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INFLUENCE OF VENDOR BASE OPTIMIZATION AND RATIONALIZATION ON PERFORMANCE OF PARASTATALS IN KENYA

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Abstract

Purpose: The purpose of the study was to examine the influence of vendor base optimization and rationalization on the performance of parastatals in Kenya with an aim of making recommendations.

Methodology: . The study employed a descriptive research design, targeting heads and deputy heads of procurement in parastatals. The researcher prefers this method because it allows an in-depth study of the subject. Data was collected using self-administered questionnaires. The data collected was analyzed by use of descriptive and inferential statistics. A multiple regression model was used to show the relationship between the dependent variable and the independent variables. The data generated was keyed in and analyzed by use of Statistical Package of Social Sciences (SPSS) version 24 to generate information which will be presented using charts, frequencies and percentages.

Results and conclusion: The response rate of the study was 91% .The independent variables reported R value of 0.846 indicating that there was perfect relationship between dependent variable and independent variables. R square value of 0.715 means that 71.5% of the corresponding variation in performance of parastatals in Kenya can be explained or predicted by (triangle approach, twenty/eighty approach, spend categorization method and competency staircase method) which indicated that the model fitted the study data. The results of regression analysis revealed that there was a significant positive relationship between dependent variable and independent variable at (β=0.715), p=0.000 <0.05).The findings of the study indicated that triangle approach, twenty/eighty approach, spend categorization method and competency staircase method have a positive relationship with performance of parastatals in Kenya.

Policy recommendation: The study recommended that parastatals should embrace vendor base optimization and rationalization so as to improve performance and further researches should te carried out in other institutions to find out if the same results can be obtained.

Keywords: *twenty/eighty approach, competency staircase method, triangle approach and spend categorization*

1.1 Introduction

Improvements in computational power coupled with the advent of the internet have decreased the coordination costs needed to successfully integrate disparate firms across the globe into a single supply chain (Lysons & Gullingham, 2018). In the past, firms commonly contracted with a huge number of suppliers and currently there is a significant movement from the traditional adversarial buyer-seller relationships to the use of a few qualified suppliers with close relationships.

This trend is attributed to the customers' demand for higher quality, wider range of products, shorter time to market and faster deliveries. This has forced the producing companies to keep up with these demands in order to survive (Karlsson 2020). However, as the concept of strategic sourcing gains momentum many firms seeking to shift to this strategy have found themselves riddled with a supply base that does not support implementation as they have too many suppliers. Vendor base optimization and rationalization thus becomes a key to change from transactional to strategic purchasing (Linarelli & Wallace, 2021).

Recently, in Kenya the notion of vendor base optimization and rationalization has been discussed in many studies. The popularity of that topic could have emanated from many drivers, including trends in global sourcing, highlighting on time to market, product quality based competition, customer uncertainty and the requirement to develop bottom-line costs (Odhiambo & Kamau, 2018). Nowadays, procurement has an important strategic role in the value chain and is also a major driver in the extended supply chain.Vendor base optimization and rationalization is an overriding work for public institutions to master due to several factors such as increased global scope of operations, increased usage of outsourcing, and the buyers' increased dependence on suppliers' capabilities (Odundo, 2018). As a result, the transformation of procurement processes has occurred from the lowly, back-end processes into a strategic resource during the last decade (Owegi & Aligula, 2018).

As such, public entities include the central and local governments, courts, commissions, parastatals, cooperatives and police service. In the security forces institutions, effective or efficient vendor base optimization and rationalization is determined by the level of transparency and accountability of procurement funds, minimization of procurement expenditure, compliance with procurement regulations and quality of procured goods and services (Muge, 2020).

In Kenya, over 70% of procurement practices are normally not in full compliance with Public Procurement and Disposal Act, 2015 and Public Procurement and Disposal Regulations, 2020. In over 50% of institutions in Kenya, the quality and quantity of procured good and services does not meet the raised specifications during tendering due to among other issues, vendor base optimization and rationalization. Many institutions have cases of stalled development projects and deficit in procurement budget (Wanyama, 2021).

1.2 Statement of the Problem

Vendor base optimization and rationalization is important to any organization since it leads to improved design (56%), quality (46%) and cost reduction (42%), which means an improvement in supply chain performance (65%). Kenya's long term development agenda spelt out in the vision 2030, targets an annual growth rate of above 10% with an investment rate of 30%, parastatals are key drivers in this projected growth. Parastatals accounted for 20% of the country's GDP (GoK,

2017). However, parastatals in Kenya have been experiencing a myriad of problems including misappropriation and blatant mismanagement of resources (PPRA, 2021).

The systems audit for Kenya Meat Commission (KMC) report revealed losses of Kshs.88 Million through irregular procurements in financial year (FY) 2020/2018. Earlier, in the FY 2021/2020, KMC had lost Kshs.52 Million due to vendor base optimization and rationalization related inefficiencies. This situation is hampering sustained performance and service delivery (PPRA, 2017).

According to an annual National Cereals and Produce Board (NCPB) customer satisfaction survey of 2017 and 2017, carried out by a contracted vendor, it is notable that the satisfaction percentage index has been fluctuating towards more and more dissatisfaction, that is, 65% and 78% respectively (Makau, 2017). On the other hand, NCPB faces a major challenge in controlling the operational efficiency because of the constant increase due lack of vendor base optimization and rationalization procedures; this is evident by NCPB posting a decrease in intake of farmers maize year after year (OECD, 2017).

The problem of poor productivity and the absorption of excessive portion of the budget among parastatals represents a drain on the exchequer meager resources and also results into non delivery on intended services. This has a negative implication on the welfare of Kenyan citizens and may also imply that Vision 2030 is not met (UNESCO, 2017). This situation is hampering sustained performance and service delivery (KNBS, 2018). Vendor base optimization and rationalization is not practiced, which is one of the reasons for loss, fraud and gross mismanagement of state resources.

