

# **AN EXPLORATORY STUDY OF QUALITY MANAGEMENT ISSUES IN THE HEALTH SERVICE SECTOR IN NAIROBI, KENYA.**

**NYAMAMBA M. E., LUNG'ANZI M. P., WAWERU W. J.**

Students UoN, School of Business.

Email: [mochnyams@yahoo.com](mailto:mochnyams@yahoo.com), [mlunganzi89@gmail.com](mailto:mlunganzi89@gmail.com),  
[wawerujosephine@gmail.com](mailto:wawerujosephine@gmail.com).

## **ABSTRACT**

Quality has no one common definition. The many definitions are based on origin emphasized, operations/manufacturing, economics, position on marketing-consumer chain and changes focus from product to the process. Quality is based on various components namely; quality planning, quality assurance, quality improvement and quality control.

Quality management (QM) has been proposed to improve business performance and received considerable attention in recent researches. This study empirically examines the extent to which QM in the health service sector and business performance are correlated and how quality health services impacts various levels of business performance. In this study, a QM framework was developed according to a comprehensive literature review. This framework demonstrated the relationship between QM in health services and business performance through examining the quality practices of QM on business performance. The proposed model and hypotheses was tested by using data collected from the Health Service providers, patients and employees. The results of this aforementioned model supported the proposed hypotheses. The implications of research findings for researchers and practitioners was discussed and the suggestions for further studies provided.

Detailed questionnaires were used on a population of 6 health service providers within Nairobi region with a sample of 60 subjects. Data was collected and presented in tables for analysis.

**KEY WORDS:** Quality Management, Patients, Hospitals, Business Performance, Gross Domestic Product (GDP), Management.

# **INTRODUCTION**

## **1.1 Background**

Health is defined in its broad sense, being not only the absence of disease but also general mental, physical, and social well-being. In this definition, the environment in which people live-including access to nutritious food, safe water, sanitation, education and social cohesion-also determines health.

## **1.2 Business and Health**

As a major player in economic development, business has the potential to make a substantial impact on global health. Improving healthcare, fighting disease and increasing life expectancy are all essential for long-term business success.

Corporate engagement in health initiatives can also improve a company's reputation, as well as help find new business opportunities. In short: a healthy community means more productive workers, more prosperous customers, the potential for new markets and increased sources of income.

## **1.3 Statement of The Problem**

Research has been done and documented in the field of quality management and health and how it impacts economic development in the changing pace and face of business performance and management, (Kenya Economic Survey 2011-2012). As a major player in economic development, business has the potential to make a substantial impact on national and global health. Improving healthcare, fighting disease and increasing life expectancy are all essential for long-term business success.

Less research has been carried out on issues relating to quality health service delivery in relation to business performance and growth. There exists a relationship between a healthy productive nation and business success.

This paper shows the relationship that exists between quality health services and business performance in a nation.

## **1.4 Quality Management in Services**

Even though QM has its origin in manufacturing related organizations, its widely believed that its practices are equally relevant to service organization as both use facilities as inputs to satisfy customer's needs. However, it's necessary to understand the unique characteristics of services for an effective implementation of QM in a service organization.

Common management practices of service organizations with successful quality programs include quality process structure, customer involvement, continuous communication of the quality message, training managers to push down decision making, and integration of QM with performance evaluation (Warihay, 1993). Though the service sector lags behind manufacturing in the adoption of QM, Troy and Schein (1995), notice that this might be a boon since services have the opportunity to learn from the mistakes of QM pioneers.

Quality management can be viewed as an approach to management characterized by its principles, practices and techniques (Dean and Bowen, 1994). Each principle is implemented through a set of practices, which consist of activities such as collecting customer information, improving work processes and managing employees. The practices are, in turn, made effective by the support of a wide array of techniques. The strength of QM compared with other business philosophies is its focus on practical methodology, i.e. practices and techniques.

### **1.5 Total Quality Management Principles**

The success of quality management is based on several quality models. Much of perspective and popular literature on TQM subscribes that TQM is “universal” in its application ability. This appears on many levels at the institutional, national and certification schemes. The formal evaluation models of quality management are developed, such as the Malcolm Baldrige National Quality Award model in USA, the European foundation for quality management (EFQM) model in Europe and Deming Application Prize model in Japan. These models have a number of common elements (Juan and Vincente 2004). That proposed TQM models can serve as a prototype for implementing quality improvement programs in manufacturing and service- sector.

