ADOPTION OF QUALITY MANAGEMENT SYSTEMS ON PERFORMANCE OF SUPPLY CHAIN MANAGEMENT OF SMALL AND MEDIUM SIZED ENTERPRISES IN NAIROBI CITY COUNTY, KENYA

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ABSTRACT

In the world over, Total Quality Management (TQM) has become a strategic implementation tool among companies. Rapid growth and competitiveness has made the industries and organizations throughout the world to adapt 'Quality' as a strategic weapon for market share and improved profitability of organization. However, although SMES realize the benefits of quality management systems the adoption is not rapid as compared to large organizations since they face more challenges and barriers to achieve this. The purpose of this study was to establish adoption of quality management systems on Performance of Supply Chain Management among small and medium sized businesses in Nairobi City County, Kenya. The study was guided by the following specific objectives: to determine the influence of top procurement Management Influence, Role of procurement employees and on adoption of quality management systems in procurement for the Small and Medium sized businesses in this scope. The study used descriptive research design with a target population of 211 small and medium sized businesses on Textile and leather industry located in Nairobi County and registered by Nairobi City County as at January 2020. Yamane Taro's formula was used to compute a sample size of 138 facilities and the unit of observation was supply chain management officers in the respective facilities. The study used simple random sampling. Questionnaire were used as the main data collection instrument. The study used correlational research design analyse data. The study revealed that Top Management Influence had a positive and significant relationship with performance of Supply Chain Management of SMEs Nairobi City County. The study revealed that Role of employees had a positive and significant relationship with performance of Supply Chain Management of SMEs Nairobi City County. In this respect, the study confirms with other research findings that the success of quality adoption appeared to rely more on top management commitment, and process improvement. This study confirms the direct relationship between top management involvement, and employee empowerment on the adoption of quality systems. The study finally recommends SMEs in Kenya must know and understand what quality really means for them before they start the quality journey.

Key Words: Quality Management Systems, Performance, Supply Chain Management, Top Procurement Management, Role of Procurement Employees

Background of the Study

A quality management system (QMS) is a collection of business processes focused on consistently meeting customer requirements and enhancing their satisfaction. In the world over, Total Quality Management (TQM) has become a strategic implementation tool among companies. TQM has become an important tool for companies around the globe to improve on their competitive abilities as well as provide strategic advantages (Hellard, 2017). According to Hoonakker et al, (2020), Rapid growth and competitiveness has made the industries and organizations throughout the world to adapt 'Quality' as a strategic weapon for market share and improved profitability of organization. However, although SMES realize the benefits of quality management systems the adoption is not rapid as compared to large organizations since they face more challenges and barriers to achieve certification. The challenges of implementing quality management systems in small enterprises are more difficult than in large ones because of their small size and limited resources.

In Africa, implementing a Quality Management System has been an endeavour for many companies in the last two decades. While the concept is receiving the utmost attention from large companies that seek a competitive edge, small- and medium-sized companies have tended to hesitate and postpone this step.

SMEs in Kenya today face tough and challenging times in improving performance. Factors of cost, quality, product range and delivery of services are important areas for development and improvement. To sustain a fair level of competitiveness in both the domestic and global markets, SMEs must strive to utilize information and communication technologies to reach the right markets in cost-effective ways. (Ndwiga, 2009).

The rate and the success of implementing these systems are largely considered inadequate (Ramsey, 2016). The available research shows that SMEs have been slow in the implementation of formal quality models (Husband & Mandal, 2019)

Statement of the Problem

It is up to the SMEs to implement competitive business operating practices and business strategies. However, the options available to SMEs are also closely related to the quality of institutions, markets and organizations that constitute the business environment. It is the efficiency and effectiveness of quality management systems in institutions that encourage or discourage SMEs to take their cues for learning new ways of doing business. SMEs tend to be innovative and creative, but they generally are not able to compete with the big firms in the adoption of Quality Management Systems (Mandal 2019). The adoption of quality by SMEs is minimal (Elmati & Kathawala, 2017). Today the performance of businesses is measured by the ability to deliver quality and not by mass production.

A past study by Akinboade, 2015) shows that's SMEs success is an issue for nearly every country but particularly for Kenya where the failure rate is 70% within the first three years of operation. This was attributed to their adoption or speed of adoption in the total quality management systems that help propel an SME into success affecting areas such as product/service quality and customer satisfaction. Further the study showed that focusing on advanced technology in the creation of goods and offering of services gave an SME a 75% advantage\ edge in customer satisfaction.

