



Influence of Supplier Capacity on Purchasing Consortia at County Referral Hospitals in the Coast Region, Kenya

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ABSTRACT

The purpose of this study was to determine the influence of supplier capacity on Purchasing Consortia at County Referral Hospitals in the Coast Region, Kenya. The study was done in the County Referral Hospital in the Coast Region, Kenya. Theoretically, the study was anchored on competency theory, MacNeil Relational Theory. The study used the descriptive research design in undertaking this study. The study population comprised of 212 officials drawn from across the county referral hospitals in the coastal region of Kenya. The stratified random sampling technique resulted into having a total sample size of 139 units of analysis. Data was collected by use of questionnaires, analyzed, and presented scientifically in tables and graphs. The study findings revealed that Supplier Capacity has a significant positive influence on the purchasing consortium. The study recommends that government and regulatory bodies in the health sector prioritize initiatives aimed at fostering collaboration and knowledge sharing among healthcare organizations. The study also recommends that government and regulatory authorities invest in capacity-building initiatives to equip healthcare organizations with the necessary skills and resources to effectively engage in collaborative procurement endeavors.

Key Words: *Collaborative Purchasing, Purchasing Consortium, Supplier Capacity*

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1.0 Introduction

1.1 Background of the Study

Purchasing Consortium (PC) is a strategy for enhancing competitiveness in supply chain operations in organizations with some common characteristics. The concept of buying consortium based on collaboration in the purchase process started in 1927 (Essig 2020). The term "purchasing consortium" refers to a broad conception of collaboration that encompasses cooperative buying and collective buying of office supplies, among other examples. Purchasing consortia, which provide businesses and government agencies with a broader perspective of united effort in sourcing, have attracted more attention in recent years. Researchers in purchasing consortium such as Bakker, Walker, and Harland (2016) have developed both the concept and implementation criteria of purchasing consortium.



In strategic coordination of group purchasing offers significant advantages. Public health institutions, such as hospitals, clinics, and healthcare centers, can join forces to procure goods and services collectively. This collaborative approach enables them to benefit from increased purchasing power and negotiate favorable terms with suppliers. Additionally, it allows for the sharing of information and best practices among participating organizations, leading to more informed purchasing decisions. However, despite the potential benefits, the adoption of consortia buying practices in Kenyan public hospitals, particularly in Mombasa County, faces several challenges. Kakwezi and Nyeko (2015) identified various complicating factors hindering the absorption of consortium practices in these institutions. One of the major challenges is the development of common specifications for purchased items. Each organization may have its own unique requirements and standards, making it difficult to align procurement processes.

Additionally, the governance structure of collaborative buying entities needs to be carefully established to ensure equitable decision-making and accountability among participating organizations. Furthermore, the timing of individual purchases poses a challenge, as coordinating procurement activities across multiple institutions can be complex and time-consuming (Kakwezi & Nyeko, 2015). Despite these challenges, empirical research from developed countries generally presents an optimistic view of collaborative purchasing practices. Burns and Lee (2017) note that the majority of studies on consortia buying suggest its potential to generate cost savings and improve efficiency in procurement processes. However, it is essential to approach the implementation of consortium purchasing with caution and address the specific contextual factors and challenges faced by each organization or region.

1.2 Problem Statement

Most industrialized nations' purchasing and supply chains show that forming cooperative procurement arrangements (consortium buying) is becoming increasingly popular (Carter, 2018). Interest in public-sector collaborative procurement arrangements has been on the rise in recent years across the globe (Essig, 2019), particularly in the Netherlands, the United Kingdom, Canada, Finland, Germany, and the United States. Recent examples include the National Health Service (NHS), the police, the Highways Agency, and municipal governments in the United Kingdom. They may vary from collaborating on purchases via an online marketplace or forming a lead-buying agreement to just sharing information and insights. Examples in the United States include (Nollet & Beaulieu, 2018). Preconditions for effective collaboration can be discovered, but an overall deciding model is still lacking, especially in the African setting (Aylesworth, 2017). According to research conducted by Bakker, Walker, and Harland (2016), the first step in modeling a consortium's strategy is to identify the internal processes inside buying organizations that are likely to generate expenses. Purchase costs, order expenses, shipping costs, and storage costs were all accounted for in the cost model utilized by Bakker et al., (2016). Beside and Essig (2020) in their study used operational costs such as backorder costs in analyzing purchasing consortium. The cost component was found to be an influential factor among Hospitals in purchasing in China (Warren, 2016). However, little is known about purchasing consortium in Kenya hence the need for this study.