A number of studies have been conducted on vendor base optimization and rationalization globally. For instance, Cousins (2017) conducted a survey on 174 firms in the UK and found out that though 92% claimed supply base reduction seemed to have reduced transaction costs. This study was, however, conducted in a developed country and not in Kenya. Locally; Wanjohi (2018) investigated the challenges facing supplier base management in Kenya and the efforts in progress. These studies however, did not look at vendor base optimization and rationalization on performance among these firms. It is against this back drop that this study seeks to examine influence of vendor base optimization and rationalization on performance of parastatals in Kenya.

1.3 Objectives of the Study

i. To assess the influence of twenty/eighty approach on performance of parastatals in Kenya.

ii. To establish the influence of competency staircase method on performance of parastatals in Kenya.

iii. To determine the influence of the triangle approach on performance of parastatals in Kenya.

iv. To evaluate the influence of spend categorization method on performance of parastatals in Kenya

2.0 LITERATURE REVIEW

2.1 The Theoretical anchoring

Theory of constraints is an approach to the management of operations and it was developed by Goldratt. It provides a supply chain management theory of how organizations should be run especially the rationalization of the supply base. The concept was extended to theory of constraints (TOC) with a publication which views any manageable system as being limited in achieving more of its objectives by a very small number of constraints.

There is always one constraint and the TOC uses a focusing process to identify the constraint and restructure the supply base around it (Kotabe & Murray, 2019) TOC emphasizes on the optimization of performance within a defined set of constraints of the existing process and it provides an action framework which combines the activities of the managers and the visible system elements (Hansen, Schaumburg-Muller & Pottenger, 2019). TOC views supply bases as systems consisting of resources, which are linked by the processes they perform. The goal of the supply base serves as the primary judge of success. Within that system, a constraint is defined as anything that limits the supply base from achieving higher performance relative to its purpose (Tummala, Phillips & Johnson, 2017). The pervasiveness of interdependencies within the organization makes the analogy of a chain, or network of chains, very descriptive of a system's processes. Just as the strength of a chain is governed by its single weakest link, the TOC perspective is that the ability of any supply base to achieve its goal is governed by a single, or at most very few, constraints (European Commission, 2021).

The theory of constraints defines a set of tools that change agents can use to manage constraints, thereby increasing profits. Most businesses can be viewed as a linked set of processes that transform inputs into saleable outputs. TOC conceptually models this system as a chain, and advocates the familiar adage that a chain is only as strong as its weakest link (Busi & McIvor, 2019). This theory incorporates the idea that the goal or mission of an organization exists, and organizations can be measured and controlled by variations on three measures having A, B and 20/80 classvendors clearly categorised. In the context of this study one of the variables of vendor base optimization and rationalization will show the linkage to one of the measures of success that are used to measure the performances of organizations in the public sector.

Lean is a functional model which basically discounts the value of economies of scale and focuses on how to reduce costs as a result of small, incremental and continuous improvement. Lean supply base has certainly become increasingly significant in supply chain management. Initially organizations involved in manufacturing of products used to involve themselves in lean manufacturing techniques, this has ceased as lean has expanded beyond manufacturing (Fawcett, Gregory & Mathew, 2018).

Lean supply base management seeks to explain how organization should manage its system and needs. It states that supply base can be used as a strategic differentiator by the organization and further goes on to say that not all supply base management is about waste (Finch, 2017). The theory stated that supply base management strategies developed by an organization should support the customer's need and expectations. Supply base management strategies should not be a driver on how much and when a product will be delivered to a customer, rather, the customers' expectations

should be understood and supply base management strategies is designed purposely to meet those expectation.

2.2Women Participation in Community Development Projects Factors

2.1.1 Twenty/Eighty Approach

According to Perzyk (2018) case study in foundry industry by, Pareto chart shows that the foundry staff should concentrate on reducing defects like 'sand inclusions' and 'gas holes', which make up 72% of all defects. Pareto diagrams can therefore be particularly useful in defining the targets. Pareto charts show the most frequently occurring factors and help to make the best use of limited resources by pointing at the most important problems to analyze.

Chandna and Chandra (2020) studied forging operation that produce six cylinder crankshafts used in trucks and buses. With the help of Pareto diagrams critical areas are identified and forging defects of crankshaft have been prioritized by arranging them in decreasing order of importance. Then Cause and Effect Diagram (CED) is applied to explore possible causes of defects through brain storming session and to determine the causes, which have the greatest effect. The corrective measures reduce the rejection rate from 2.43% to 0.21%.

2.1.2 Competency Staircase Method

Performance should not be relegated to simply task accomplishment and goal achievement as some job results aren't necessarily the preserve of what individual employees do and there could be other contributory factors outside of the person doing the job (Cardy and Dobbins 2017). Over-concentration and undue focus on outputs whilst ignoring important interpersonal and processual factors may misdirect vendor's effort as to what is required.

One of the other drawbacks of over-focusing on outputs is that vendors may use all means necessary to achieve results, sometimes to the detriment of others and the future of the organization. It is thus best to look at performance in light of the two: results/outputs and behaviors. Behavior is one of the sources of output and output is one of the means by which the effectiveness of performance may be measured. Therefore, only goal-relevant behavior counts as performance.

Van-Egten (2017) concluded that management styles, which include skills, individual motives and knowledge and experiences which hung on personal competencies, are important ingredients for the performance management system. Zairi (2017) expounds this train of thought by stating that the human element is the heart of the problem of performance measurement. Ashton (2017) whilst quoting the American Productivity and Quality Center's International Benchmarking Clearinghouse points to the competency element in that the most critical make or break factors, are people issues and whose success which is achieved by constantly communicating and reinforcing how business strategy is achieved by individual effort.

