INFLUENCE OF PURCHASING STRATEGY ON SUSTAINABILITY OF COUNTY GOVERNMENT PROJECTS IN KENYA (A CASE OF MACHAKOS COUNTY)

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ABSTRACT

Purchasing plays a significance role, not only, in obtaining the right material, but also covering acquisition of product in the right quantities, with right delivery time and place, from the right source and at the right market place. This in most cases account for about 50% of project total cost (raw materials, components, supplies and services). Although there are various purchasing strategies, those adopted by county government projects have drawn a lot of attention give the high-level project failure and sustainability. Therefore, the aim of this study was to determine the influence of purchasing strategy on sustainability of county government project. It was guided by supplier optimization strategy total quality management (TQM) strategy global sourcing strategy and vendor management strategy. The study adopted descriptive research design, targeted population of 421, sampled 205 respondents using simple random sampling technique. Primary data was collected with the aid of structured questionnaire and analysed with descriptive statistics and multiple
regression analysis at 95% level of confidence. Found that supplier optimization has low and insignificance influence on sustainability of county projects; total quality management has high and significance influence on sustainability of county projects; global sourcing has very low insignificance influence on sustainability of county projects and vendor management has high and significance influence on sustainability of county projects.

INTRODUCTION

Currently, there are numerous projects being implemented by county governments in various sectors like health, education, information communication technology (ICT) and road infrastructure among other capacity building projects across the county. The implementation success as well as sustainability of these projects heavily rely on the availability of necessary resources calling for reliable procurement and supply chain management strategy (Pinto, 2007). Purchasing is prominent support activity in project management to create value through purchase of inputs, services and facilities needed to deliver a project. This has made county governments to shift from conventional way purchasing to strategic purchasing as way to enhance effectiveness and efficiency in their operation (Janda & Seshadri, 2001; Arnold & Chapman, 2004).

Globally and in USA & UK, purchasing strategies aims at reducing prices and optimizing quality, fulfillment, production cycle times, responsiveness and financial conditions in public sector (Eyaa, 2011; Hommen & Rolfstam, 2009; Monczka & Trent, 2009). In developed countries, public procurement strives to achieve global competitiveness that is, reducing geographic and economic barriers and making the world a smaller place to trade in through technology. For instance, United States of America (USA) and United Kingdom (UK) pursue international purchasing strategies that hinge on reducing prices and optimizing quality, fulfilment, production cycle times, responsiveness and financial conditions. As a result, purchase management in developed countries have turned to improve internationalisation to support companies’ globalisation processes According to Johnson and Wood (2009) developed countries mostly adopt international purchasing and global sourcing purchasing strategies. Accordingly, depending on their level of globalised activities, public institutions need to develop a global sourcing strategy based on the integration and coordination among materials, processes, designs, technologies, and suppliers across worldwide purchasing, engineering, and operating locations However, although both purchasing management strategies (international purchasing and global sourcing) entail foreign supply, they differ in the extent to which global resources (supplied materials, technologies and know-how) are effectively coordinated and integrated to respond to global demands (Johnson & Wood, 2006).

Regionally, purchasing strategy is evolving towards global outsourcing and internationalization (Tsangirian & Yokozna, 2014). In Nigeria, public procurement has evolved from local to global sourcing process entailing different levels of involvement in internationalization, as well as different types of perceived advantages (Adjei, 2010; Hui,
In South Africa, public purchasing emphasize on Green Public Procurement (GPP) strategy. According to Adjei (2010) the GPP strategy means that contracting authorities take into account “environmental elements” when procuring goods, services or works at all stages of the project and within the entire life-cycle of procured goods. The goal of GPP is to reduce the impact of the procurement on human health and the environment. Procurement is called sustainable when it integrates requirements, specifications and criteria that are compatible and in favor of the protection of the environment, of social progress, and in support of economic development, namely by seeking resource efficiency, improving the quality of products and services (Adjei, 2010).

