

**QUALITY MANAGEMENT PRACTICES AND OPERATIONAL  
PERFORMANCE OF TELEPHONE COMMUNICATION  
COMPANIES IN KENYA**

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THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION,  
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## DECLARATION

This Research Project is my original work and has not been submitted for any academic credit in any other university.

**Signed.....**

**Date.....**

**Kipng'etich Leonard Rotich**

**D61/71309/2014**

This Research Project has been submitted for examination with my approval as the University Supervisor.

**Signed.....**

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## **DEDICATION**

I dedicate this project to my family and thank God for their well-being in keeping us together during the busy project times.

## **ACKNOWLEDGEMENTS**

I wish to acknowledge my supervisor and his team of academicians that have provided an environment of learning for the completion of this project. The entire School of Business, of the University of Nairobi led by the dean also gets special thanks for the good leadership shown with great vision. I also wish to acknowledge the class of 2019 for their cooperation and obedience in completing this journey. Special thanks go to the administration for providing a safe and workable class atmosphere for excellent support services. May the almighty God be our guide in all our academic journeys.

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## **ABBREVIATIONS AND ACRONYMS**

<b>CA</b>	Communications Authority of Kenya
<b>CCK</b>	Communications Commission of Kenya (predecessor to CA)
<b>MIS</b>	Management Information System
<b>QM</b>	Quality Management
<b>QMPs</b>	Quality Management Practices
<b>RBV</b>	Resource Based View theory
<b>SMS</b>	Short Message Service
<b>SQM</b>	Strategic Quality Management
<b>TQM</b>	Total Quality Management

## **ABSTRACT**

This study was aimed at establishing the implementation of quality management practices in telephone communications companies of Kenya. Specifically, the study sought to establish how the quality management practices had affected the operational performance of the said telephone communication companies. The study used a descriptive research design through structured questionnaires to sample the 5 major telephone communication companies all based or having their headquarters in Nairobi city. This study was anchored on Deming's theory of quality and supported by Barney's Resource Based View theory. Using a correlational analysis with a regression model, the study found that among the aspects of quality management, leadership was playing a key role in improving operational performance. Other key pillars of quality that were significant included customer focus and employee empowerment. However, some pillars were not very strong in affecting the performance including relationship management and evidence-based decision making. In conclusion, the study observed that the Kenyan telephone communication companies had laid down the quality management pillars but were not fully practicing or implementing the quality pillars. On performance, the study concluded that quality management pillars if well implemented played a positive role in improving operational performance. The study finally recommended that there should be further studies on comparative analysis as well as application of the same on other industries or the wider communications industry and not just the telephone communication sub-sector.

# CHAPTER ONE: INTRODUCTION

## 1.1 Background of the Study

Quality is a core factor in day to day operational processes with practices in production being solely dependent on the quality factor in place (Casey, 2015). Quality as explained both by classic and modern scholars is hinged on the premise that customer and what the customer is served controls any successful venture of goods and services. The contention in any case when considering quality is to whether costs go up or down when matters dealing with quality are tackled. Classic scholars including Feigenbaum (2002), Deming (1982) and Crosby (1980) maintained that there was a cost to be incurred or that there would be no cost to be incurred in implementing quality. In other words, the scholars were always torn between qualities being a factor that is woven into production processes or one that would be costed just like other production inputs. Modern time scholars (Ali & Amin, 2014; Ayiro, 2016; Huber & Herman, 2015) also still have the same contentious issue of whether costs incurred during quality implementation are necessary but agreeing that quality cannot be overlooked or assumed to be automatic in any form of production of goods and services. However, all that is determinable only by customers although it is difficult to pin down quality in situations where the customer appears not to have a great say (Huber & Herman, 2015).

The service industry is a very delicate sector that is mainly hinged on quality delivery regardless of what level of customer. This is as opposed to the goods industry in which quantity might overcome quality especially in low level customer sections (Casey, 2015).

As explained by Al-Omiri (2012) quality can also depend on the environment of the people both politically or economically but in general agreement the cost of quality is usually best understood in terms of the sum of costs of conformance and non-conformance (Crosby, 1980; Chopra & Garg, 2012; Aziz & Noor, 2013). Mobile telephony is a very new business not just in Africa but across the world as well and has continued to rise due to its high demand.

As defined by the classic scholars (Deming, 1982; Crosby, 1980 & Feigenbaum, 2002) production processes have to incur costs that do not compromise quality. Both local and international firms involved in mobile telephony have to content with the delicate business of communication given that the competition through complimentary old systems like postal services, couriers and internet are a real threat (Kitheka *et al*, 2012). Similarly, lowering costs remain the key factors in competitive world of mobile telephony. This study was based on the fact that all production systems are not free, and the cost of all production must factor in quality.

### **1.1.1 Quality Management Practices**

Quality management is founded on quality management systems that are based on the consideration of eight elements of strategic management (Wu, 2015). The most important quality management practices include customer focus and management of people, employee empowerment, open culture and executive commitment. In particular support for workers as well as measurement of key performance indicators are key practices that enhance quality management drive towards good performance (Ross, 2017). Continuous

improvement and competency assurance also hold key roles as quality management practices that will give an organization a competitive edge (Nallusamy, 2016).

Quality management practices are as a result of a well-defined and implemented strategic quality management system. This therefore calls for a clear understanding of the strategic quality management system. By competitive benchmarking, Chiow (2014) contends that an organization should put in place a continuous evaluation of products, services and practices against its toughest competitors or other organizations that are considered industry leaders. Quality management practices only succeed because of strategic quality management having a positive effect on the operations of an organization. On a wider scale, organizations with long term focus on quality customer relations in which there is a clear assurance of retaining and satisfying customers without any difficulties. It is almost impossible to imagine that all this can be achieved at no cost. This is because, it is hard to come across customers who felt their needs were met beyond expectations with no extra cost. It is also predictable that a global goal could be achieved once QM is fully embraced as teams form to maintain the strategic quality objectives whose implementation can be a culture in the organization (Oriare, 2014). In practice, organizations falling into the trap of standards in pursuit of quality management have always had no show of the fruits of their QM implementation success. It is such experiences that lead to many organizations or bystanders condemning the pursuit of QM or discarding it all together (Bertalanfy, 1951; Jiju, 2015).

