

EFFECT OF TOTAL QUALITY MANAGEMENT PRACTICES ON OPERATIONAL PERFORMANCE OF FOOD MANUFACTURING FIRMS IN NAIROBI COUNTY, KENYA

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Abstract: The overall objective of this study was to examine the effect of the implementation of TQM practices on operational performance of Food and Beverages manufacturing industries in Nairobi. Both Explanatory and Cross sectional study designs were adopted to study the relationship between TQM practices implementation and operational performance. The target population comprised large food manufacturing firms in Nairobi which are subdivided into 7 subsectors. A Survey of all the 87 firms was used in the study. Primary data was collected using a questionnaire. The respondents were managers involved in the operations management of the organization. To summarize the data, descriptive statistics such as Mean and Standard deviation were used. Cross tabulation was used to bring out the actual response by the various firms. To examine the relationship between TQM implementation and Operational performance, Pearson's product-moment correlation analysis was used. To examine the effect of TQM implementation on operational performance; multiple regression analysis was used. The results revealed a significant positive relationship between TQM implementation and operational performance. The first, second and fourth null hypothesis were rejected, we fail to reject the third and the fifth null hypothesis. The findings also revealed that among all TQM practices, Top management commitment had the strongest relationship with operational performance. The results also showed that the joint effect of TQM practices operational performance was significant. The researcher recommends replication of the study in different sectors and countries to enhance understanding of the relationship between TQM implementation and operational performance. The study is significant as it will provide the management of Food and beverage firms with information on how to implement total quality management on operational performance.

Keywords: Total Quality Management, Operations Performance, Customer focus, Top Management commitment, Supplier Quality Management, Continuous Innovation and Employee Involvement.

1. INTRODUCTION

1.1 Background of the Study

1.1.1 Total Quality Management (TQM)

The principle of Total Quality Management (TQM) target of cutting edge operations management methodologies is to advance execution in manufacturing industries. Giving a higher quality administration with lower expense as a system for making and supporting aggressive position have turned into a vital methodology for some business associations over the

world. Thus, quality has turned into a key instrument for measuring corporate performance in today's evolving environment. Selection of Total Quality Management has ended up far-reaching among organizations amid the most recent decades as it has been perceived as a noteworthy wellspring of competitive advantage and overall benefit. It assumes a fundamental part in the improvement of administration operations (Rawashdeh, 2014).

Amid the most recent three decades, Total Quality Management (TQM) has been accepting far-flung acknowledgment by the various parts of the economy, for example, producing and administration government social insurance, banking and training. This TQM wonder is wide coming to give that maybe few would differ that no other administration issue since

Frederick Taylor's Scientific Management toward the start of the century has made such a significant effect as what the TQM development has accomplished has even put TQM as achieving a second modern insurgency (Hassan, Mukhtar, Qureshi, & Sharif, 2012). Application of TQM can lessen the aggregate expense of generation through single sourcing. The expense for this situation is lessened by constraining the quantity of suppliers utilized by the organization and furnishing them with important preparing and innovation. The effective working of an function will then rely on upon how fit the suppliers get together with the desires of the organization. This is the reason the TQM standard underlines the totality of value in all features which incorporates the suppliers. The total quality methodology makes a coordinated technique for focusing so as to examine operation the procedures of creation on consumer loyalty. Consequently, it requires that quality incorporated with every one of the procedures to be effective in the general operation (Kathaara, 2014).

1.1.2 Operational Performance(OP)

According to Truong (2014) Operational performance is defined as the capability of a corporation in dropping managing costs, bid succession time – meet bids, getting better unprocessed material well-organized use and delivery capacity. By operational performance of an organization can be depicted similarly as inside operations of the relationship, for instance, made progress versatility, improved movement execution, cost and waste decline and productivity change (Irfan, Kee, & Awan, 2012). Operational performance is connected with error limits of the organization's error plant to make and pass on things to customers while operational execution relates to organization's capacities to extra adequately make and pass on things and organizations that satisfy their customers (Kabergey & Richu, 2015). Operational performance insinuates the quantifiable parts of the after-effects of an organization's methodology, for instance, immovable quality, era process term, and stock turns. Operational performance along these lines impacts business execution measures, for instance, profitability index and customer satisfaction (Blackmon, 1997).

1.1.3 Food and Beverages companies in Kenya

Food and beverages manufacturing is the largest sector comprising of 147 members, who constitute 23.43% of total KAM membership, the sub-sectors in this constitutes; Alcoholic beverages & spirits, Bakers & millers, Cocoa, Chocolate and Sugar confectionery, Dairy products, Juices/water/ Carbonated soft drinks, Slaughtering, preparation and preservation of meat, Tobacco and Vegetable oils. Alcoholic Beverages & Spirits is involved in distilling, rectifying and blending of alcoholic liquors such as whiskey, brandy, malt, beers among many others. While Bakers and Millers are involved in milling grains, producing products such as flour, seal and stock dry feeds, preparation of breakfast foods among many others. In addition cocoa, chocolate and sugar confectionary is involved in manufacture of cocoa and chocolate powder from beans and all types of sugar confectionery. We also have dairy products industries which are involved in the manufacture of creamery, processed butter, powdered and fresh milk among many others (Kenya Association of Manufacturers, 2014).