2.1.3 Triangle Approach

The classification of vendors is a major task and considering the quantity of purchased. The supplier selection and evaluation related steps of the Mentzer model (2020) are mainly the steps of screening suppliers and the selection of one as well as negotiating and finalizing an agreement. These steps are quite similar with the steps in the Monczka et al., (2020) model, but they are described on a more general level and do not have any detailed descriptions of how the suppliers

should in fact be evaluated. Thus, thinking of the subject and the goal of this thesis, this process model is not suitable for this study.

Weele (2021) divides his purchasing process model into six steps: define specification, select supplier, contract agreement, order, expedite, and evaluate. This purchasing process (Weele, 2021) is a very high level process and aimed rather at operational purchasing than strategic sourcing. These supplier selection steps describe more traditional evaluation criteria, such as pricing and delivery terms, but sustainability and environmental criteria are neglected. In conclusion, this process model is not a suitable strategic sourcing supplier selection process

2.1.4 Spend Categorization Method

Spend analysis, as a process, is similar to the data warehousing process both processes are based on ETLA process (extraction, transformation, loading and analysis). Data extraction is periodical fetching of data from the transactional system, as well as from other relevant data sources, to make analyses up to date. Data can be fetched from sources other than databases, like user files, internet, etc. Data transformation is the most important part of the spend analysis process (Bodo & Magdalena, 2019).In this step transactional data is being normalized (conversion of currencies, units of measure) and brought to the common format (e.g. putting all address data in one field with specific ordering of data elements or dividing data to multiple fields). Another important segment of data transformation step, which distinguishes it from standard transformation in data warehousing, is building the products and services hierarchy and supplier hierarchy. Supplier hierarchy means connecting naturally connected suppliers (e.g. branch offices with head office or duplicate entries) so that it is easy to determine total spend with some supplier and not with e.g. its branch offices (Callendar & Mathews, 2021).

2.3 Conceptual Framework

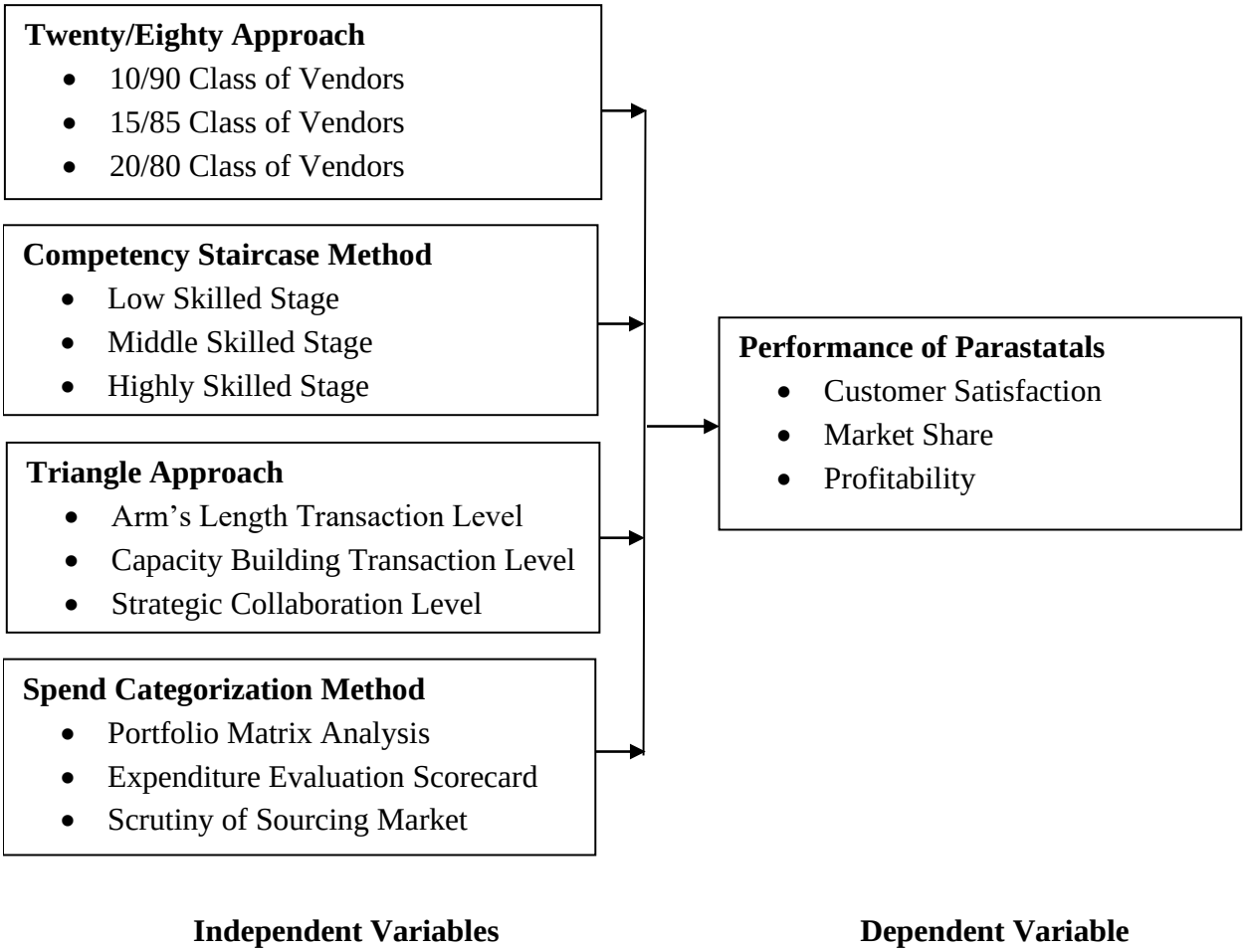

Figure 1: Conceptual Framework

3.0 METHODOLOGY

The study employed a descriptive research design, targeting heads and deputy heads of procurement in parastatals. The researcher prefers this method because it allows an in-depth study of the subject. Data was collected using self-administered questionnaires. The data collected was analyzed by use of descriptive and inferential statistics. Multiple regression model was used to show the relationship between the dependent variable and the independent variables. The data generated was keyed in and analyzed by use of Statistical Package of Social Sciences (SPSS) version 24 to generate information which will be presented using charts, frequencies and percentages.