### **1.1.2 Operational Performance in Organizations**

The operational performance of an organization is indicated through achievement of its strategic objectives while creating shared goals and vision in the organization. Operational performance also links every function of the organization on a daily basis to the vision of the organization while encouraging team work (Wang & Yuan, 2009). Key operational performance indicators focus on the unit hourly, weekly as well as monthly basis of organizational process. These include customer satisfaction index, employee satisfaction index as well as productivity as it relates to revenue generation (Kang et al, 2016)

The first key step in performance calls for alignment of all objectives to the organization strategy by the organization planners. These include effectiveness and efficiency in all processes of the organization which can be achieved through a focus on cost reduction with the limited resources available. Capacity is of paramount importance since an organization must prove that within a specific time, it can optimally produce a specific quantity in very reliable quality measures (Omar & Murgan, 2014).

It is also true that any organization that does not have quality as a priority will fail in the competitive market where that organization operates. This means that budgets and performance must be considered in line with the new firm strategy. Organizations therefore must be ready to have their performance measured clearly per division or department so as to align with the strategy. The job functions of all staff will thus require reflecting clearly their contributions to the overall strategic benefit to the organization. However, this is only practical if performance incentives are in support of the strategic

alignment in order to avoid staff discontent that would derail the implementation (Nanda, 2016).

It is most important to note that all the steps of performance plan implementation as put forward by scholars would not work if there is no monitoring and a clear effort to adopt to the new quality performance plan. As pointed out by Kumar (2015) and Oakland (2014) only regular meetings emphasising the need for the planned new ways of operating in quality environment will finally save the performance plan. In other words, it is not to be a document kept by the CEO and top executives, but one that weaves all through the organization for all to see its growth and effect on organizational performance (Sarrico & Rosa, 2016; Nanda, 2016; Mathooko & Ogutu, 2015).

### **1.1.3 Telephone Communication Companies in Kenya**

The telephone communications sector in Kenya is governed by the Communications Authority of Kenya (CA). According to the CA March 2018-19 report, there were 51 million mobile subscriptions encompassing all mobile subscribers on various mobile communication companies. There were also 32 million mobile money subscribers with another 14 billion short message (SMS) subscribers. The mobile penetration level was recorded at 94 percent. The major mobile communication companies in Kenya include Safaricom at 62 percent, Airtel at 26. percent, Telkom at 9 percent, Finserve Africa at 3.4 percent and Mobile Pay Limited accounting for less than 1 percent of the mobile subscription market. In terms of mobile money transfer, the CA 2018-19 report indicates that M-Pesa leads with 81 percent, followed by Airtel money at 12 percent, Equitel Cash

at 5 percent and plus T-Cash as well as Mobile Pay accounting for less than 2 percent of the market .

Quality systems in the competitive mobile communications sector is a key factor in the loyalty of customers with many companies having to work extra hard to get any customers away from the market leader, Safaricom Ltd. Specifically, technological innovations and new strategic measures implemented to beat the competition by the leading companies are only applicable if customers see the quality in them. According to Khanam et al (2016) report on improving accessibility to mobile communication services in Kenya, the rapid expansion of mobile communication in the country was a spontaneous response to the increasing demand for communication necessitated by the increasing flow of people due to the high speed of running any kind of business. This makes it imperative to have control and restrictions in the sector in order to retain competitive quality in the mobile communication sector (CA, 2018).

## **1.2 Research Problem**

Quality management practices are the key indicators in operational performance without which, firms struggle to gain any competitive advantages in any given business environment (Peters et al, 2016). The key to this is to find a solution of implementing quality management practices and this can be achieved through quality management (Oakland, 2014). Quality management practices including customer focus and employee harmonization and directly resulted into retained customers as well as fast market spread which are strong indicators of good operational performance (Patyal & Koilakuntla, 2017).



There is however a problem in quality management system implementation as many competitors take their products to the developing world as most of the countries where the products are sold are of inferior quality (Khanam et al, 2016).

The mobile telephony is proving to be a key factor in the communication aspect of business in the present world with almost all business firms having embraced it fully (Tiwari et al, 2018). Utilization of the big data concept heavily relies on telephony implementation and since this is where the world is headed, there is need to have proper understanding of the telephony world. The spread of both fast growing small companies as well as heavy industry players means that mobile telephony plays a key role in linking both internal and external stakeholders in a firm. This therefore calls for improvements in the mobile telephony business to enable accessibility to all parts of the business scope regardless of the borders involved to sustain creating of value (Porter & Kramer, 2019)

Studies by Aziz and Noor (2013) in Bangladesh indicated that mobile communications have been known to have great leaders at the head of their organization. In many instances, the firms that do not quickly implement competitive quality management strategies have been relegated to servicing low cadre markets or customers on markets that are not as competitive thus making low profits. Similarly, Gu and Ye (2014) concluded that companies like Vodafone, MTN and German Telekom have remained globally competitive following their continuous quality innovations. In other words, studies on strategic quality management have concentrated on the competitive market coverage leaving out the quality management practices aspect especially for the European and American market (Jiju,

2014). Measure of what quality constitutes has remained elusive with profitability clouding the quality angle. This needs to be addressed as the main cause of not attaining quality management systems implementation in mobile communication companies.

On the African scene, Jiju (2015) looked at the reasons contributing to high standards in the Nigerian communication industry concluding that the major reasons were good implementation of TQM practices coupled with continuous customer care. The study also attributed the high standards to customer loyalty in those companies. Similarly, Aziz & Khumalo (2016) in their study on implementation of quality standards in South African communication firms concluded that although institutions had good plans, they practiced quality standards unrelated to the training undertaken for strategic quality management and that inadequate funds were dedicated to the implementation of strategic quality.

Ochieng' et al (2016) concluded that framework for choice of strategies adopted by mobile communication firms contributes to the poor implementation of quality at these companies. The scholars pointed out that many unethical values are yet to be eliminated when implementing strategies that could improve the long run high quality desired in Kenya. In other studies, by Bunyi (2013) on performance by organizations embracing quality strategies it is noted that costs and inflexible infrastructure were key to increasing trends of declining quality standards by mobile communication companies. The major causes of these shortfalls in implementation of quality management practices are thus the main basis for setting out to carry this study. It is from the above background that this study was guided to explore "How quality management practices affect operational performance"

### **1.3 Research Objective**

This research project objective sought to establish the effect of quality management practices on performance in telephone communication companies with a focus on the following specific objectives:

- i. To determine the quality management practices implemented by the telephone communication companies.
- ii. To establish the relationship between quality management practices and operational performance in telephone communication companies.

### **1.4 Value of the Study**

To understand the value of this study, the findings could be of importance to the government of Kenya in terms of policy formulation and implementation in mobile communication sector towards realizing strategic quality management plans at all levels, specifically satisfying the customer.

The study results could be used to critique theories supporting the implementation of strategic quality management implementation. In addition, the knowledge and body of scholars could utilize results of this study to make amendments on the theories concerning quality and strategy.