In addition there are Juices/ Waters/Carbonated Soft drink industries which are involved in the manufacture of non-alcoholic beverages such as soft drinks and mineral water among others. Another sub category is Slaughtering, preparation and preservation of meat which does processing and packaging of meat, sausages and edible animal products. Another sub sector is Tobacco industry which manufactures tobacco products such as cigarettes, cigars, snuffs among others. Lastly in the sector we have Vegetable Oils industry which is involved in the production of vegetable oils, the refining and hydrogenation of oils, fats and margarine among many others (Kenya Association of Manufacturers, 2014).

1.2 Problem Statement

Firms today face various changes in the environment posed by globalization. These changes can present an opportunity or a threat to firms. In order to be competitive in the dynamic environment and enhance success, firms must adopt effective strategies to react to the changes in the surroundings. Manufacturing organizations endeavour to accomplish more

elevated amounts of operational performance. Operational performance has been a topic of discussion in the last two decades, however many of those studies have been done out in the developed countries. The implementation of TQM by organizations has been held back due to non compliance with the practices of TQM implementation. Whilst some organizations, run TQM-like a program that they suppose to function and perform the magic by itself, others have used indifferent approach to it, by using some bits and pieces of the philosophy. This has count for the breakdown of the most association in meeting their likely target from implementing these principles. Thus this study sought to fill up this gap by establishing the association between total quality management practices and operational performance of food and beverage manufacturing companies. Literature review proposes that a lot of explorations work has been done on TQM and relationship of TQM and organizational performance, yet just a small figure of studies have been done on the impact of TQM usage in the manufacturing industry. Therefore this study sought to fill this gap on the effect of TQM practices implementation on operational performance of food and beverage firms in Nairobi.

1.3 Objectives of the Study

The overall objective of this study was to examine the effect of the implementation of TQM practices on operational performance of Food and Beverages manufacturing industries in Nairobi.

The specific objectives were to:

- i. Determine the effect of Top Management Commitment of TQM on operational performance of Food and Beverages Manufacturing Companies in Kenya.
- ii. Determine the effect of customer Focus of TQM on operational performance of Food and Beverages Manufacturing Companies in Kenya.
- iii. Determine the effect of supplier quality management of TQM on operational performance of Food and Beverages Manufacturing Companies in Kenya.
- iv. Determine the effect of Continuous Improvement and innovation of TQM on operational performance of Food and Beverages Manufacturing Companies.
- v. Establish the effect of Employee's Involvement of TQM on operational performance of Food and Beverages Manufacturing Companies in Kenya.
- vi. Determine the combined effect of Total Quality management on operational performance of Food and Beverage Companies in Kenya.

1.4 Research Hypotheses

H₀₁: Top management commitment of TQM does not have effect on Operational Performance of Food & Beverage Manufacturing Companies in Kenya.

H₀₂: Customer focus of TQM does not have effect on Operational Performance of Food and Beverages Manufacturing Companies in Kenya

H₀₃: Supplier quality management of TQM does not have effect on Operational Performance of Food and Beverages Manufacturing Companies in Kenya.

H₀₄: Continuous improvement and innovation of TQM does not have effect on Operational Performance of Food and Beverages Manufacturing Companies in Kenya.

H₀₅: Employees involvement of TQM does not have effect on Operational performance of Food and Beverages Manufacturing Companies in Kenya.

H₀₆: Total Quality management does not have effect on operational performance of Food and Beverage Companies in Kenya.

2. LITERATURE REVIEW

This study has been guided by two theories; the Knowledge Based Theory and Resource Based Theory. The resource based theory does consider with the aim of firms competitive advantage come up from the application of intangible and tangible resources in the disposal of the firms (Penrose, 1959). Although the proponents of the resource based view

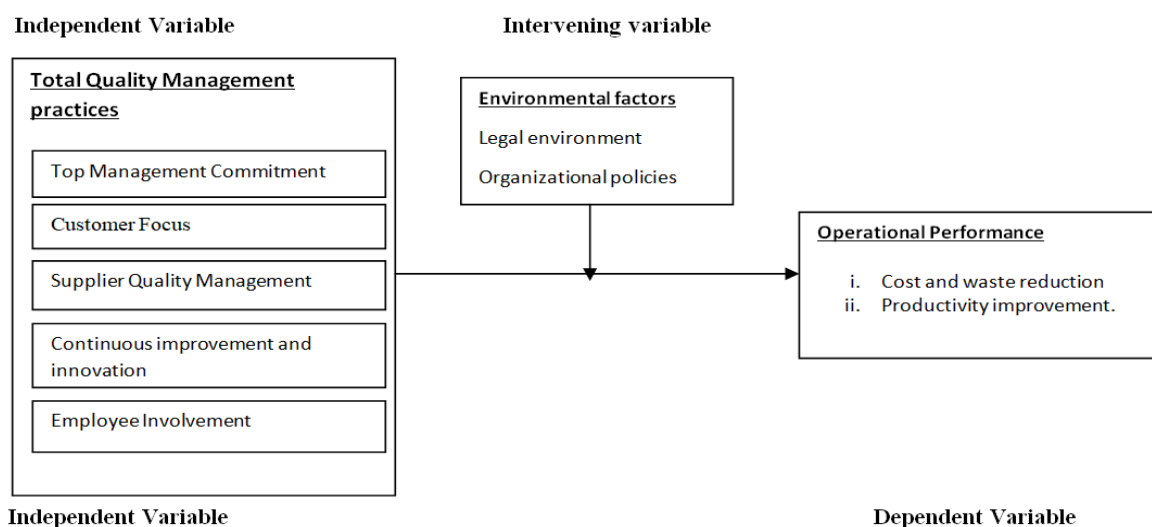
recognize the importance of knowledge to firms it does recognize and treat knowledge as a generic resource which deserves recognition other than special characteristic. Therefore, RBV, especially useful resource orchestration, complement operation performance with a focal point on acquiring and bundling the strategic sources to create talents which can be leveraged to acquire a competitive gain. Secondly, operations strategy calls for a synergistic manner of integrating and aligning business and operations. Further, RBV and particularly useful resource orchestration, highlight the synchronization of the methods worried in obtaining, bundling, and leveraging. The attainment and bundle of operations assets are leveraged with an operations method and by this means make contributions to a competitive benefit. As demonstrated by Deming, quality is an likely level of consistency and reliability at insignificant exertion and suitable to the business segment. Deming in like manner recognized 14 guidelines of quality organization to improve throughput and operational performance of an organization. Ishikawa additionally underscored the importance of Total quality control to upgrade organization performance. He added to this extent by using circumstances and deciding results chart (Ishikawa framework) to examine quality issues. Feigenbaum depicted the thought of organization total quality control. He was the in any case customer of Total quality control thought in the quality written work. He portrayed quality as "the total composite thing and organization properties of advancing, building, gathering and backing through which the thing and organization being utilized will meet the yearnings of the customer" (Munizu, 2013).