The ISO 9000, 2005 quality management standard is based on eight quality management principles. The first quality management principle is Customer Focus where organizations depend on their customers and therefore should understand current and future customer needs. They should also strive to exceed customer expectations.

The next is Management and Leadership in which case leaders should establish unity of purpose and direction of the organization, create and maintain the internal environment in which people can become fully involved in achieving the organization’s objectives.

Involvement of People is also another quality management principle. This means that people at all levels are the essence of an organization and their full involvement enables their abilities to be used for the organization’s benefit.

Process and System Approach to management are other principles according to ISO 9000 which state that desired results are achieved more efficiently when activities and related resources are managed as a processes and identifying, understanding and managing interrelated process as a system contributes to the organization’s effectiveness and efficiency in achieving its objectives.

Continuous improvement principle; means to comply with customer requirements; it involves continuously improving products, services and processes. The most efficient method to create improvement is to let the staff performing the particular work identify and implement the particular improvement in their daily work.

Even though continuous improvement involves all the staff, this should be viewed from the angle that it is the management that has the responsibility for the development and the change in the organization.

Another principle is Factual Approach to Decision Making where quality decisions should be made based on measurement and factual information. Effective decisions are based on analysis of data and information. Lastly, Mutually Beneficial Supplier Relationships which implies that an organization and its suppliers are interdependent and mutually beneficial relationships enhance the ability of both to create value.

### **1.5.1 Customer focus by the health service providers**

Customer focus means that improvements in quality should improve customer satisfaction. Complying with both internal and external customer requirements. Customer expectations for a design or specifications must be transformed in order that the organization may adopt these expectations to activities required for service provision. Customer Focus is the core principle and idea of QM because quality effort is driven by customer's needs and ends with customer's acceptance (Chang and Yu, 2006). In the health service sector, customers include not only the end user but also many in between users, such as suppliers, manufacturers, sellers, etc. However, more than half of the quality problems are supply chain originate from specifications because of the inadequate communications between the members in the whole system (Chang and Yu, 2006).

The health service providers should focus on the following customer requirements in making their quality plans: have they put in place a mechanism in place to determine customer needs; do they have the capacity to efficiently give the services; what is the expected average waiting period for customers; the probability of a customer going back to the facility because of a wrong prescription administered;

do they have a system/procedure to record/track the number of times a customer has visited the facility for treatment; do they have a review of methods/specific treatment e.g. on a monthly basis; are there any systems to show the causes of losses in the centers and whether the processes are in control or not; do they document their processes and whether the documented processes include measurable objectives.

### **1.5.2 Application of statistical process control methods and tools**

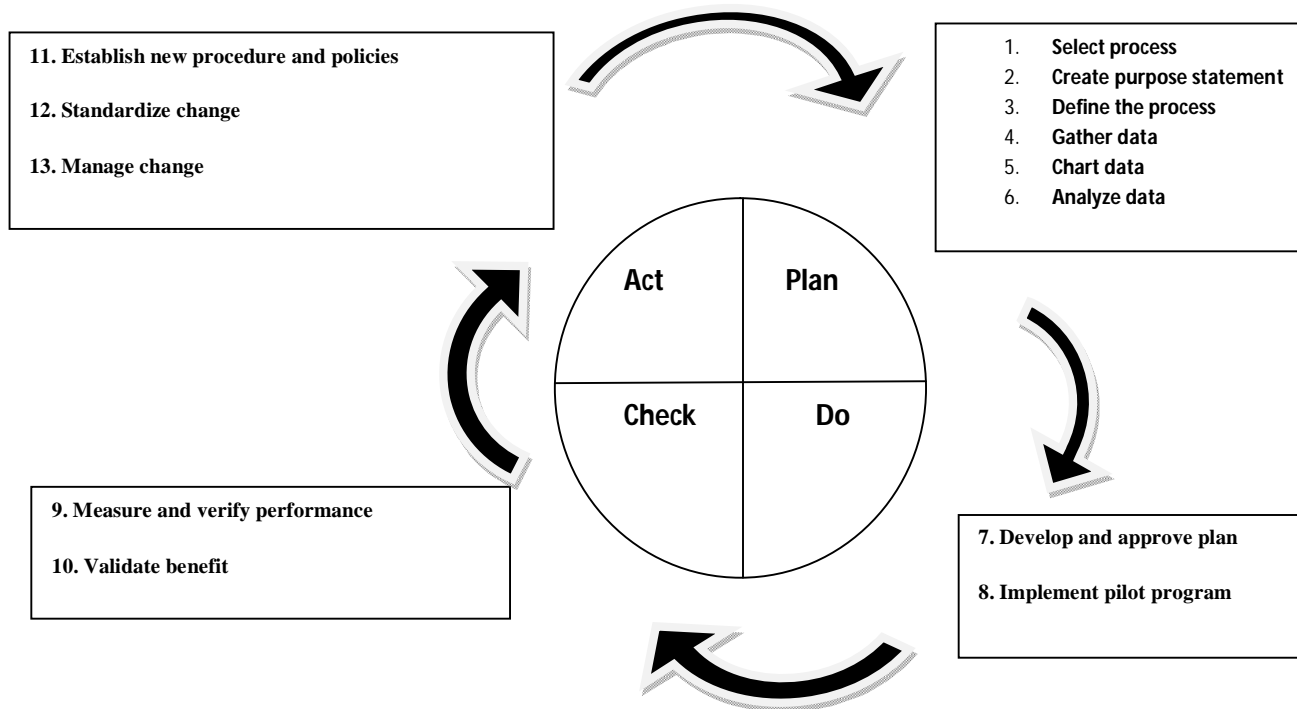
Statistical process control (SPC) methods and tools should be used by all staffs to simplify systems and process re-organization. The most successful SPC tool is the control chart, originally developed by Walter Shewhart in the early 1920's. A control chart helps to record data and to detect unusual events e.g. are very high or low observation compared with "typical" processes performance, occurs. Control charts attempt to distinguish two types of variation. The first is common cause variation which is intrinsic to the process and will always be present. The second one is special cause variation which stems from external sources and in case the process is out of statistical control.