Despite the many benefits that SMEs contribute towards economic growth, they are slow in the implementation of quality management systems because of the huge costs associated with it and also because they mainly focus their efforts on the daily operations of the business. They thus have shied away from such initiatives as ISO certification and total quality management. This leads to

great inefficiencies in the running of the business and thus losses in revenue (McMahon, 2018). Quality management systems are of great importance in the growth and development of SMEs. Quality management in an organization is initiated and led by the top management; since the initiatives by owners or the directors for better performance. This study seeks to establish the factors influencing SMEs in the adoption of quality management systems in procurement.

The literature in this area is also considered conceptual than empirical, and where empirical, sometimes suffers from methodological limitations such as inconsistent definitions of what constitutes an SME.

Past studies; Neyestani, B. (2017) on Effectiveness of QMS, States that Quality management system (QMS) provides generic guidance and requirements for establishing an appropriate quality management procedure and results to lower cost, increased productivity, customer's satisfaction and market share in the organizations. Also a study by Tan Chin KENG. (2016) on implementation of QMS findings continues to highlight the benefits as being increased client confidence, reduced quality and corrective costs and increased competition and sales. These studies focused largely on the benefits of adopting quality management systems for SMEs but really the gap is in the actual problem why after this long time and numerous research are SMEs still finding it difficult to adopt and implement the QMS in their businesses for effectiveness, efficiency, profitability and more importantly customer satisfaction. This study will focus on the factors affecting adoption of quality management systems on Performance of Supply Chain Management among SMEs.

Objectives of the Study

The general objective of the study was to find out the factors affecting the adoption of quality management systems on Performance of Supply Chain Management among SMEs.

The following were the objectives in the researcher's case study.

i.   To assess the influence of Top Procurement Management Commitment in the adoption of quality management systems on Performance of Supply Chain Management by SMEs.

ii.   To examine if Procurement Employee Empowerment affects adoption of quality management systems on Performance of Supply Chain Management by SMEs.

LITERATURE REVIEW

Theoretical Framework

Resource-Based View Theory

The resource-based view (RBV) argues that firms possess resources, subsets of which enable them to achieve competitive advantage, and a subset of those that lead to superior long-term performance. Although the RBV recognizes that a firm's physical resources are important determinants of performance, it places primary emphasis on the intangible skills and organizational resources of the firm (Collins, 2021). Some intangibles resources of the firm are the market-assets such as customer satisfaction and brand equity.

This model recognizes the importance of a firm's internal organizational resources as determinants of the firm's strategy and performance. Almarri (2014) defines the term internal organizational resources as all assets, capabilities, organizational processes, firm attributes, information, knowledge, that are controlled by a firm and that enable it to envision and implement strategies to improve its efficiency and effectiveness. Resources that are valuable and rare can lead to the
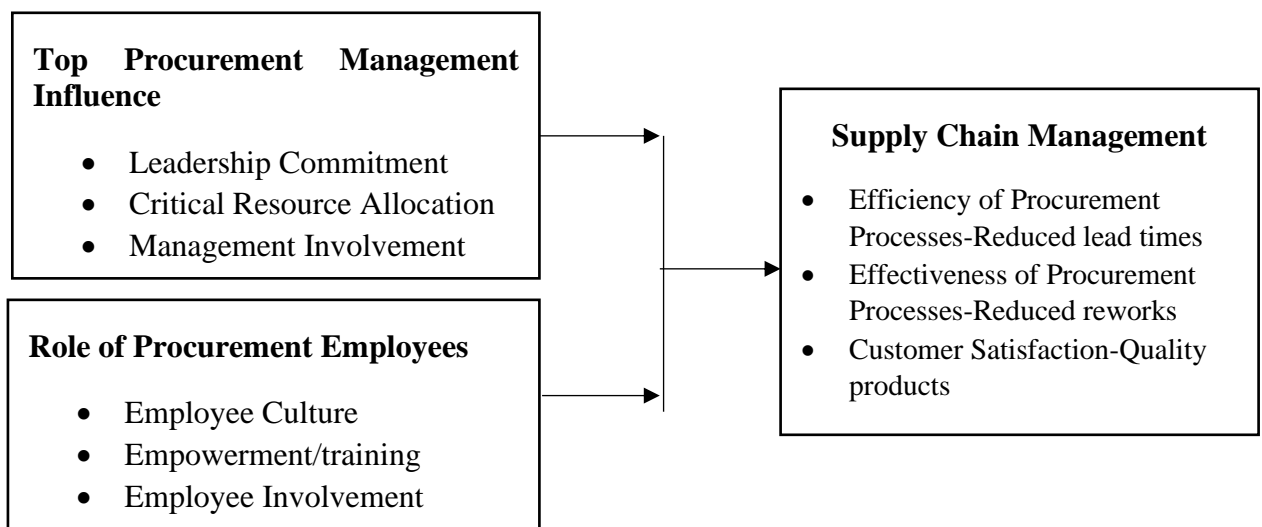
creation of competitive advantage. That advantage can be sustained over longer time periods to the extent that the firm is able to protect against resource imitation, transfer, or substitution.