2.1 Empirical Literature Review

According to Kathaara (2014) inspected that total quality organization practices and operational performance of business banks in Kenya. Assessments of all the 43 business banks were taken in this study. The study used data which was assembled through a composed survey to assemble the destinations of the study via five-point Likert scale. The review questions focused on total quality administration practices utilization and operational execution of the Kenya business banks. The questionnaire was both open ended and close ended. The results revealed that quality organization practices were earnestly related to an operational execution of business banks in Kenya. This is dependable with the theory of this study which predicts a positive connection between TQM programs and budgetary execution of banking firms in Kenya.

It has been established that preparation is confidently connected to operational performance, member of staff presentation, and client outcome. allocate firm assets to preparation on value pays off as expert workers recognize advanced numerical technique, concepts of excellence, essential distinctiveness of their production, and the arrangement and process of the organization. In addition, treating workers as a precious resource increases their allegiance to the firm, inspire them and make them proud of their jobs, improve their occupation related execution, minimizes absence, and minimizes intent to leave. Well-informed staff will add to quality, dependability, and well-timed supply of the products as well as services. With effectual preparation, workers know the production and the configuration of the organization better. Successful preparation on worth also elevates workers skill to labor successfully and competently. In addition, it will advance employees' allegiance to the organization, their enthusiasm, and job-related execution. workers instruction on supplying elevated quality and dependable goods or services reduces purchaser complaint (Sadikoglu & Olcay, 2014).

3. CONCEPTUAL FRAME WORK



(Source, Author 2018)

4. RESEARCH METHODOLOGY

4.1 Research Design

This study adopted an explanatory research design study which is a quantitative process was used to investigate the possibility of the relationship between TQM implementation and operational performance. A cross-sectional survey design was as well used to study the association between TQM practices implementation and operational execution at a single point in time. The study used an explanatory research design. In relation to Mugenda and Mugenda (2003), a consistent examination configuration is one which gathers facts with a precise end goal to test the hypothesis or to answer inquiries regarding the existing status of the subjects under study. A logical examination outline is an attempt to gather information from individuals from a population so as to decide the present status of that population as for one or more variables. The study set up the connection and causal association between total excellence management practices and operational performance of Food & Beverage manufacturing companies.

4.2 Population of the Study

There are a total of 87 big food and beverage industrialized firms in Nairobi (Appendix II) which are members of KAM (KAM 2014). The firms are classified into 7 sub-sectors of the Food and Beverages Sector: The Sub-sectors are: Alcoholic Beverages; Bakers and Millers; Cocoa, Chocolate and Sugar; Juices/Waters/Dairy/Carbonated Soft Drinks; Tobacco; Vegetable Oils and Slaughtering/Preparation and Preservation of Meat. The population of the study comprised of big food and beverage industrialized firms in Nairobi County, Kenya.

4.3 Data Collection

The study used primary data. Primary data consists of unique information gathered by the scholar for the specific purpose of the study at hand (Mugenda & Mugenda, 1999). Data was collected by use of questionnaires administered by the researcher. The use of questionnaires is justified because this is the most valuable and affordable way of collecting information from a small factual sample within a short period of time. The unit of analysis was the firms and data will be collected at the firm level. For each firm one respondent filled in a questionnaire. The respondents were the operations managers conversant with the organization's operations management.

4.5 Validity and Reliability

Validity brings up to the accuracy and significance of inference which are based on the research result (Mugenda et al. 2003). If such data is a true replication of the variables, then conclusions based on such data was precise and meaningful. To ascertain the validity, the researcher used content validity through supervisor assistance. Construct validity of the instrument was obtained through the development of the scales with the help of the experts. The questionnaire items (questions) were developed to represent each variable in the research. A pre-test was done on the items and their measurement by checking the results obtained from the focus groups. Expertise opinions were also sought from lecturers and environmentalists. To ensure data collection procedure was reliable, cronbach alpha coefficient was computed using SPSS version 20. A value of 0.8 was obtained and compared with the threshold of 0.7. In addition, a pilot test was conducted in 10 food and beverage companies in Kiambu. 12.

4.6 Data Analysis and Presentation

The data collected was analysed by the use of descriptive statistics. Composed data was chronologically organized in relation to the questionnaire outline to guarantee that the correct code was entered for the exact variable cleaned and tabulated. The tabulated data was evaluated using descriptive, correlation as well as regression statistics in with the aid of Statistical Package for Social Sciences (SPSS 20.0). Pearson correlation statistics was used to create the relationship between the total quality management practices and operational performance of Food& Beverages manufacturing companies based on the regression model shown here below.