The research used a multiple regression model.

$Y= \beta0+ \beta1X1+\beta2X2+\beta3X3 +\beta4X4 + \varepsilon$

Where:

Y = Performance of Parastatals in Kenya

β0 = Constant

β1, β2, β3, β4 = Beta Coefficients

X1 = Twenty/Eighty Approach

X2 = Competency Staircase Method

X3 = Triangle Approach

X4 = Spend Categorization Method

ε = Error Term

4. 0 RESULTS FINDINGS

4.1 Introduction

4.2 Response Rate

A sample of 110 respondents were interviewed using questionnaires that allowed the researcher to drop the questionnaire to the respondents and then collect them at a later date when they had filled the questionnaires. A total of 110 questionnares were distributed to the respondents. Out of the population covered, 100 were responsive respresenting a response rate of 91%. This was above the 50% which is considered adequate in descriptive statistics according to (Dunn, 2021).

Table 1: Response Rate of Respondents

Response	Frequency	Percentage
Actual Response	100	91
Non-Response	10	9
Total	110	100%

4.3 Pilot Study

The cronbach's alpha was computed in terms of the average inter-correlations among the items measuring the concepts. The rule of thumb for cronbach's alpha is that the closer the alpha is to 1 the higher the reliability (Kothari, 2018). A value of at least 0.7 is recommended. Cronbach's alpha is the most commonly used coefficient of internal consistency and stability. Consistency indicated how well the items measuring the concepts hang together as a set. Cronbach's alpha was used to measure realibilty. This was done on the four objectives of the study. The higher the coefficient, the more reliable is the test.

Table 2 Reliability Results

Variable	No of Items	Respondents	α=Alpha	Comment
Twenty/Eighty Approach	9	11	0.893	Reliable
Competency Staircase Method	9	11	0.987	Reliable
Triangle Approach	9	11	0.974	Reliable
Spend Categorization Method	9	11	0.976	Reliable

4.4 Demographic Information

4.4.1 Distribution of Respondents by Age

The study also determined the age of the respondents. The results are submitted in table 4.3 where the majority 53% were 31-40 years. Respondents aged between 41-50 years were 24%. Residents above 50 years accounted years accounted for 23%. The percentages may raise the issue of gender equity in public institutions in this country, but that is outside the scope of this study. A study on American companies found that the aged and the young do not necessarily differ in their ability to perform operational tasks, but rather bring a different perspective to strategic decision making (Eadie *et al.*, 2021).

Table 4: Distribution of Respondents by Age

Age	Frequency	Percent
31-40 Years	53	53
41-50 Years	24	24
Above 50 Years	23	23
Total	100	100

4.4.2 Distribution of Respondents by Level of Education

The respondents were asked to state their highest level of education and the results were as captured in Table 4.4. The result in figure 4.4 revealed that majority of the respondent (69%) indicated that their academic qualification was up to bachelor's level. The result further revealed that (31%) of the respondent indicated that their academic qualification was up to postgraduate level. With majority responsdents having degree and above, it is expected that their level of understanding of performance of parastatals is good. This is an indication that the results obtained from respondents interviewed in the present study can be relied upon. These findings concur those of George *et al.* (2018) who established that majority of who run parastatals are highly educated and that there is evidence linking education and parastatals performance.

Table 4: Distribution of Respondents by Level of Education

Education Level	Frequency	Percent
Undergraduate	69	69
Post-Graduate	31	31
Total	100	100

4.4.3 Distribution of Respondents by Work duration

The study determined the number of years the respondents had worked at among parastatals in Kenya. The respondents were asked to indicate their work duration. The result revealed that the respondents (29%) indicated that their work duration was 3-5 years. The result also showed that (46%) of the respondent indicated that their work duration was 6-8 years. The result further revealed that (25%) of the respondent indicated that their work duration was above 9 years. The findings of the study are in tandem with literature review by Khalil (2017) who indicated that a duration and experience of employee helps him or her to have better knowledge and skills which contribute to performance.

Table 5 Distribution of Respondents by Length of Service

Length of Service	Frequency	Percent
3-5 Years	29	29
6-8 Years	46	46
9 Years and above	25	25
Total	100	100.0

4.5 Descriptive Statistics

4.5.1 Triangle Approach

The first objective of the study was to assess the influence of triangle approach on performance of parastatals in Kenya. The respondents were asked to indicate to what extent did triangle approach influence performance of parastatals. Results indicated that majority of the respondents 25% agreed that it was to a very great extent, 27% said that it was to a great extent, 35% said it was moderate, while little extent and not all were at 5 and 8% respectively.

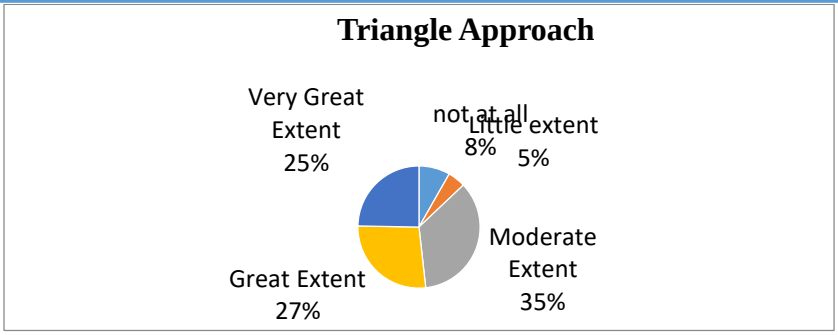

Figure 2: Triangle Approach

The respondents were also asked to comment on statements regarding triangle approach influence on performance of parastatals in Kenya. The responses were rated on a likert scale and the results presented in Table 4.6 below. It was rated on a 5 point Likert scale ranging from; 1 = strongly disagree to 5 = strongly agree. The scores of 'strongly disagree' and 'disagree' have been taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of 'neutral' has been taken to represent a statement agreed upon, equivalent to a mean score of 2.6 to 3.4. The score of 'agree' and 'strongly agree' have been taken to represent a statement highly agreed upon equivalent to a mean score of 3.5 to 5.