Knowledge-Based Theory

As stated by N. Theriou, 2014, the knowledge-based (KBV) theory of the firm is an up-to-date enlargement of the RBV theory. From the research study it brought out that knowledge awarded to human resources was the most important strategic resource and, affirming the point that KBV theory is an extension of the RBV theory. Being that human resources are an intangible resource, knowledge was also seen to fall in the same category and according to Barney, (2007) intangible assets are highly valued. It showed the firms heterogeneous entities that constitute of knowledge. With this human resources and knowledge resource, a firm has a competitive advantage for this resource is next to impossible to imitate thus the firm has got sustainable differentiation.

Conceptual Framework

A conceptual framework can be defined as a set of broad ideas and principles taken from relevant fields of enquiry and used to structure a subsequent presentation (Imenda, 2014). The conceptual framework is used to show the relationship between the independent variables and dependent variable. Figure 2.1 illustrates the conceptualized study variables relationship which the study intends to test.

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┌─────────────────────────────────┐
│ Top   Procurement   Management  │
│ Influence                       │
│                                 │
│   • Leadership Commitment       │
│   • Critical Resource Allocation│────┐
│   • Management Involvement      │    │
└─────────────────────────────────┘    │      ┌──────────────────────────────┐
                                        ├─────▶│   Supply Chain Management    │
┌─────────────────────────────────┐    │      │                              │
│ Role of Procurement Employees   │    │      │ • Efficiency of Procurement  │
│                                 │    │      │   Processes-Reduced lead times│
│   • Employee Culture            │    │      │ • Effectiveness of Procurement│
│   • Empowerment/training        │────┘      │   Processes-Reduced reworks  │
│   • Employee Involvement        │           │ • Customer Satisfaction-Quality│
└─────────────────────────────────┘           │   products                   │
                                              └──────────────────────────────┘
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Independent variable   **Dependent variable**
Figure 1: Conceptual Framework

Top Procurement Management Influence

Top Procurement Management plays a critical role in any key business decision. Consequently, the success of any critical decision made in an organization is highly dependent on top management support and commitment (Zakuan et al., 2010). Quality issue has become of great importance to every organization and no management can afford to let nature take its course when it comes to quality. The top management must play a leading role by making available the critical resources, establishing an organization wide quality policy that is well communicated to all stakeholders, establishing a quality management structure and managing the entire process through close monitoring and evaluation. This must be supported by an organization culture and climate of open cooperation and team work among stakeholders in quality management (Chalk 2008). It is the role of top management to define the mission, vision and goals that promote a quality culture and establish a set of shared values, resulting in high performance.

Therefore, the need for full commitment of top management should be understood, communicated, implemented and maintained at all levels in the organization. The importance of quality management practices should begin to be emphasized at the top, where serious commitment to performance must be demonstrated through vision framework which comprises the organization's guiding philosophy, core values and beliefs, purpose and mission (Mandal 2019)

TQM literature abounds in studies that have linked up top leadership to quality improvement in organizations. The same degree of importance of management leadership is supported by findings of a study conducted by Neyestani (2017). Outcomes of the study showed visionary leadership as one of the most critical human resource related factors that promise successful TQM implementation in high education institutes in Kenya. The authors discussed vitality and criticality function of visionary leadership in high education institutions. This importance occurs in involvement of top executives in creating sustains and customer orientation work dimensions and presenting apparent quality values in their institutes.