5. RESULTS AND DISCUSSION

5.1 Descriptive Statistics

The study targeted 87 large food manufacturing firms in Nairobi County. Responses were returned from 78 organizations which represents a response rate of 89.66%. Therefore the rate of response was considered to be adequate for the study.

5.1.1 Top Management Commitment

The study sought to determine the effects of Top Management Commitment on implementation of TQM. The scale that was used was Likert scale of 1-5, where 1= strongly Disagree; 2=Disagree; 3=Neutral; 4=Agree; 5=Strongly Agree.

Table 5.1 Mean and standard deviation measures for Top management commitment

Top management commitment	N	Mean	Std. Deviation
Organization leaders take on the responsibility for developing quality oriented management systems	78	4.23	.788
Leadership has provided necessary resources to meet new requirements	78	4.40	.690
Leaders evaluate the application and advancement of TQM	78	4.29	.854
Leaders assign resources for non-stop improvement of the management system	78	4.42	.694
Leadership has provided conducive working environment to employees	78	4.24	.648
Leadership influences the decision of selecting qualified suppliers	78	4.10	.713
Leadership has inspired staff and management in effective and efficient use of resources	78	4.21	.709
Leaders intermingle with customers and keep in mind their contributions with designing goods and services	78	4.28	.881
Leadership improves operational performance	77	4.37	.705
Overall Mean		4.28	0.744

As demonstrated in table 5.1 On determining whether the organization leaders take on the obligation for developing quality oriented management systems, the outcome indicate that majority of those that responded strongly agreed, (mean = 4.23; Standard deviation = 0.788). This indicates that the current decisions in most of the organization leaders take on the obligation for developing quality oriented management systems. The results also show that the majority of the respondents strongly agreed that leaders intermingle with customers and keep in mind their contributions when designing goods and services (mean = 4.28; standard deviation = 0.881). This shows that more than half of the respondents agreed with the statement. This indicates that leaders intermingle with customers and keep in mind their contributions when designing goods and services by the companies. The study also sought to establish whether the companies' leadership improves operational performance. The study results showed that the majority of the respondents strongly agreed with the statement (mean = 4.37; standard deviation = 0.705). This shows that the companies' leadership improves operational performance.

5.1.2 Customer focus

The study sought to determine the effects of Customer focus implementation of TQM. The scale that was used was Likert scale of 1-5, where 1= strongly Disagree; 2=Disagree; 3=Neutral; 4=Agree; 5=Strongly Agree

Table 5.2 Mean and standard deviation measures for Customer Focus

Customer Focus	N	Mean	Std. Deviation
The company focuses on improved satisfaction of our clients	78	4.44	.572
The company focuses on better communication with our clients	78	4.50	.619
Company focuses on a decline in the number of customer criticisms and grievances	78	4.35	.577
The company focuses on client consolidation, returning clients and loyal clients	78	4.31	.651
The company responds quickly to customers complaints	78	4.26	.797
Overall Mean		4.37	.662

As demonstrated in table 5.2 on whether the company focuses on improved satisfaction of our clients, the outcome show that the majority of the respondents strongly agreed with the statement (mean = 4.44 and standard deviation = 0.572) which indicates that company focuses on improved satisfaction of our clients. Finally, it was important to assess whether the company has effective process for resolving customer complaints. The results show that majority of the respondents

strongly agreed that the company has successful process for resolving customer complaints (mean =4.38 and standard deviation = 0.760). This indicates that the company has effective process for resolving customer complaints.

5.1.3 Supplier Quality Management

The study sought to determine the effects of supplier quality management on implementation of TQM. The scale that was used was Likert scale of 1-5, where 1= strongly Disagree; 2=Disagree; 3=Neutral; 4=Agree; 5=Strongly Agree.

Table 5.3 Mean and standard deviation measures for Supplier quality management

Supplier Quality Management	N	Mean	Std. Deviation
The organization develops strategic alliances with suppliers	78	4.15	.774
The organization works with suppliers to guarantee that expectations are met	78	4.36	.683
The organization involves suppliers timely in the product development process	78	4.06	.958
Suppliers should embrace TQM and be involved in this process	78	4.13	.709
Effective SCM practices enable the suppliers to adopt quality management and deliver reliable products/services	78	4.46	.715
Overall Mean		4.232	0.7678

As demonstrated in table 5.3 the study also sought to establish whether the organization develops strategic alliances with the suppliers. The study results also indicates that largely of the respondents agreed with the statement (mean =4.15 and a standard deviation of 0.774). This indicates that the organization develops strategic alliances with the suppliers. The study wanted to establish if the companies in the food processing industry encourages active supply management practices to facilitate the contractors to take on excellence management and convey reliable and great quality goods and or services timely. From the results it is noted that majority of the companies strongly agreed that they encourage effective supply administration practices enable the suppliers to assume quality management and deliver reliable and high quality products and or services timely (mean = 4.46; standard deviation = 0.715).

5.1.4 Continuous Improvement & Innovation

The study sought to determine the effects of Continuous improvement and innovation on implementation of TQM. The scale that was used was Likert scale of 1-5, where 1= strongly Disagree; 2=Disagree; 3=Neutral; 4=Agree; 5=Strongly Agree.