#### **1.5.2.1 Deming's Plan-Do-Check-Act (PDCA)**

This process consists of 4 steps illustrated in Deming's Plan-Do-Check-Act (PDCA) diagram shown below.

The PDCA diagram stresses removing the root cause of problems and continually establishing and revising new standards or goals (Deming 1986).

**Figure 1.1 PDCA diagram**



Under TQM, management in the health sector has two functions. The first is to maintain and improve current methods and procedures through process control. This is followed by directing efforts to achieve, through innovation, major technological advances in health processes.

The health service providers should support and develop process needs to use quality management tools and techniques to measure improvement progress. Some of these techniques are:

*Check-sheet:* Check-sheet is used to record events, or non- events (non-conformances). They can also include information such as the position where the event occurred and any known causes. They are usually prepared in advance and are completed by those who are carrying out the operations or monitoring their progress. The value of check- sheet can be retrospective analysis, so they help with problem identification and problem solving.

*Histogram:* Histogram provides a graphical representation of individual measured values in data set according to the frequency of occurrence. It helps to visualize the distribution of data and there are several forms, which should be recognized, and in this way they reveal the amount of variation within a process. It should be well designed so that people who carry out the operation can easily use them.

*Cause and effect Diagram:* Cause and Effect Diagram, which was developed by Ishikawa, is useful in breaking down the major causes of a particular problem. The shape of the diagram looks like the skeleton of a fish.

This is because a process often has a multitude of tasks footing into it, any one of which may be a cause. If a problem occurs, it will have an effect on the process, so it will be necessary to consider the whole multitude of tasks when searching for a solution.

## **2.0 RESEARCH METHODOLOGY**

An exploratory study was done in Nairobi to examine the correlation between quality health services and business growth and productivity in predicting business performance. Quality living shows a strong predictive power towards productive business performance. The major implication of this study is that quality healthy living is an appropriate resource to be used in harmony with QM to enhance better business performance through innovation (Prajogo 2004).

Nairobi region was selected since it constitutes 80% of the national GDP (Economic Survey 2011). Nairobi region serves a wide population and has a large number of health providers such as social health providers, clinics, dispensaries, social amenities, and private and nation hospitals.

Time and cost advantage was also a consideration in the choice of the region. This will also give room for further study and research findings.

### **2.1 Sampling Framework**

#### **Sampling Size**

The sample size will only account for the major health service providers within the Nairobi region.

This represents the number of respondents selected from the target population to constitute a sample, the size of the sample should neither be excessively too large nor too small, it should be optimum, since the targeted population was 2 hospitals, 1 health center and 2 private hospitals within Nairobi. This contributes to a sample size of 70 respondents in the target population; these respondents will be issued with questionnaires and interviews.

The sampling techniques that will be used are purposive and judgmental sampling within each population subjects of the target population, and this will give an equal chance to all the respondents of being selected.