It is evident, from the preceding discussion on top management commitment, that the implementation of TQM requires leadership to develop a plan to meet the quality objectives of the organisations, to communicate the organisation's philosophy on quality to all employees, to involve all stakeholders in the quality effort and improvement activities, and to ensure that adequate resources are available for quality improvements and performance of the organization. Direct involvement of top management allows all decisions to be made quickly and facilitates TQM journey. Top management support is necessary to prove the availability of concrete actions.

Role of Procurement Employees

All employees participate in working toward common goals. Total employee commitment can only be obtained after fear has been driven from the workplace, when empowerment has occurred, and management has provided the proper environment. Employee empowerment in the continuous improvement of quality of an organisation is regarded as the most important ingredient to achieve quality commitment and results.

At the core of TQM is the term of internal motivation-inclusion in decision making. It became a more and more popular sentence of good management that people are the overriding factor in quality and productivity upgrade. A key role in the TQM philosophy is to empower all people to identify quality issues and fix them (Chalk, 2008)

The goal of the organization is to develop a useful quality system and employees are involved in developing the procedures and work instructions that can prepare the way for further progress down the quality maturity path. When employees are loyal to the firm and have pride in being part of it, they were more willing to take individual risks in order to better the firms quality systems. Small and medium enterprises put only average emphasis on the importance of employee empowerment and involvement in the implementation of quality systems (Cole, 2020)

Employee involvement is key to increase outcomes of TQM. It is important to to identify factors which are likely to encourage employees to be involved in TQM and use them to develop and implement effective strategies which aim at maximizing the outcomes of TQM (Chien, 2015). Employee empowerment is an advanced form of employee involvement. Empowerment is a state in which the employee has enough knowledge, abilities, competence, and takes the initiative to make decisions and perform activities within his responsibilities. In an empowered organization, employees take action to respond to the needs and opportunities they face every day regarding: customer satisfaction, safe operations, quality and value of products and services and continuous improvement of processes.

In summary, to reach and successfully implement TQM an organization must change the way in which employees behave at work. They must let quality become their lifestyle and culture at work and everyday routine. Furthermore, it is essential to realize that TQM is a continuous improvement process that takes a long time and requires substantial human and financial resources. It is not a static process; it is very dynamic. Quality upgrade must become a fundamental long-term perspective and a main driver to the business strategy and employees should therefore be viewed as an asset rather than labour cost.

Adoption of Total Quality Management Systems

TQM can be described as the development of an organizational culture, which is defined by, and supports the constant attainment of customer satisfaction through an integrated system of techniques and tools. It is a way of managing to improve the effectiveness, efficiency, flexibility and competitiveness of a business as a whole. (Mandal P, 2010). TQM adoption and implementation requires changes in structure, system and process as a necessary precondition to achieve improved business performance and changes in employee behaviour. It is therefore important to identify the critical to identify the critical factors that influence the success of TQM adoption and implementation. TQM has become one of the competitive strategies of choice and has widely been implemented throughout the world. There is a widespread consensus that TQM is a way of managing an organization to improve its overall effectiveness to compete globally. The benefits come in the areas of reduced lead times, lower inventory levels, cost reduction, enhanced business competitiveness and increased employees and customer satisfaction (Hill, 2015).

Although theoretically the use of TQM practices is an important part of improvements in business performance, in reality a considerable number of organizations have fallen short in implementing their quality programmes. Attempts to implement it are often unsuccessful. Many organizations and companies have difficulties in implementing TQM which is attributed to lack of consistent senior management support and commitment, leadership style of managers being too top down, superficial knowledge of the implementers of TQM, vague improvement goals, lack of developing and sustaining a quality oriented culture, lack of employee motivation, resistance to change, lack of resources.

Empirical review

As cited by Zakuan et al (2010) on a study on critical success factors of total quality management implementation in higher education institution in malaysia. It urges that managers must institute leadership to usher the quality transformation process. It further discussed two types of leadership: transformational leadership and transactional leadership. Transformational leadership is leadership that is based on an ideologically anchored vision while transactional leadership is based on reward control mechanisms and emphasizes on clarification of follower's roles and goals and the way the desired outcome will follow after achievement of the set goals. Champions of innovation tend to exhibit transformational leadership behavior; they try to initiate influence through calculated tactics in their work environment.

