

**QUALITY IMPROVEMENT PRACTICES AND BUSINESS  
PERFORMANCE AMONG COMMERCIAL STATE  
CORPORATIONS IN THE MINISTRY OF HEALTH, KENYA**

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## DECLARATION

This research project is my original work; it has not been presented to any other institution of higher learning for academic purposes.

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This project has been submitted for examination with our approval as the university supervisors.

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## **DEDICATION**

This project is dedicated to my family and friends for their support and encouragement.

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## TABLE OF CONTENTS

<b>DECLARATION</b> .....	<b>ii</b>
<b>DEDICATION</b> .....	<b>iii</b>
<b>ACKNOWLEDGEMENT</b> .....	<b>iv</b>
<b>ACRONYMS</b> .....	<b>ix</b>
<b>LIST OF FIGURES</b> .....	<b>x</b>
<b>LIST OF TABLES</b> .....	<b>xi</b>
<b>ABSTRACT</b> .....	<b>xii</b>
<b>CHAPTER ONE: INTRODUCTION</b> .....	<b>1</b>
1.1 Background.....	1
<b>1.1.1 Quality Improvement Practices</b> .....	<b>2</b>
<b>1.1.2 Business Performance</b> .....	<b>4</b>
<b>1.1.3 State Corporations in the Ministry of Health, Kenya</b> .....	<b>6</b>
1.2 Statement of the Problem.....	7
1.3 Research objectives.....	9
1.4 Value of the Study.....	10
<b>CHAPTER TWO</b> .....	<b>11</b>
<b>LITERATURE REVIEW</b> .....	<b>11</b>
2.1 Introduction.....	11
2.2 Structure of the Health Sector in Kenya.....	11
2.3 Quality Improvement Practices.....	12
<b>2.3.1 ISO Series Standard Quality Improvement Practices</b> .....	<b>12</b>
<b>2.3.2 Lean Quality Improvement Practices</b> .....	<b>13</b>
<b>2.3.3 Business Process Reengineering (BPR) Quality Improvement Practices</b> .....	<b>14</b>
<b>2.3.4 BE self-assessment (The EFQM Model) Quality Improvement Practices</b> .....	<b>15</b>

<b>2.3.5 Six Sigma Quality Improvement Practices</b> .....	<b>16</b>
<b>2.3.6 Total Quality Management Practices</b> .....	<b>17</b>
2.4 Business Performance .....	20
2.5 Theoretical Review .....	21
<b>2.5.1 Rational and irrational theories of Quality Improvement adoption</b> .....	<b>21</b>
2.6 Conceptual Framework.....	23
2.7 Summary .....	25
<b>CHAPTER THREE: RESEARCH METHODOLOGY</b> .....	<b>26</b>
3.1 Introduction.....	26
3.2 Research Design.....	26
3.3 Target Population.....	26
3.4 Sample Design .....	27
3.5 Data Collection .....	27
3.6 Data Analysis .....	28
<b>CHAPTER FOUR</b> .....	<b>31</b>
<b>DATA ANALYSIS, FINDINGS AND DISCUSSIONS</b> .....	<b>31</b>
<b>4.1 Introduction</b> .....	<b>31</b>
4.2 Response Rate.....	31
<b>4.3 General Information</b> .....	<b>31</b>
<b>4.2.1 Respondents Gender</b> .....	<b>31</b>
<b>4.2.2 Respondents Age Bracket</b> .....	<b>32</b>
<b>4.2.3 Respondents Education Level</b> .....	<b>33</b>
<b>4.2.4 Respondents Designation</b> .....	<b>33</b>
<b>4.2.5 Respondents Length of Service in the Organization</b> .....	<b>34</b>
4.3 Quality improvement Practices Implemented.....	35

4.3.1 Quality improvement Programmes.....	36
4.3.2 TQM quality Improvement Practices in Respondents Organization .....	37
4.3.3 ISO Series Quality Improvement Practices in Respondents Organization.....	39
4.3.4 Lean Quality Improvement Practices in Respondents Organization .....	41
4.3.5 Six Sigma Quality Improvement Practices in Respondents Organization .....	43
4.3.6 BPR Quality Improvement Practices in Respondents Organization .....	44
4.3.7 Key Factors to be considered in Quality Improvement Programme Selection .....	46
4.3.8 Application of Quality Improvement practices.....	48
4.3.9 Employee Attitude Towards Quality Improvement Programme.....	49
Employee Attitude towards Quality Improvement Programme .....	50
4.4 Relationship between Quality Improvement Practices and Business Performance.....	51
4.4.1 Use of quality improvement techniques and Business Performance.....	51
4.4.2 Challenges of Quality Improvement Practices.....	53
4.5 Relationship between Quality Improvement Practices and Performance.....	53
<b>CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS .....</b>	<b>57</b>
5.1 Introduction.....	57
5.2 Summary of the Study .....	57
5.3 Conclusion .....	58
5.4 Limitations of the Study.....	61
5.5 Recommendations for further Research.....	63
5.6 Recommendations.....	63
<b>REFERENCES.....</b>	<b>66</b>
<b>APPENDIX 1: LETTER OF INTRODUCTION.....</b>	<b>71</b>
<b>APPENDIX II: QUESTIONNAIRE .....</b>	<b>72</b>

**APPENDIX 11: STATE CORPORATIONS IN THE MINISTRY OF HEALTH..... 80**



## ACRONYMS

BPR	Business Process Reengineering
BSC	Balanced Scorecard
CI	Continuous Improvement
COQ	Cost of Quality
CTQ	Critical-To-Quality
EFQM	European Foundation for Quality Management
EQA	The European Quality Award
ISO	International Organization for Standardization
JIT	Just In Time
KPIs	Key Performance Indicators
OB	Organizational Behavior
OE	Operational Effectiveness
OM	Operations Management
QA	Quality Assurance
QC	Quality Control
QM	Quality Management
QMS	Quality Management System
TQM	Total Quality Management

## LIST OF FIGURES

Figure 2.1: EFQM Excellence Model .....	16
Figure 2.2: Conceptual Model .....	24
Figure 4.3: Respondents Age Bracket .....	32
Figure 4.4: Respondents Length of Service in the Company .....	35
Figure 4.5: Use of quality improvement techniques and Business Performance .....	52

## **LIST OF TABLES**

Table 4.2: Respondents Gender .....	32
Table 4.3: Respondents Education Level.....	33
Table 4.4: Respondents Designation.....	34
Table 4.5: Quality Improvement Programme .....	36
Table 4.6: TQM Quality Improvement Practices in Respondents Organization .....	38
Table 4.7: ISO Series Quality Improvement Practices in Respondents Organization.....	40
Table 4.8: Lean Quality Improvement Practices in Respondents Organization.....	41
Table 4.9: Six Sigma Quality Improvement Practices in Respondents Organization .....	43
Table 4.10: BPR Quality Improvement Practices in Respondents Organization .....	45
Table 4.11: Key Factors to be considered in Quality Improvement Programme Selection .....	47
Table 4.12: Application of Quality Improvement Practices .....	48
Table 4.13: Employee Attitude Towards Quality Improvement Programme.....	50
Table 4.14: Model Summary .....	54
4.15 ANOVA of the Regression .....	55
Table 4.16 Coefficient of determination.....	55

## **ABSTRACT**

The increasing pressure towards quality improvement practices and the organizations desire to achieve business excellence, high performance, or to become a world-class organization drives them to adopt quality improvement initiatives. The Quality Improvement mindset has compelled managers to continuously improve their operations and look for best practices to adopt. The Kenyan economy is now facing significant challenges as the forces of globalization create intense competitive pressures in businesses. Commercial State Corporations are now under pressure to formulate strategies for competing successfully in a more liberalized trading environment with new players and rivals. Consequently, commercial state corporations are required to place the goal of profitability above other factors. This study sought to examine quality improvement practices and business performance among commercial state corporations in the Ministry of Health, Kenya. The study concluded that Total Quality Management (TQM) and ISO series is the most common quality improvement programme used in the respondents' organisation to improve business performance respectively. The study concluded that the degree of commitment and support that management takes in implementing a total quality environment is critical to the success of quality improvement practices implementation. The study also concluded that from quality improvement practices point of view, strategy consists of understanding what customers want and aligning the organization with plans to deliver it to them. The study finally concluded that customer service and satisfaction are at the core of the institution and the main focus of quality improvement practices. The recommendations reached for this study, are that the central feature of quality improvement practices that needs to be emphasized is the idea of organizational culture being grafted onto management theory and practice. It needs to be emphasized that the management of processes establishes systems to pursue high levels of quality and operational performance.

# CHAPTER ONE: INTRODUCTION

## 1.1 Background

To retain a leading position in the current competitive global environment, any company which aspires to achieve world-class performance must continuously improve key performance objectives such as cost, quality, productivity, flexibility and innovation (Slack & Lewis, 2002). The key competitive business strategies include both achieving lower cost and adding value through differentiation (Porter, 1980). One important way in which competitive performance may be achieved is through quality improvement. This strategy can be used both to differentiate products and services and to obtain lower costs through enhanced productivity and the elimination of waste.

Incremental improvement and innovation are valuable operational strategies to gain and maintain competitive advantage in the global market which puts much emphasis on breakthrough improvement, through developing and using new technology. Both incremental improvement and radical innovation must be undertaken simultaneously in this fast-moving era (Hammer, 2005; Sower & Fair, 2005) and are the key elements within continual quality improvement practices (BSI, 2004).

Increased accessibility to health care has large social benefits to the poor and consequently many spillovers to the wealthier members of the society. The Millennium Development Goals (MDGs) also identify health as an integral part of strategies of fighting poverty. Increased accessibility to quality healthcare therefore leads to reduction in poverty, not just as a result of time-saving, but in the development of more productive human capital as well. The objectives of the health sector in Kenya have included

reducing mortality, morbidity and fertility through promotion of health care, and increasing access to health care services. The government policy is to have affordable and efficient health care system, which can be accessed by all people. Policies towards meeting these objectives were adopted in 1965 after the publication of the Sessional paper No. 10 of 1965 on African Socialism and its application to planning in Kenya, which set strategies towards fighting disease, illiteracy and poverty top on its agenda.

The selection of quality management practices applies two fundamental theories regarding the adoption of quality management practices, rational and irrational. The diffusion of ideas is fluctuating like a fashion and the popularity of the idea depends on the power of the fashion setters e.g. academic gurus, consultants, and hero managers (Greatbatch & Clark 2005; Sturdy, 2004; Jackson, 2001). According Boje et al. (1997) ‘New programmes often are introduced at points of crisis attributed to failure of the old programme or at the point that organizations worldwide including consulting firms are seeking to change for a new fashion. This theory of fashionable management ideas focuses upon irrational behavior, informality, intuitive, and emotional influences indecision-making. On the contrary, general management theory, in particular the areas of strategic decision-making and operations strategy, emphasize and support the importance of a rational, structured, and systematic decision-making process.

### **1.1.1 Quality Improvement Practices**

Theorists have defined Quality Improvement in various ways. Some distinguish Quality Improvement from innovation; others consider that elements of business and technology innovation are embedded in Quality Improvement. In Japan, ‘Kaizen’ or Continuous Improvement was introduced to many countries outside of Japan, by the book Kaizen

(Porter, 1980). Kaizen became known as a distinctive and successful feature of the Japanese management style. The improvements under Kaizen are typically small and incremental changes that involve everyone, entail relatively little expense, and focus on constant improvement efforts. In the same tradition, Boer et al. (2000) defines Quality Improvement as ‘the planned organized and systematic process of ongoing, incremental and company-wide change of existing practices aimed at improving company performance’.

Bessant and Caffyn (1997) describes Quality Improvement as the process which builds upon the high involvement in innovation as thus, Quality Improvement is perceived as an organization-wide process of focused and sustained incremental innovation, recognizing that most innovative activity is not of the ‘breakthrough’ variety, but incremental in nature, depending on its effect on sustained and focused implementation.

Approaches to quality improvement have been cited under several names, such as: methods of continuous improvement (CI) approaches (ASQ, 2007); selecting quality management and improvement initiatives business process improvement methodologies (Bendell, 2005); quality approaches (Marash et al., 2004); New Approaches to Operations-NAO (Hayes et al., 2005); best practices or best world-class (Voss, 2005); business and management ideas (Greatbatch & Clark 2005); management tools, management techniques (Staw & Epstein, 2000); and some authors called them management fads and fashions (Miller & Hartwick, 2002).

Carson et al. (2000) have identified the quality improvement practices as; TQM, ISO Series, Lean production, Six Sigma, BPR, BE self-assessment (MBNQA, EFQM) and

Benchmarking. This can translate into the following benefits: Improved customer relations and focus, Reduced cost of lost time, recalls, and litigation due to quality incidents, Increased consistency and compatibility of quality standards across teams, business units, and the entire corporation, Instant dashboard visibility of enterprise wide quality compliance, Improved corporate brand reputation and recognition and Continuous quality improvement focus to increase business performance.