The respondents were asked to indicate their descriptive responses for triangle approach. The result revealed that majority of the respondent with a mean of (4.3) agreed with the statement that having vendors whom you transact at the arms length transaction level plays a significant role in customer satisfaction. The measure of dispersion around the mean of the statements was 1 indicating the responses were varied. The result revealed that majority of the respondent with a mean of (3.6) agreed with the statement that having vendors whom you transact at capacity building level plays a significant role in customer satisfaction. The measure of dispersion around the mean of the statements was 1.4 indicating the responses were varied. The result revealed that majority of the respondent with a mean of (3.8) agreed with the statement that having vendors whom you transact at strategic collaboration level plays a significant role in customer satisfaction. The measure of dispersion around the mean of the statements was 1.3 indicating the responses were varied.

The result revealed that majority of the respondent with a mean of (3.0) agreed with the statement that having vendors whom you transact at arms length transaction level plays a significant role in improving market share. The measure of dispersion around the mean of the statements was 1.4 indicating the responses were varied. The result in table 4.5.1 revealed that majority of the respondent with a mean of (4.2) agreed with the statement that having vendors whom you transact at capacity building level plays a significant role in improving market share. The measure of dispersion around the mean of the statements was 1 indicating the responses were varied. The result revealed that majority of the respondent with a mean of (3.7) agreed with the statement that having vendors whom you transact at strategic collaboration level plays a significant role in improving market share. The measure of dispersion around the mean of the statements was 1 indicating the responses were varied.

The result revealed that majority of the respondent with a mean of (3.4) agreed with the statement that having vendors whom you transact at arms length transaction level plays a significant role in increasing profitability. The measure of dispersion around the mean of the statements was 1.3 indicating the responses were varied. The result revealed that majority of the respondent with a mean of (3.8) agreed with the statement that having vendors whom you transact at capacity building level plays a significant role in increasing profitability. The measure of dispersion around the mean of the statements was 1.2 indicating the responses were varied. The result revealed that majority of the respondent with a mean of (3.8) agreed with the statement that having vendors whom you transact at strategic collaboration level plays a significant role in increasing profitability. The measure of dispersion around the mean of the statements was 1.2 indicating the responses were varied.

However, the variations in the responses were varied as shown by an average standard deviation of 1.5 and an average mean of 3.8. These findings imply that triangle approach were at the heart of the organizations. The findings agree with Knudsen (2017) that using triangle approach when rationalizing the supply base is a smart move and can reduce expenses significantly.

Table.6: Triangle Approach

Statements	Mean	Std. Deviation
Having vendors whom you transact at the arms length transaction level plays a significant role in customer satisfaction	4.3	1.0
Having vendors whom you transact at capacity building level plays a significant role in customer satisfaction	3.6	1.4
Having vendors whom you transact at strategic collaboration level plays a significant role in customer satisfaction	3.8	1.3
Having vendors whom you transact at arms length transaction level plays a significant role in improving market share	3.0	1.4
Having vendors whom you transact at capacity building level plays a significant role in improving market share	4.2	1.0
Having vendors whom you transact at strategic collaboration level plays a significant role in improving market share	3.7	0.5
Having vendors whom you transact at arms length transaction level plays a significant role in increasing profitability	3.4	1.3
Having vendors whom you transact at capacity building level plays a significant role in increasing profitability	4.1	4.3
Having vendors whom you transact at strategic collaboration level plays a significant role in increasing profitability	3.8	1.2
Average	3.8	1.5

4.5.2 Twenty/Eighty Approach

The second objective of the study was to investigate the influence of twenty/eighty approach on performance of parastatals in Kenya. The respondents were asked to indicate to what extent twenty/eighty approach influenced performance of parastatals in Kenya. Results indicated that majority of the respondents 31% agreed that it was to a very great extent, 36% said that it was to a great extent, 23% said it was moderate, while little extent and not all tied at 5%.

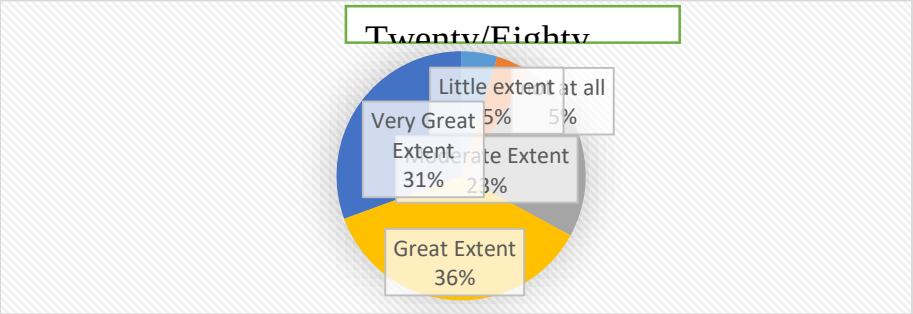

Figure 3: Twenty/Eighty Approach

The respondents were also asked to comment on statements regarding Twenty/eighty approach influence on performance of parastatals in Kenya. The respondents were asked to indicate descriptive responses for Twenty/eighty approach. The result revealed that majority of the respondents as indicated by a mean of (3.8) indicated that they agreed with the statement that having a category of 10/90 class suppliers plays a significant role in customer satisfaction. The responses were varied as measured by standard deviation of 1.1.