Locally, the public procurement system in Kenya has undergone significant developments in from a system with no regulations in the 1960s, and a system regulated by Treasury Circulars in the 1970s, 1980s and 1990s, the introduction of the Public Procurement and Disposal Act (PPDA) of 2005 and the Procurement Regulations of 2006 has introduced new standards for public procurement in Kenya. In Kenya, the Public Procurement Oversight Authority (PPOA) is charged with the responsibility of oversight and regulation of public procurement, including county government purchasing. According to Erridge and Greer (2002), pursuit of regulatory goals is directed towards ensuring that procurement activities and contracts meet the requirements of propriety and transparency thus encouraging a risk avoidance culture in respect of transparency. Janda and Seshadri (2011) have reported that most county government administrations in Kenya embraces cost leadership strategy when awarding tenders to prospective supplies. This factor is considered a major part of purchasing strategy affecting performance in county government projects. According each percentage saved in purchasing price can save 0.5% in in total cost thereby contributing significantly to reducing project costs. In a similar argument,) argued that there is no PPDA places emphasis on cost and quality making quality a major component of purchasing management. Therefore, the other procurement strategy followed by county government projects is total quality management strategy, which emphasis on procurement of quality supplies that would yield quality project outcome (McCrudden, 2004).

**STATEMENT OF THE PROBLEM**

County government procurement activities grew from 5.8 percent in 2012/2013 to 23.6 percent in 2014/2015 (PPOA, 2016). Contrary to this, scholars have questioned the real benefit of these projects majority have failed upon withdrawal of funding and thus are unsustainable. Odhiambo and Kimani (2013) study found that 53% of projects implemented at county levels are unsustainable with government projects being the majority. They further noted that there is a growing recognition that, despite significant increases in resources, county government service delivery is still falling in many counties and are not sustainable. In Machakos County, 38.9% of projects are unsuccessful, raising the question on their sustainability. Sustainability of county government projects is necessary to spur economic growth as well as meeting Millennium Development Goals (MDGs) and Kenya Vision 2030.
Bearing in mind what the benefits county government projects can bring to economic development (socio-economic, industrialization and poverty reduction,) are immense and therefore their sustainability is paramount however, no study have analysed the influence of purchasing strategy on sustainability of county projects, therefore, this study determined how purchasing strategies can be employed to enhance county government project sustainability.

OBJECTIVES OF THE STUDY

The general objective was to determine the influence of purchasing strategy on sustainability of county government projects in Kenya. It was guided by the following specific objectives:

i. To establish the influence of supplier optimization strategy on sustainability of county government project in Machakos County.
ii. To determine the influence of total quality management (TQM) strategy on sustainability of county government project in Machakos County.
iii. To ascertain the influence of global sourcing strategy on sustainability of county government project in Machakos County.
iv. To establish the influence of vendor management strategy on sustainability of county government project in Machakos County.

THEORETICAL AND CONCEPTUAL FRAMEWORK

The study developed the conceptual framework based on the Agency theory. The theory can be applied in area of procurement to help stakeholders in public procurement better understand the role they play in providing incentives for utilizing cooperatives in purchasing decisions. Agency theory is based on argument of Jensens and Mecklings (2006), stated that, an agency relationship is a contract under which one or more persons (principals) engages another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent. When executing the tasks within the principal-agent relationship, the agent must choose actions that have consequences for both the principal and the agent. Since these outcomes can be either negative or positive for each of the actors, the chosen action of the agent affects the welfare of both. The principal-agent relationship is often forged because the agent possesses a greater abundance of the needed skills, abilities, and/or time to perform the desired activities (Cane, 2004). From the theory, the implication to scope of application can best explain the role of project managers (the agents) in promoting sustainability of county project to beneficiaries (principals) through their actions on purchasing strategies decisions. Hence, the developed conceptual model is based two variables, that is, the independent variable (purchasing strategies) and dependent variable (sustainability of county projects) is depicted in figure 1

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Dependent variable</th>
</tr>
</thead>
</table>
METHODOLOGY