### **1.1.2 Business Performance**

Business performance is defined as an organization's ability to acquire and utilize its scarce resources and valuables as expeditiously as possible in the pursuit of its operations goals (Gupta, 2004). Looking at the business as a complex organism seeking to survive or thrive in its competitive environment, performance measurement systems serve as a key contributor to the perceptual and coordination/control capabilities of the business.

Different frameworks and reference models for measuring business performance have evolved from a variety of origins. Frameworks are approaches to measurement that businesses frequently adopted, often with significant diversity in their design and use. Reference models are more rigorous standards, typically around specific performance metrics and associated business processes, adopted by an industry or by a common functional unit. They include; Balanced Scorecard, Economic Value Added, Activity-based costing, Quality Management, Customer Value Analysis and Action-Profit Linkage Model. Over the past few decades, many firms have adopted various quality programs, such as Total Quality Management (TQM), Six Sigma, European Foundation Quality Management (EFQM) and The Baldrige National Quality Program to improve the quality of the manufacturing and service offerings. A central tenant for all of these



programs is business performance measurement. Quality programs, while grounded in product quality improvement and applied to many other business processes (Wruck & Jensen, 1998), are continuous improvement frameworks that might not be best suited to help manage discontinuities in business strategies (Kaplan & Lamotte, 2001).

This study will focus on the five major business performance frameworks; Economic Value Added (EVA), Activity-based costing, Quality Management, Customer Value Analysis and Action-Profit Linkage Model. EVA is a financial performance metric that is most directly linked to the creation of shareholder value, over time (Stewart 2002). EVA is net operating profit less an appropriate charge for the opportunity cost of all capital invested in an enterprise. Activity-based costing links expenses related to resources supplied to the company to the activities performed within the company. It is a way of measuring which of the firm's activities generate revenues in excess of costs and as a result, provide keen insight into what is really providing value for customers (Meyer, 2002). Action-Profit Linkage (APL) model helps firms identify measure and understand the causal links between company actions and profits. The APL model starts with the corporate strategy and moves to the four main components: company actions, delivered product/service, customer actions and economic impact. Customer value analysis is a sufficiently rich framework and customer relationship management (CRM) technologies that provide firms with better data integration and hence better measurement regarding customers. Quality management is continuous improvement frameworks programs such as Total Quality Management (TQM), Six Sigma, European Foundation Quality Management (EFQM) and The Baldrige National Quality Program to improve the quality of the manufacturing and service offerings.

### **1.1.3 State Corporations in the Ministry of Health, Kenya**

State Corporations commonly referred to in Kenya as Parastatals are established within the provision of State Corporations Act chapter 446 of the laws of Kenya, and given the autonomy to run and concentrate on specific mandates in order to improve service delivery to the public. Although they have Board of Directors or equivalent governing bodies to oversee the day-to-day operations, they operate within the general supervision of respective Ministries under which they are created. There are approximately 125 state corporations in Kenya today, with 7 being under the Ministry of Health in Kenya: Kenyatta National Hospital, Kenya Medical Training College, National Hospital Insurance fund, Moi Teaching and Referral Hospital, Eldoret; Kenya Medical Research institute, Kenya Medical Supplies Authority and Radiation protection board (Government Press, 2013).

State corporations in the health sector need to deliver services immediately and in unplanned quantities, this makes inventories of medical supplies difficult to plan. The Kenya Health sector suffers from shortfalls in quality and from unsustainable growth in costs. There are major weaknesses in the quality of hospital and ambulatory settings and a need for a health system that delivers safe, reliable, timely, and patient-centered care. Improving the quality of Kenya's health system has become a highly visible public and private enterprise, as payers, accreditors, and private organizations attempt to set standards and encourage their achievement (Kowalski, 1991). These characteristics reflect the uniqueness, unpredictability, and user preference of the healthcare industry and encourage quality improvement practices for effective business performance (Gupta, 2004).

## **1.2 Statement of the Problem**

The increasing pressure towards quality improvement practices and the organizations desire to achieve business excellence, high performance, or to become a world-class organization drives them to adopt improvement initiatives. The Quality Improvement mindset has compelled managers to continuously improve their operations and look for best practices to adopt (Boer et al., 2000). A study by Feigenbaum (2001) has emphasized that in the twenty-first century, quality methods and tools are crucial to guide and assure continuous change and constant improvement in order to meet the constantly upward expectations of today's global customers.

QI practices are considered to be one of the major decision categories in operations strategy (Hayes et al., 2005). They are significant especially in such fast-growing newly industrialized countries such as Kenya. The question of 'what to adopt?' creates an activity of searching for best practices. The Kenyan economy is now facing significant challenges as the forces of globalization create intense competitive pressures in businesses. Commercial State Corporations are now under pressure to formulate strategies for competing successfully in a more liberalized trading environment with new players and rivals (Thompson, Strickland & Gamble, 2007). Consequently, commercial state corporations are required to place the goal of profitability above other factors (Musa, 2007).

A number of studies have been done on the concepts of quality improvement practices and organization performance. For example, Miller and Hartwick (2002) found that training and top management commitment play very important roles in TQM implementations in public listed manufacturing companies. The overall findings of that

study point to the significant and positive impact of Quality Management on competitive advantage and customer satisfaction, which, in turn, significantly improves the financial performance of these companies. Hayes et al. (2005) argued that improvements in quality do create corresponding improvements in productivity by reducing costs, errors, rework, and delays. More specifically, Slack and Lewis (2002) raised a series of questions regarding the relationship between Quality Improvement and performance. They suggested that there are significant relationships between Quality Improvement, competitive advantage and business performance.

Locally, a study by Gichuhi (2013) found that firms adopted Quality Improvement practices with a view to achieve consistency in production and customer services, customer satisfaction, waste reduction; improved efficiency in production, minimization of defects in production process and quality and service improvement. But this study was on manufacturing firms in Nairobi and did not relate to Quality Improvement practices with business. Another study by Nyamamba (2013) empirically examined the extent to which Quality Management in the health service sector and business performance are correlated and how quality health services impacts various levels of business performance. The study found out that poor service delivery leads to not only a poor healthy nation but also time wastage and inconveniences of resourceful persons in our economies as most of the facilities don't have quality control systems and if they exist, neither evaluation nor reviews are done to take corrective action for improvement.

The findings from previous studies heighten the need for commercial state corporations to reorient their quality improvement practices to enhance their performance. Commercial State corporations were set up to empower Kenyans economically and

Kenyan institutions that were earlier run by the colonialist. They were and still are the platform in which the government is involved in commercial activity. There is therefore a need for a study to be conducted to establish the relationship between quality improvement practices and organizational performance. Hence, this research aimed to fill this gap by focusing on the quality improvement practices and business performance among commercial state corporations in the Ministry of Health, Kenya. The following research questions were to be addressed: Which quality improvement practices have been implemented by commercial state corporations in the Ministry of Health, Kenya? What is the relationship between quality improvement practices and business performance among commercial state corporations in the Ministry of Health, Kenya?

### **1.3 Research objectives**

The general objective of this study was to examine quality improvement practices and business performance among commercial state corporations in the Ministry of Health, Kenya.

The specific objectives of the study were;

- i. To establish the quality improvement practices adopted by commercial state corporations in the Ministry of Health, Kenya; and
- ii. To determine the relationship between quality improvement practices and business performance among commercial state corporations in the Ministry of Health, Kenya.

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

The findings from the study may particularly be useful in providing additional knowledge to existing and future organizations on quality improvement practices and business performance to enable them remain competitive. This study may also be beneficial to all state corporations both large and small since they would enhance the realization on quality improvement practices that are majorly employed. The findings may also provide a useful reference document to stake holders in the State Corporation and academic institutions in their endeavors to formulate work plan to meet the performance.

Scholars, students and other researchers may also find the study helpful to identify further areas of research built on the findings of this research. The study may be a source of reference material for future researchers on other related topics; it may also help other academicians who undertake the same topic in their studies. The study may also highlight other important relationships that require further research; this may be in the areas of relationships between quality improvement practices and supply chain performance.

Most importantly, it may help the policy makers within public and private sector to identify crucial areas in their organizations and make appropriate decisions to ensure that quality improvement practices is critically emphasized on. Also, through this study leaders and managers in state corporations may learn and make responsible quality improvement practices decisions that are Mt to facilitate and sustain high business performance, and manage organizational and national resources so that corporations and societies can benefit from them in the future.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

Literature review chapter summarizes the background and context for the research problem. Works and results from other researchers who have carried out their research in the same field of study are presented here. The specific areas covered in this chapter are; the ISO 9000 series standard, Lean, business process reengineering, six sigma and total quality management as quality improvement practices, business performance, theoretical framework and conceptual framework.

#### **2.2 Structure of the Health Sector in Kenya**

Good health is vital to socio-economic development worldwide, given that it enables people to participate in economic, social and political development. It is also an important indicator of quality of life and a major contributor to human capital. Improved health leads to improvement in life expectancy and reduces production time wasted, thus resulting in economic development (WHO, 2001*a*).

The public health sector accounts for 51% of the country's facilities and employs about 70 percent of health personnel. In terms of financing, the Government plays a vital role by contributing 47 percent of Kenya's total health expenditure, while private individuals account for 41 percent, National Health Insurance Fund (NHIF) contributes 4 percent, and donor agencies provide 3 percent (Republic of Kenya, 2000). The Ministry of Medical Services, and Ministry of Public Health and Sanitation are structured like a

pyramid with six levels, and patients are referred upward and downward as necessary (Mwabu, 1989). At the lowest level of the system, are the dispensaries, followed by health centres, sub-district hospitals, district hospitals, 6 provincial hospitals, Moi Referral Hospital and Kenyatta National Hospital at the apex. The dispensaries provide basic consultation services and essential drugs (Republic of Kenya, 1994; Collins et al., 2000).

### **2.3 Quality Improvement Practices**

Quality improvement in the key operating dimensions such as cost, quality, productivity, flexibility, and process innovation is nowadays considered an essential strategy, to gain and maintain competitive advantage in operations (Hayes et al., 2005; Swinehart et al., 2000). When the concept of Quality improvement was first introduced in the early days of modern Quality Management (QM), it was then associated with Kaizen in a manufacturing environment.

Quality Management itself is a term referring to coordinated activities which direct and control the quality of product and services of an organisation. Widely adopted and utilized practices related to the quality improvement area nowadays are TQM, BPR, Six Sigma (Bain & Company, 2005b), ISO series, BE self-assessment, and Lean. All these techniques and philosophies are developed with the ambition to continuously improve in quality and productivity.

#### **2.3.1 ISO Series Standard Quality Improvement Practices**

ISO series standard is an internationally recognized standard for quality management system. The first version, the ISO series, focused on quality control in manufacturing



(Dooley, 2000). The second version, launched in 1994, emphasized on quality assurance and required documentation, procedures, and evidence of compliances. Lately, the ISO series was introduced as a new concept of process effectiveness and had a significant change to focus more on continuous improvement and customer satisfaction, compared with the previous versions (Gupta, 2004).

ISO series notable strengths are; it strengthens the control phase and creates process stability through documentation and regular assessment. It motivates management responsibility. It improves process ownership, responsibility and accountability. It develops and certifies a quality assurance system. Ensures customer confidence and enhance international recognition (for export) assisting marketing effectiveness through quality differentiation (Ussahawanitchakit & Tansuhaj, 2003).

### **2.3.2 Lean Quality Improvement Practices**

Another popular Quality improvement approach is lean. McKellen (2002) suggests that in order to continuously improve quality and productivity, organizations need to adopt and combine modern manufacturing philosophies such as Kaizen, Lean, Quick response, Agile, and Six Sigma. Lean thinking, an extended JIT principle and a developed concept from Toyota, focuses on reducing waste with an aim for improving manufacturing performance. With a combination of kaizen and lean production over the period from 1994 and 2001, the Japanese automotive plant had higher increase in productivity and a better quality performance, compared with the United States and the United Kingdom (Oliver, 2002).

Lean notable strengths are that it; provides extension to the problem solving tool box, gets quick results, does not require involvements from the whole organization, creates agility and efficiency in the organization. On the other hand, its weaknesses have been pointed out as; it lacks clear project based roadmap, it lacks linkage to financial performance, it does not focus on leadership, it lacks methodology to sustain results, lacks structured training programme, it has no linkage between business improvement activities and business strategies (McKellen, 2002).