The result revealed that majority of the respondents as indicated by a mean of (3.6) indicated that they agreed with the statement that having a category of 15/85 class suppliers plays a significant role in customer satisfaction. The responses were varied as measured by standard deviation of 1.1. The result revealed that majority of the respondents as indicated by a mean of (3.7) indicated that they agreed with the statement that having a category of 20/80 class suppliers plays a significant role in customer satisfaction. The responses were varied as measured by standard deviation of 1.1

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However, the variations in the responses were varied as shown by an average standard deviation of 1.2 and an average mean of 3.6. This means that twenty/eighty approach is an important aspect among parastatals. These findings imply that twenty/eighty approach was at the heart of the organizations. They agree with Lysons (2018) that organizations must look toward their Twenty/eighty approach. The opportunities for cost savings and operational improvements can be enormous as the impact on profitability is considerable.

Table 7: Twenty/Eighty Approach

Statements	Mean	Std. Deviation
Having a category of 10/90 class suppliers plays a significant role in customer satisfaction	3.8	1.1
Having a category of 15/85 class suppliers plays a significant role in customer satisfaction	3.6	1.1
Having a category of 20/80 class suppliers plays a significant role in customer satisfaction	3.7	1.1
Having a category of 10/90 class suppliers plays a significant role in improving market share	3.5	1.2
Having a category of 15/85 class suppliers plays a significant role in improving market share	3.8	1.2
Having a category of 20/80 class suppliers plays a significant role in improving market share	3.5	1.4
Having a category of 10/90 class suppliers plays a significant role in increasing profitability	3.5	1.4
Having a category of 15/85 class suppliers plays a significant role in increasing profitability	3.3	1.5
Having a category of 20/80 class suppliers plays a significant role in increasing profitability	3.6	0.5
Average	3.6	1.2

4.5.3 Spend Categorization Method

There was also need to establish how spend categorization method influenced performance of parastatals in Kenya as the third objective. The respondents were asked to comment on extent of spend categorization method influence on performance of parastatals. Results indicated that

majority of the respondents 21% agreed that it was to a very great extent, 22% said that it was to a great extent, 21% said it was moderate; little extent was 28% and not all at 8%.

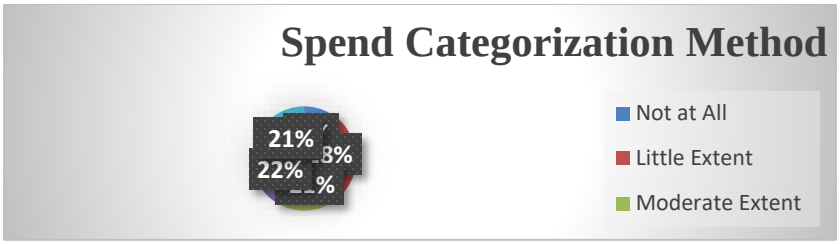

Figure 4: Spend Categorization Method

The respondents were asked to indicate their levels of agreement on statements regarding spend categorization method. The results revealed that majority of the respondent (3.9) agreed with the statement that portfolio matrix analysis plays a significant role in customer satisfaction. The responses were varied as shown by the standard deviation of 1.2. The results revealed that majority of the respondent (3.2) agreed with the statement that expenditure evaluation scorecard plays a significant role in customer satisfaction. The responses were varied as shown by the standard deviation of 1.3. The results revealed that majority of the respondent (4.0) agreed with the statement that scrutiny of sourcing market plays a significant role in customer satisfaction. The responses were varied as shown by the standard deviation of .8.

The results revealed that majority of the respondent (4.2) agreed with the statement that portfolio matrix analysis plays a significant role in improving market share. The responses were varied as shown by the standard deviation of .9. The results revealed that majority of the respondent (3.7) agreed with the statement that expenditure evaluation scorecard plays a significant role in improving market share. The responses were varied as shown by the standard deviation of .5. The results revealed that majority of the respondent (2.4) agreed with the statement that scrutiny of sourcing market plays a significant role in improving market share. The responses were varied as shown by the standard deviation of 1.3.

The results revealed that majority of the respondent (3.1) agreed with the statement that portfolio matrix analysis plays a significant role in increasing profitability. The responses were varied as shown by the standard deviation of 1.2. The results revealed that majority of the respondent (3.2) agreed with the statement that expenditure evaluation scorecard plays a significant role in increasing profitability. The responses were varied as shown by the standard deviation of 1.3. The results revealed that majority of the respondent (3.5) agreed with the statement that scrutiny of sourcing market plays a significant role in increasing profitability. The responses were varied as shown by the standard deviation of 1.3.

The average mean of all the statements was 3.7 indicating that majority of the respondents agreed on spend categorization method influence on performance of parastatals in Kenya. However, the variations in the responses were varied as shown by a standard deviation of 1.1. These findings imply that through spend categorization method, companies can improve competitive positioning, gain entry to new dynamic and technology driven markets (Maina, 2019).

Table 8: Spend Categorization Method

Statements	Mean	Std. Deviation
Portfolio matrix analysis plays a significant role in customer satisfaction	3.9	1.2
Expenditure evaluation scorecard plays a significant role in customer satisfaction	3.2	1.3
Scrutiny of sourcing market plays a significant role in customer satisfaction	4.0	0.8
Portfolio matrix analysis plays a significant role in improving market share	4.2	0.9
Expenditure evaluation scorecard plays a significant role in improving market share	3.7	0.5
Scrutiny of sourcing market plays a significant role in improving market share	2.4	1.3
Portfolio matrix analysis plays a significant role in increasing profitability	3.1	1.2
Expenditure evaluation scorecard plays a significant role in increasing profitability	3.2	1.3
Scrutiny of sourcing market plays a significant role in increasing profitability	3.5	1.3
Average	**3.7**	**1.1**

4.5.4 Competency Staircase Method

There was also need to establish how competency staircase method influences performance of parastatals in Kenya. The respondents were also asked to comment on statements regarding competency staircase method influenced performance of parastatals. Results also showed that 3% of respondents indicated to very great extent, great extent was at 12%, moderate extent was 37%, while little extent was at 27% and not at all was at 21%.