Similarly, the study results could also be adopted by other state and private universities as well as many other institutions practicing strategic quality planning for improving their implementation of strategic quality plans.

Last but not least, findings of this study results could contribute to the knowledge body of scholars and professionals who seek to improve and strengthen the theory and practice of strategic quality management implementation to improve their business service and product delivery.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

In this section of the study, a review of existing literature on matters concerning quality management is presented. As explained earlier, quality management can only be institutionalised through implementation of a Quality Management plan. Chapter two will thus make a critical review of literature on QM to identify study gaps using empirical findings from previous studies.

### **2.2 Theoretical Review**

This subsection of the study reviews two main theories selected as a guide to understanding quality management perspective in performance. The two are; Deming's theory of total quality management and the resourced based view by Barney. The two are deemed fit for current study as they cover quality management approaches and issues.

#### **2.2.1 Deming's Theory of Total Quality Management**

From classic scholar studies, quality management practices were defined as processes that give additional value to the production process. Deming (1982) led the way in defining the theory of quality management in which improvements in quality led to lower costs and higher productivity since they result in less work, fewer mistakes, fewer delays, better utilized times and specifically optimized use of material resources. By doing so, an organization is able to achieve long-term competitive strengths. It is also notable that, strategic quality management would guarantee increased market share thus creating the need for more personnel to sustain the customer demand of the high-quality goods and

services. Using a fourteen (14) point scale and a productivity improvement in the long-term; Deming emphasized co-operation of workers and management to achieve high end quality goods and services.

Specifically, Deming (1982) emphasized the system of profound knowledge that mainly consists of four parts including theory of optimization, theory of variation, theory of knowledge and theory of psychology. By looking at theory of optimization, the organization aims for the whole system consisting of customers, employees, stakeholders, the community and the environment.

Oakland (2014) noted that to fully implement strategic quality management, theory of knowledge must be well rooted in the organization. It clearly indicates that a combination of experience and actual theory behind every practice to uncover the cause-and-effect relationship for every deed. This means that copying alone cannot help an organization. If well managed, the four factors lead to a product that is geared towards customer value rather than the physical product or service (Bunyi, 2013).

The organization is then taxed with establishing an accurate future environment on both technical and economic front in order to know how the products of services of the organization will be affected. It is emphasized that this step helps eliminate the chances of being caught “off-guard” in this very competitive market place. With this forecast well established, the organization should then seek a gap analysis in which the current state and future predictions fully cover the core values in the long run.

Of great importance too is the consideration for lack of funding invested in personnel training leading to lack of creativity and failure to apply simple as well as complex re-engineering processes that help in achieving strategic goals of the organization. Lack of a specific quality management committee in place was yet another key cause of ineffective implementation of strategic quality management that is attributed to poor leadership with weak management (Manalo & Manalo, 2010).

### **2.2.2 Resourced Based View**

The Resource-Based View (RBV) by Barney (1991) and Newbert (2014) was also significant in this study given the mobile communications companies have heavily invested in resources for superior competitive performance. This applies to both goods and service industry in operations. The theory on RBV states that sustained competitive advantage can be achieved more easily by exploiting internal rather than external factors. Classic scholars including Prahalad and Hamel (1991) as well as Rahmann et al (2018) concluded that organizations should examine internal environment of the firm to find the sources of competitive advantage instead of looking at competitive environment for it. These could include tangible and intangible resources. It is also notable that, tangible resources include buildings, machinery and other capital assets. However, tangible resources are fairly easy to get on the market with correct or even opportunistic funding, thus cannot be sustained for long as the lead competitor. Similarly, intangible assets in terms of brand reputation, trademarks and intellectual property are very difficult to compete against thus remaining to be the mainstay of an organization's competitive advantage.

It is notable that that strategically agile organizations, by their nature, focus on deeper understanding of their core capabilities. It enables these organizations to identify those processes that are most likely to add value to their products in the eyes of their clients, thus increasing organizational performance. This would thus increase the chance of organizations to lower investment risk and prevent wasting of resources, when allocating funds for process improvement that translates into quality services to the customer. This study fully justifies the use of RBV theory given the huge resource investment carried out by the mobile communications companies in terms of ground infrastructure as well as the heavy investment in human resources.

### **2.3 Principles of Quality Management**

Quality management is hinged on customer satisfaction, continuous improvement, speaking with facts and respect for people. These according to Casey (2015) have been proved to be the key pillars of any quality venture. As a degree to which a customer experience matches the customer expectations, customer satisfaction is a very strategic component in the organization's quality planning without which, no organization can ever remain viable, profitable or competitive.

It can be argued that, customer satisfaction is achievable through emphasis on learning and satisfying consumer needs and requirements consistently and all the time. This is because satisfied customers will buy more in quantity and be willing to buy new offering of the same or different product service from the organization. This is always possible by the



satisfied customer while still avoiding the competition meaning that the organization has an assured customer. This satisfied customer is also able to give freely development information for the product as well as other services the organization might be offering even the ones this particular satisfied customer does not use. In other words, the customer feels that the organization is part and parcel of their own and very much willing to help in maintaining the quality experienced in their product all through (Jiju, 2015).

It is important that an organization develops a management information system (MIS) that is regularly updated and with a strategic plan of ensuring that the system is well forecast into the future while basing on all its strengths and opportunities. This ensures that the organization has accurate and timely information in order to remain updated on the market thus retaining a competitive edge. Speaking with facts helps reduce costs by cutting on the cycle time while reducing costs without affecting quality (Gu & Ye, 2014).

The most important desire for most people at their place of work or customers in a shopping mall is recognition and empowerment. The pull towards supermarket or mall shopping is that sense by the customer that there is empowerment to carry out the whole process of shopping literally without referring to the shelf keeper. It all points to empowerment to the shopper or customer (Casey, 2015). Effective empowerment is necessary to build the confidence of staff in decision-making. This requires proper training aligned to the quality function of the customer at strategic level down to the low-level staff. The end result or benefit to people respect is that the organization will reduce areas of errors and will do so

with trusted staff that has decision-making capabilities through continuous improvement (Sarrico & Rosa, 2016).

## **2.4 Operational Performance Measures**

The key operational performance indicators that have been discussed by most scholars point towards the firm harmonizing its resources to align with the strategic objectives of the firm (Porter & Kramer, 2019). This requires the measurement of customer satisfaction through conformity to the design requirements as well as employee satisfaction in terms of how aligned to the vision of the firm. To this end, there are two main measures including customer satisfaction index and employee satisfaction index. The firm using industry standards can device a 10 point scale for each of the various elements that constitute customer satisfaction as well employee satisfaction. On objective basis, these indicators can thus be measured by the internal firm teams or the neutral industry observers to explain the firm operational performance (Ross, 2017).