### **2.3.3 Business Process Reengineering (BPR) Quality Improvement Practices**

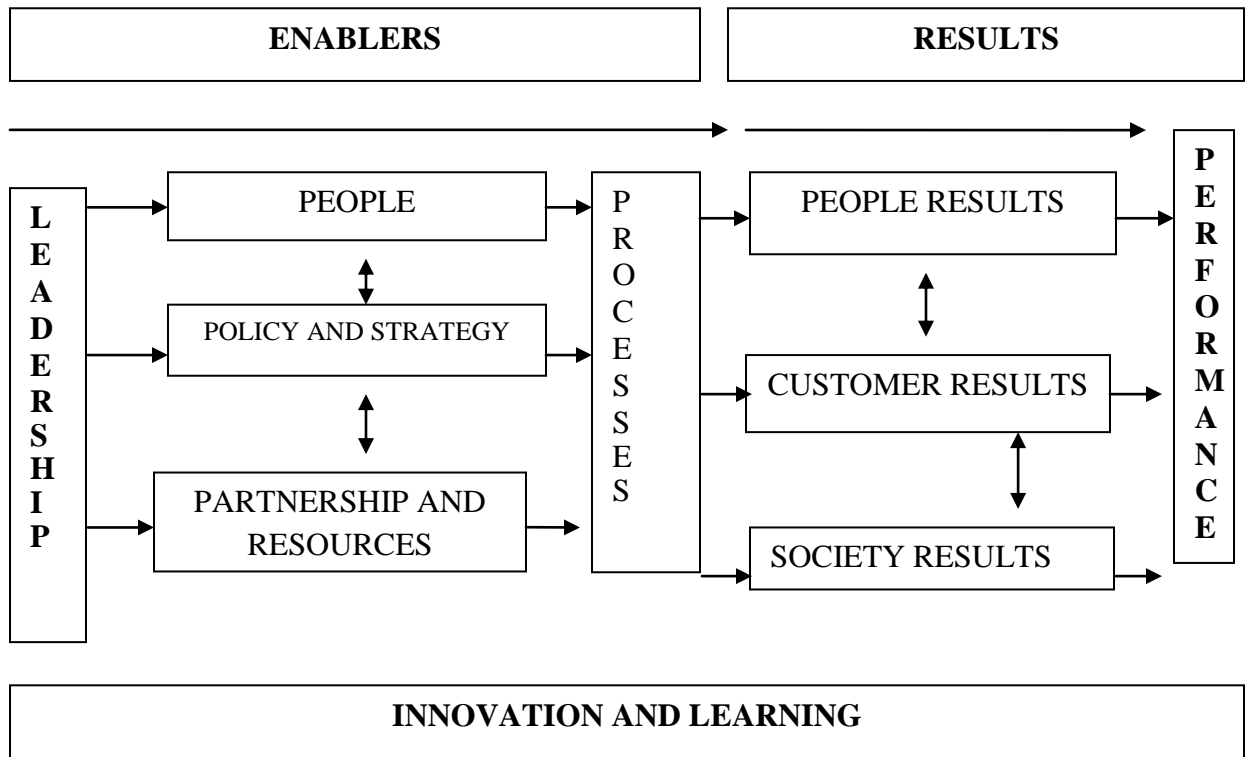
For breakthrough changes, Boer et al. (2000), suggest Business Process Reengineering (BPR) to stimulate invention and force radical organizational change. Hammer and Champy (2001) define BPR as ‘the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance such as cost, quality, service and speed.’ Both incremental improvement and innovation are essential to achieve and maintain competitive advantage. Although each has a different approach, quality improvement by TQM, Six Sigma, or Lean focus on the existing system and improve its performance using a bottom-up approach, while radical change by BPR tends to start from the beginning, using top-down methods.

BPR notable strengths are that it; reduces headcounts, breaks down the communications barrier across supply chains, its fast, flexible and accessible information enhances transparent business processes, builds a decentralized, flat structure and wider span of control by using IT to tighten the control (Boer et al., 2000).

#### **2.3.4 BE self-assessment (The EFQM Model) Quality Improvement Practices**

The EFQM Excellence Model was introduced at the beginning of 1992 as the framework for assessing organizations for the European Quality Award. It is now the most widely used organizational framework in Europe (Eskildsen & Dahlgaard, 2000) and has become the basis for the majority of national and regional Quality Awards. The EFQM Excellence Model is a non-prescriptive framework based on nine criteria as shown in Figure 2.1. Five of these are ‘Enablers’ (leadership, people, policy strategy, partnership and resources, and processes) and four are ‘Results’ (people results, customer results, impact on society results and business results). The ‘Enabler’ criteria cover what an organization does. The ‘Results’ criteria cover what an organization achieves. ‘Results’ are brought about by ‘Enablers’, and ‘Enablers’ are improved using feedback from ‘Results’. The Model, which acknowledges that there are many approaches to achieving sustainable excellence in all aspects of performance, is based on the premise that: Excellent results with respect to Performance, Customers, People and Society are achieved through Leadership driving Policy and Strategy that is delivered through People, Partnerships and Resources, and Processes (EFQM, 2002).

**Figure 2.1: EFQM Excellence Model**



**Source:** *Journal of the Association of Building Engineers* (Watson, 2000)

### 2.3.5 Six Sigma Quality Improvement Practices

In recent years, many firms have adopted Six Sigma in an effort to improve quality and reduce costs (Pyzdek, 2003). Six Sigma has been attractive to business executives, as it is thought to overcome some of the pitfalls of historical quality management implementations. Quality management programs have been criticized for relying on improvement without mechanisms for ensuring that positive results will ensue (Treichler et al., 2002). That is, if employees are trained and empowered in quality improvement approaches, quality improvements and benefits will “percolate to the top,” thereby improving company performance.

On the other hand, the Six Sigma approach requires more direction and leadership from top management than traditional quality management. This is termed “leadership for Six Sigma” (Treichler et al., 2002). Along with this higher degree of leadership is a more structured process for improving performance. One approach to Six Sigma is the five-phase define measure, analyze, improve, and control (DMAIC) process. Included with DMAIC is a method for leaders to prioritize potential improvement projects based on the probability that such projects will result in financial benefit to the organization. Similarly, another defining aspect of Six Sigma is its greater emphasis on cost reduction through quality improvement (Bisgaard & DeMast, 2006).

Six sigma notable strengths are that it; is a rigorous, formalized, systematic and practical methodology for company-wide quality improvement and being able to link with quality tools (comprehensive quality tool box), is rich in root causes analysis or preliminary analysis before implementation, enables measurable bottom-line results and rigorous financial evaluation (Business results oriented), bases decisions on facts and data, motivates intensive trainings, reduces cultural differences by using common method and terminology, enables breakthrough improvement.

### **2.3.6 Total Quality Management Practices**

TQM is the highest level of quality management. It is concerned with the management of quality principle in all the facets of a business including customers and suppliers (Rao et al., 2006). There are seven (7) important element of quality culture which TQM practitioners generally agree should be present in organizations whose culture complements TQM implementation (Rao at el, 2006). This include leadership and top management commitment, customer management, people management and

empowerment, supplier partnership, quality planning and strategic, process management, rewards and recognition and effective communication.

TQM's notable strengths are: TQM includes systems, methods and tools, Effective TQM implementation affects the long-term operating performance such as higher profitability, enhance customer satisfaction, operational efficiency, and employee motivation, TQM has been developed and improved since 1980 and it becomes an organization's culture and it requires low investments.

#### **2.3.6.1 Leadership and Top Management Commitment Practices**

Without clear and consistent quality leadership, quality cannot hope to succeed (Everett, 2002). This requires that quality leadership to be made a strategic objective and Ms that the leader provides the suitable environment to provide the most comfort to the group members to improve performance and productivity (Rao et al., 2006). Top management commitment has been identified as one of the major determinants of successful TQM implementation.

Juran (2003) most of the problems associated with quality are attributed to management. This indicates that successful quality management is highly dependent on the level of top management commitment. This requires that top management commitment to quality must convey the philosophy that quality will receive a higher priority over cost or schedule, and that on the long run, consistent and superior quality will lead to improvement in cost and delivery performance. Warnack (2003), points out that 80 percent of TQM failures are mainly attributed to a lack of requisite commitment of top management.

### **2.3.6.2 People Management and Empowerment Practices**

While management's role is critical to achieving total quality, it is often the most overlooked part of the process. Employee involvement evolved out of business's need to improve performance. The impact of human resources in the organization depends on the kind of empowerment given to them. Crosby (2000) defines TQM as "to obtain total quality by involving everyone's daily commitment".

Rao et al. (2006) indicated that employee involvement programmes have a positive effect on company performance and internal business conditions. Thus employee involvement programmes can be seen as opportunities for organizations in today's competitive environment. Some authors consider employee involvement and commitment to the goals of the TQM process as a condition to its successful implementation (Oakland, 2000).

### **2.3.6.3 Supplier Partnership Practices**

Supplier quality management is an important aspect of TQM since materials and purchased parts are often a major source of quality problems (Crosby, 2000). Poor quality of supplier products results in extra costs for the purchaser. It follows that a substantial portion of quality problems will be due to the supplier. In order for both parties to succeed and their business to grow, a partnership is required. Juran and Gryna (2003), states that companies should treat their supplier as long-term business partners.

Many authors advocate that companies must establish supply chain partnerships to motivate suppliers to provide materials needed to meet customer expectations (Oakland, 2000; Rao et al., 2006). Rao et al. (2006), state that partnership with suppliers will lead to quality results from the supply chain, the creation and enhancement of the customer-

supplier partnership is a major quality practice. The quality gurus believe that supplier should be viewed as an integral part of the organization's business operations (Oakland, 2000; Rao et al., 2006; Crosby, 2000).

#### **2.3.6.4 Quality Policy and Strategy Practices**

Juran and Gryna (2003) view strategic quality management as the “process of establishing long-range quality goals and defining the approach to meeting those goals”. Quality gurus and writers strongly emphasize the importance of strategic planning process based on total quality. Crosby (2000), views quality policy as a standard for practice that sets priorities of what to do and what not to do, he states that without a formal policy, people will develop their own individual, and differing standards of practice.

Oakland (2000), considers a sound quality policy, together with the organization and facilities to put it into effect, is a fundamental requirement, if a company is to begin to implement TQM. For Rao et al., (2006) strategic quality planning demands the integration of quality and customer satisfaction issues into strategic and operational plans.

#### **2.4 Business Performance**

It is conceptualized that firms that have effectively embraced quality improvement practices, record better performance compared to those that have not (David & Strang, 2006). By defining a company's purpose and goals, quality improvement practices provides direction to the organization and enhances coordination and control of organization activities. The linkage between quality improvement practices and business performance needs analysis to get a better understanding how it is applied in practice and



will improve business performance. Quality improvement practices often fail due to problems or barriers encountered at the implementation stage. Mixed evidence about the relationship between quality improvement practices and business performance makes the debate about its effectiveness as a tool of strategic management an ongoing one (Warnack, 2003).

Previous studies on the financial and operational impacts of quality improvement efforts have provided mixed results. Jackson (2001) found the impacts of quality improvement practices to be positive and significant. Prajogo and Sohal (2001), found similar relationships and added that product quality appeared to be negatively related to cost. It is expected that Six Sigma should result in improved financial performance.

## **2.5 Theoretical Review**

Business performance is characterized by its principles, practices, and techniques (Dean & Bowen, 1994). The principles provide general guidelines, which are implemented through the practices that are themselves supported by multiple techniques. Empirical research that assesses quality management for effective business performance and what constitutes quality management should be conducted at the level of practices because the practices are the observable facet of quality management, and it is through them that the quality management implementation is accomplished and managers work to achieve quality improvements (Voss, 2005).

### **2.5.1 Rational and irrational theories of Quality Improvement adoption**

The selection of quality improvement practices may be based on both systematic evaluation and other less rational influences including the fashion phenomenon, impulse,

persuasion, power, or culture (Sturdy, 2004). There are two fundamental theories regarding the adoption of quality improvement practices-rational and irrational. One believes that the diffusion of ideas is fluctuating like a fashion and the popularity of the idea depends on the power of the fashion setters e.g. academic gurus, consultants, and hero managers (Greatbatch & Clark 2005; Jackson, 2001). Boje et al. (1997) stated that 'New programmes often are introduced at points of crisis attributed to failure of the old programme or at the point that organizations worldwide including consulting firms are seeking to change for a new fashion.' This theory of fashionable management ideas focuses upon irrational behaviour, informality, intuitive, and emotional influences in decision-making.

On the contrary, general management theory, in particular the areas of strategic decision-making and operations strategy, emphasize and support the importance of a rational, structured, and systematic decision-making process. A study by Sturdy (2004) indicated that there are six perspectives on the adoption of ideas and practices which are described as follows: The rational view describes the adoption of ideas based on objective evaluation which provides a causal link between the adopted idea and organisational performance.