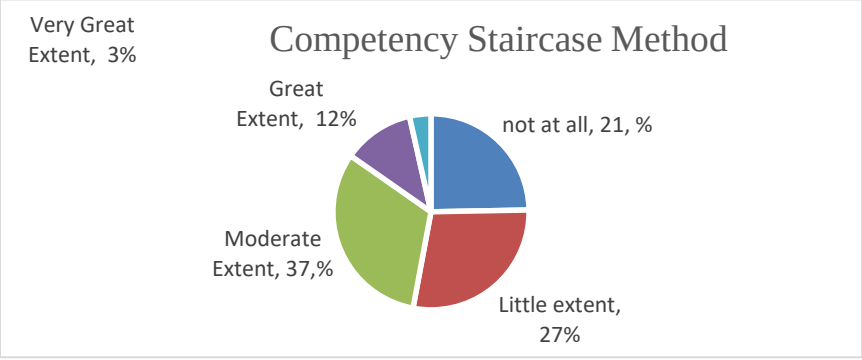

Figure 5: Competency Staircase Method

The respondents were asked to indicate the descriptive responses for competency staircase method. The result revealed that majority of the respondents (3.2) agreed with the statement that having vendors who are low skilled plays a significant role in customer satisfaction. The responses

were varied as shown by a standard deviation of 1.3. The result revealed that majority of the respondent (3.2) agreed with the statement that having vendors who are middle skilled plays a significant role in customer satisfaction. The responses were varied as shown by a standard deviation of 1. The result revealed that majority of the respondent (4.3) agreed with the statement that having vendors who are highly skilled plays a significant role in customer satisfaction. The responses were varied as shown by a standard deviation of 1.

The result revealed that majority of the respondent (4.2) agreed with the statement that Having vendors who are low skilled plays a significant role in improving market share. The responses were varied as shown by a standard deviation of 0.8. The result revealed that majority of the respondent (4.1) agreed with the statement that having vendors who are middle skilled plays a significant role in improving market share. The responses were varied as shown by a standard deviation of 1. The result revealed that majority of the respondent (4.2) agreed with the statement that having vendors who are highly skilled plays a significant role in improving market share. The responses were varied as shown by a standard deviation of 0.8

The result revealed that majority of the respondent (4.4) agreed with the statement that having vendors who are low skilled plays a significant role in increasing profitability. The responses were varied as shown by a standard deviation of 0.6. The result revealed that majority of the respondent (4.4) agreed with the statement that having vendors who are middle skilled plays a significant role in increasing profitability. The responses were varied as shown by a standard deviation of 0.6. The result revealed that majority of the respondent (4.4) agreed with the statement that having vendors who are highly skilled plays a significant role in increasing profitability. The responses were varied as shown by a standard deviation of 0.7.

The average mean response for the statements on competency staircase method was 4.4 indicating there was agreement on competency staircase method, the variations in the responses was 0.9. This means competency staircase method is paramount in all parastatals. The results imply that an organization benefits greatly when competency staircase method is embraced to reduce costs (Bird, 2020).

Table 9: Competency Staircase Method

Statements	Mean	Std. Deviation
Having vendors who are low skilled plays a significant role in customer satisfaction	3.2	1.3
Having vendors who are middle skilled plays a significant role in customer satisfaction	2.9	1.0
Having vendors who are highly skilled plays a significant role in customer satisfaction	4.3	0.9
Having vendors who are low skilled plays a significant role in improving market share	4.3	0.9
Having vendors who are middle skilled plays a significant role in improving market share	4.1	1.0
Having vendors who are highly skilled plays a significant role in improving market share	4.2	0.8
Having vendors who are low skilled plays a significant role in increasing profitability	4.4	0.6
Having vendors who are middle skilled plays a significant role in increasing profitability	4.4	0.7
Having vendors who are highly skilled plays a significant role in increasing profitability	4.4	0.6
Average	4.4	0.9

Correlation Analysis

Correlation analysis was used to determine both the significance and degree of association of the variables and also predict the level of variation in the dependent variable caused by the independent variables in table 10.

Table 10: Summary of Pearson's Correlations

Correlations		Triangle Approach	Twenty/Eighty Approach	Spend categorization Method	Competency Staircase Method	Performance of Parastatals
Triangle Approach	Pearson Correlation	1				
	Sig. (2-Tailed)					
Twenty/Eighty Approach	Pearson Correlation	.372**	1			
	Sig. (2-Tailed)	0				
Spend categorization Method	Pearson Correlation	.353**	.449**	1		
	Sig. (2-Tailed)	0	0			
Competency Staircase Method	Pearson Correlation	.363**	.771**	.547**	1	
	Sig. (2-Tailed)	0	0	0		
Performance of Parastatals	Pearson Correlation	.556**	.662**	.703**	.691**	1
	Sig. (2-Tailed)	0	0	0	0	

** Correlation is Significant at the 0.05 Level (2-Tailed).

The correlation summary shown in Table 4.10 indicated that the associations between each of the independent variables and the dependent variable were all significant at the 95% confidence level. The correlation analysis to determine the relationship between the triangle approach on performance of parastatals in Kenya, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there was a positive relationship (r=0.556) between the triangle approach on performance of parastatals in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level (p=0.000, <0.05).

The correlation analysis to determine the relationship between the twenty/eighty approach on performance of parastatals in Kenya, Pearson correlation coefficient computed and tested at 5% significance level. The results indicated that there was a positive relationship (r=0.662) between the twenty/eighty approach on performance of parastatals in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level (p=0.000, <0.05).