1.3 Objective of the Study

To determine the influence of Supplier Capacity on purchasing consortium at County Referral Hospitals in the Coast Region, Kenya.

1.4 Hypothesis of the Study

H₀₁: Supplier Capacity does not significantly influence purchasing consortium at County Referral Hospitals in the Coast Region, Kenya.

2.0 Literature Review

2.1 Theoretical Framework

This study was anchored by Core Competency Theory. Proposed by Prahalad and Hamel in 1990 in an article titled “The Core Competency of the Corporations”, the theory illustrates that core competencies lead to the development of core abilities and products. Prahalad and Hamel (1990) have attributed that core competencies of the organizations that guarantee exemplary customer experience. The Core Competencies of the Organizations are however developed through a process of continuous improvements over time and stakeholder-ship involvements (Amit & Schoemaker, 2018). The Core Competency Theory is a managerial theory that describes actions that may be taken by organizations to achieve a competitive edge in their areas of operations. Scholars in the Core Competency Theory such (Prahalad & Hemel) have denoted that organizations should capitalize on the key areas of their strength. In addition, the Core competency theory advocates for firms to have valuable strategies that competitors cannot imitate, copy, or reuse, but add value to the end consumer. Barney, (2021) has indicated that organizations should orient their strategies to tap into core competencies and vie the competency strategy as a fundamental basis for value addition. Consortium arrangements, in which companies work together to share and pool resources, often lead to increased productivity and the development of sustainable competitive advantages. Competency on the part of the collaborating providers is mostly around the acquisition, creation, and development of certain skills. The ability to integrate and divide numerous activities within a group to take advantage of economies of scale is critical to the success of group purchasing since it relies on the collective learning of the organization as a whole. The adoption of core competency theory in this study helped in understanding the relationship between supplier capacity and consortium purchasing.

2.2 Conceptual Framework

For this study, the conceptual framework are illustrated in Figure 1.

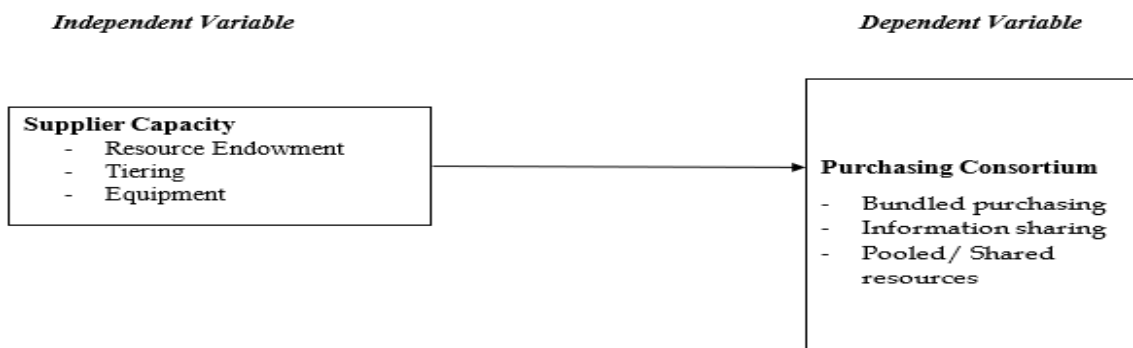


Figure 1: Conceptual Framework

2.3 Review of Literature on Study Variables

A study by Handfield et al., (2017) found that organizational capacity influences stock level and other resources for further contractual engagements. According to Kuei, Madu, and Lin, (2017),