In summary, although strategic decision-makers may focus their decision on the company's strategic priorities, it is clear that irrational influences cannot be neglected in the overall selection decision. As suggested by these theories, key contents of the conceptual selection model will be composed both of irrational criteria, related to fashion setting and rational criteria e.g. pay-offs, competitive priority, company's capability and

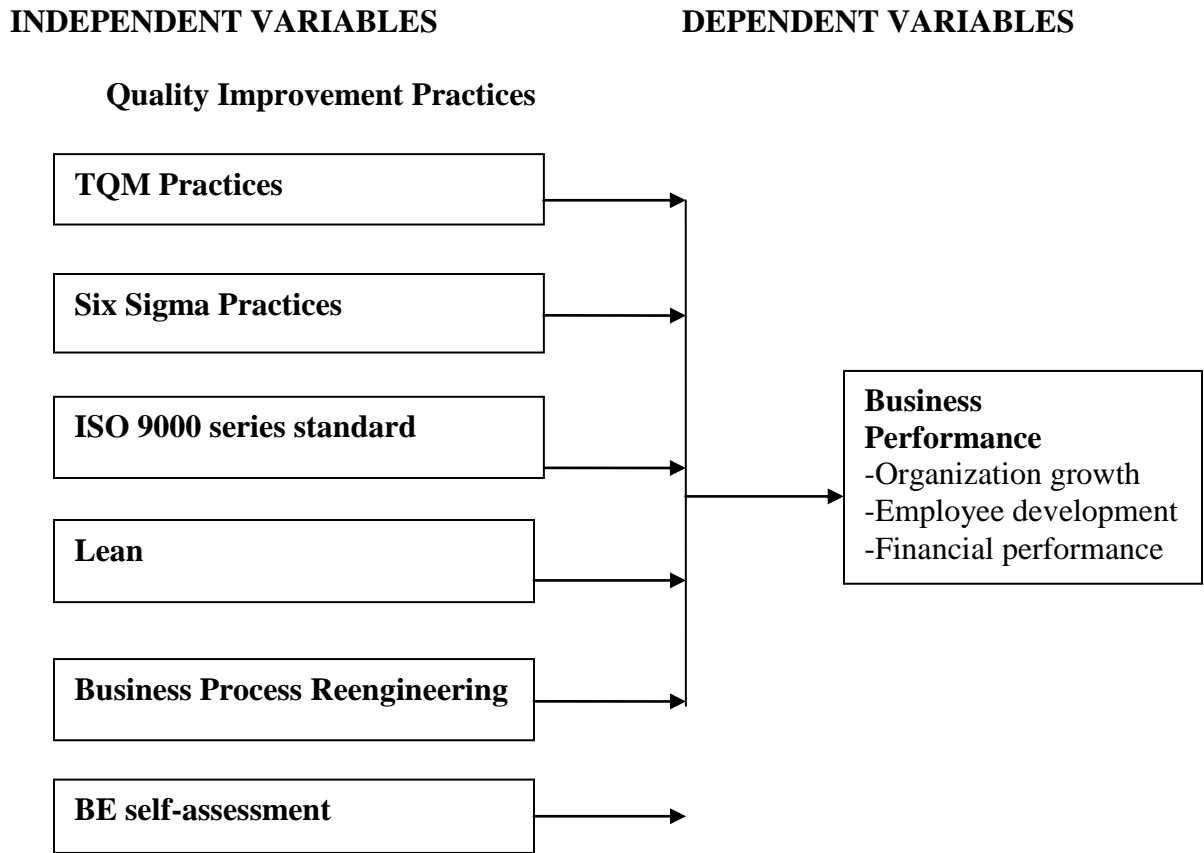
resources, and resource consumption. However, the evidence and claims which appear to support both ‘irrational’ and ‘rational’ decision-making may still be ambiguous.

## **2.6 Conceptual Framework**

A conceptual framework is a research tool intended to assist a researcher to develop awareness and understanding of the situation under scrutiny and to communicate this. According to Bogdan and Biklen (2003) a conceptual framework is a basic structure that consists of certain abstract blocks which represent the observational, the experiential and the analytical/synthetical aspects of a process or system being conceived.

An independent variable is that variable which is presumed to affect or determine a dependent variable. It can be changed as required, and its values do not represent a problem requiring explanation in an analysis, but are taken simply as given (Bogdan & Biklen, 2003). The independent variable in this study is quality improvement practices. A dependent variable is what is measured in the experiment and what is affected during the experiment. The dependent variable responds to the independent variable (Everett, 2002). The dependent variable in this study is Business Performance. The conceptual framework of this study (see Fig. 2.2) demonstrates the quality improvement practices and their level of adoption through exploring the combined direct effects of TQM and Six Sigma practices on business Performance.

**Figure 2.2: Conceptual Model**



**(Author, 2014)**

The framework is proposed to explore relationships between the six quality improvement practices and their effects on business performance. The diagram above illustrates the relationship between ingredients of quality improvement process and performance of organizations (the dependent variable). The study conceptualized that quality improvement process would form independent variables and its effect was expected to impact positively on the performance of the business.

## **2.7 Summary**

Today's successful organisations believe that they must achieve breakthrough improvements, maintain high performance by continuously improving their operations, and plot a course towards excellence and sustainability. To simultaneously achieve these challenging goals, the selection of effective quality improvement practices remains vital. Yesterday's solutions may not deliver competitive performance. The managers' challenge is to choose the best approach for their organisation. They must determine whether the selected approach suits their culture, delivers and sustains the desired results, and whether their people have the capability to handle the techniques.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

This chapter presents the research methodology that will be used to carry out the study. It defines the research design used, data collection tools and how the data will be analyzed.

### **3.2 Research Design**

This study adopted a descriptive survey design. This is because the study aimed at giving an accurate description on the quality improvement practices and business performance among commercial state corporations in the ministry of health, Kenya. A descriptive research is more rigorous than exploratory research and seeks to find out who, what, when and how, aspects of the research (Cooper & Schindler, 2006).

This study was a survey research. It was deemed appropriate because the research involved seeking information from managers experienced in total quality management practices and performance of the state corporations. A cross-sectional study was carried out once and the sample population to make measurements at a specific point in time (Lewis, Saunders & Thornhill, 2011).

### **3.3 Target Population**

The population is an aggregate of all that conform to a given characteristic (Mugenda & Mugenda, 1999). The target population for the study was the seven commercial state corporations in the ministry of Health namely; Kenyatta National Hospital; Kenya Medical Training College; National Hospital Insurance fund; Moi Teaching & Referral

Hospital, Eldoret; Kenya Medical Research institute; Kenya Medical Supplies Authority and Radiation protection board (Ministry of Public Health and Sanitation 2012).

### **3.4 Sample Design**

According to Bryman (2008), sampling is the process of selecting a number of individuals for a study in such a way that the individual represents a larger group from which they are selected. One approach is to use the entire population as the sample. Although cost considerations make this impossible for large populations, a census is attractive for small populations (e.g., 200 or less). A census eliminates sampling error and provides data on all the individuals in the population. The study used stratified sampling technique where the population was divided into three strata. The study sampled 4 respondents from each of the level of management in every organization, making a total of 12 respondents in each parastatal. Thus the total sample was 84 respondents.

### **3.5 Data Collection**

Data was collected from ninety respondents in management level at commercial state corporations in the Ministry of Health, Kenya. The main instrument for data collection was structured questionnaires. The study collected primary data. According to Mugenda and Mugenda (2008), primary data is data the researcher collects from respondents while secondary data refers to data from other sources. The questionnaire is a fast way of obtaining data as compared to others instruments (Mugenda and Mugenda, 2008). Questionnaires gave the researcher comprehensive data on a wide range of factors. Both open-ended and closed-ended questions were used.

The questionnaires had two sections. Section A entailed questions on demographic information of the respondents while section B focused on questions relating to quality improvement practices and business performance among commercial state corporations in the Ministry of Health, Kenya. The need for quantitative data was to evaluate the significance of a particular variable, measured in terms of frequency, percentage or M score, while qualitative data provided a descriptive theoretical aspect of certain variable as depicted from the response in unstructured manner (uncontrolled). The questionnaires were addressed to the respondents and were administered using drop and pick later method. A period of two weeks was given for data collection period after which those who would not have completed were given one more week for completion. These was then collected and sorted ready for analysis.

### **3.6 Data Analysis**

Quantitative data collected using questionnaires was analyzed by the use of descriptive statistics using SPSS (Statistical Package for Social Sciences) and presented through percentages, Ms and frequencies.

The information was also displayed by use of frequency tables and charts. Content analysis was used to analyze data collected from the open-ended questions. According to Baulcomb, (2003), content analysis uses a set of categorization for making valid and replicable inferences from data to their context. This offered a systematic and qualitative description of the objectives of the study.

In particular, a 5 figure Likert scale was used. The Likert scale was preferred because by using it, coding and analysis of the data collected was easy since it has predetermined



categories, it also gives the respondent a wide choice to select from and thus yields more accurate data than other scales like the graphic rating scale and ranking scale, with only two choices; also, under the Likert scale, the assigned numerical values can easily be reversed if the statement is worded negatively, this kind of flexibility is not possible with the other scales (Donald & Pamela, 2010).

In addition, the study conducted a multiple regression analysis to examine quality improvement practices and business performance among commercial state corporations in the Ministry of Health, Kenya and the variables of the study. The regression model was ( $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon$ ):

Whereby  $Y =$  Business Performance

$X_1 =$  TQM Practices

$X_2 =$  Six Sigma Practices

$X_3 =$  ISO 9000 series standard

$X_4 =$  Lean

$X_5 =$  Business Process Reengineering

$X_6 =$  BE self-assessment and  $\beta_0$   $\beta_1$   $\beta_2$   $\beta_3$  and  $\beta_4$  are the regression equation coefficients for each of the variables discussed.

Regression analysis can be simple involving one dependent variable and one independent variable, or multiple involving one dependent variable and two or more independent variable. This procedure was used because the study sought to find out how quality improvement practices individually impact Business Performance.

## **CHAPTER FOUR**

### **DATA ANALYSIS, FINDINGS AND DISCUSSIONS**

#### **4.1 Introduction**

This chapter discusses the findings of the study. The purpose of the study was to determine quality improvement practices and business performance among commercial state corporations in the ministry of health, Kenya. The researcher made use of frequency tables and figures to present data. Data composed was collated and reports were produced in form of tables and figures and qualitative analysis.

#### **4.2 Response Rate**

A total number of 84 questionnaires were sent out, and 74 questionnaires were received. This represents a rate of 88%.

#### **4.3 General Information**

The study sought information on various aspects of respondents' background that is; gender, age, level of education, designation and respondent's years of experience in the corporation. This information aimed at testing the appropriateness of the respondent in answering the questions regarding quality improvement practices and business performance among commercial state corporations in the ministry of health, Kenya.

##### **4.2.1 Respondents Gender**

The respondents were requested to indicate their gender. The findings are as presented in table 4.2 below.

**Table 4.1: Respondents Gender**

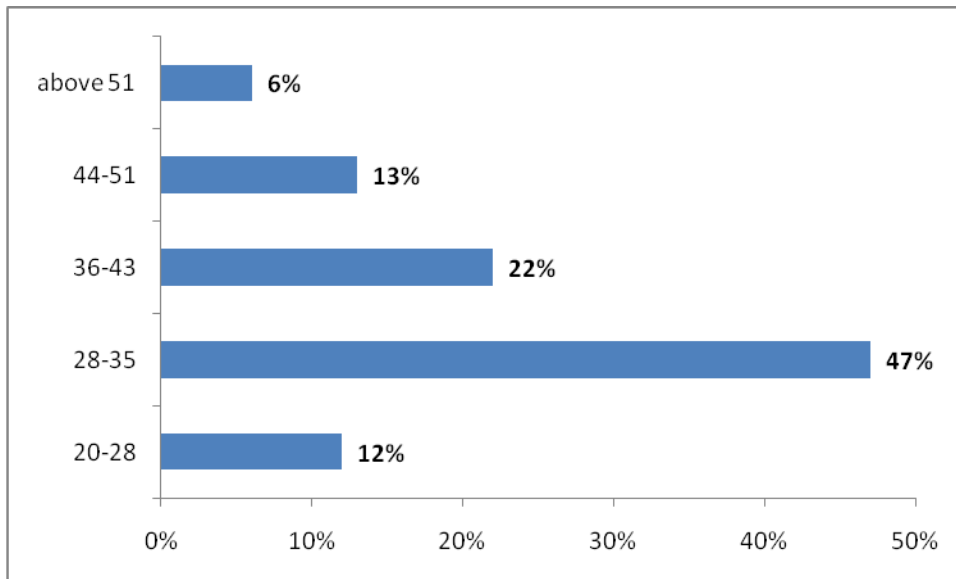
<b>Gender</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Male	49	66
Female	25	34
<b>Total</b>	<b>74</b>	<b>100</b>

As per the findings, majority of the respondents (66%) were male and the remaining 34% were female. This implies that most of the responses emanated from male respondents.