The same can be applied to the other key operational performance indicators including revenue generation, productivity and gross profit all which can be computed directly and compared over a cross-sectional time period. In effect, the firm can self-test or be tested by both independent observers and competitors for the operational performance. The computation of the performance indicators is a subject of opinion since each firm will have different factors as to what constitutes employee satisfaction and customer satisfaction in particular based on the lifestyles and standards of living in the given area (Zeng et al, 2017).

## **2.5 Empirical Studies**

In this subsection of the study, an emphasis is put on empirical studies involving cases in which various scholars have carried out research on similar topics as in the current study on the international, regional and local scenes. The subsection also summarizes the study gaps from various findings to come up with a workable conceptual framework that will be a guide to the field study.

Chopra and Garg (2012) have argued for use of specific models in the application of strategic quality management. In their study of motor and logistics firms across the USA, the scholars used a sample of 82 companies to test various models for testing the cost of quality in a strategic plan. They concluded that that only after every aspect of the company processes and how much each process adds value to the company are calculated, is it possible to have a close estimate of cost of quality. Similar studies were carried out by Khataie and Bulgak (2012) in Europe focusing on 22 companies related to Japanese importations with the conclusion that without lean manufacturing, it was very impractical to reduce costs.

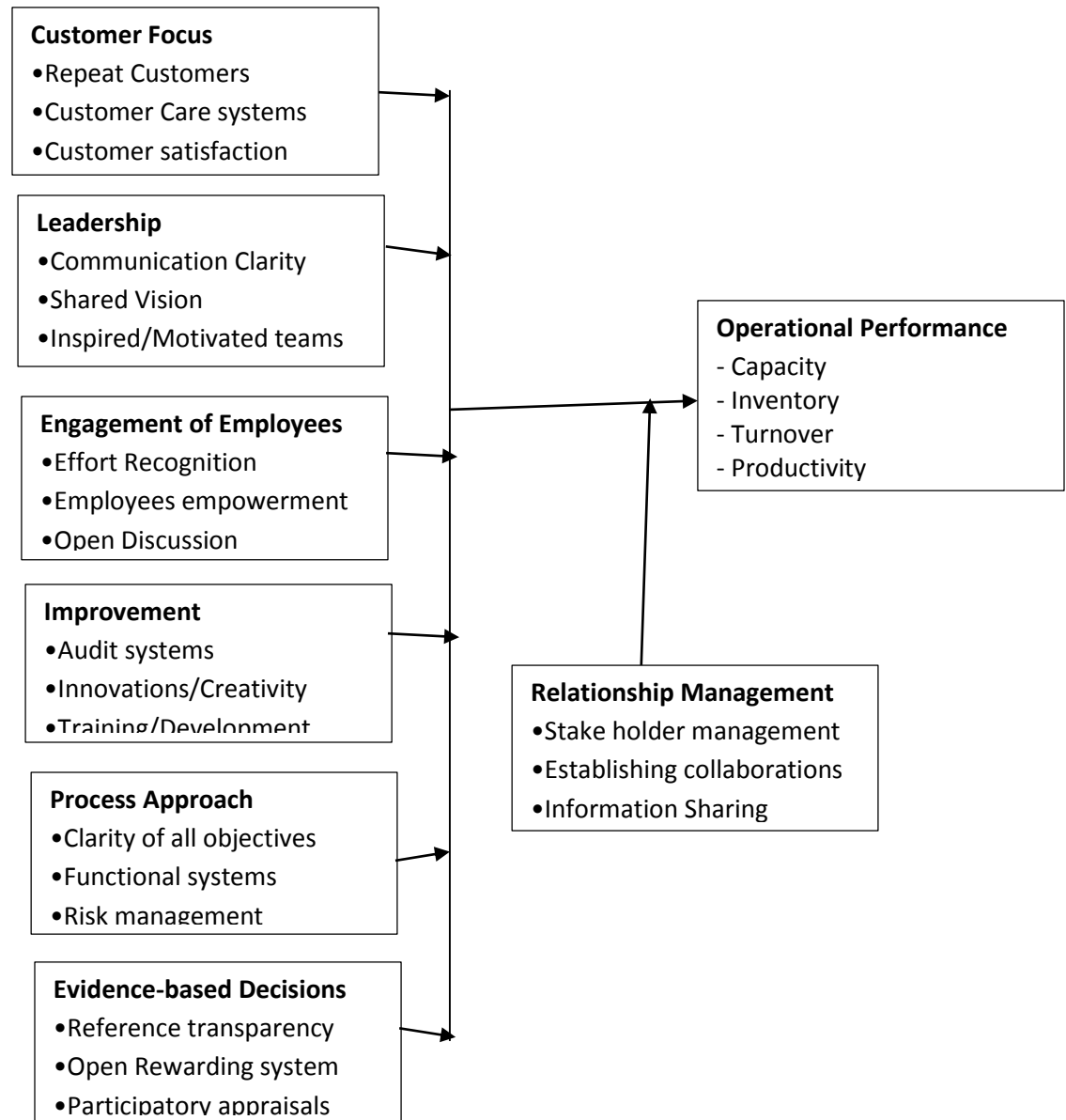
Locally, scholars point out that even though the seven (7) steps of strategic quality management are well documented, there will always appear to be conflicts within organizations that derail efforts to implement the same (Ayiro, 2016). The scholar cited leadership as a key component of the resistance to change that has kept strategic quality implementation difficult to achieve in many organizations.

## **2.6 Conceptual Framework**

A conceptual framework is a set of broad ideas and principles taken from relevant fields of enquiry and used to structure a subsequent presentation. As a hypothesized model identifying the module under study the conceptual framework establishes the relationship between the dependent and independent variables (Cooper & Schindler, 2009). The dependent variable in this study is the effective operational performance by telephony companies while the independent variable will be seven principles of quality management (QMPs) that would influence the operational performance as shown in Figure 2.1. These include customer focus, leadership, engagement of people, improvement, process approach and decision based management as well as relationship management.

*Independent Variables*

*Dependent Variable*



**Figure 2.1: Conceptual Framework**

**Source:** Author's own construct (2019)

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

Chapter 3 concerns the research methodology which points to the choices that researchers make about cases to be studied. This brings together the methods of data gathering including the research design, population, sampling, data collection and data analysis procedures.

