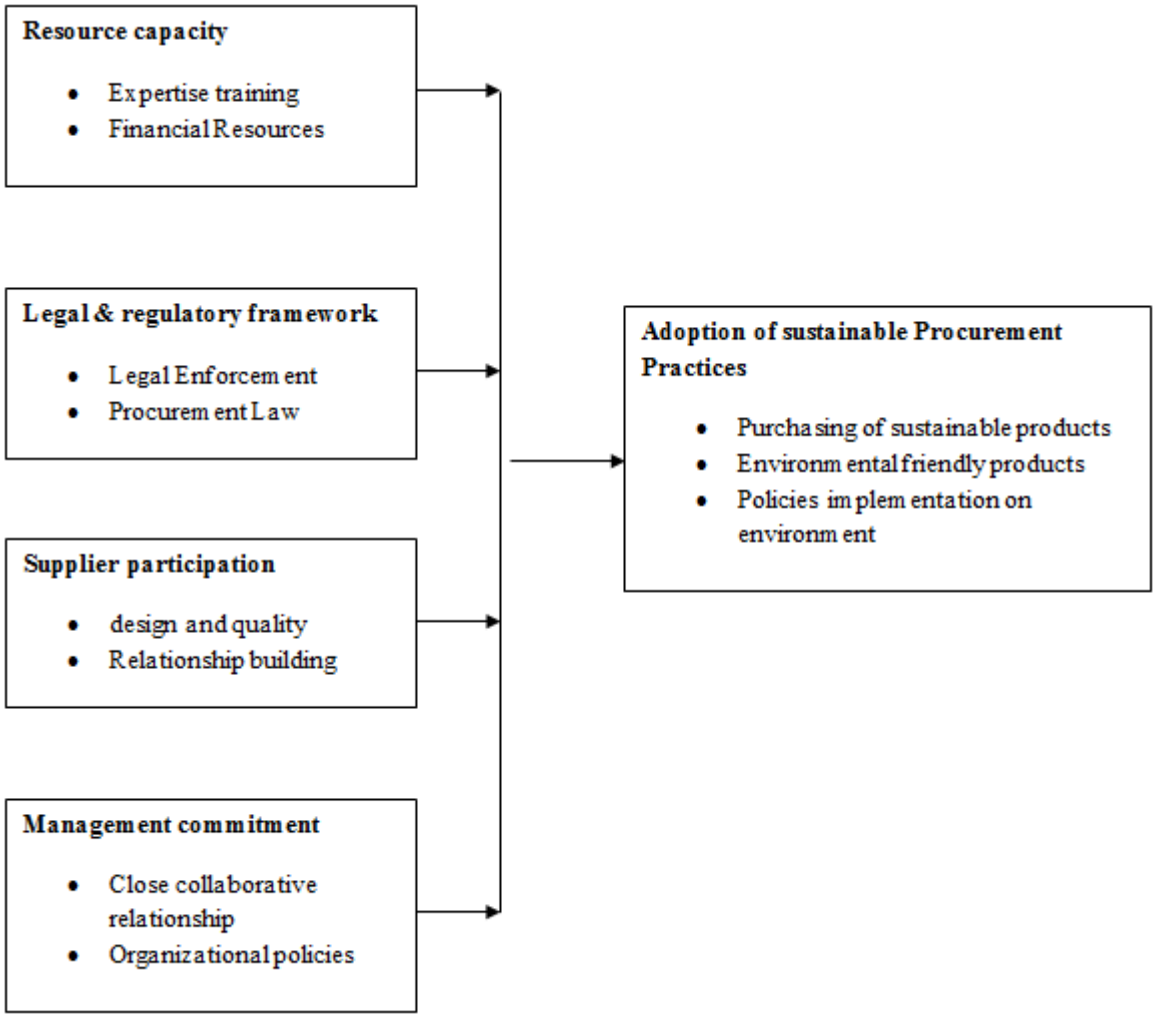
Human behavior is seen as a result of the interplay of diverse forces that create a set of circumstances through the dynamic interaction of man and his environment (Albrecht et al. 1987 in; Hoffmann, 2005; Ndah, 2008). According to the Psychological Field theory of Kurt Lewin, the interaction of situational forces with the perceived environment can be described as a field of forces, a system in tension or a psychological field. Human behavior can be described as follows: A person (P) in his subjectively perceived environment feels something is worth striving for (a target e.g. CA). He/she then mobilizes his/her personal powers to achieve this goal (adopt CA). When something negative or undesirable occurs, he activates his personal powers in the same way to avoid the negative situation. Ways of reaching targets and avoiding negative situations can be blocked or impeded by barriers or inhibiting forces (lack of knowledge, uncertainty about outcomes, insufficient capital, cultural practices, lack of opportunities for scaling up of GP practices adoption etc.