#### **4.2.2 Respondents Age Bracket**

The study also requested the respondents to state their age brackets and the findings are as illustrated in figure 4.3 below.

**Figure 4.3: Respondents Age Bracket**



From the findings, most of the respondents (47%) were between ages 28-35 years, 22% were between 36-43 years, 13% were between 44-51 years, 12% were between 20-28

years and 6% were above 51 years. This represents that most of the respondents were above 30 years of age.

#### **4.2.3 Respondents Education Level**

The level of education is perceived to be an influential factor to implementation of strategies. The study requested the respondents to indicate their level of education. The findings are tabulated below.

**Table 4.2: Respondents Education Level**

<b>Education</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Certificate/ Diploma level	16	22%
Bachelor level	43	58%
Master's Level	10	14%
PhD level	5	6%
<b>Total</b>	<b>74</b>	<b>100</b>

The findings show that majority of the respondents (58%) level of education was bachelor level, 22% attained Certificate/ Diploma level, 14% at Master's Level and 6% attained PhD level. This information shows that the respondents were knowledgeable enough and could give valid and reliable information based on their high level of understanding of various issues.

#### **4.2.4 Respondents Designation**

Employees are assigned to the departments in which they are qualified. The study sought to determine the respondents' department. The findings are tabulated below.

**Table 4.3: Respondents Designation**

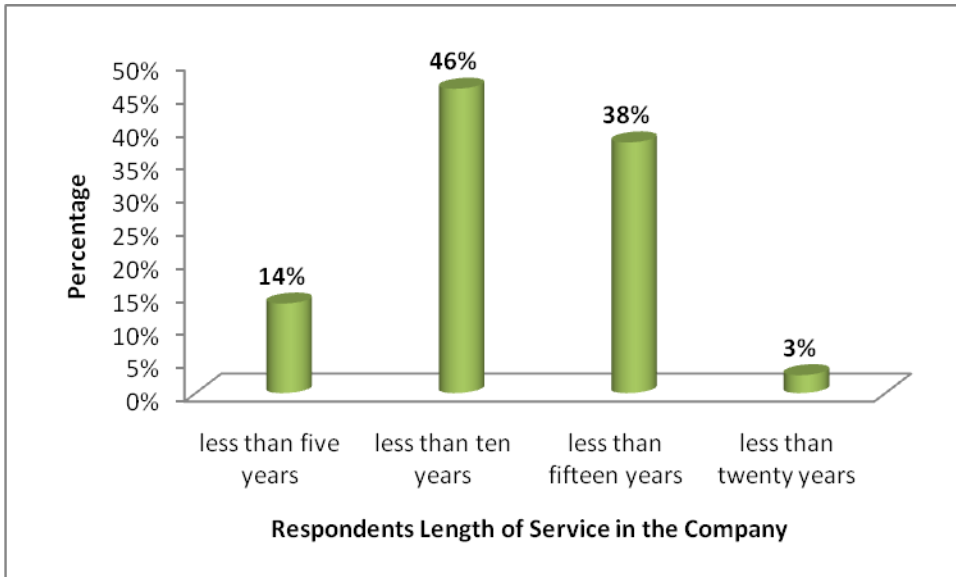
<b>Designation</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Executive directors	13	18
Senior manager	15	20
Middle manager	18	24
Lower level manager	28	38
<b>Total</b>	<b>74</b>	<b>100</b>

According to the findings in table 4.4 above, most of the respondents (38%) are lower level managers, 24% are middle level managers, 20% are senior managers and 18% are executive directors. This shows that all the respondents are in management level as targeted.

#### **4.2.5 Respondents Length of Service in the Organization**

Respondents' length of service refers to the number of years an employee has worked in a functional department. It also refers to any experience that a person gains while working in a specific field or occupation. The study sought to establish the period of time the respondents had worked for their organization. The findings are illustrated below.

**Figure 4.4: Respondents Length of Service in the Company**



From the findings in figure 4.4, most of the respondents (46%) had worked for less than ten years, 38% had worked for less than fifteen years, 14% had worked for less than five years and 3% had worked for less than twenty years. This illustrates that the respondents have worked at the Parastatal for a reasonably long period of time, thus enabling them to better understand quality improvement practices and business performance among commercial state corporations in the ministry of health, Kenya.

### **4.3 Quality improvement Practices Implemented**

Quality Improvement is perceived as an organization-wide process of focused and sustained incremental innovation, recognizing that most innovative activity is not of the ‘breakthrough’ variety, but incremental in nature, depending on its effect on sustained and focused implementation.

### 4.3.1 Quality improvement Programmes

The increasing pressure towards continuous improvement (CI) and the organizational desire to achieve business excellence, high performance, or to become a world-class organization drives the adoption of improvement initiatives.

The respondents were asked to indicate which quality improvement programmes their organisation use to improve business performance. The results are as shown below.

**Table 4.4: Quality Improvement Programme**

<b>Programme</b>	<b>Frequency</b>	<b>Percentage (%)</b>
BE self-assessment	6	8
Business Process Re-engineering	11	15
Lean	12	16
Six Sigma	18	24
ISO series	36	49
Total Quality Management (TQM)	42	57
<b>Total</b>	<b>125</b>	<b>169</b>

From the findings tabulated above, Total Quality Management (TQM) was the most (57%) common quality improvement programme used in the respondent's organisation to improve business performance; this was followed by ISO series (49%), Six Sigma (24%), Lean (16%), Business Process Re-engineering (15%) and finally BE self-assessment (8%). This implies that Total Quality Management (TQM) and ISO series are the most common quality improvement programme used in the respondent's organisation to improve business performance respectively.



This represents that Total Quality Management (TQM) was the most common quality improvement programme used in the respondent's organisation to improve business performance. This contradicts the findings of McKellen (2002) who suggests that in order to continuously improve quality and productivity, organisations need to adopt and combine modern manufacturing philosophies such as Kaizen, Lean, Quick response, Agile, and Six Sigma. Lean thinking, an extended JIT principle and a developed concept from Toyota, focuses on reducing waste with an aim for improving manufacturing performance.

#### **4.3.2 TQM quality Improvement Practices in Respondents Organization**

Total Quality Management (TQM) involves the application of quality management principles to all aspects of the organization, including customers and suppliers, and their integration with the key business processes. It is an approach which involves continuous improvement by everyone in the organization.

The study sought to identify the significant influences of adoption of TQM quality improvement practices in the respondents' organization. The responses were placed on a five Likert scale ranging from 1=strongly disagree and 5 strongly agree. A Mean of above 3 is regarded to measure satisfaction on the test variables. Standard deviation was used to indicate the variation or "dispersion" from the "average" (Mean). A low standard deviation indicates that the data points tend to be very close to the Mean, whereas high standard deviation indicates that the data is spread out over a large range of values. The findings are tabulated below.

**Table 4.5: TQM Quality Improvement Practices in Respondents Organization**

<b>TQM quality improvement practices</b>	<b>Mean</b>	<b>Std</b>
The Parastatal's TQM quality improvement practices have unclear goals	1.23	0.12
The Parastatal's TQM quality improvement practices hinder breakthrough innovations since they are based on improving on the	1.38	0.34
The Parastatal's TQM quality improvement practices are not focused on	1.96	0.41
Vagueness TQM concepts and unclearly define tools methods to be used	2.15	0.52
TQM practice in the Parastatal is only quality oriented as it does not	2.61	0.34
The Parastatal's TQM quality improvement practices lack structured	3.02	0.18
The Parastatal's TQM quality improvement practices includes systems,	3.92	0.21
TQM implementation by the parastatal has positively influenced the long-term operating performance such as higher profitability, enhance	3.98	0.11

As indicated by the findings in table 4.6 above, the respondents agreed with some aspects such as; TQM implementation by the parastatal has positively influenced the long-term operating performance such as higher profitability, enhance customer satisfaction, operational efficiency, and employee motivation (M=3.98, SD=.11), The Parastatal's TQM quality improvement practices include systems, methods and tools to enhance business performance (M=3.92, SD=.21), The Parastatal's TQM quality improvement practices lack structured training program (M =3.02, SD=.18). On the other hand, they disagreed with other aspects such as; TQM practice in the Parastatal is only quality oriented as it does not integrate quality activity with bottom-line consideration (M =2.61, SD=.34), TQM practices entailed vagueness of concepts and unclearly defined tools methods to be used (what, when and where) (M=2.15, SD=.52). The respondents further

strongly disagreed that; The Parastatal's TQM quality improvement practices are not focused on leadership (M=1.96, SD=.41), The Parastatal's TQM quality improvement practices hinder breakthrough innovations since they are based on improving on the existing processes/products (M=1.38, SD=.34) and The Parastatal's TQM quality improvement practices have unclear goals (M=1.23, SD=.12).

This indicates that TQM implementation by the parastatal has positively influenced the long-term operating performance such as higher profitability; enhance customer satisfaction, operational efficiency, and employee motivation. This concurs with Murray and Chapman (2003) who state that a TQM programme would lead to a continuous improvement culture. Tari and Sabater's survey (2004) showed that tools and techniques for quality improvement (QI) are highly correlated to TQM success.

#### **4.3.3 ISO Series Quality Improvement Practices in Respondents Organization**

ISO series standard is an internationally recognized standard for quality management system. The study sought to identify the significant influences of adoption of ISO series quality improvement practices in the respondents' organization. The respondents were requested to indicate the extent to which they agreed with statements related to ISO series quality improvement practices in Respondents Organization. The responses were placed on a five Likert scale ranging from 1=strongly disagree and 5 strongly agree. A Mean of above 3 is regarded to measure satisfaction on the test variables. Standard deviation was used to indicate the variation or "dispersion" from the "average" (Mean). A low standard deviation indicates that the data points tend to be very close to the Mean, whereas high standard deviation indicates that the data is spread out over a large range of values. The findings are tabulated below

**Table 4.6: ISO Series Quality Improvement Practices in Respondents Organization**

<b>ISO series</b>	<b>Mean</b>	<b>Std</b>
Process ownership, responsibility and accountability in the Parastatal's	3.87	0.15
The Parastatal's ISO series quality improvement practices motivates	3.97	0.33
The Parastatal's ISO series quality improvement practices ensures customer confidence and enhances international recognition (for export)	3.99	0.01
ISO series quality improvement practices develops and certifies a quality	4.01	0.35
ISO series quality improvement practices are focused on human	4.05	0.41
There is significant difference in financial performance in the Parastatal	4.09	0.11
ISO series quality improvement practices strengthens the Parastatal's control phase and creates process stability through documentation and	4.16	0.16

The findings in table 4.7 above portray that, the respondents agreed with all the aspects of ISO; ISO series quality improvement practices strengthens the Parastatal's control phase and creates process stability through documentation and regular assessment (M=4.16, SD=.16), There is significant difference in financial performance in the Parastatal as a result of implementation of ISO series quality improvement practices (M=4.09, SD=.11), ISO series quality improvement practices are focused on human interaction in the Parastatal (M=4.05, SD=.41), ISO series quality improvement practices develops and certifies a quality assurance system for the Parastatal's (M=4.01, SD=.35), the Parastatal's ISO series quality improvement practices ensures customer confidence and enhances international recognition (for export) assisting marketing effectiveness through quality differentiation (M=3.99, SD=.01), The Parastatal's ISO series quality improvement practices motivates management responsibility (M=3.97, SD=.33) and

Process ownership, responsibility and accountability in the Parastatal's has been improved by ISO series quality improvement practices (M=3.87, SD=.15).

This illustrates that ISO series quality improvement practices strengthens the Parastatal's control phase and creates process stability through documentation and regular assessment. Similarly Zuckerman (2000) observed that the ISO 9001: 2000 was introduced as a new concept of process effectiveness and had a significant change to focus more on continuous improvement and customer satisfaction, compared with the previous versions.

#### **4.3.4 Lean Quality Improvement Practices in Respondents Organization**

Lean thinking, an extended JIT principle and a developed concept from Toyota, focuses on reducing waste with an aim for improving manufacturing performance. The study sought to identify the significant influences of adoption of Lean quality improvement practices in the respondents' organization. The respondents were requested to indicate the extent to which they agreed with statements related to Lean quality improvement practices in Respondents Organization on a five Likert scale ranging from 1=strongly disagree and 5 strongly agree. The findings are tabulated below.