the efforts by suppliers to participate in supply chain contracting are influenced by their resources. Suppliers in certain firms lack the resources and facilities to effectively manage their supply chain. Suppliers work with customers to increase supply capacity, according to a Korean Management Association study of 120 Korean companies. Increased business area and new opportunities for better partner capacity and efficient capacity creation were produced by moving from the value chain to supply chain network expansion. The timing, size, and location of facility purchases are key factors in supply chain capacity development. The seminal paper by Manne, (2018) examined the fundamental trade-offs between the economies of scale and the opportunity costs in consortium buying and deduced more benefits for both buyers and suppliers in the consortium contract. It was also shown that indigenizing the basic trade-offs between capacity utilization (overtime, subcontracted, regular time), service, and inventory and responsiveness such as backlogs or lost sales in Swaminathan's (2021) research that purchasing grouping and planning. In consortium purchasing, there is an exception that takes capacity growth and inventory management together into account (Swaminathan, 2021). The capacity trade-offs involve the Capacity Requirement Planning (CRP) process linking manufacturer and consumer through the Materials Requirement Planning (MRP) process. The research study on supplier capacity or buying ability has found that leadership, operation formation, and training are key deterrents in the partner's relationship.

3.0 Research Methodology

This study adopted the descriptive research design in form of mean, median, standard deviation, minimum and maximum in carrying out its study. This approach was instrumental in facilitating the development of the multiple linear regression analysis model used in this thesis. The descriptive research design also enhanced the quantitative data collection approaches used in this thesis. This study was underpinned by positivism ideology. The target population for this study comprised of the officials in the County Referral Hospitals in the coastal region of Kenya. The earmarked county referral hospitals included Msambweni County Referral Hospital (Kwale County), Kilifi County Referral Hospital (Kilifi County), Coast General Teaching and Referral Hospital (Mombasa County) and Moi County Referral Hospitals (Taita-Taveta County). The target population for this study was made of 212 officials drawn from across the county referral hospitals in the coastal region of Kenya as well as KEMSA. The county director of health, the medical superintendent, the health administrative officer, the supply chain staffs, the heads of clinical departments constituted the officials which were included in determining the target population for this study. To scientifically attain the appropriate sample, the study adopted the Yamane Taro 1967 formula and arrived at the sample size.

A sample size of 139 units of analysis out of the total population of 212 units was studied. Afterwards, proportionate samples were chosen from each stratum under consideration using the proportionate stratified random sampling technique. Questionnaires were used as the main instrument for data collection upon which they will be structured in the Likert Five Scale Format. Descriptive as well as the Pearson's correlation analysis were carried out prior to running the multiple linear regression analysis model employed in this thesis. Descriptive analysis was conducted so as to generate descriptive statistics. The Pearson's correlation was carried out in order to ascertain the fort and direction of the connotation among the dependent and the independent variables. Afterwards, the multiple linear regression model was run. The regression model summary as well as the ANOVA test were generated and interpreted. The test statistics generated from the regression model were employed in testing the hypotheses at 0.05 level of significance, thereafter decision made on whether to reject or fail to reject the null hypothesis.



4.0 Research Findings

4.1 Descriptive Test Results

The descriptive test statistics for the Supplier Capacity Variable were generated using SPSS and the results were presented in table 1.

Table 1: Supplier Capacity

	N	Minimum	Maximum	Mean	Std. Deviation
This county referral hospital is well endowed with resources	113	1.00	5.00	3.6726	1.00394
Tiering of suppliers is well articulated in this county referral hospital	113	2.00	5.00	3.3451	.74126
The Equipment of this county referral hospital is of good quality	113	1.00	5.00	3.9558	1.22758
Supplier Capacity	113	1.33	4.67	3.6578	.69501

Overall Mean 3.6578

Key Scale: Ranked 1-1.5 Strongly Disagree; 1.6-2.5 Disagree; 2.6-3.5; 3.6-4.5 Agree; 4.6-5.0 Strongly Agree

Table 1 showed that the overall units analyzed for the supplier capacity variable were 113 units. The table also indicated that the minimum statistics and the maximum statistics values which the supplier capacity variable could achieve were 1.33 and 4.67 respectively, thus resulting into having an overall mean of 3.6578. The mean statistic of 3.6578 indicated the general agreement by the respondents that supplier capacity is a determining factor for the county referral hospitals purchasing consortium. The standard deviation statistics value of 0.69501 which was less than the mean value indicated that the data for the supplier capacity variable was well distributed around the central tendency. This standard deviation results meant that the data was well dispersed. These findings were in agreement with the findings of Manne (2018) who reported standard deviation values which were less than their mean values and concluded that the data for their studies was well dispersed around the central tendency.