3. CONCEPTUAL FRAMEWORK

A conceptual framework is a set of broad ideas and principles taken from relevant fields of inquiry and used to structure a subsequent presentation (Reichel and Ramey, 1987). It is a tool intended to assist a researcher to develop awareness and understanding of the situation under scrutiny. It helps the researcher to explain the relationship among interlinked concepts such as the dependent and independent variables (Kombo, 2006). The dependent variables of the study will be conceptualized within the dependent-independent variable components and their indicators. The figure below shows a diagrammatic representation of the relationship between the dependent and independent variables

ISSN 2349-7807

International Journal of Recent Research in Commerce Economics and Management (IJRRCEM)
Vol. 6, Issue 4, pp: (185-191), Month: October - December 2019, Available at: www.paperpublications.org



Research Gaps

When it comes to the study of sustainable procurement practices in the oil and gas sector specifically limited research exists that addresses issues that challenge or acts as barriers to their implementation. For example, researcher (Chien and Shih, 2007; Ninlawan et al., 2010; Kumar et al., 2012) works on the implementation of green procurement practices in electronics industry, and on how sustainability can be encouraged when the public sector buys from suppliers in specific industries (Hall and Purchase, 2006; Matthews and Axelrod, 2004; Sonnino, 2009). Others have conducted in private sector manufacturing contexts (Hall and Purchase, 2006; Matthews and Axelrod, 2004; Sonnino, 2009; Gatari, 2014). Other studies have investigated the prevalence of sustainable procurement practice across the UK public sector (Preuss, 2009; Preuss & Walker, 2011; Walker & Brammer, 2009a), and also in the context of the UK health and local government sectors buying from small businesses (Walker and Preuss, 2008). Some studies have focused on green procurement practice in China (Geng and Doberstein, 2008), and across Asian countries (Ho et al., 2010)

However, there is limited research in the area of factors influencing adoption of sustainable procurement practices in particular with respect to the oil and gas service sector specifically governmental parastatals in Kenya, Gatari (2014) conducted a research on challenges facing implementation of green procurement practices in manufacturing organizations in Kenya, Telewa (2014) did a study on sustainable procurement practices in the public sector, Nasiche and Ngugi (2014) conducted a research on the determinants of adoption of green procurement in the public sector which strived to identify indicators that ensure successful implementation of green procurement practices in public sector. This study was therefore seeking to study the factors that influence adoption of green procurement practices in the oil and gas sector.

ISSN 2349-7807

International Journal of Recent Research in Commerce Economics and Management (IJRRCEM)
Vol. 6, Issue 4, pp: (185-191), Month: October - December 2019, Available at: www.paperpublications.org

4. RESEARCH METHODOLOGY

This study adopted a descriptive and exploratory research design.The target population therefore comprised 150 respondents who were drawn from Kenya Pipeline Company.The target population therefore comprised of 150 respondents of which 10 were senior procurement managers, 25 production managers', 15 Finance Managers and finally 100 stores clerks. . The study targeted a sample of 45 respondents. The researcher used questionnaires and secondary data as the research instrument to gather the relevant information needed related to the study.For this research both primary and secondary data collecting methods were used. Primary data was collected through the administration of questionnaires to the company's employees.The study has generated both qualitative and quantitative data owing to the nature of the instruments adopted which included both open and closed ended questions. Qualitative analysis involved coding and organizing collected data into themes and concepts that address the research questions. Descriptive statistics in the form of frequencies, percentages was used for analysis in this study. The quantitative data was collected and analyzed by calculating response rate with descriptive statistics such as mean, median, standard deviation and proportions using Statistical Package for Social Sciences (SPSS) and Microsoft Excel.