### **2.2 Data collection instruments**

The major technique to be applied to collect data will be through the use of the questionnaires and unstructured interviews. All the subjects within the sampling size will be issued with questionnaires. Questionnaires will provide the guidelines on how to answer the questions without experiencing much difficulty. Questionnaires will then be collected and edited, and data analysis will commence.

In this study questionnaires will be designed to collect data on quality management issues affecting the provision of health services and how they impact business performance in the economy.

## 2.3 Data analysis

The researchers used open – ended and closed – ended questions in the questionnaires, interviews and a group discussion. The feedback collected from the questionnaires, discussions and interviews were first edited, coded and entered in excel. The data was then exported to SPSS version 16.0 for verification, consistency check, processing and ultimately analyzed. The study mostly utilized descriptive statistics. As such, frequency tables were generated to highlight the percentage scores and cumulative percentages for the variables of interest. For the qualitative data the researchers made use of subjective and content analyses (Cooper & Schindler, 2003). For the quantitative data, the researchers then tabulated the findings and calculated frequencies and percentages on each variable under study and then interpretations were made from the research information which was then presented in form of table frequencies and percentages.

## 3.0 Data Analysis, Findings and Interpretations.

### 3.1 Customer response findings

**Table1: Average Waiting Time**

	Frequency	Percent	Valid Percent	Cumulative Percent
<30min	7	14.0	14.0	14.0
30min-120min	14	28.0	28.0	42.0
120min-180min	9	18.0	18.0	60.0
>180min	20	40.0	40.0	100.0
Total	50	100.0	100.0	

Source: Authors

The percentage waiting time was 14% for customers who had been at the facility for <30 minutes, 28% for those who waited for 30min-120min, 18% for those who waited for 120- 180min and 40% for those who waited for more than 180mins.

**Table 2: Sex of Clients**

	Frequency	Percent	Valid Percent	Cumulative Percent
Male	18	36.0	36.0	36.0
Female	32	64.0	64.0	100.0
Total	50	100.0	100.0	

Source: authors

It was observed that 36% of the clients who visited the facilities were male and 64% were female.

**Table 3: Age**

	Frequency	Percent	Valid Percent	Cumulative Percent
20-30	20	40.0	40.0	40.0
30-40	16	32.0	32.0	72.0
40-50	9	18.0	18.0	90.0
50-60	5	10.0	10.0	100.0
Total	50	100.0	100.0	

Source: Authors

It was observed that 40% of the clients were aged between 20-30yrs, 32% were between 30-40yrs, 18% were between 40-50yrs and those between 50-60yrs accounted for 10%.

**Table 4: Number of Visits**

	Frequency	Percent	Valid Percent	Cumulative Percent
1st time	12	24.0	24.0	24.0
2nd time	4	8.0	8.0	32.0
Review	20	40.0	40.0	72.0
Others	14	28.0	28.0	100.0
Total	50	100.0	100.0	

Source: Authors

The percentage number of clients who visited the facilities for the 1<sup>st</sup> time was 24%, 8% for the second time, 40% for review and the others accounted for 28%.



**Table 5: Health Condition after Treatment**

	Frequency	Percent	Valid Percent	Cumulative Percent
Excellent	2	4.0	5.4	5.4
Good	18	36.0	48.6	54.1
Fair	17	34.0	45.9	100.0
Total	37	74.0	100.0	
Missing System	13	26.0		
Total	50	100.0		

Source: Authors

The clients’ health condition after the previous treatment was recorded as follows; 4% was excellent, 36% was good, 34% was fair and 26% never responded.

**Table 6: Service Rate from Health Professionals**

	Frequency	Percent	Valid Percent	Cumulative Percent
very satisfactory	9	18.0	18.4	18.4
somehow satisfactory	29	58.0	59.2	77.6
not too satisfactory	11	22.0	22.4	100.0
Total	49	98.0	100.0	
Missing System	1	2.0		
Total	50	100.0		

Source: Authors

The following responses were recorded in regard to the service rate from the health professionals; 18% of the clients were very satisfied, 58% were somehow satisfied, 22% were not too satisfied and 1% was undecided.

**Table 7: Revisit to the Hospital**

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	39	78.0	78.0	78.0
No	11	22.0	22.0	100.0
Total	50	100.0	100.0	

Source: Authors

78% of the respondents said that they would seek medical services from a given facility again while the remaining 22% said they would not go back for treatment in the same facility.