Table 5.4 Mean and standard deviation measures for Continuous improvement and innovation

Continuous improvement and innovation	N	Mean	Std. Deviation
The company undertakes quality audits and evaluation regularly	78	4.21	.691
Use of customers complaints as a method to initiate improvements in current processes	78	4.40	.671
The company evaluates the performance of suppliers	78	4.40	.727
The company improves employees competencies through training	78	4.33	.816
Regular departmental and employee appraisals carried	78	4.24	.840
Overall Mean		4.316	.749

As demonstrated in table 5.4 the study sought to establish whether the company undertakes quality audits and evaluation. The study results also shows that the majority of the respondents agreed with the statement (mean = 4.21 and a standard deviation of 0.691). This indicates that firms the company undertakes quality audits and evaluation. The study also sought to establish whether there are regular departmental and employee appraisals carried out. From the results shown it is noted that majority of the respondents strongly agreed with the statement. This indicates that most of the firms that participated in the regular departmental and employee appraisals (mean = 4.24; standard deviation = 0.840). On continuous

enhancement practice, result show that the Food and beverage firms undertake value audits and evaluation to improve the quality of products being marketed by the firms and consequently, the organization undertakes standard departmental and worker appraisals to brief and assess how the nonstop improvements plans of the products is available on in the firm. This process of continually improving on the product is achieved through registering customer complaints as a method of initiating improvement in the current process, and also training employees with an aim of improving their competencies on the product quality and safety. disparity of opinion of respondents is manifest as the standard deviation is greater than one except on the regular departmental and employee appraisal that they all seem to agree.

5.1.5 Employee Involvement Practices

The aim of the study was to determine the effects of employee involvement practices on implementation of TQM. The scale that was used was Likert scale of 1-5, where 1= strongly Disagree; 2=Disagree; 3=Neutral; 4=Agree; 5=Strongly Agree.

Table 5.6 Mean and standard deviation measures for Employee involvement practices

Employee involvement practices	N	Mean	Std. Deviation
Employees effective knowledge and learning capability will provide sustainability of quality management in the firm	78	4.21	.752
Employees are involved in decision making that affect their work	78	4.33	.832
Quality does not originate in one department or function; it is the concern of the whole firm	78	4.42	.845
Employees are given opportunity to suggest quality improvement	78	4.42	.765
Training is given to all employees based on the results of the training needs assessment to improve quality	78	4.19	.854
The employees are provided with feedback on their quality performance	78	4.15	.955
Effective training will lead to employees loyalty to the firm, motivation and work performance	78	4.27	.848
If employees are educated on producing dependable products/services their participation will be productive	78	4.37	.758
Employees believe that quality is their responsibility	78	4.26	.918
Overall Mean		4.29	0.836

From the table 5.6the study sought to establish whether employees' effective knowledge and learning capability will offer sustainability of quality management in the firm. The study results also indicates that most of the respondents agreed with the statement (mean = 4.21 and a standard deviation of 0.752). This indicates that firms' workers' effective knowledge and learning competence will provide sustainability of quality administration in the firm. On whether organizations effective training will advance employees' loyalty to the firm, motivation, and work performance. The result shows that majority of the companies strongly agreed that organizations effective training will increase workers faithfulness to the firm, motivation, and work performance (mean = 4.27; standard deviation = 0.848). This indicates that organizations learning are enhanced by the employment of professionals who control how information and knowledge is stored. With this stored information it is noted that organizations can effectively perform. The study also sought to establish whether the workers are skilled on producing dependable and high quality merchandise and or services, their full involvement in the assembly stage would be more fruitful. The study results also shows that the majority of the respondents agreed with the statement (mean = 4.37 and a standard deviation of 0.758). This indicates that firms the workers are trained on producing dependable and high quality merchandise and or services, their full participation in the production stage would be more fruitful. On whether the organization employees believe that quality is their responsibility, the results of the study showed that majority of the respondents strongly agreed with the statement (mean = 4.26 standard deviation of 0.918). This shows that organizations employees believe that quality is their responsibility.

5.1.6 Operational Performance

The study aimed at establishing the Effect of TQM practices on Operational performance. The scale that was used was Likert scale of 1-5, where 1= strongly Disagree; 2=Disagree; 3=Neutral; 4=Agree; 5=Strongly Agree.

Table 5.7 Mean and standard deviation Operational performance

Operational Performance	N	Mean	Std. Deviation
Effective Waste reduction	78	4.19	.807
Cost reduction	78	4.43	.843
Improved Product/service quality	78	4.47	.716
Enhanced Company profitability	78	4.59	.574
Improved Product reliability	78	4.42	.730
Acquisition of a bigger market share	78	4.36	.720
Increased customer retention as a result of customer satisfaction	78	4.23	.805
Improved operational efficiency thus reducing operation costs	78	4.44	.783
Overall Mean		4.39	0.747

From Table 5.7 demonstrates that On determining if Operational performance leads to effective waste reduction the outcome indicate that majority of the organizations strongly agreed, (mean = 4.19; Std deviation = 0.807). From table 4.12 on whether operational performance leads to cost reduction , the study results show that most of the respondents strongly agreed with the statement, (mean =4.36; Standard deviation= 0.772). On if operational performance has led to increased customer retention which results in customer satisfaction, the findings indicate that majority of the firms (mean = 4.23; standard deviation = 0.805) agreed that there is customer retention which has a positive effect on operational performance. On determining if operational performance leads to improvement in operational efficiency , the study results show that most of the respondents strongly agreed with the statement, (mean =4.44; Standard deviation= 0.783). This indicates that operational efficiency is positively associated with operational performance.