This study adopted a descriptive research design which, as argued by Mugenda and Mugenda (2013), determines and reports the way things are. Creswell (2009) observed that a descriptive research design is used when data is collected to describe persons, organizations, settings or phenomena. The target population for this study comprised of projects managers for both county government and non-state (NGOs) projects in Machakos County, commissioned and implemented between 2012 and 2016. According to data obtained from Machakos County project coordinator office, there are 421 projects. Sample size of 205 respondents was calculated at using Fishers Sample size formula and selected using simple random sampling procedure. Primary data was obtained through drop-and-pick data collection method using structured questionnaire. Pilot study was conducted to determine flaws or limitations on the research tools. The study employed Cronbach alpha reliability test and Content Validity (CV) index to test for reliability and validity of instruments respectively. All instrument passed the minimum loading factors. Collected data was analyzed using quantitative methods with the help of (SPSS) version 22 and excel. Descriptive statistics was used to summarize the data using frequencies and percentages and the relationship between the independent variables and the dependent variable was analysed using multiple regression analysis at 95% level of confidence, ANOVA (F-test) to explain the goodness of the model fit, and t statistics to measure the significance of beta values and 95% level of confidence.

RESULTS AND DISCUSSION

Demographic Results

The questionnaire response rate was 82.9%. Demographic results revealed the dominant gender as male (61.76%), dominant age bracket 36-45 years (40.59%), highest level of education undergraduate (55.88%) and experience or years of service in county projects above three (3) years (39.41%). Demographic finding shows that responded were mature,
well-educated and experience in project field that could provide reliable and objective data/information for the study. Summary of finding on study variables are presented below;

**Supplier Optimization Strategy**
Supplier optimization element of leveraging supplier capability lowly (34.93%) contributed to sustainability of county projects, delivery of cost saving lowly (39.41%) influence sustainability of county projects, and reduction of risk exposure lowly (52.35%) influence sustainability of county projects. Average mean of supplier optimization strategy $m=3.38$, std.dev= 0.69, Corr=0.313 and beta=0.298 insignificance at 95% level of confidence, implying that supplier optimization generally has low and insignificance influence on sustainability of county projects.

**Total Quality Management Strategy**
Zero defect supply element of total quality management highly (32.94%) contributed to sustainability of county projects, process reliability highly (52.35%) influence sustainability of county projects, and material quality highly (49.41%) influence sustainability of county projects. Average mean of total quality management $m=4.38$ and std.dev=0.74, Corr=0.65 and beta=465 and significance at 95% level of confidence implying that generally total quality management has high and significance influence on sustainability of county projects.

**Global Sourcing Strategy**
Supplier integration element of global sourcing very lowly (45.29%) contributed to sustainability of county projects, managing operating location very lowly (52.06%) influence sustainability of county projects, and managing global pricing very lowly (40.59%) influence sustainability of county projects. Average mean of global sourcing strategy $m=2.04$ and std.dev= 1.41, Corr=0.272, beta=0.191 but insignificance at 95% level of confidence implying that global sourcing generally has very low insignificance influence on sustainability of county projects.

**Vendor Management Strategy**
Lastly, cost management element of vendor management highly (42.94%) contributed to sustainability of county projects, material quality highly (62.35%) influence sustainability of county projects, and communication feedback highly (59.41%) influence sustainability of county projects. Average mean of vendor management $m=4.39$ and std.dev=0.93, Corr=0.562 and beta=0.342 significance at 95% level of confidence implying that generally vendor management has high and significance influence on sustainability of county projects.

**CONCLUSIONS**
The following conclusions are drawn based on study findings. First, the study concludes that supplier optimization generally has low and insignificance influence on sustainability of county projects. Secondly, the study concludes that total quality management has high and significance influence on sustainability of county projects. Thirdly, the study concludes that global sourcing generally has very low and insignificance influence on sustainability.
of county projects and finally, the study concludes that vendor management has high and significance influence on sustainability of county projects.