### **3.2 Research Design**

In carrying out the study a descriptive design was adopted since it relies heavily on quantitative data collected from the range of respondents involved in this study. Descriptive study focuses on a phenomena with respect to its current as well as past status thus allowing space to make preliminary identification of outcomes. The design also allows for the description of causal relationships between variables under study (Cooper & Schindler, 2012).

### **3.3 Population**

The target population for the study comprised mobile telephone companies running business in Kenya specifically telephony and which are fully licenced by the Communications Authority of Kenya (CA). There are mainly 5 major telephone communication firms in Kenya including Safaricom, Airtel, Telkom, Finserve and Mobile Pay. The five firms formed the population from where sample management staff were surveyed.

### 3.4 Sampling

In order to make a good sample from the population, the study used proportionate stratified sampling by selecting mobile communication companies from where data was collected. From each cadre, specific operations that conform to strategic quality management and performance was selected.

There are 5 major mobile communications company operating in the country namely Safaricom, Airtel, Telkom, Finserve and MobilePay. Using stratified sampling based on management levels, a total of 73 respondents comprising administration, human resource, technical and procurement were targeted in the following approximations using statistical formula.

$$n = \frac{Z^2 \cdot p \cdot q \cdot N}{e^2 (N - 1) + Z^2 \cdot p \cdot q}$$

Where:

N is the population size

Z<sup>2</sup> is the critical value 1.96 at 95% confidence level

P is the probability of occurrence with q as the balancing term of probability

ε is the error term

This gives a figure of 73 from which the sample will be collected in the population as shown in Table 3.1.

**Table 3.1: Market share of mobile telephone firms**

S/No	Firm	Market Share (%)	Proportion	Sample
1	Safaricom	62	0.7	49
2	Airtel	26	0.2	12
3	Telkom	9	0.08	6
4	Finserve	2.9	0.04	4
5	Mobile Pay	0.1	0.01	2
		100.	1.03	73

**Source:** CA Report (2019)

### **3.5 Data Collection**

As a field study, the main data collected was primary due to quantitative modes of analysis. However, secondary data was also used from reports to support sampling. The instrument applied was a structured questionnaire that was administered through drop and pick system to a statistically acceptable number across the sector but not exceeding 73 based on multiple fields of the variables including technical, Human Resources, Procurement and financial administration. Both physical drop-and-pick as well as emailing systems were used to get as much response as possible from the location of the sampled respondents.

### **3.6 Data Analysis**

Field data from the questionnaires was cleaned and itemized for computer based analysis using Likert-scale measures. Descriptive analysis involved generating tables with frequencies and percentages followed by mean and standard deviation. The mean and standard deviation for each variable was then derived. The presentation involving charts and figures is done in the next chapter.



## CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSION

### 4.1 Introduction

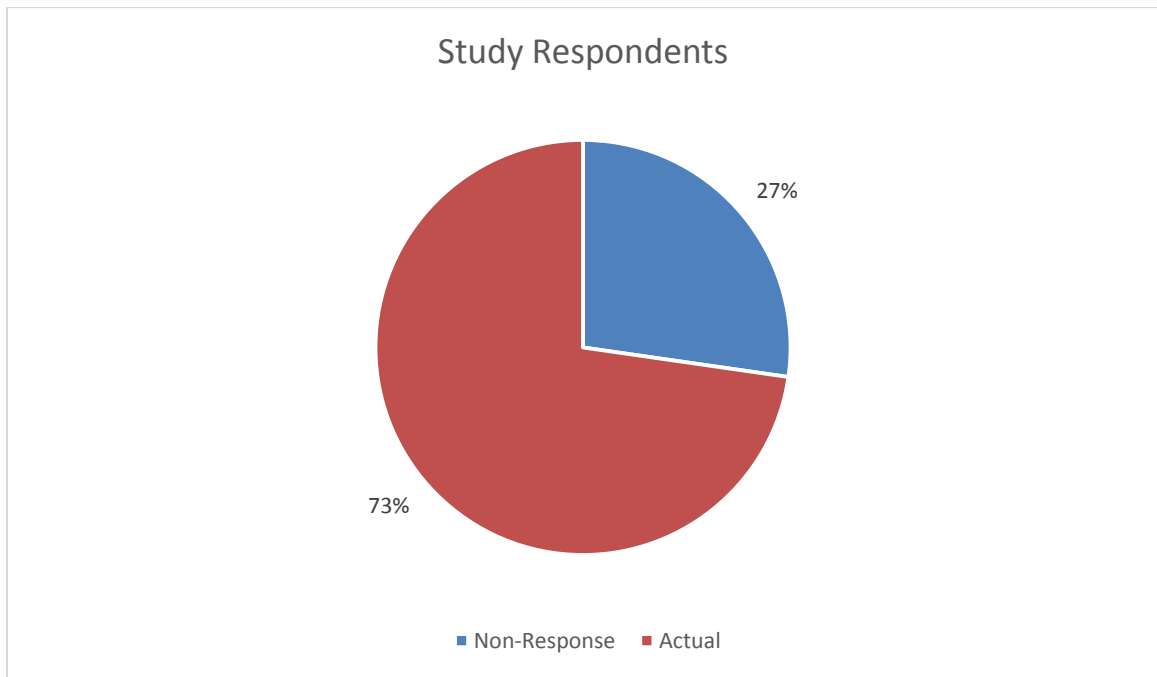
The main objective of the study was to establish the effect of quality management practices on performance in telephone communication companies. The study focused on telephone communications firms with their headquarters in Nairobi City County. Various management staff were contacted for responses.

### 4.2 Response Rate

This study focused on the staff of telephone communications firms in Nairobi County with an initial target of 73. In total there were 56 responses as indicated in Table 4.1 and Figure 4.1 representing a response rate of 77 percent. Generally, this was an open survey and the expected response rate was high as recommended by Kothari (2011) who observed that a response rate of at 50 percent is good representative of an open research without any sensitive data. The scholar noted that studies with open systems will normally elicit high response rates.

**Table 4.1: Response Rate**

<b>S/No</b>	<b>Firm</b>	<b>Sample Target</b>	<b>Actual</b>	<b>Percentage</b>
1	Safaricom	49	41	84
2	Airtel	12	5	42
3	Telkom	6	6	100
4	Finserve	4	2	50
5	Mobile Pay	2	2	100
	<b>Totals</b>	<b>73</b>	<b>56</b>	<b>77</b>



**Figure 4.1: Rate of Response**

### **4.3 Implementation of Quality Management Practices**

The focus of this first section is to answer the first objective on the implementation of quality management practices across the various telephone communication firms that were surveyed across the sample field. A 5-point Likert-like scale was used in the capturing of data using structured questionnaire was applied.