**Table 8: Areas of Improvement**

	Frequency	Percent	Valid Percent	Cumulative Percent
Improved Infrastructure	4	8.0	8.7	8.7
Time	29	58.0	63.0	71.7
More doctors	4	8.0	8.7	80.4
Courtesy and understanding	4	8.0	8.7	89.1
Drug availability	5	10.0	10.9	100.0
Total	46	92.0	100.0	
Missing System	4	8.0		
Total	50	100.0		

Source: Authors

The following was recommended by clients on the areas which needed improvements; 8% on infrastructure (sanitation, floor maintenance), 58% on time, 8% on more doctors, 8% on courtesy and understanding, 10% on drug supply and 8% did not respond on the question.

## **3.2 Hospital employee findings**

Data was obtained from respondents in the health facilities (doctors, nursing officers and the records departments). From the respondents the following reaction was recorded from the six health facilities visited.

Most of the health facilities identified their customers as patients only, except one which identified customers as patients (outpatients and inpatients, HIV care and family planning).

Data is collected from customers orally by asking questions on their personal details. The data is recorded manually in book register and a card is issued. In all the facilities visited data is collected and stored manually.

There was no average time limit in most of the facilities serve a customer. The average time to serve a customer depends on the customer's requirements.

In all the facilities emergencies are given a first priority. The facilities handle only what can. In case the condition is critical i.e. beyond their capacity they refer immediately to a higher hospital.

If the patient is not in a position to reach the facility referred to alone because their very ill an ambulance take the patient in the company of a doctor. All the facilities refer their patients to higher hospitals in order to get specialized treatment which they are not in a position to offer.

Out of the six visited health facilities four had a system in place to handle customer complains. Complains are made through suggestion boxes and filling customer complain forms. Complains which cannot be handled e.g., a prescription administered wrongly or never worked, the patient is referred to a higher facility. Disciplinary action is taken.

Most of the facilities had system to identify customer requirements through the use of appointment cards to track customer information, assessing registers on the history of the sickness, age, sex, height etc; a treatment sheet is issued for review and reviews are made immediately after the problem.

Other facilities document and reviews are done every month to handle all the cases arising from within and without. These reports are forwarded to the district hospitals for further investigation and action to be taken. Only a few didn't have a system in place to identify customer requirements and review systems.

## **4.0 Data interpretation**

### **4.1 Number of persons in full employment**

#### **4.1.1 Informal sector**

The informal sector, also referred to as the "Jua Kali" sector. This sector covers all small scale activities that are semi-organized, unregulated and uses low and simple technologies while employing few persons. The informal sector economic activities provided employment for 8,829,900 thousand persons in 2010. Urban 344100 and rural, 5,388,900 persons.

Nairobi province commands the larger share in informal sector employment at 24.74% i.e. 2,179,400 persons out of 8,829,900 persons in all the other provinces.

The average gazetted monthly basic minimum wages in Nairobi Ksh10,068 in 2010(economic survey, pp80). The gazetted monthly basic minimum wage for the agricultural industry, the lowest paid category of workers, unskilled employees monthly wage is Ksh3,347. Wages for the highest paid category of workers namely farm foreman and farm clerks is Ksh6,037.

The average gazette monthly basic minimum wage for agricultural Industry is Ksh4,483.

#### **4.1.2 Modern Sector**

The total number of persons in both the public and private sector 2,060,400 persons. The total number of persons in full employment in Nairobi 520,300, in the other provinces is a total of 1,540,100 persons. Out of the total full employment of public and private;

Female - 591,400  
Male - 1,469,000

#### **4.2 Annual average earnings**

Average wage earnings per employee in the private sector Ksh393,760 and in the public sector Ksh394,913.30 p.a. the average annual earnings p.a in both the public and private sectors Ksh394,131.50.

##### **4.2.1 Value created**

GDP contribution of Ksh394,913.30 p.a per person employed.