5.2 Test of Hypotheses

Table 5.8 Model Summary

SUMMARY
OUTPUT

Regression Statistics	
	0.532269
Multiple R	115
	0.283310
R Square	411
Adjusted R Square	0.233540
	301
	0.358468
Standard Error	192
Observations	78

ANOVA

	Df	SS	MS	F	Significance F
Regression	5	3.6573387	0.731467	5.692380	0.0001766
Residual	72	9.2519599	0.128499	605	22
Total	77	12.909298	444		

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	2.112074	0.7075660	2.984985	0.003871	0.7015670	3.522581	0.701567	3.522581
Top mgt	0.303518	0.1079314	2.812138	0.006337	0.0883607	0.518675	0.088360	0.518675
customer focus	0.234830	0.1109306	2.116909	0.037723	0.0136939	0.455966	0.013693	0.455966
Supplier quality mgt	0.111136	0.0925387	1.200969	0.233698	0.0733363	0.295608	0.073336	0.295608
Continuous improve	0.161529	0.0807278	2.000909	0.049172	0.3224572	0.000601	0.322457	0.000601
Employee inv	0.034481	0.1031768	0.334195	0.739203	0.1711980	0.240160	0.171198	0.240160

5.2.1 Regression Model Summary

Model on table 5.8 sought to establish the regression between degree to which total quality practices are related to operational performance of Food companies is expressed in the positive correlation coefficient (r) = 0.532269115 and coefficient of determination, (r^2) = 0.283310411 as shown on table above This implies that the five independent variables together predict about 28 % of the variation in operational performance is explained by the joint dimensions of TQM of food and beverages companies.

5.2.2 Analysis of Variance

As shown in table 5.8 Analysis of variance (ANOVA) was used to test the implication of the regression model in relations to differences in means of the dependent and independent variables as shown on table above. The ANOVA test produced an F-value of 5.692380605 which is significant at $p=0.000176622$. This depicts that the regression model is significant at 95% confidence level. . The ANOVA results show that the model was significant ($F=5.692380605$, $p<0.05$). as a result the regression model is statistically significant in predicting how top management commitment, customer focus, supplier partnership, continuous improvements and employees' involvement practices affect operational performance of food companies.

5.2.3 Multiple Regression Analysis

This section discusses the results of hypotheses testing in relation to the research hypotheses. The study sought to examine how the variables of the study; Top management commitment, customer focus, supplier management, continuous improvement and innovation and lastly employees involvement (Hypothesis H_{01} to H_{05}).

H_{01} : Top management commitment of TQM does not have effect on Operational Performance of Food & Beverages Manufacturing Companies in Kenya.

As shown in the table 5.8 the standardized coefficients show that the effect of Top management commitment on operational performance is positive and significant ($\beta =0.303518095$, $t =2.812138673$, $p< 0.05$). Therefore according to the results, the hypothesis was thus rejected. Therefore, it was concluded that Top management commitment has statistically significant positive effect on operational performance. The study found that the coefficient of Top Management Involvement was positive. This indicates that the top management is involved in day to day operations of the company operations for the performance to improve. This result concurs with the study of Mwaniki and Okibo (2014) where they found out that Top administration of NBK had shaped a clear vision that all personnel can classify and construe. By top management setting practical and attainable goals the complete team work hard towards achieving the goals this in turn is seen in go up in income of the bank. The top management of NBK recognize want for providing its personnel with required guidance and assets to ensure they carry out their duties well. From the findings NBK trains its

staff previous to posting them to any new sector (Mwaniki & Okibo, 2014). The findings were also consistent with those of Kathaara (2014) where the study results indicated that bank leadership plays an active role in creating strategies, plans and systems consequential from value management systems, provide conducive operational background to worker involvement in quality administration process, inclined the decision of selecting qualified suppliers and certifying suppliers for quality substance, creates strategies, plans and systems for achieving higher value in the organization and that has encouraged staff and administration in successful and competent use of the assets and efforts of the institution towards quality excellence.

H₀₂: Customer focus of TQM does not have effect on Operational Performance of Food and Beverages Manufacturing Companies in Kenya

The effect of customer focus on operational performance is positive and significant ($\beta = 0.234830165$, $t = 2.116909849$, $p < 0.05$). The second hypothesis was therefore rejected. It was therefore concluded that customer focus has statistically significant positive effect on operational performance. The findings were consistent with the findings of Mwaniki and Okibo (2014) who found out that when the affiliation amid NBK and the purchaser improves, monetary performance improves and when the turn round happen, financial feat drops. NBK rolled out a 24 hour working call centre to be reception any customer's complaint as well as respond any purchaser query anytime any day. This was done as a way of the bank move to get better how it serves its clients. From the result NBK should build up ways of preparation its clientele how to use the merchandise the bank rolled out (Mwaniki & Okibo, 2014).

H₀₃: Supplier quality management of TQM does not have effect on Operational Performance of Food and Beverages Manufacturing Companies in Kenya.

The third hypothesis for this study was that supplier quality management of TQM does not have an effect on Operational Performance of Food and Beverages Manufacturing Companies in Kenya the effect of supplier relationship on operational performance is positive and insignificant ($\beta = 0.111136227$, $t = 1.200969802$, $p > 0.05$) and thus we fail to reject the third hypothesis. It was therefore concluded that Supplier quality management has statistically insignificant positive effect on operational performance. The finding differs with those of Mwaniki and Okibo (2014) which indicates that when association between NBK and its vendors improves, monetary presentation also improves. When the association between NBK and suppliers deteriorates, financial performance drop (Mwaniki & Okibo, 2014). The findings also differs with those of Kathaara (2014) that the banks had arrived into tactical corporation with sellers so as to make certain sustained execution of the bank's processes are continuous, The bank's has successfully harness the possible payback of creating partnership with suppliers, The bank's stimulates and facilitates communication with key suppliers the purpose of getting better their success and competence of stipulation of the requisite supplies, The bank's habitually share with vendors information such as their desires and prospect and that the Bank's promote supplier value teamwork ensuing in operational execution.