Arshida & Agil (2013) on a study on Effect of Strategic Leadership practice on implementation of quality management systems in state corporations in Kenya points out top management commitment as an essential element for ensuring successful TQM implementation. The top management must be on the fore front of the quality management process starting from the initial stages. Adoption of TQM for the first time is associated with development of new organizational policy, new procedures and new tools that must be learned. TQM is an organizational change process that is often associated with instability, confusion, and employees' resistance and must be carefully initiated through consistent management involvement. This was consistent with Chin (2016) that top management must develop clear quality mission and goals and identify quality

values and communicate them to all employees. They must put in place a proper quality planning process, and a good quality management structure to ensure successful implementation

Moreover, authors have found that top management support is essential for quality improvement. Salaheldin (2007) concurred to this notion based on an exploratory study conducted on the specific problems that Qatar Steel Company faced in the implementation of the quality program. The study revealed that lack of support from top management was the biggest impediment to TQM implementation.

RESEARCH DESIGN AND METHODOLOGY

The study adopted the correlational research design. The correlational research design was adopted in this study because it involves observing two variables in order to establish a statistically corresponding relationship between them. The design helped to identify variables that have a relationship to the extent that a change in one creates some change in the other. Further, correlational research helped to understand the complex relationships between different variables (Cooper & Schindler, 2016).

The target population of this study was 211 registered manufacturing SMEs in the Nairobi City County as at 2022, amounting to 11% of SMEs in this area (Nairobi city county, 2020). This area was selected because it is an industrial and economic hub with relatively high number of SMEs which trade in various products and services and have different levels of technology and entrepreneurial knowledge and skills, hence the study objectives will be met.

Table 1*:* **target population**

Respondents	Target Population
Manufacturing businesses (Textile)	147
Manufacturing businesses (leather)	64
Total	**211**

(Source-Nairobi City County, 2020)

The sampling frame for this study was registered manufacturing SMEs in the Nairobi City County, (Nairobi city county, 2020) These registered SMEs have different levels of technology and entrepreneurial knowledge and skills; hence the study objectives were met. To determine the sample size, Yamane Taro's formula was used. The sample size in this study was 138 of the population. This means procurement officers per institution. The 138 sample size postulates that it is 65% of the target population as shown in table 2

Research instrument used in the data collection was questionnaire. Questionnaire were selected for this study because it can easily and quickly gather the information needed from the respondents even if the respondents are in widely dispersed locations (Kothari & Garg, 2014). The questionnaires were self- administered through drop and pick later model.

Pilot survey is the replica and rehearsal of the main survey. Such a survey, being conducted by experts ensures the validity and reliability of the data collection instrument (Kothari and Garg, 2014). Therefore, a total of 13 facilities were piloted which represented ten percent (10%) of the sample size as recommended by Mugenda and Mugenda (2003). These facilities were randomly selected from Nairobi City County SMEs. Descriptive statistics such as percentages, frequencies, mean standard deviation will be used to describe the data, Pearson correlation will be used to test the multiple regression analysis assumptions such as the absence of multi-collinearity. The multiple regression analysis will be used to establish the relationship between the independent and

the dependent variables. The relationship between the independent and dependent variables was modelled using multiple regression analysis model.

The significance in this study was tested at 95% confidence level and 5% significant levels. If the significance value obtained by the study is found to be less than the critical value (α) set i.e. 0.05, then the conclusion is that the model was significant in explaining the relationship. Else the model is regarded as insignificant. The descriptive statistics, the multiple regression analysis and the Pearson correlation tests were facilitated by the Statistical Package for Social Sciences (SPSS) version 28. The analysed data was then presented using frequencies, percentages, means, standard deviation and tables.

The study targeted a sample size of 138 Procurement Officers located in Nairobi City County. 124 questionnaires were filled in and returned making a response rate of 90%. This response rate was satisfactory to make conclusions for the study as a response rate of 50 percent is adequate for analysis and reporting.

The study above shows the total number of the respondents who responded and those who did not respond. The total number of questionnaires that were distributed to the field were 138, and out of these, 124 questionnaires were fully answered which represent 90% of the total questionnaires that were administered to the field. While 14 questionnaires which represents 10% were not returned, thus from this study it can be concluded that the response rate was good.