**Table 4.7: Lean Quality Improvement Practices in Respondents Organization**

<b>Lean production</b>	<b>Mean</b>	<b>Std</b>
Lean production quality improvement practices provides extension to the	3.78	0.33
The Parastatal's Lean production quality improvement practices require	3.86	0.12
Quick results are achieved at the Parastatal's due to implementation of	3.96	0.24
The Parastatal's Lean production quality improvement practices have a	3.96	0.01

There is a clear link between the Parastatal's Lean production quality	4.00	0.15
There exists structured training programme in the Parastatal's Lean	4.02	0.35
Lean production quality improvement practices create agility and	4.09	0.11

From the findings in table 4.8, the respondents agreed with the aspects on lean, that; Lean production quality improvement practices create agility and efficiency in the Organisation (M=4.09, SD=.11), There exists structured training programme in the Parastatal's Lean production quality improvement practices (M=4.02, SD=.35), There is a clear link between the Parastatal's Lean production quality improvement and business strategies (may lead to over capacity dilemma) (M=4.00, SD=.15), The Parastatal's Lean production quality improvement practices have a methodology to sustain results (M=3.96, SD=.01), Quick results are achieved at the Parastatal's due to implementation of Lean production quality improvement practices (M=3.96, SD=.24), They also agreed that the Parastatal's Lean production quality improvement practices require involvements from the whole organisation (M=3.86, SD=.12) and Lean production quality improvement practices provides extension to the problem solving tool box in the Parastatal ((M=3.78, SD=.33).

This implies that lean production quality improvement practices create agility and efficiency in the Organisation.

#### 4.3.5 Six Sigma Quality Improvement Practices in Respondents Organization

Six Sigma is known as a set of methodologies (Define, Measure, Analyze, Improve, and Control or DMAIC) and techniques aiming to reduce process variation, cycle time and waste.

The study sought to identify the significant influences of adoption of Six Sigma quality improvement practices in the respondents' organization. The respondents were requested to indicate the extent to which they agreed with statements related to Six Sigma quality improvement practices in Respondents Organization. The responses were placed on a five Likert scale ranging from 1=strongly disagree and 5 strongly agree. A summary of the findings are tabulated below.

**Table 4.8: Six Sigma Quality Improvement Practices in Respondents Organization**

<b>Six Sigma</b>	<b>Mean</b>	<b>Std</b>
The Parastatal's Six Sigma quality improvement practices are rigorous, formalised, systematic and practical methodology for company-wide	3.88	0.22
Six Sigma quality improvement practices are rich in root causes analysis	3.96	0.15
The Parastatal's Six Sigma quality improvement practices have a	3.99	0.29
Measurable bottom-line results and rigorous financial evaluation	4.03	0.34
(Business results oriented) in the Parastatal's achieved through Six Sigma		
Most of the Parastatal's Six Sigma quality improvement practices	4.07	0.41
projects are widely focused, concentrating on small-scale, project		
Six Sigma quality improvement practices motivate intensive trainings in	4.09	0.39
The Parastatal's Six Sigma quality improvement practices base decisions	4.16	0.11

As per the findings in table 4.9 above, the respondents agreed to all Six Sigma aspects that; The Parastatal's Six Sigma quality improvement practices base decisions on facts and data (M=4.16, SD=.11), Six Sigma quality improvement practices motivate intensive trainings in the parastatal (M=4.09, SD=.39), Most of the Parastatal's Six Sigma quality improvement practices projects are widely focused, concentrating on small-scale, project oriented and problem solving activities; hence, it is ideal for business transformation (M=4.07, SD=.41), Measurable bottom-line results and rigorous financial evaluation (Business results oriented) in the Parastatal's achieved through Six Sigma quality improvement practices (M=4.03, SD=.34), The Parastatal's Six Sigma quality improvement practices have a methodology to sustain results (M=3.99, SD=.29), Six Sigma quality improvement practices are rich in root causes analysis or preliminary analysis before implementation in the Parastatal's (M=3.96, SD=.15) and The Parastatal's Six Sigma quality improvement practices are rigorous, formalised, systematic and practical methodology for company-wide quality improvement and being able to link with quality tools (comprehensive quality tool box) (M=3.88, SD=.22).

This portrays that the Parastatal's Six Sigma quality improvement practices base decisions on facts and data. This is in agreement with Hammer (2002) who found that six sigma is so effective and successful because its package is easy to implement and it shows success from a large amount of cost savings at Motorola, GE, Honeywell, DuPont, and Dow Chemical.

#### **4.3.6 BPR Quality Improvement Practices in Respondents Organization**

BPR as 'the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance such as cost,



quality, service and speed.’ Both incremental improvement and innovation are essential to achieve and maintain competitive advantage. The study sought to identify the significant influences of adoption of BPR quality improvement practices in the respondents’ organization. The respondents were requested to indicate the extent to which they agreed with statements related to BPR quality improvement practices in Respondents Organization. The responses were placed on a five Likert scale ranging from 1=strongly disagree and 5 strongly agree.. . The findings are presented below.

**Table 4.9: BPR Quality Improvement Practices in Respondents Organization**

<b>BPR</b>	<b>Mean</b>	<b>Std</b>
The Parastatal’s BPR quality improvement practices enhance IT causing effectiveness in business performance	3.79	0.25
The Parastatal’s BPR quality improvement practices reduce headcounts	3.86	0.23
BPR quality improvement practices break down the communications barrier	3.97	0.14
The Parastatal’s BPR quality improvement practices aggregates initiatives evaluating possibilities and monitoring continuously leading to sucesss in	3.99	0.20
BPR quality improvement practices enhance Fast, flexible and accessible	4.03	0.34
BPR quality improvement practices build decentralized, flat structure and wider	4.08	0.12
Transparent business processes are promoted in the Parastatal through the BPR	4.12	0.29
Effective communication by BPR quality improvement practices leads to	4.21	0.26

According to the findings in table 4.10 above, the respondents agreed to the BPR aspects that; Effective communication by BPR quality improvement practices leads to successful business performance in the parastatal (M=4.21, SD=.26), Transparent business processes are promoted in the Parastatal through the BPR quality improvement practices (M=4.12,

SD=.29), BPR quality improvement practices build decentralized, flat structure and wider span of control by using IT to tighten the control in the Parastatal (M=4.08, SD=.12), BPR quality improvement practices enhance Fast, flexible and accessible information in the parastatal (M=4.03, SD=.34), The Parastatal's BPR quality improvement practices aggregates initiatives evaluating possibilities and monitoring continuously leading to success in executions and sustain new results (M=3.99, SD=.20), BPR quality improvement practices break down the communications barrier across supply chains in the parastatal (M=3.97, SD=.14), The Parastatal's BPR quality improvement practices reduce headcounts (M=3.86, SD=.23), and The Parastatal's BPR quality improvement practices enhance IT causing effectiveness in business performance (M=3.79, SD=.25).

The findings indicate that effective communication by BPR quality improvement practices leads to successful business performance in the parastatal. Likewise, for breakthrough changes, Williams et al. (2002), Prajogo and Sohal (2001), and Hammer (2001) suggest Business Process Reengineering (BPR) to stimulate invention and force radical organisational change.

#### **4.3.7 Key Factors to be considered in Quality Improvement Programme Selection**

Selecting a single programme is not the only option, and indeed, many organizations feel the need to combine several initiatives. Combining one programme with another, which is expected to be complementary and produce better solutions, dominates the current literature on continuous improvement.

The study sought to identify the key factors to be considered in quality improvement programme selection in the respondents' organization. The respondents were requested to

indicate the extent to which they agreed with statements related to key factors to be considered in quality improvement programme selection. The findings are tabulated below.

**Table 4.10: Key Factors to be considered in Quality Improvement Programme Selection**

<b>Factors to consider</b>	<b>Mean</b>	<b>Std Dev</b>
Company capability	3.99	0.16
Company needs (Current practice versus Target)	4.31	0.23
Company's history in quality improvement programme	4.36	0.43
Company's strategies	4.49	0.22

The findings in table 4.11 above, indicate that the key factors to be considered in quality improvement programme selection are; Company's strategies (M=4.49, SD=.22), Company's history in quality improvement programme (M=4.36, SD=.43), Company needs (Current practice versus Target) (M=4.31, SD=.23) and Company capability (M=3.99, SD=.16). Likewise, Cagliano and Spina (2000) suggested the factors that influence the choice are (1) strategic priorities, (2) past experiences on improvement programmes and (3) internal and external environment. Their research also shows that the most up-to-date programmes show lower alignment with competitive priorities, which occur in a 'fashion setting organization.'

#### 4.3.8 Application of Quality Improvement practices

In the twenty-first century, quality methods and tools are crucial to guide and assure continuous change and constant improvement in order to meet the constantly upward expectations of today's global customers.

The respondents were asked to indicate the extent to which they agreed with statements related to application of Quality Improvement practices. The findings are tabulated below.

**Table 4.11: Application of Quality Improvement Practices**

<b>Quality Improvement practices</b>	<b>Mean</b>	<b>Std</b>
The quality assurance staff effectively coordinates their efforts with	3.69	0.52
The Organization works closely with suppliers to improve the quality	3.89	0.41
Data from suppliers is used when developing the Parastatal's plan to	3.99	0.42
The Organization has effective policies to support improving the	4.03	0.26
The Organization encourages employees to keep records of quality	4.09	0.42
The Organization tries to design quality into new services as they are	4.19	0.34
The services which the Organization provides are thoroughly tested	4.21	0.10

From the findings in table 4.12 above, the respondents agreed that; The services which the Organization provides are thoroughly tested for quality before they are implemented (M=4.21, SD=.10), The Organization tries to design quality into new services as they are being developed (M=4.19, SD=.34), The Organization encourages employees to keep

records of quality measurements (M=4.09, SD=.26), The Organization has effective policies to support improving the quality of service delivery (M=4.03, SD=.26), Data from suppliers are used when developing the Parastatal's plan to improve quality (M=3.99, SD=.42), The Organization works closely with suppliers to improve the quality of their services (M=3.89, SD=.41), and the quality assurance staff effectively coordinates their efforts with others to improve the quality of service delivery (M=3.69, SD=.52).

This implies that the services which the organization provides are thoroughly tested for quality before they are implemented. Equally, Bain and Company (2005a) suggested four principles for the usage of tools: 1) Get the facts e.g. strengths, weaknesses, full effects and side effects of each tool, 2) Champion realistic and strategic directions, not fleeting fad, 3) Choose the best tools for the job, and 4) Adapt tools to the business system but not vice versa.

#### **4.3.9 Employee Attitude Towards Quality Improvement Programme**

Employee involvement programs have a positive effect on company performance and internal business conditions. Thus employee involvement programs can be seen as opportunities for organizations in today's competitive environment.

The respondents were requested to indicate the extent to which they agreed with statements related to these improvement programmes. The responses were placed on a five Likert scale ranging from 1=strongly disagree and 5 strongly agree. The findings are tabulated below.

**Table 4.12: Employee Attitude towards Quality Improvement Programme**

<b>Employee Attitude towards Quality Improvement Programme</b>	<b>Mean</b>	<b>Std</b>
Focus too much on process not enough on practice or people	1.78	0.16
Provide formalised, systematic and practical improvement methodology	3.69	0.26
Reduce process variability, create process stability, stable variation,	3.76	0.41
Provide rewards and recognition	3.96	0.16
Increase productivity	3.99	0.15
Motivate quality awareness and increase total participations in	3.99	0.15
Enhance inventory management	4.00	0.06
Reduce product/service nonconformities or defects	4.01	0.27
Increase dexterity or flexibility of workman	4.06	0.15
Accelerate and maintain organisational improvement efforts, and	4.28	0.22
Monitoring process improvement progress	4.32	0.33
Improve competitiveness, effectiveness and flexibility of a whole	4.39	0.29
Build a foundation for continuous improvement	4.41	0.32
Top management commitment is important	4.51	0.24

The findings in table 4.13 above, the respondents agreed that; Top management commitment is important (M=4.51, SD=.24), Build a foundation for continuous improvement (M=4.41, SD=.32), Improve competitiveness, effectiveness and flexibility of a whole organisation (M=4.39, SD=.29), Monitoring process improvement progress (M=4.32, SD=.33), Accelerate and maintain organisational improvement efforts, and energize employees (M=4.28, SD=.22), Increase dexterity or flexibility of workman (M=4.06, SD=.15), Reduce product/service nonconformities or defects (M=4.01, SD=.27), Enhance inventory management (M=4.00, SD=.06), Motivate quality

awareness and increase total participations in improving organisation as well as Increase productivity (M=3.99, SD=.15 each), Provide rewards and recognition (M=3.96, SD=.16), Reduce process variability, create process stability, stable variation, process predictability and control (M=3.76, SD=.41) and Provide formalised, systematic and practical improvement methodology (M=3.69, SD=.26). On the other hand they disagreed with the aspect that; quality improvement programme focus too much on process not enough on practice or people (M=1.78, SD=.16).