**Total number of hours worked p.a**

8hrs per day

40hrs per week

48weeks p.a

**Total hrs worked per year:**

$(40*48) = 1,920\text{hrs p.a}$

**1hr lost:**

$394,913.30/1920 = \text{Ksh}205.68$

**Average no. of hrs wasted:**

$(0.28\text{hrs}*\text{Ksh}205.68) = \text{Ksh}56.74 /\text{person}$

**Total cost of time lost in the economy from Nairobi area:**

$(\text{ksh}56.74*2,179,400) = \text{ksh}123,657,653$

## **GDP loss**

Total cost of time lost: (ksh56.74\*8,829,400 )=**ksh500,980,156**

Percentage cost of time lost in Nrb: ksh123,657,653/500,980,156= **0.25 (25%)**

GDP Loss from Nrb (4.6\*.8\*.25) = **0.92**

GDP decline from Nrb on time lost {(4.6\*.8)-.92} =**2.76**

## **5.0 Summary of findings and conclusions, recommendations and suggestions for further research.**

### **5.1 Summary of the findings and conclusions.**

There was evidence to suggest that there exist a strong relationship between quality health service provision and business performance in the economy. From the calculated GDP loss above, evidence showed that there is a lot of money lost in the economy due to delays in service delivery. This evidence is enough to suggest that there is a relationship between good health and business performance i.e. much is lost in the economy. The implication is that the variable can be used as a predictor to the other sectors of the economy and their implications to those economies. Evidence has also shown that, there exists more reviews on health conditions and the most resourceful persons in the economy are the people aged between 20-50yrs respectively.

Evidence has shown that most of the facilities don't have quality control systems and if they exist, less or no neither evaluation nor reviews are done to take corrective action for improvement.

Quality service provision in the health sector is also lowered due to delays in the supply of drugs and insufficient staff to handle a large number of clients who visit their facilities. There are also inadequate treatment equipment, this forces the host facilities to refer their clients to higher facilities and hence lost time in the economy.

#### **5.1.2 Conclusion.**

There has been a lot of time lost in the economy due to delays in service delivery. These findings could only explain few undertakings in quality service delivery only in the health sector. In the health sector more time is lost in the delivery of services in the economy; hence precaution should be taken to avert this trend.

This study has shown that poor service delivery leads to not only a poor healthy nation but also time wastage and inconveniences of resourceful persons in our economies. The variability of losses to GDP is explained to a low of (0.92%) drop in GDP from Nairobi region only. This implies how much is lost from the other regions. Hence has shown a GDP drop from 4.6% to 3.68%.

## **5.2 Limitations of the study.**

Reliance on the findings of this study is limited to the following factors:

First, the low number of facilities sampled in the period under review was covered due to the limited time.

Second, due to scarcity of data on quality issues or systems being adopted some respondents gave false information. This could affect the nature of the relationship between the dependent and independent variables.

Thirdly, this was just only an exploratory study to entice researchers and scholars to do more research in the area.

Lastly, some facilities denied researchers an opportunity to collect data. This lead to a few samples taken which would affect the consistency of research findings and conclusions.

## **5.3 Recommendations to policy makers.**

Policy makers, especially the government should encourage on quality service delivery and embrace quality management principles. The governments should encourage and fund researchers and scholars to carry out further research in this field of study.

## **5.4 Suggestions on areas of further research.**

Further research may be carried out on issues of quality management and the application of the PDCA cycle in the adoption of good quality service delivery.

## References

1. Cooper, D. R., & Schindler, P.S. (2003). *Business Research Methods*. New York: Tata McGraw – Hill.
2. Dean, J.W. and Bowen, N.E (1994), 'Management theory and total quality: improving research and practice through theory development,' *Academy of management review*, vol.19 no.3, pp 392-418.
3. *Economic survey 2011*, Kenya National Bureau of statistics.
4. *ISO 9000(2000) Quality Management systems: Fundamentals and vocabulary*.
5. Prajogo, I. Daniel, shoal s. AMrik. (2004) '*The Integration of TQM and technology / research and development Management in determining quality and innovation performance.*' Omeya, Retrieve August 7, 2005, from [www. Elseveir. Com/ locate/dsw](http://www.Elsevier.Com/locate/dsw).
6. Troy, k. and Schein, L. (1995), 'The quality culture in manufacturing verses services,' *Managing service quality*, vol. 5no.3,pp.45-7
7. Warihay, F.U. (1993), 'Total Quality in Service organizations,' *Journal for quality and participation*, vol.16 no.3, pp.6-8
8. Yang, C.C (2006), 'The impact of human resource management practices on the implementation of total quality management,' *The TQM magazine*, vol. 8 no. 2, pp. 163-173.
9. Zang, C., Chang, G. and Yu, H. (2006). 'Supply Chain Quality Control Decision under Different Product Structure.' *Journal of operations management*, Vol. 20, pp 245-267.

Advised & guided by: Dr. Owino agaya Okwiri PhD., MSc, MBA, MCQI CQP

Dept of management Science, university of Nairobi

Email address: [owino.okwiri@uonbi.ac.ke](mailto:owino.okwiri@uonbi.ac.ke)