Descriptive Statistics

The study sought to establish the factors affecting adoption of quality management systems on Performance of Supply Chain Management among SMEs. The respondents were asked to rate how they felt about different variables in a five point Likert scale. The range was from strongly agree (5) " to „strongly disagree" (1). The score of 1 represented "strongly disagree" 2 represented "disagree", 3 represented "neutral", 4 represented "agree" and five represented "strongly agree"

Role of Procurement Employee

	Mean	Standard deviation
All employees in your organization get training on Total quality management practices	4.592	0.702
Employees in your organization are frequently trained on quality management practices	4.401	0.932
Employees in your organization get timely training on Total quality management practices	4.111	0.993
Trainings received equip you with understanding on TQM and your role in it	3.301	1.025
Employees are involved in decision making of total quality management practices from the initial stages	3.503	0.841

From the analysis of the descriptive statistics, it was clear that most respondents asserted that the role of procurement employees had a significant influence on Performance of supply chain management in SMEs. This was noted from the response from the analysis of findings. For instance, it was noted that majority of the respondents indicated that All employees in the organization get training on Total quality management practices This was noted true by the mean calculated from the findings of 4.592. Also noted was that most respondents agreed that Employees in the organization are frequently trained on quality management practices. This was noted true by the mean calculated on the statement of 4.401. Also noted from the findings was that the Employees in the organization get timely training on Total quality management practices

This was seen true by the mean calculated of 4.111. Also noted from the findings was that majority of the respondents conceded Trainings received equip them with understanding on TQM and their role in it. This was seen true by the mean calculated of 3.301, further most respondents agreed to the statement Employees are involved in decision making of total quality management practices from the initial stages. This was seen true by the mean calculated of 3.503. The study thus established from the findings that the role of employee plays a significant influence on performance of Supply Chain Management.

Top Procurement Management Influence

	Mean	**Standard deviation**
Quality goals and policies have been clearly formulated and documented by top management	4.089	0.836
Top Management communicates quality goals and policies throughout the company	4.307	0.794
Top Management allows participative and engagement of employees in making decisions on quality issues	4.115	0.752
Critical resources required in implementing quality initiatives are made always available by top management	4.033	0.799
Top management of your organization participates in all quality management programs in the organization.	3.224	0.701

From the analysis of the descriptive statistics, it was clear that most respondents asserted that Top Procurement Management Influence has a significant influence on Performance of supply chain management in SMEs. This was noted from the response from the analysis of findings. For instance, it was noted that majority of the respondents indicated that Quality goals and policies have been clearly formulated and documented by top management This was noted true by the mean calculated from the findings of 4.089. Also noted was that most respondents agreed that Top Management communicates quality goals and policies throughout the company. This was noted true by the mean calculated on the statement of 4.307. Also noted from the findings was that Top Management allows participative and engagement of employees in making decisions on quality issues. This was seen true by the mean calculated of 4.115. Also noted from the findings was that majority of the respondents conceded Critical resources required in implementing quality initiatives are made always available by top management. This was seen true by the mean calculated of 4.033. This was seen true by the mean calculated of 3.503. The study thus established from the findings that the Top Procurement Management influence plays a significant influence on performance of Supply Chain Management.

Performance of Supply Chain Management

The study sough to assess the changes in the levels of performances of supply chain management as a result of introduction of adoption of Total Quality Management Systems. The performance was assessed in areas of Efficiency of procurement processes, Effectiveness of procurement processes and Strategic direction of the organization.

	Mean	Standard deviation
Total Quality Management systems have reduced materials Lead times	4.115	0.752
Number of reworks in products produced reduced since adoption of TQM systems	3.631	1.098
Adoption of Total Quality Management has made procurement planning easier	4.111	0.993
Adoption of Total Quality Management has improved customer satisfaction.	3.822	0.773

From the analysis of the descriptive statistics, it was clear that most respondents asserted that there are changes in the levels of performances of supply chain management as a result of introduction of adoption of Total Quality Management Systems. This was noted from the response from the analysis of findings. For instance, it was noted that majority of the respondents agreed that the statement Total Quality Management systems have reduced materials Lead times. This was noted true by the mean calculated from the findings of 4.115. Also noted was that most respondents agreed that Number of reworks in products produced reduced since adoption of TQM systems. This was noted true by the mean calculated on the statement of 3.631 Also noted from the findings was that Adoption of Total Quality Management has made procurement planning easier. This was seen true by the mean calculated of 4.111, further majority of the respondents agreed that adoption of TQM has increased customer satisfaction. The study thus established from the findings that there is significant change in performance of Supply Chain Management with the adoption of Total Quality Management Systems.