This shows that top management commitment is important for successful implementation of improvement programmes. In concurrence to this, Clark and Greatbatch (2004) believe that management ideas become popular not because the ideas actually work, but because they are perceived to be practical, beneficial and relevant.

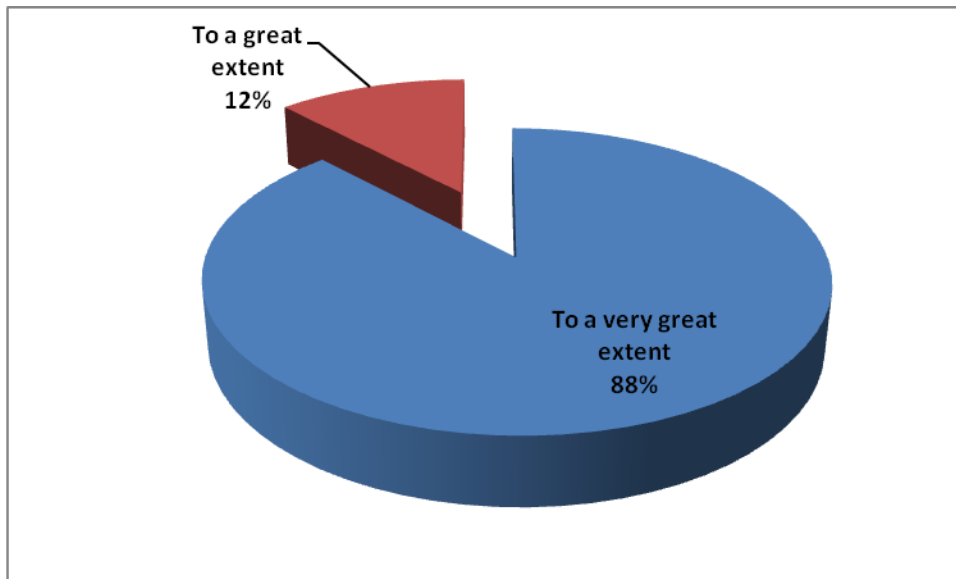
#### **4.4 Relationship between Quality Improvement Practices and Business Performance**

Business performance is an organization's ability to acquire and utilize its scarce resources and valuables as expeditiously as possible in the pursuit of its operations goals. The increasing pressure towards quality improvement practices and the organizations desire to achieve business excellence, high performance, or to become a world-class organization drives them to adopt improvement initiatives.

##### **4.4.1 Use of quality improvement techniques and Business Performance**

The respondents were requested to state the extent to which the use of quality improvement techniques addresses respondent's organization's business performance.

**Figure 4.5: Use of quality improvement techniques and Business Performance**



As per the findings in figure 4.5 above, 88% of the respondents believed that use of quality improvement techniques addresses respondent's business performance to a very great extent and the remaining 12% said it did so to a great extent. These results corroborates with Biggs et al. (1995) as he states that high technology firms which have invested in research and development have higher productivity than firms which have not. He proceeds to say that investment in technology add about 25% to value added. According to Gichira (1999), technology in form of quality improvement practices helps organizations achieve effectiveness of financial assistance and strengthens communication channels. Buainainn (2002) on the other hand states that appropriate quality improvement techniques help organizations to operate in low-skill spheres with local materials and resources. This implies that through quality improvement techniques, organizations perceive that they are able to enhance their business performance.



#### **4.4.2 Challenges of Quality Improvement Practices**

The respondents were requested to state the challenges in using components of quality improvement practices. From the findings it was deduced that; inadequate financial resources and lack of relevant skills constitute their number one challenge; others were frequent machine break downs and inefficient and slow machines. These findings are similar to assertions by the Government of Kenya (GOK, 1982) that most institutions lack capacity to adopt modern technologies because decisions relating to cost aspect rests with multinational corporations. Other scholars with similar views include Moyi (2005) who observes that Kenya's productive and investment capability is constrained by factors such as high cost of equipment and machine components.

#### **4.5 Relationship between Quality Improvement Practices and Performance**

The researcher conducted a multiple regression analysis so as to test relationship among variables (independent) on the performance of health programs in Kenya. The researcher applied the statistical package for social sciences (SPSS V 17.0) to code, enter and compute the measurements of the multiple regressions for the study.

Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable (quality improvement practices and business performance) that is explained by all the independent variables (TQM Practices, Six Sigma Practices, ISO series standard, Lean, Business Process Reengineering and BE self-assessment).

#### 4.5.2 Model Summary

**Table 4.13: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.85	0.723	0.697	0.666

The above model gives the overall goodness-of-fit measures:

$$R^2 = 0.723$$

Correlation between y and y-hat is 0.85 (when squared gives 0.723).

The six independent variables that were studied, explain 72.3% of the performance of health programs in Kenya as represented by the  $R^2$ . Likewise Lyman and Grubellini, (1975) observed that successful business operation depends on the ability to complete; the ability to compete depends largely on the quality of the product. This therefore Means that other factors not studied in this research contribute 27.3% of business performance. Therefore, further research should be conducted to investigate the other factors that affect business performance among commercial state corporations in the Ministry of Health, Kenya.

### 4.5.3 ANOVA Results

#### 4.14 ANOVA of the Regression

Model		Sum of Squares	Df	M Square	F	Sig.
1	Regression	2.534	9	1.267	8.635	.000 <sup>a</sup>
	Residual	9.307	65	2.327		
	<b>Total</b>	<b>11.841</b>	<b>74</b>			

The model is statistically significant (Since  $p_{0.000} \leq 0.05$ ) in predicting how TQM Practices, Six Sigma Practices, ISO series, Lean, Business Process Reengineering and BE self-assessment affect business performance among commercial state corporations in the Ministry of Health, Kenya.

### 4.5.4 Coefficient of determination

**Table 4.15 Coefficient of determination**

Model		Unstandardized		Standardized	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.103	0.2235		5.132	.000
	TQM Practices	0.852	0.1032	0.1032	6.569	.000
	Six Sigma Practices	0.578	0.3425	0.1425	4.117	.000
	ISO 9000 series	0.654	0.2178	0.1178	3.968	.000
	Lean	0.498	0.1939	0.1096	3.692	.000
	Business Process	0.475	0.1826	0.9921	3.421	.000
	BE self-assessment	0.396	0.1568	0.8526	3.123	.000

Multiple regression analysis was conducted as to determine the relationship between the business performance among commercial state corporations in the Ministry of Health, Kenya and the six independent variables.

According to the regression equation established, taking all factors into account (TQM Practices, Six Sigma Practices, ISO 9000 series standard, Lean, Business Process Reengineering and BE self-assessment) constant at zero, business performance among commercial state corporations in the Ministry of Health, Kenya will be 1.103. The data findings analyzed also shows that TQM Practices are the most significant factors in business performance among commercial state corporations in the Ministry of Health, Kenya ( $\beta= 0.852$ ,  $t= 6.569$ , and  $p<.05$ ); this is followed by ISO 9000 series standard ( $\beta= 0.654$ ,  $t=3.968$ , and  $p<.05$ ); Six Sigma Practices ( $\beta= 0.578$ ,  $t=4.117$ , and  $p<.05$ ); Lean ( $\beta= 0.498$ ,  $t= 3.692$ , and  $p<.05$ ); Business Process Reengineering ( $\beta= 0.475$ ,  $t= 3.421$ , and  $p<.05$ ) and finally BE self-assessment ( $\beta= 0.396$ ,  $t=3.123$ , and  $p<.05$ ).

From these findings each of the predictor, variables explain a variation in the dependent variable (Business Performance). TQM Practices contribute most to the business performance among commercial state corporations in the Ministry of Health, Kenya followed by ISO 9000 series standard, Six Sigma Practices, Lean, Business Process Reengineering and finally BE self-assessment.

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

## **5.1 Introduction**

This chapter presents summary of findings, conclusion and recommendations. Section 5.2 provides the summary of the study, section 5.3, the conclusion, and section 5.4, limitations of the study while section 5.5 presents recommendations for further research.

## **5.2 Summary of the Study**

The study found out that, Total Quality Management (TQM) was the most common quality improvement programme used in the respondent's organisation to improve business performance; followed by ISO series, Six Sigma, Lean, Business Process Re-engineering and finally BE self-assessment. The study found out that; TQM implementation by the parastatal has positively influenced the long-term operating performance such as higher profitability; enhance customer satisfaction and operational efficiency. The study established that, ISO series quality improvement practices strengthens the Parastatal's control phase and creates process stability through documentation and regular assessment. In addition, the study proved that lean production quality improvement practices create agility and efficiency in the Organisation. In relation to six sigma, the study found out that the Parastatal's Six Sigma quality improvement practices base decisions on facts and data.

In the case of BPR the study established that effective communication by BPR quality improvement practices leads to successful business performance in the parastatal. Also, the key factors to be considered in quality improvement programme selection were found

to be company's strategies, company's history in quality improvement programme, Company needs (Current practice versus Target) and Company capability.

The study further established that the services which the Organization provides are thoroughly tested for quality before they are implemented where the Organization tries to design quality into new services as they are being developed. Concerning employee attitude towards quality improvement programme, the study found out that top management commitment is important in building a foundation for continuous improvement. Additionally the study found out that use of quality improvement techniques addresses respondent's business performance to a very great extent.

The findings deduced that inadequate financial resources and lack of relevant skills constitute the major challenges others were frequent machine break downs and inefficient and slow machines.

### **5.3 Conclusion**

The study concluded that Total Quality Management (TQM) and ISO series are the most common quality improvement programme used in the respondents' organisation to improve business performance respectively. The study concluded that the degree of commitment and support that management takes in implementing a total quality environment is critical to the success of quality improvement practices implementation. Top management supports quality improvement practices through allocations of budgets, planning for change at the beginning of implementation, and provides methods of providing progress. They inspire efficient and effective use of resources and efforts of the institution towards

quality excellence. Top management creates and maintains an internal environment in which all employees become fully involved in improving organizational performance.

The study also concluded that from quality improvement practices point of view, strategy consists of understanding what customers want and aligning the organization with plans to deliver it to them. Quality improvement practices perspective believes that customer-driven quality is a key strategic organizational issue which needs to be integrated to overall organizational planning. Strategy begins with a decision, a decision that can only be made by top management, and that decision simply put, is a decision to compete as a world class organization. Therefore, it is necessary to align quality control with organizational strategy to ensure that quality efforts reflect the long-term goals of the organization.

The study findings point out that the best way to improve organizational performance is by involving and empowering employees at all levels of the organization. This dimension emphasizes self-control, autonomy, and creativity among employees and calls for greater cooperation rather than just compliance. Developing skills through training and coaching, promoting teamwork and participating, motivating and recognizing employees, and providing mindful communication are important human resource management imperatives that managers do for quality improvement practices to succeed. It therefore means that the effective management of human resources is at the heart of any successful quality improvement practices application.

The study concluded that the overwhelming quality problems in the organizations are associated with processes and few are caused by employees themselves. Thus, such problems are mitigated by good management of process quality. Management of process means that organizations should use systematic processes to pursue high levels of quality and operational

performance. Nearly every activity that is intended to achieve some result within an organization involves a process. Therefore, management is responsible for restructuring and continuously improving the processes with which individuals work. The study also concluded that information systems helps the organizations achieve their quality goals by helping them specify products and processes, making improvement based on demand, reduce cycle time, and improve the quality and precision of design. Deciding which new information system to build should be an essential part of the organizational planning process. Organizations need to develop an information system plan that supports their overall business plan and in which strategic systems are incorporated into top level planning. The plan contains a statement of corporate goals and specifies how information technology will support the attainment of those goals. The plan indicates the key management decisions concerning hardware acquisition, landline telephone, and mobile and internet communication.

The study further concluded that communication is an integral part of all management functions. In order to lead, plan, organize, and control, managers have to communicate to their subordinates. However, by itself communication is not necessarily effective communication. Effective communication means that the message is received, understood, and acted upon in a desired manner. This means that effective communication in a quality improvement practices environment requires persuasion, motivation, monitoring, and leadership on part of managers. Additionally, the study concludes that continuous improvement provides managers a form of strategic control that allows organizations to respond more proactively to rapid demands in the different areas that influence the organization's success. The propensity of the organization to pursue incremental and innovative improvement of its process, products and services should be the driver to achieve



continuous improvement. Improvements seek to eliminate deficiencies and should be part of the daily work of all individuals and departments. Sources of improvement include employee ideas, research and development, customer input and benchmarking or other comparative performance information.