#### **4.3.1 Customer Focus**

Customer focus is a quality management pillar that has been estimated using 3 main factors including repeat customers, customer care systems and customer satisfaction surveys.

Results in in Table 4.2 indicate that the highest mean was 4.16 for repeat customers with a standard deviation of 0.27 which is acceptable and indicates fair dispersion. The lowest mean so far was 2.31 which is below average, while customer satisfaction surveys had a moderate mean of 3.47 with a standard deviation of 0.31 and hence within acceptable limits.

**Table 4.2: Descriptive Statistics for Customer Focus**

<b>Aspects of customer focus</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Std. Dev</b>
- Repeat Customers	1	5	4.16	0.27
- Customer Satisfaction Surveys	2	4	3.47	0.31
- Customer Care Systems	1	4.83	2.31	0.41
Valid N (listwise) = 56				

### **4.3.2 Leadership**

Leadership as an aspect of quality management pillar is determined through communication clarity, vision sharing and inspired or motivational teams. In this study, the three aspects of leadership scored as indicated in Table 4.3. The highest mean was 4.21 for shared vision while the lowest mean of 2.75 was scored in the aspect of communication clarity. Equally low but slight better was inspirational/motivational teams which scored a mean of 2.84 with a standard deviation of 0.32.

**Table 4.3: Descriptive Statistics for Leadership**

<b>Leadership Aspects</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Std. Deviation</b>
- Communication Clarity	1	5	2.75	0.11
- Shared Vision	1	4.2	4.21	0.79
- Inspirational/Motivational Teams	2	4	2.84	0.32

Valid N (listwise) = 56

### **4.3.3 Engagement of Employees**

The third pillar in quality management practices implemented at the telephone communication firms was engagement of employees in which three aspects were tested including effort recognition, employee empowerment and open discussion forums. From the results in Table 4.4, the highest mean of 3.78 was scored in effort recognition while the least scored mean was in employee empowerment with a mean of 2.50 and a standard deviation of 0.81.

**Table 4.4: Descriptive Statistics for Engagement of Employees**

<b>Engagement of employees aspects</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Std. Deviation</b>
- Effort recognition	2	5	3.78	0.22
- Employee empowerment	1	4	2.50	0.81
- Open discussion forums	2	4.7	3.41	0.07

Valid N (listwise) = 52

#### **4.3.4 Improvement**

Another pillar of quality management tested for implementation at the telephone communication companies was improvement in which three aspects were tested. The three main aspects tested included audit systems, innovations and creativity as well as training and development. From the results in Table 4.5, the highest mean of 4.28 was in training and development with a standard deviation of 0.16. Similarly, the lowest mean was found in audit systems with a score of 2.73 and a standard deviation of 0.28. Innovations and creativity was equally high but lower than training and development at 3.61 with a standard deviation of 0.11

**Table 4.5: Descriptive Statistics for Improvement**

<b>Aspects of improvement</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Std. Deviation</b>
- Audit systems	1	5	2.73	0.28
- Innovations and Creativity	1	4.8	3.61	0.11
- Training and Development	2	5	4.28	0.16

Valid N (listwise) = 48

#### **4.3.5 Process Approach**

The next pillar of quality management to be tested was process approach in which three elements were tested including clarity of objectives, functional systems and risk management at the telephone communication companies in Kenya. From the results in Table 4.6, the highest mean of 3.79 was scored in functional systems with a standard deviation of 0.19 while the lowest mean of 2.81 was scored in risk management with a standard deviation of 0.36. The aspect of clarity of all objectives was moderate scoring a mean of 3.2 with standard deviation of 0.16. All the standard deviations for the aspects in process approach were with acceptable limits.

**Table 4.6: Descriptive Statistics for Process Approach**

<b>Aspects of process approach</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Std. Deviation</b>
- Clarity of all objectives	2	5	3.20	0.16
- Functional Systems	1	5	3.79	0.19
- Risk Management	2	4.2	2.81	0.36
Valid N (listwise) = 53				

#### **4.3.6 Evidence-Based Decision Making**

The quality pillar of evidence-based decision making was also tested using three aspects including reference transparency, open rewarding system and participatory appraisals. These three were deemed the most representative of evidence-based decision making. Results as indicated in Table 4.7 show the highest mean score of 3.87 was recorded in participatory appraisals with a standard deviation of 0.23 while the lowest score of 2.19 was recorded in reference transparency. Open rewarding system showed a moderate score of 2.61 with a standard deviation of 0.15.

**Table 4.7: Descriptive Statistics for Evidence-based Decision Making**

<b>Aspects of evidence-based</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Std. Deviation</b>
- Reference transparency	1	4.2	2.19	0.14
- Open rewarding Systems	1	5	2.61	0.15
- Participatory appraisals	1	3.8	3.87	0.23
Valid N (listwise) = 50				

#### **4.3.7 Relationship Management**

The final pillar of quality management was relationship management in which three aspects were tested including stakeholder management, establishment of collaborations and information sharing. The three were equally tested using the 5-point likert-like scale. Results in Table 4.8 indicate that the highest mean score of 4.12 was recorded in stakeholder management with a standard deviation of 0.26 while the lowest score was recorded in information sharing with a mean score of 2.02 and standard deviation of 0.18. Establishment of collaborations scored a moderate mean of 2.91 with a standard deviation of 0.42.



**Table 4.8: Descriptive Statistics for Relationship Management**

<b>Aspects of relationship management</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Std. Deviation</b>
- Stakeholder management,	1	5	4.12	0.26
- Establishment of collaborations	2	4	2.91	0.42
- Information sharing	1	4.7	2.02	0.18
Valid N (listwise) = 52				

#### **4.4 Operational Performance Testing**

In the second part of this chapter, the focus is to respond to the operational performance of telephone communication firms and this was tested using four indicators of operationalization including capacity, inventory, turnover and productivity. Results in Table 4.9 indicate that the highest mean was 4.34 scored in capacity with standard deviation of 0.17 while the lowest score was recorded in productivity with a mean score of 2.71 and a standard deviation of 0.33. Both inventory and turnover aspects had moderate scores of 3.10 and 3.22 respectively with standard deviations of 0.12 and 0.25 respectively.