4.2 Pearson's Correlation Analysis

The Pearson's correlation analysis statistics for the direct relationship model were generated and presented in table 2.

Table 2: Pearson's Correlation Results

		Purchasing Consortium	Supplier Capacity
Purchasing Consortium	Pearson Correlation		1
	Sig. (2-tailed)		
Supplier Capacity	N	113	
	Pearson Correlation	.470**	1
	Sig. (2-tailed)	.000	



The Pearson’s correlation analysis outcomes, as delineated in Table 2, provide valuable insights into the direct relationship model, specifically elucidating the interplay between various factors influencing purchasing consortium dynamics. Notably, the analysis revealed a strong positive relationship of 0.470 between supplier capacity and purchasing consortium, signifying statistical significance at the 0.05 level (2-tailed). These findings resonate with the research conducted by Barney (2021), who similarly documented a robust positive Pearson’s correlation between supplier capacity and purchasing consortium.

4.3 Multiple Regression Analysis

Multiple regression analysis was adopted to show the influence of the various measures of supplier capacity.

Table 3: Regression Results

Model Summary					
R	R Square	Adjusted R Square	Std. Error of the Estimate		
.517 ^a	0.268	0.247	0.67361		
ANOVA	Sum of Squares	df	Mean Square	F	Sig.
Regression	18.065	3	6.022	13.271	.000 ^b
Residual	49.459	109	0.454		
Total	67.524	112			
Coefficients	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.367	0.252		9.384	0.000
Resources Endowment	0.041	0.071	0.068	0.578	0.564
Tiering of suppliers	0.136	0.071	0.204	1.909	0.059
Equipment Quality	0.240	0.069	0.346	3.494	0.001

a. Dependent Variable: Purchasing Consortium

b. Predictors: (Constant), Equipment Quality, Tiering of suppliers, Resources Endowment

The findings indicated that supplier capacity positively influenced purchasing consortium (R= 0.517, p<0.05). Resources endowment, tiering of suppliers and having quality equipment have a positive influence on purchasing consortium. A study by Handfield et al., (2017) found that organizational capacity influences stock level and other resources for further contractual engagements. Dixit and Pindyck (2015) found that, to varied degrees, the majority of investment choices share key features; partial investment, uncertainty in future rewards, and the dilemma of timing of investment. The decision about types and levels of investments depends on organizational resources. According to Kuei, Madu, and Lin, (2017), the efforts by suppliers to participate in supply chain contracting are influenced by their resources. Manne, (2018) examined



the fundamental trade-offs between the economies of scale and the opportunity costs in consortium buying and deduced more benefits for both buyers and suppliers in the consortium contract.

5.0 Conclusions and Recommendations

With reference to the objective of this thesis, the study concluded that supplier capacity has a significant positive influence on the purchasing consortium of county referral hospitals in the coast region of Kenya. The study recommends that government and regulatory bodies in the health sector prioritize initiatives aimed at fostering collaboration and knowledge sharing among healthcare organizations. The study also recommends that government and regulatory authorities invest in capacity-building initiatives to equip healthcare organizations with the necessary skills and resources to effectively engage in collaborative procurement endeavors. Additionally, the study suggests that government and regulatory bodies play a proactive role in facilitating strategic partnerships and alliances within the healthcare supply chain. By fostering relationships between healthcare providers, suppliers, and other stakeholders, regulators can create an ecosystem conducive to collaborative procurement initiatives. Moreover, the study recommends that hospital management critically evaluate their portfolio approach to procurement and assess its alignment with organizational goals and priorities.

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Declaration by the Author(s)

This is our original work and has not been submitted to any other journal. We have taken all measures to ensure highest compliance with ethical standards set by the journal. We confirm strict adherence to quality and originality in preparation of the research article.

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