Model

In this study the following was the regression equations that was used to test the significance of the study questions:

$Y=\beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\varepsilon$

Where Y is the dependent variable Sustainable Procurement Practices

X1 – Resource capacity

X2 – Legal & regulatory framework

X3 – Supplier participation

X4 – Management commitment

Regression Results

Table 4.1: Significance of Independent Variables

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.215	.462		4.795	.001
Resource capacity	.550	.115	.587	4.714	.000
Legal & regulatory framework	.275	.150	.355	2.748	.001
Supplier participation	.175	.085	.280	2.651	.003
Management commitment	.127	.070	.215	2.096	.001

As per Table 4.16, the equation ($Y = \beta_0 + \beta1_{X1} + \beta2_{X2} + \beta3_{X3} + \beta4_{X4} + \varepsilon$) becomes:

$Y= 2.215 + 0.550_{X1} + 0.275_{X2} + 0.175_{X3} + 0.127_{X4}$

Where Y is the dependent variable the job satisfaction

Y= Implementation of sustainable procurement

X***1***: Resource capacity

X***2***: Legal & regulatory framework

X***3***: Supplier participation

X***4***: Management commitment

The results in Table 4.1 indicate that resource capacity significantly and positively influenced on the implementation of sustainable procurement in oil and gas sector in Kenya. This indicates that organizations should seize from the culture of not providing sufficient human resources and financial resources for public green procurement. Procurement professionals who do implement sustainable procurement occasionally face many challenges in the implementation of sustainable procurement practices which include; lack of budget for internal or external support, lack of internal expertise on sustainability topics, contradictory objectives and lack of information on suppliers corporate social responsibilities practices.

Further, legal & regulatory frameworks have a significant and a positive effect on the implementation of sustainable procurement in oil and gas sector in Kenya. This result indicates that in the organizations where waves of procurement reforms have resulted into enactment of procurement rules and regulations, such organizations tends to perform perfectly in term of the implementation of sustainable procurement. This implies that the parallel and ineffective legal framework of the procurement reforms may present some problems for wider application of the green procurement policy**.**

Supplier participation had significant and a positive effect on the implementation of sustainable procurement in oil and gas sector in Kenya. These results indicate that supplier involvement in the implementation of sustainable procurement is an approach to bring the expertise and collaborative synergy of suppliers into the design process. Supplier involvement helps in developing trust and communication between suppliers and the organizations which in turn enhances the implementation of sustainable procurement in oil and gas sector in Kenya.

Management commitment had a significant and positive effect on the implementation of sustainable procurement in oil and gas sector in Kenya. This indicates that an organization that develops adequate organizational policies as well as close collaborative relationship with its stakeholders beside allocating resources allocation to enable its personnel implement policies and plans designed to meet her objectives will always excel in the implementation of sustainable procurement in oil and gas sector in Kenya.

5. CONCLUSION

Regarding resource capacity, the study indicates that resource capacity significantly and positively influenced on the implementation of sustainable procurement in oil and gas sector in Kenya.The study also concluded that legal & regulatory framework have a significant and a positive effect on the implementation of sustainable procurement in oil and gas sector in Kenya.The study further concluded that supplier participation had significant and a positive effect on the implementation of sustainable procurement in oil and gas sector in Kenya. The study finally concluded that management commitment had a significant and positive effect on the implementation of sustainable procurement in oil and gas sector in Kenya.