Correlation Analysis
Table 4: Correlation Matrix

		Top Management Influence	Role of procurement employees	Supply Chain Management Performance	
Top Procurement Management Influence	Pearson Correlation	1			
	Sig. (2tailed)	.			
Role of procurement employees	Pearson Correlation	0.358			
	Sig. (2tailed)	0.032			
Supply Chain Management Performance	Pearson Correlation	0.834	0.743	1	
	Sig. (2tailed)	0.001	0.007		
	N	124	124		

Two-tailed Pearson correlation (R) was used to establish the same at 95% confidence level. From the results, the R-value between Top Procurement Management Influence and Supply Chain Management Performance 0.834. This signifies strong and positive linear association between Top Procurement Management Influence and Supply Chain Management Performance. Role of procurement employees had correlation value of 0.751 with Supply Chain Management Performance. This depicts a strong and linear relationship between Role of procurement employees and Supply Chain Management Performance.

Regression Analysis

The study conducted multiple regression analysis of:

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \varepsilon$$

β_0 is the regression model constant; β_1 - β_3 are the regression coefficients. Y is Supply Chain Management performance of SMEs. x_1 is the Top Management Influence, x_2 is role of Procurement employees; ε is the error term obtained from the F-significance from ANOVA.

Table 5: Model Goodness of Fit

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.853	0.727	0.701	0.00455456

a. Predictors} Constant}, Top procurement management influence, Role of procurement employees
b. Dependent Variable - Performance of Supply chain management of SMEs

The table above presents the regression model goodness of fit to establish if regression analysis is suited for the data. Pearson Correlation value of 0.853 was established depicting that the independent variables a very good linear relationship with the dependent variable. An R-square value of 0.727 was established depicting that this relationship was very strong and Top procurement management influence, Role of procurement employees, account for 72.7% of Performance of Supply chain management in SMEs. The R squared for the relationship between the independent variables and the dependent variable was 0.727. This implied that 72.7% of the contribution in the dependent variables could be explained by independent variables.

Table 6: Analysis of Variance (ANOVA)

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	1.776	4	0.592	2.654	0.001
Residual	11.150	120	0.223		
Total	11.926	124			

ANOVA analysis was conducted to determine the significance of the regression model. An F significance value of 0.001 was established depicting that the regression model had low significance (confidence level) ($p < 0.05$).

Table 7: Regression Coefficient

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	4.946	1.355		3.651	0.511
Top Procurement Management Influence	0.842	0.062	0.927	13.581	0.000
Role of procurement employees	0.873	0.149	1.388	5.859	0.005

a. Dependent Variable: Performance of Supply Chain Management

The study established the following regression model:

Performance of Supply Chain Management = 4.946 0.842 * Top Procurement Management Influence + 0.873 * Role of procurement employees

The study also established that holding other factors constant, a unit increase in Top Procurement Management Influence would lead to a 0.842-unit increase in Performance of Supply Chain Management; a unit increase in Role of procurement employees and Role of procurement employees would yield a 0.873-unit increase in Performance of Supply Chain Management

Conclusion

While there are many factors influencing the adoption of quality systems in procurement among SMEs in Kenya, the best performing SMEs in the study were those, which were the most active along a number of dimensions while being particularly active in managing their products and markets. In this respect, the study confirms with other research findings that the success of quality adoption appeared to rely more on executive commitment, open organization and employee empowerment. This study confirms the direct relationship between top management involvement, and employee empowerment on the adoption of quality systems.

Recommendations

From the findings and conclusion, the following recommendations are made; the study recommends institutional managers for both local and foreign, non-governmental organizations (NGOs), funding agencies and the government should support and train Micro and Small Enterprises to adopt quality systems in procurement.

The study further recommends that organizations like Kenya Bureau of Standards (KEBS) that run quality inspection programs, should restructure their programs to include quality management practices and its implementation in SMEs.

The study finally recommends SMEs in Kenya must know and understand what quality really means for them before they start the quality journey.

Suggestions for Further Research

A future study could be done on the impact of quality systems on the performance of SMEs since few studies address the analysis of quality implications within smaller countries. A further study on the effectiveness (or otherwise) of quality initiatives in SMEs is important to the continued development and competitiveness of small and medium enterprises.

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