RECOMMENDATIONS
Due to low and insignificance influence of supplier optimization on sustainability of county projects, the study recommends that county government projects to develop better ways of engaging their suppliers either through forging cordial relationship and emphasize on the specification of supply that enhances project delivery sustainability.

Secondly, the study recommends total quality management strategy as the best strategy for purchasing management of county government project. Hence, these project managers that have not adopted it to consider doing so should they want to realize sustainability of their projects. Study further recommends that global sourcing should be avoided at all and especially with category small projects. However, for well and multinational projects it’s the best strategy to obtain affordable project materials. Lastly, just like total quality management, the study also recommend that vendor management is ideal purchasing strategy for county government projects to deliver sustainable projects.

RECOMMENDATION FOR FURTHER STUDY
This study focused on establishing influence of purchasing strategies on sustainability of county projects government projects. The study recommended further analysis to be carried out or the same study and specifically in national government projects. In addition, the study also recommends for further study to unearthed the reason for low and insignificance influence of supplier optimization and global sourcing strategies on sustainability of county government projects.

REFERENCES


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APPENDICES

Table 1: Pearson Correlation Between Purchasing Strategies and Sustainability of County Project

<table>
<thead>
<tr>
<th>Variables/strategies</th>
<th>Project Sustainability</th>
<th>Supplier optimization</th>
<th>Total quality management</th>
<th>Global sourcing</th>
<th>Vendor management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplier optimization</td>
<td>Pearson Correlation</td>
<td>.313</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.62</td>
<td>.043</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total quality management</td>
<td>N</td>
<td>Pearson Correlation</td>
<td>170</td>
<td>.65(*)</td>
<td>.864(*)</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.024</td>
<td>.04</td>
<td>0.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global sourcing</td>
<td>N</td>
<td>Pearson Correlation</td>
<td>170</td>
<td>.272</td>
<td>.604(*)</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.821</td>
<td>.001</td>
<td>0.004</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vendor management</td>
<td>N</td>
<td>Pearson Correlation</td>
<td>170</td>
<td>.562(*)</td>
<td>.433(*)</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.022</td>
<td>.002</td>
<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>N</td>
<td>170</td>
<td>170</td>
<td>170</td>
<td>170</td>
<td>170</td>
</tr>
</tbody>
</table>

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

Table 2: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>R Square Change</td>
</tr>
<tr>
<td>1</td>
<td>.686a</td>
<td>.471</td>
<td>.416</td>
<td>.65587</td>
<td>.471</td>
</tr>
</tbody>
</table>

a. Predictors: (constant), supplier optimization, total quality management, global sourcing and vendor management.
Table 3: ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>18.826</td>
<td>4</td>
<td>3.268</td>
<td>12.624</td>
<td>.037</td>
</tr>
<tr>
<td>Residual</td>
<td>36.232</td>
<td>166</td>
<td>.430</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>55.058</td>
<td>170</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (constant), supplier optimization, total quality management, global sourcing and vendor management.
b. Dependent variable: Sustainability of county projects

Table 4: Coefficient Analysis

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>0.574</td>
<td>1.140</td>
<td></td>
<td>2.634</td>
</tr>
<tr>
<td>Supplier optimization strategy</td>
<td>0.298</td>
<td>0.108</td>
<td>0.212</td>
<td>.282</td>
</tr>
<tr>
<td>Total quality management strategy</td>
<td>0.465</td>
<td>0.118</td>
<td>0.363</td>
<td>1.593</td>
</tr>
<tr>
<td>Global sourcing strategy</td>
<td>0.191</td>
<td>0.155</td>
<td>0.121</td>
<td>1.158</td>
</tr>
<tr>
<td>Vendor management strategy</td>
<td>0.342</td>
<td>0.419</td>
<td>0.243</td>
<td>.395</td>
</tr>
</tbody>
</table>

a. Predictors: (constant), supplier optimization, total quality management, global sourcing and vendor management.
b. Dependent variable: Sustainability of county projects