H₀₄: Continuous improvement and innovation of TQM does not have effect on Operational Performance of Food and Beverages Manufacturing Companies in Kenya.

The fourth hypothesis for this study was that of Continuous Improvement and Innovation of TQM of TQM does not have an effect on Operational Performance of Food and Beverages Manufacturing Companies in Kenya. The effect of continuous improvement on operational performance is negative and insignificant ($\beta = -0.161529146$, $t = -2.000909329$, $p < 0.05$). . Therefore we reject the fourth hypothesis. It is therefore concluded that there is statistically significant negative effect of continuous improvement and innovation and operational performance. From the findings on continuous improvement, there seems to be an agreement with Sigei (2014) with the aim of the objective of quality administration is to lessen costs and improve customer contentment. This shows that the outcomes will support the market-based theory that the competitive improvement coming from a bigger cost arrangement or being able to distinguish goods in a way that add worth for clientele and by producing products that better satisfy the requirements of customers, there is the potential for differentiation. (Sigei, 2014).

H₀₅: Employees involvement of TQM does not have effect on Operational performance of Food and Beverages Manufacturing Companies in Kenya.

The fifth hypothesis for this study was that Employee Involvement of TQM does not have an effect on Operational Performance of Food and Beverages Manufacturing Companies in Kenya, the effect of employee involvement on operational performance is positive and insignificant ($\beta = 0.034481182$, $t = 0.739203884$, $p > 0.05$). This shows that

Employee involvement has positive insignificant effect on operational performance and thus the fifth hypothesis was not rejected, the results shows existence of statistically insignificant positive effect of employee involvement on operational performance. The results on employee involvement were not consistent with the view of Sigei (2014) who pointed that quality hitches requires cross-functional communication at countless levels through the organization, which characteristically means establishing and using teams. The finding on employee empowerment and training suggests that the companies undertake regular and continuous training aimed at improving the quality of the firm's products (Sigei, 2014).

H₀₆: Total Quality management does not have effect on operational performance of Food and Beverage Companies in Kenya.

The results shows that Top management commitment has the greatest effect on operational performance ($\beta = 0.303518095$). The full regression model in Table 5.8 can also be interpreted to show how dimensions of top management commitment, customer focus, supplier quality management and Employee involvement practices have positive coefficients, implying that these independent variables positively predict operational performance of food and beverages companies. Therefore taking all independent variables (top management commitment, customer focus, and Employee involvement practices) constant at zero (0); operational performance of food and beverage companies will be at 2.112074173.

Therefore a unit increase in top management commitment, customer focus, Supplier quality management and Employee involvement practices will lead to, 0.303518095, 0.234830165, 0.111136227, and 0.034481182 unit increase in operation performance of food and beverage companies. The results of the study further indicate that p-value of (0.00633748) for Top management commitment, (0.037723524) for customer focus; (0.04917276) for continuous improvement and innovation are smaller than the significance level of 0.05. The implications of these results are that there is a significant relationship between Top management commitment, customer focus, Continuous improvement and innovation, and operational performance of food and beverage companies in Nairobi. Therefore the sixth hypothesis was rejected. Hence, the equation for the regression model can be given by;

6. SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Summary of the Findings

The first objective was to find out the effect of Top management commitment on operational performance. The findings reveal a positive significant relationship between Top management commitment and operational performance. Thus Hypothesis H₀₁ was rejected. The study established that Food and beverages companies Top management commitment practices affect the operational performance of Food companies. That the implementation of total quality management has facilitated Food companies management to make available the essential assets to meet the new desires ensuing from quality administration systems, availed conducive functioning surroundings to worker taking part in quality association procedure, predisposed the resolution of selecting capable vendors and certifying suppliers for value material, create strategies, tactics and systems for achieving greater quality in the company and that has stimulated personnel and management in successful and competent use of the resources and efforts of the corporation towards quality distinction. The second objective of the study was to determine the effect of customer focus on operational performance. The findings reveal a positive significant relationship between customer focus and operational performance. Therefore Hypothesis H₀₂ was rejected. The study established that Food and beverage companies Customer focus affect operational performance of Food companies. The implementation of Customer focus has facilitated improved customer satisfaction, communication with clients has improved, and the number of complaints has also reduced due to effective complaint handling thereby leading to increase in number of loyal customers. The third objective of the study was to determine the effect of Supplier quality management on operational performance. The findings reveal a positive insignificant relationship between supplier relationship and quality management and operational performance. Hence Hypothesis H₀₃ was not rejected. The results of the study showed that supplier partnership does not influence operation performance of food and beverage companies. The implementation of total quality management companies has not entered into tactical partnership with providers as a result as to ensure sustained execution of the food companies processes are continuous, The food companies has not effectively coupled the possible payback of creating partnerships with vendors, The food companies doesn't endorse and enables announcement with key vendors the aim of cultivating their usefulness and competence of stipulation of the requisite provisions, The food companies regularly shares with vendors information such

as their wants and prospects and that the Food and beverages promotes supplier quality cooperation resulting in operational presentation.