REFERENCES

[1] Angel, B. D., & Janquera, B. (2003). A review of the literature on environmental innovation management in SMEs:Implications for public policies . *Technovation* , Vol 23.

[2] Bai, C., & J., S. (2010). Greener Supplier Development: Analytical evaluation using rough set theory. *Journal of cleaner production* , vol 18.

[3] Bansal, P., & Roth, L. (2000). Why companies go green: a model of ecologic responsiveness. *Academy of Management Journal* , Vol 43.

[4] Bowen, E. F. (2000). Environmental visibility: A trigger of green organizational response. . *Business strategy and the Environment* , Vol 9.

[5] Bowen, E. F., Cousins, P. D., Lamming, R. C., & Raruk, A. C. (2001). Horse for course Explaining the Gap between the Theory and Practice of Green Supply. *Greener Management International* , vol 35.

[6] Brent, C. A., & Visser, J. K. (2005). An Environment performance resource impact for life cycle managenet in the manufacturing industry. *J. Clean Prod* , vol 13.

[7] Chen, C. (2005). Incorporating green purchasing into the frame of ISO 14000. *Journal of cleaner Production* , Vol 13.

[8] Foerstl, K., C, R., Hartmann, E., & Blome, C. (2010). Managing Supplier sustainability risks in a dynamically changing environment: Sustainable supplier management in the chemical industry. *Journal of Purchasing and Supply Management* , Vol 16.

[9] Klassen, D. R., & S, V. (2003). Collaboration and evaluation in the supply chain: The impact on Plant-level environmental investment",. *production and operations management* , Vol 12.

[10] Melnyk, A. S., Sroufe, R. P., & Calantone, R. (2003). Assessing the impactof environmental management systems on corporate and environmental performance. *journal of operations management* , vol 21.

[11] Menguc, B., Auh, S., & Ozanne, L. (2010). The interactive effect of internal and external factors on a proactive environmental strategy and its influence on a firms performance. *Journal of business ethics* , Vol 94.

[12] Min, H., & W, P. G. (Summer). Green Purchasing strategies: Trends and Implications". *International Journal of Purchasing and Materials Management* , 10-17.

[13] Mugenda, O. M., & Mugenda, A. G. (2003). *Research Methods. Quantitative and qualitative approaches.* Nairobi: African centre for technology.

[14] Porter, M. E., & Van, D. L. (1995). Toward a new conception of the environment- competitiveness relationship . *Journal of economic perspectives* , Vol 9.

[15] Pullman, M. E., Maloni, M. J., & Carter, C. R. (2009). Food for thought: Social versus environmental sustainability practices and performance outcomes. *Journal of supply chain management* , Vol 45.

[16] Rusinko, C. A. (2007). Green manufacturing: An evaluation of environmentally sustainable manufacturing and their impact on competitive outcomes". *IEEE Transactions on Engineering Management* , Vol 54.

[17] Russo, M., & Fouts, P. (1997). A resource based perspective on corporate environmental performance and profitability. *Academy of management Journal* , Vol 40.

[18] Sharma, S. (2000). Managerial interpretations and organizational context as predictors of corporate choice of environmental strategy". *Academy of management Journal* , Vol 43.

[19] Sharma, S., Pablo, A. L., & Vredenburg, H. (1999). Corporate environmental Responsives strategies; The importance of issue interpretation and organizational context". *Journal of Applied Behavioral Science* , Vol 35.

[20] Srivastava, S. K. (2007). Green Supply Chain management: a state-of-the-art literature review. *International Journal of Management Reviews* , Vol 9.

[21] Wahba, H. (2008). Exploring the moderating effect of financial performance on the relationship between corporate environmental responsibility and institutional investors:Some egyptian evidence" . *Corporate Social Responsibility and Environmental Management* , Vol 15.

[22] Zhu, Q., & Sarkis, J. (2007). The moderating effect of institutional pressures on emergent green supply chain practices and performance". *international Journal of production Research* , Vol 45.

[23] Zhu, S. Q. (n.d.)