**Table 4.9: Descriptive Statistics for Operational Performance**

<b>Aspects of operational performance</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Std. Deviation</b>
- Capacity,	1	4.8	4.34	0.17
- Inventory	1	4.4	3.10	0.12
- Turnover	2	5	3.22	0.25
- Productivity	1	5	2.71	0.33

Valid N (listwise) = 49

#### **4.5 Relationship Between Quality Management and Performance**

The third section of chapter 4 is in response to the second specific objective of the study in which the key focus is to link the main variables of the study in which operational performance of the telephone communication companies is compared to the quality management practices to get the relationship between the two variables. In order to achieve this, a regression analysis was necessary and use of t-test was carried out. For this current study, the independent variables included all the pillars of quality management namely customer focus, leadership, engagement of people, improvement, process approach and decision based management while relationship management. The dependent variable in this case was the operational performance in these telephone communication firms in Kenya. A regression model was used with the aim of establishing how the independent variables predicted the dependent variable.

### 4.5.1 Regression Model Summary

The first results for the analysis summarises the overall predictability of the independent variables to the dependent variable and as indicated in Table 4.10 in which 45 percent of the changes in operational performance is relatively explained by the quality pillars which act as the predictors.

**Table 4.10: Model Summary for Estimation**

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	.661 <sup>(a)</sup>	.437	.446		.011

a\* Predictors: (Constant), customer, leadership, engagement, improvement, process, decision, relationships

### 4.5.2 Analysis of Variance

To complete the correlation, the study further tested the independent variables using ANOVA – analysis of variance. This was necessary since there are more than three variables in the study framework. Results indicated in Table 4.11 show that the summary model as used in the previous sub-section is significant enough with the p-value at 0.013 ( $p < 0.05$ ) and a positive large F-statistic, 3.421 which is an indication of operational performance being influenced by the quality management pillars. The analysis of variance (ANOVA) has thus proved that operational performance in telephone communication companies is influenced by the independent variables namely customer focus, leadership,

engagement of people, improvement, process approach and decision based management while relationship management.

**Table 4.11: ANOVA<sup>(b)</sup>**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.224	1	1.224	3.421	.013 <sup>(b)</sup>
	Residual	3.739	6	.623		
	Total	4.963	7			

a\* Predictors: (Constant), customer, leadership, engagement, improvement, process, decision, relationships

b\* Dependent Variable: Operational Performance

### 4.5.3 Coefficients of Model Summary

The analysis of coefficients in Table 4.12 indicate that the constant term is a positive 2.114 with a standard error of 0.122 while the t-statistic of 3.214 is large enough with a significance of  $p=0.011$  ( $p<0.05$ ). The most influential variables from the study findings were leadership and management of relationships or links and each had a strong positive influence on overall influence of quality to firm performance. Each had a coefficient of 1.421 and 0.879 respectively. Their significance was also strong with p values of 0.014 and 0.020 respectively. The rest of the quality pillar variables had mild and insignificant values and hence could not be included in the study model.

**Table 4.12: Coefficients (a)**

Mode		Unstandardized		Standardized	T	Sig.
		Coefficients		Coefficients		
1		B	Std. Error	Beta	B	Error
1	(Constant)	2.114	.122		3.214	.011
	Leadership	1.421	.009	.224	1.782	.014
	Relationships	0.879	.017	1.361	0.531	.020

a Dependent Variable: Telephony Firm Performance

Using the information in Table 4.12 on coefficients, the model summary for quality relationship with telephony firm performance can be reconstructed as follows:

$$\text{Telephony Performance} = 2.114 + 1.421\text{Leadership} + 0.879\text{Relationship Management}$$

In simple terms, this translates to every measurable unit of performance being affected by 1.421 measurable input of leadership and 0.879 measurable inputs of relationships management by the telephony firm. Barring any other industry problems, it can also be assumed that performance can be seen to have 2.114 times increased performance without addition of the independent variables. The industry noise or error could be estimated elsewhere as competition or operational disturbances but have not been calculated and hence not inculcated in the study regression model.

## **4.6 Discussion of Findings**

The main focus of chapter four is to make analysis of data and discuss the findings. This sub-section is thus aimed at discussing the findings in the previous sub-section in order to resonate with both the theoretical and conceptual framework of the study. The study aimed at establishing how quality management has or does not have an effect on the operational performance of telephone communication firms in Kenya. The response rate was specifically in line with the recommended limits by Kothari (2011) and this was indicative of the non-complexity of the study issues being raised. It was also noted that the majority of the firms in the telephone communication industry were largely based in Nairobi thus supporting the quality management pillar of managing relationships as pointed out by both Feigenbaum (2002) and Jiju (2015). In general, the study results were in one way or another affected by the fact that most of the respondents were from the leading and dominant telephone communications firm in Kenya, Safaricom.

Leadership was a key component of operational performance and the study results indicated a high degree of significance. As pointed out by Omar and Murgan (2014), there was need to have leadership that could steer every firm to newer levels through well-articulated quality management. The study results indicate how crucial leadership is in terms of quality management that can drive a firm to operational performance.

Another implication from the study result was that the management of relationships boils down to how good the leadership can handle stakeholders as well as dissemination of

information within and outside the firm. The results are in line with the findings of Oriare (2011) as well as Seng et al (2017) in which stakeholder management was proved to be key in managing good communication and enhancing good leadership that would drive the firm to improved operational performance. It was also established that the process approach in operational performance was a key ingredient on leadership at the telephone communication firms. This result are in agreement with what other scholars including Ayiro (2016) and Chiarini (2015) who also found out that the customer focus success is well cemented if the leadership embraces process approach.

However there were varying findings from previous scholars in which Sarrico and Rosa (2016) have indicated that the evidence-based decision making at most firms does not always result into improved performance and that forecasting using well collected data is crucial. Other scholars including Patyal and Koilakuntla (2017) point to the environmental competition management as key to the improved operational performance in most firms.

## **CHAPTER FIVE: SUMMARY, CONCLUSION & RECOMMENDATIONS**

### **5.1 Introduction**

In this final chapter of the study, the main aim is to provide a conclusion that would lead to recommendations in the field of telephone communications in Kenya based on quality management practices or quality pillars. It is therefore clear that the recommendations and suggestions will be based on the findings in the previous chapters and the main study objective that sought to establish the implementation of quality management practices in telephone communication companies in Kenya.

### **5.2 Summary**

This study had the main objective of determining the quality management practices implemented by telephone communications companies in Kenya with a target focus on the headquarters of the leading firms. A descriptive design was used to sample the staff in the main companies with the 7 pillars of quality fully tested. The findings indicated that there is need for leadership selection to be based on the full understanding of the 7 pillars of quality.