The fourth objective of the study was to determine the effect of continuous improvement and innovation on operational performance. The findings reveal a negative significant relationship between continuous improvement and innovation and operational performance. Therefore we reject Hypothesis H_{04} . This therefore shows that the results will back the market-based theory that the aggressive advantage arising from a greater price structure or being able to distinguish products in a way that enhances value for clients and by producing products that better satisfy the requirements of customers, there is the potential for differentiation. The fifth objective of the study was to determine the effect of employee involvement on operational performance. The findings reveal a positive insignificant relationship between employee involvement and operational performance. Therefore, Hypothesis H_{05} was not rejected. The study found out that employee empowerment practices does not influences operation performance of Food companies. The findings of the study shows that implementation of excellence management has not affected workers quality of life, Food companies doesn't spend a bulky quantity of its yearly resources on workers guidance and growth on total quality administration systems, workers at all levels don't have the obligation and authority to make decisions that shape them and their job groups, quality administration systems have promoted the autonomy of workforce to utilize their proposal in matters of client delivery. There is no prevalent participation and announcement to workers on all matter that involve their job and association performance, prize systems that sustain employee feat, contribution, initiative and encouragement of team-work have been institute in the companies. The sixth objective of the study was to determine the joint effect of Total Quality Management practices on Operational performance, Top management commitment, customer focus and Supplier quality management, continuous improvement and innovation and Employee involvement on operational performance. The corresponding hypothesis was tested using multiple regression analysis. The regression results showed that the combination of Top management commitment, Customer focus, Continuous improvement and innovation explained a greater variance in Operational performance than individual variables alone. The findings further revealed that Top management commitment had the greatest effect on operational performance. Therefore Hypothesis H_{06} was rejected.

6.2 Conclusion

The usage of quality administration frameworks has expanded organizations' benefit, upgraded deals, and expanded organizations' intensity and brought about procurement of greater piece of the pie, improved administration conveyance in the organizations, guaranteed compelling waste diminishment in operations, enhanced operation execution hence lessening operation costs and expanded client maintenance therefore of consumer loyalty. Execution of Total quality administration has encouraged organizations to give the essential assets to meet the new prerequisites coming about because of value administration frameworks, gave conducive workplace to representative inclusion in quality administration prepare, impacted the choice of choosing guaranteeing providers for quality material, makes methodologies, arrangements and frameworks for accomplishing predominant quality in the establishment and that has roused staff and administration in compelling and proficient utilization of the assets and endeavours of the foundation towards quality magnificence.

Quality administration has not influenced employees satisfaction, organizations doesn't spends a lot of its yearly spending plan on representatives preparing and improvement on Total quality administration frameworks, representatives at all levels have the obligation and expert to settle on choices that influence them and their work groups, quality administration frameworks have not advanced the opportunity of workers to utilize their drive in matters of client conveyance. There is no broad inclusion and correspondence to representatives on all matters that worry their occupation and association execution, remunerate frameworks that bolster worker execution, interest, activity and cultivating of collaboration have been founded in the sustenance organizations. The usage of TQM in the organizations has not gone into vital association with providers in order to guarantee proceeded with execution of the organizations forms continuous, The organizations has not adequately bridled the potential advantages of setting up associations with providers, The organizations doesn't advances and encourages correspondence with key providers the point of enhancing their viability and productivity of arrangement of the required supplies, The organizations doesn't regularly imparts to providers data, for example, their necessities and desires and doesn't advances provider quality participation bringing about operational execution.

6.3 Recommendation

There is need for the organization's administration to execute authoritative TQM practices change in the association to upgrade the usage TQM to improve the association's methodology of ceaseless change, open correspondence and participation all through the association. Also, the organizations' administration sense of duty regarding quality need to pass on the stance, rationality and activities that aggregate quality administration usage will get a higher need in the association. There is need for the organizations to organize and upgrade add up to quality administration preparing procedure to help in get ready representatives towards dealing with the total quality administration, in order to have the capacity to recognize and add to progressing quality change procedure of operational productivity. There is need for organizations' administration to set clear, quantifiable and achievable targets with the goal that they will set the correct course for the firm. Furthermore they have to viably assign sufficient required assets and abilities in order to accomplish those destinations and in this way enhance operational execution and productivity. There is need for organizations administration to set up develop and regard their providers as long haul accomplices as they are basic piece of the associations business operations and materials and bought parts are frequently a noteworthy wellspring of value issues. This will advance and encourage correspondence and in this way enhancing the adequacy and effectiveness of procedures that make esteem.

6.4 Suggestions for further Studies

This review was conducted on Food and beverages manufacturing firms in Nairobi County. Manufacturing firms may contrast as far as learning needs and levels of competency in such manner when contrasted with administration firms and innovative firms. Along these lines the outcomes can't be summed up to all organizations. Other relevant contrasts countrywide may influence level of execution as this review concentrated on assembling firms inside Nairobi County as it were. The review ought to be duplicated in different ventures and in different nations. Such replication could additionally decide if the after-effects of this review can be summed up to a more extensive setting. This study only examined specific TQM management practices effects on total quality management practices and operational performance of Food and beverage companies in Kenya. However there are other effects TQM management practices which similarly have a say operational performance of Food and beverage companies hence it is recommended that further research on TQM management practices be done to recognize and inspect additional variables effect on performance of food and beverage companies. In this study, knowledge based theory and resource based view were the only theory of reference for the study thus limiting other aspects of study that may affect organizational performance. Future research should broaden the conceptualization of knowledge theory to include other theories that may give depth to the study.

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