The correlation analysis to determine the relationship between spend categorization method on performance of parastatals in Kenya, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there was a positive relationship (r=0.703) between spend categorization method on performance of parastatals in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level (p=0.000, <0.05).

The correlation analysis to determine the relationship between competency staircase method on performance of parastatals in Kenya, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there was a positive relationship (r=.691). In addition, the researcher found the relationship to be statistically significant at 5% level (p=0.000, <0.05). Hence, it was evident that all the independent variables could explain the changes in the performance of parastatals in Kenya, on the basis of the correlation analysis.

4.7 Regression Analysis

In this study multivariate regression analysis was used to determine the significance of the relationship between the dependent variable and all the independent variables pooled together. Table 4.11 presented the regression coefficient of independent variables against dependent variable. The independent variables reported R value of 0.846 indicating that there was perfect relationship between dependent variable and independent variables. R square value of 0.715 means that 71.5% of the corresponding variation in performance of parastatals in Kenya can be explained or predicted by (triangle approach, twenty/eighty approach, spend categorization method and competency staircase method) which indicated that the model fitted the study data. The results of regression analysis revealed that there was a significant positive relationship between dependent variable and independent variable at (β=0.715), p=0.000 <0.05).

Table 11: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	. 846[a]	. 715	. 703	.14869

Predictors: (Constant), Triangle Approach, Twenty/Eighty Approach, Spend Categorization Method and Competency Staircase Method

Dependent Variable: Performance of Parastatals

Table 4.12: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.002	4	1.251	59.698	.000[b]
	Residual	1.990	95	0.021		
	Total	6.992	99			

The significance value is 0.000 which is less than 0.05 thus the model is statistically significance in predicting triangle approach, twenty/eighty approach, spend categorization method and competency staircase method influence performance of parastatals in Kenya. The F critical at 5% level of significance was 28.61. Since F calculated which can be noted from the ANOVA table above is 59.69 which is greater than the F critical (value= 28.61), this shows that the overall model was significant. The study therefore establishes that; triangle approach, twenty/eighty approach, spend categorization method and competency staircase method were all important vendor base optimization and rationalization practices influencing performance of parastatals. These results agree with Odhiambo and Kamau (2018) results which indicated a positive and significant influence of vendor base optimization and rationalization on performance of parastatals.

Table 13: Coefficients of Determination

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.07	0.193		10.725	0.000
	Triangle Approach	0.166	0.041	0.255	4.048	0.000
	Twenty/Eighty Approach	0.138	0.053	0.235	2.603	0.001
	Spend categorization Method	0.119	0.021	0.398	5.667	0.000
	Competency Staircase Method	0.09	0.043	0.201	2.093	0.037

Predictors: (Constant), Triangle Approach, Twenty/Eighty Approach, Spend Categorization Method and Competency Staircase Method

Dependent Variable: Performance of Parastatals

The research used a multiple regression model

$$\mathbf{Y= \beta_0+ \beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\mathcal{E}}$$

The regression equation will be;

$$\mathbf{Y=2.07+ 0.166X_1 + 0.138X_2 + 0.119X_3 + 0.09X_4}$$

The regression equation above has established that taking all factors into account (triangle approach, twenty/eighty approach, spend categorization method and competency staircase method) constant at zero, performance of parastatals in Kenya will be an index of 2.07. The findings presented also shows that taking all other independent variables at zero, a unit increase in triangle approach will lead to a 0.166 increase in performance of parastatals. The P-value was 0.000 which is less 0.05 and thus the relationship was significant.

The study also found that a unit increase in twenty/eighty approach will lead to a 0.138 increase in performance of parastatals in Kenya. The P-value was 0.00 and thus the relationship was significant. In addition, the study found that a unit increase in spend categorization method will lead to a 0.119 increase in the performance of parastatals in Kenya. The P-value was 0.000 and thus the relationship was significant.

Lastly, the study found that a unit increase in competency staircase method will lead to a 0.09 increase in the performance of parastatals in Kenya. The P-value was 0.00 and hence the relationship was significant since the p-value was lower than 0.05. The findings of the study show that, triangle approach contributed most to the performance of parastatals in Kenya.

5. 0 Conclusion And Recommendations

Based on the study findings, the study concludes that performance of parastatals can be improved by triangle approach, twenty/eighty approach, spend categorization method and competency staircase method. First, in regard to triangle approach, the regression coefficients of the study show that it has a significant influence on performance of parastatals. This implies that increasing levels of triangle approach by a unit would increase the levels of performance of parastatals. This shows that triangle approach has a positive influence on performance of parastatals. To ensure that parastatals have better performance they should focus more on using their strategic collaborations so as to ascertain vendors provide supplies as and when its needed, ensure that there is consistency of quality in goods supplied. In the same regard, they should involve suppliers early, build their capacities to enable them to meet demand appropriately.

With regard to the second objective, it would be constructive for parastatals to invest more in classifying their suppliers to reduce the cost of procurement through unnecessary reworks and ensure professional suppliers get it right the first time. This should be done consistently with financial capacity ascertainment and supplier quality indexing.

In relation to spend categorization method, the organizations should embrace portfolio matrix analysis and expenditure evaluation scorecard while dealing with their vendors so as to have a more improved and prompt deliveries. If parastatals embrace spend categorization method among its suppliers, then there will be cost reduction and timing of delivery will improve.

Concerning competency staircase method, there is need for parastatals to always set aside a substantial part of their resources for activities that spend huge amounts of total resources, and this entails determining the competence of vendors early in advance and continuously. This is because decisions made here have major effects on the rest of the sourcing process.

The study recommends that procurement staff in parastatals should ensure that they strictly follow procurement procedures to ensure that goods supplied are of the right quality, in the right quantity, at the right time, to the right place from the right source. This will aim at the satisfaction of customers in terms of cost, quality, and timeliness of the delivered product or service, minimizing administrative operating costs.

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