Similarly, the study sought to establish the relationship between the quality management practices and the performance in the telephone communication companies. Through structured questionnaires, this relationship was tested by linear equation model and the findings indicated that some pillars had strong positive relationship while others did not. Specifically, the leadership and relationship management pillar were found to generate



strong performance incentives in the firms. The study was thus able to come up with conclusions and recommendations that are expected to uphold the standards of quality that Kenyan telecommunication firms require in order to make progress in the very competitive world of telephone communication. Other factors pending, the study experienced a high leaning towards the acquisition of quality pillars by both emerging and already established firms in Kenya.

### **5.3 Conclusion**

The first objective of the study was to determine the quality management practices implemented by the telephone communication companies in Kenya. This was found on the basis of the 7 quality pillars of quality management with leadership having a highly significant effect on operational performance. Telephone communication companies were also found to be embracing the customer focus and process approach pillars as an indication of the pursuit for quality. The study also concluded that there were moderate acceptable or implementations of the improvement and the evidence-based decision making pillars. Similarly, the telephone communication firms are not readily embracing or implementing the engagement and improvement pillars either due to competition or other unexplained factors that could be explored through other studies in future.

The second objective of the study sought to establish the relationship between quality management practices and operational performance in telephone communication companies. The study concludes that the operational performance of the telephone

communication firms is significantly affected by the quality management pillars in both positive and negative ways. The reason for this is that the pillars that have been implemented can be said to be very positive in enhancing the operational performance while those pillars that are not well-implemented contribute less to the performance thus acting negatively. The four aspects of operational performance chosen by the study were all found to be at the various telephone communication firms but implemented in various stages thus leading to the differences in their operational performances. It was also noticeable that the majority of the quality management pillars were well-implemented at the leading firm, Safaricom as opposed to the rival firms.

#### **5.4 Recommendations**

Following from the study findings, recommendations are given in both policy and development terms. It is also following on from the quality management pillars as compared to the operational performances of the telephone communication firms in Kenya. This study therefore recommends that the various telephone communications firms should carefully choose their leadership in order to embrace the pillars of quality management. The study also recommends that government as a stakeholder in most of the telephone communication companies has a role to play in defining the leadership selection of the companies. It is also recommended that the companies in the telephone communications make efforts to have as many aspects of quality management pillars implemented in their working environments in order to help improve operational performance. In order to increase the quality of goods and services to the Kenyan market, the study recommends

the formation of quality management groups that would help in the advocating for total embracing of the quality management 7 pillars.

### **5.5 Limitations of the Study**

The study was also faced with specific limitations in which the market is much skewed towards one leading firm, Safaricom. This therefore appears to tilt the results towards the leading firm more than the true reflection of the whole telephone communications market. Another limitation was that the small firms are not very willing to cooperate in terms of collecting data or giving responses. This problem of limited cooperation was overcome through the use of repeated calls and preplanned visits for discussion on the assurance that the data collected would be strictly used for academic purposes as stated in the introduction letter from the University of Nairobi.

### **5.6 Areas of Further Research**

This study has opened an avenue for further exploration both in the field of quality management as well as operational performance. Specifically, it is recommended that further studies are undertaken in the area of collaborative links between firms to test the quality management pillars. This would take the form of a correlational or comparative study either in the telephone and communication sector or the overall communications industry.

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## APPENDICES

### APPENDIX I: QUESTIONNAIRE

The following questionnaire is meant for academic purposes and all participants are assured of confidentiality in their responses. No part of their response was used outside the academic requirements. The respondent were free to request for a copy of the analyzed results after full presentation of the same to the University of Nairobi.

#### **Section A:**

1. Name of Firm .....
2. Number of branches.....
3. When was the firm started? .....
4. Indicate any international partners in Communications (e.g. Vodafone, MTN etc.)?.....  
.....

#### **Section B:**

This part of questionnaire is concerned with quality issues.

To the best of your knowledge evaluate the following customer focus policies with respect to your firm applying the following guide; 1 – Very small extent; 2 – Small extent; 3 – Moderate extent; 4 – Great extent; 5 – Very great extent

<b>Customer Initiatives Practiced</b>	<b>Very small extent</b>	<b>Small extent</b>	<b>Moderate extent</b>	<b>Great extent</b>	<b>Very great extent</b>
1. Customer surveys					
2. Repeat customers					
3. Customer Care systems					
4. Return back policy					



## SECTION C

To what extent have the following leadership practices been implemented by your firm?

<b>Leadership Practice</b>	<b>Very small extent</b>	<b>Small extent</b>	<b>Moderate extent</b>	<b>Great extent</b>	<b>Very great extent</b>
1. Clear Communication					
2. Shared vision					
3. Inspired/motivated teams					

## Section D:

To what extent have the following people engagement exercises been implemented by your firm?

<b>Engagement of People</b>	<b>Very small extent</b>	<b>Small extent</b>	<b>Moderate extent</b>	<b>Great extent</b>	<b>Very great extent</b>
1. Recognition of effort					
2. Open discussions					
3. Employees Empowerment					

**Section E:**

**To what extent has your firm achieved the following improvements?**

<b>Improvement aspect</b>	<b>Very small extent</b>	<b>Small extent</b>	<b>Moderate extent</b>	<b>Great extent</b>	<b>Very great extent</b>
1. Audit system in place					
2. Innovations/creativity					
3. Training/development					
4. On-job experience					

**Section F:**

**To what extent has your firm achieved the following process approaches?**

<b>Process aspects</b>	<b>Very small extent</b>	<b>Small extent</b>	<b>Moderate extent</b>	<b>Great extent</b>	<b>Very great extent</b>
1. Clear objectives					
2. Proper systems					
3. Risk management					

**Section G:**

**To what extent has your firm achieved the following Evidence based decision making?**

<b>Decision making aspect</b>	<b>Very small extent</b>	<b>Small extent</b>	<b>Moderate extent</b>	<b>Great extent</b>	<b>Very great extent</b>
1. Reference mechanism					
2. Rewarding system					
3. Process appraisals					

**Section H:**

**To what extent has your firm achieved the following Relationship management levels?**

<b>Relationship aspect</b>	<b>Very small extent</b>	<b>Small extent</b>	<b>Moderate extent</b>	<b>Great extent</b>	<b>Very great extent</b>
1. Stakeholder links					
2. Shared systems					
3. Performance measures					

**Section I:**

**Has your firm improved its performance through enhancing any of the following aspects?**

<b>Performance aspect</b>	<b>Very small extent</b>	<b>Small extent</b>	<b>Moderate extent</b>	<b>Great extent</b>	<b>Very great extent</b>
1. Capacity development					
2. Inventory controls					
3. Turnover management					
4. Productivity enhancing					

Give any other comment you can add to help improve the quality of service delivery by mobile communications companies in Kenya?

.....  
.....

**Thank you for participating in the research**