The study finally concluded that customer service and satisfaction are at the core of the institution and the main focus of quality improvement practices. Customer needs are identified and appropriate product designs or service delivery designs instituted to satisfy those needs. Customer-driven quality is the focus of the organizations, as it ensures that the products and services are delivered with the objective to satisfy customer needs. The focus of this dimension is the degree to which an organization's customers continuously perceive that their needs are being met. What has emerged from this analysis is the fact that these quality improvement practices dimensions can be utilized as a model to improve organizational performance. Any organization that is willing to implement quality improvement practices would rely on these dimensions as a compass to ensure that customers, clients, suppliers, and community expectations are met or exceeded.

#### **5.4 Limitations of the Study**

As it has always been with most academic activities this research is not without limitations. Some of the limitations encountered during the entire research period are outlined below.

The study area was limited to the seven commercial state corporations in the ministry of Health only and this could affect the generalizations of the findings.

The research constitutes a cross-sectional snapshot based on seven commercial state corporations in the ministry of Health. We can neither trace the progress of the companies in our study nor estimate the potential lags between quality improvement practices and the outcomes achieved by the firms. A longitudinal study would be necessary to overcome such limitations. Moreover, sample size is far below the number of cases reported in other research, which has led in this case to a more complex data analysis. It would be advisable to replicate the study in broader contexts to confirm the underlying factors identified in this case.

The study also suffers from a common limitation in quantitative research: the use of subjective measures for the variables considered. However, it is widely reported in the literature that this procedure increases the response rate as well as that there is a high correlation between subjective and objective data on performance (Venkatraman and Ramanujan, 1986). The use of self-reported data may induce social desirability bias, although the assurance of anonymity can reduce such bias when responses concern sensitive topics (Hair et al., 1999).

Finally, although some items have been deleted in the validation process, it must be borne in mind that the different items employed to approximate the underlying constructs “overlap” to some extent to try to capture the underlying constructs measure. Thus, items are expected to be correlated (measures should possess internal consistency reliability) so that dropping some items of the measurement model does not necessarily alter the meaning of the construct (Jarvis et al., 2003). In this respect, four items pertaining to the organization’s external orientation (customers, stakeholders and community) are deleted in the Leadership factor. This can be considered a problem since customer satisfaction is

basic to quality improvement practices. However, several items concerning the anticipation and management of organizational change survive, which involve a careful monitoring of the environment, and a clear intention to meet the market needs.

### **5.5 Recommendations for further Research**

This research acknowledges the multidimensional nature of quality improvement practices. However, future research should consider the interactions not only between specific quality improvement practices themselves but also between these practices and the different sets of performance variables to obtain a better understanding of quality management. Finally, we believe that the role of firms' competitive environments as an antecedent of the adoption quality improvement practices, or as a moderator of the quality improvement practices performance relationship, also deserves future research. It is necessary to develop a deeper understanding of the type of environments that favour the quality improvement practices adoption, or that could made the quality improvement practices a more valuable resource to obtain, if the quality improvement practices - performance relationships is positively moderated.

While the purpose of the study was to examine quality improvement practices and business performance among commercial state corporations in the Ministry of Health, Kenya, the study does not attempt to explain why such a change might have occurred.

### **5.6 Recommendations**

In responding to the research question on the application of quality improvement practices and business performance among commercial state corporations in the Ministry of Health, Kenya, from the evidence of this research, the recommendations reached for

this study, are that the success of quality improvement practices depends on the following:

- Top management must commit and support the implementation of quality improvement practices.
- Top management must develop a quality improvement practices strategy that understand what customers want because customer-driven quality is a key strategic organizational issue which needs to be integral of overall organizational planning.
- The best way to improve organizational performance is by involving and empowering employees at all levels.
- The central feature of quality improvement practices that needs to be emphasized is the idea of organizational culture being grafted onto management theory and practice.
- It needs to be emphasized that the management of processes establishes systems to pursue high levels of quality and operational performance.
- Information systems can help organizations achieve their quality goals.
- Communication must be an integral part of all management functions.
- Based on the principle of continuous improvement of services, the quality improvement practices approach guides the user through logical processes of identifying service objectives, measuring current organizational performance, determining the effect of current practices and identifying where improvements are required; an aspect that necessitates attention.

- Lastly, willingness is required to satisfy customers by meeting and exceeding their expectations.

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# APPENDIX 1: LETTER OF INTRODUCTION



**UNIVERSITY OF NAIROBI**  
**SCHOOL OF BUSINESS**  
**MBA PROGRAMME**

Telephone: 020-2059162  
Telegrams: "Varsity", Nairobi  
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P.O. Box 30197  
Nairobi, Kenya

DATE 28/6/2014

**TO WHOM IT MAY CONCERN**

The bearer of this letter ELIZABETH NDUKGE MUI


Registration No. D61/72335/2011

is a bona fide continuing student in the Master of Business Administration (MBA) degree program in this University.

He/she is required to submit as part of his/her coursework assessment a research project report on a management problem. We would like the students to do their projects on real problems affecting firms in Kenya. We would, therefore, appreciate your assistance to enable him/her collect data in your organization.

The results of the report will be used solely for academic purposes and a copy of the same will be availed to the interviewed organizations on request.

Thank you.

  
**PATRICK NYABUTO**  
**MBA ADMINISTRATOR**  
**SCHOOL OF BUSINESS**





**Section B: Quality improvement practices implemented by commercial state corporations in the Ministry of Health, Kenya**

6. (a) Which quality improvement programme has your organisation used to improve business performance?

- Total Quality Management (TQM) [     ]
- Six Sigma [     ]
- ISO series [     ]
- Lean [     ]
- Business Process Re-engineering [     ]
- BE self-assessment [     ]
- Others.....

7. On a scale of 1-5, to what extent do you agree with the following statements on TQM quality improvement practices in your organization. Where; 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree

TQM	1	2	3	4	5
The Parastatal's TQM quality improvement practices includes systems, methods and tools to enhance business performance					
TQM implementation by the parastatal has positively influenced the long-term operating performance such as higher profitability, enhance customer satisfaction, operational efficiency, and employee motivation					
TQM practice in the Parastatal is only quality oriented as it does not integrate quality activity with bottom-line consideration					
Vagueness TQM concepts and unclearly define tools methods to be used (what, when and where)					
The Parastatal's TQM quality improvement practices are not focused on leadership					
The Parastatal's TQM quality improvement practices have unclear goals					

The Parastatal's TQM quality improvement practices lack structured training program					
The Parastatal's TQM quality improvement practices hinder breakthrough innovations since they are based on improving on the existing processes/products					

8. On a scale of 1-5, what extent do you agree with the following statements on ISO SERIES (ISO9001:2000) quality improvement practices in your organization. Where; 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree.

<b>ISO SERIES (ISO9001:2000)</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
ISO series quality improvement practices strengthens the Parastatal's control phase and creates process stability through documentation and regular assessment					
The Parastatal's ISO series quality improvement practices motivates management responsibility					
Process ownership, responsibility and accountability in the Parastatal's has been improved by ISO series quality improvement practices					
ISO series quality improvement practices develops and certifies a quality assurance system for the Parastatal's					
The Parastatal's ISO series quality improvement practices ensures customer confidence and enhances international recognition (for export) assisting marketing effectiveness through quality differentiation					
There is significant difference in financial performance in the Parastatal as a result of implementation of ISO series quality improvement practices					
ISO series quality improvement practices are focused on human interaction in the Parastatal					

9. On a scale of 1-5, what extent do you agree with the following statements on Lean quality improvement practices in your organization. Where; 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree.

<b>Lean production</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Lean production quality improvement practices provides extension to the problem solving tool box in the Parastatal					
Quick results are achieved at the Parastatal's due to implementation of Lean production quality improvement practices					
The Parastatal's Lean production quality improvement practices require involvements from the whole organisation					
Lean production quality improvement practices create agility and efficiency in the Organisation					
The Parastatal's Lean production quality improvement practices have a methodology to sustain results					
There exists structured training programme in the Parastatal's Lean production quality improvement practices					
There is a clear link between the Parastatal's Lean production quality improvement and business strategies (may lead to over capacity dilemma)					

10. On a scale of 1-5, to what extent do you agree with the following statements on Six Sigma quality improvement practices in your organization? Where; 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree.

<b>Six Sigma</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
The Parastatal's Six Sigma quality improvement practices are rigorous, formalised, systematic and practical methodology for company-wide quality improvement and being able to link with quality tools (comprehensive quality tool box)					
Six Sigma quality improvement practices are rich in root causes analysis or preliminary analysis before implementation in the Parastatal's					
Measurable bottom-line results and rigorous financial evaluation (Business results oriented) in the Parastatal's achieved through Six Sigma quality improvement practices					
The Parastatal's Six Sigma quality improvement practices base decisions on facts and data					
Six Sigma quality improvement practices motivate intensive trainings in the parastatal					
Most of the Parastatal's Six Sigma quality improvement practices projects are widely focused, concentrating on small-scale, project oriented and problem solving activities; hence, it is ideal for business transformation					

The Parastatal's Six Sigma quality improvement practices have a methodology to sustain results.					
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11. On a scale of 1-5, what extent do you agree with the following statements on BPR quality improvement practices in your organization. Where; 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree.

<b>BPR</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
The Parastatal's BPR quality improvement practices reduce headcounts					
BPR quality improvement practices break down the communications barrier across supply chains in the parastatal					
BPR quality improvement practices enhance Fast, flexible and accessible information in the parastatal					
Transparent business processes are promoted in the Parastatal through the BPR quality improvement practices					
BPR quality improvement practices build decentralized, flat structure and wider span of control by using IT to tighten the control in the Parastatal					
The Parastatal's BPR quality improvement practices enhance IT causing effectiveness in business performance					
Effective communication by BPR quality improvement practices leads to successful business performance in the parastatal					
The Parastatal's BPR quality improvement practices aggregates initiatives evaluating possibilities and monitoring continuously leading to success in executions and sustain new results					

12. On a scale of 1-5, to what extent do you agree with the following statements on the key factors to be considered in quality improvement programme selection in your organization Where; 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Company needs (Current practice versus Target)					
Company's strategies					
Company capability					
Company's history in quality improvement programme					



Other constraints.....					
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13. On a scale of 1-5, to what extent do you agree with the following statements on how they apply in your organization Where; 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree

<b>Quality Improvement practices</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
The quality assurance staff effectively coordinates their efforts with others to improve the quality of service delivery					
Data from suppliers are used when developing the Parastatal's plan to improve quality.					
The Organization has effective policies to support improving the quality of service delivery					
The Organization works closely with suppliers to improve the quality of their services.					
The Organization tries to design quality into new services as they are being developed.					
The services which the Organization provides are thoroughly tested for quality before they are implemented.					
The Organization encourages employees to keep records of quality measurements.					

14. Please indicate your level of agreement with the following statement concerning these improvement programmes. Where 1=strongly disagree, 2= disagree, 3= Neutral, 4= agree, and 5= strongly agree.

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Reduce product/service nonconformities or defects					
Increase productivity					
Increase dexterity or flexibility of workman					
Provide rewards and recognition					
Reduce process variability, create process stability, stable variation, process predictability and control					
Provide formalised, systematic and practical improvement methodology					
Enhance inventory management					

Monitoring process improvement progress					
Improve competitiveness, effectiveness and flexibility of a whole organisation					
Build a foundation for continuous improvement					
Accelerate and maintain organisational improvement efforts, and energize employees					
Motivate quality awareness and increase total participations in improving organisation					
Focus too much on process not enough on practice or people					
Top management commitment is important					

**Section C: Relationship between quality improvement practices and business performance among commercial state corporations in the Ministry of Health, Kenya.**

15. To what extent does the use of quality improvement techniques address your organization's business performance?

To a very great extent [     ]

To a great extent [     ]

To a moderate extent [     ]

To very little extent [     ]

To no extent [     ]

16. Please indicate your level of agreement with the following statement concerning the Effect of quality improvement techniques on performance of key business areas. Where 1=strongly disagree, 2= disagree, 3= Neutral, 4= agree, and 5= strongly agree.

<b>Effect of quality improvement techniques</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Solving customer complaints					
Customer retention					

Reclaim lost customers					
Increased profits/ reduced losses					
Improved business record Keeping					
Solution to lack of market coping with competition					
Product innovation and difference					
Sourcing for Qualified Employees					
Keeping Employees Motivated					
Enables Securing Sources of business Finance					
Enhances Business Risk Minimisation					
It has contributed to Uncertainty Avoidance					
Saving on Labour Cost					
Saving on Time					
Substitute for Cheaper Material					
Increase Production Efficiency					
Reduced Operation Costs					
Enhanced conformance to legal requirements					

17. What are the Challenges in Using Components of quality improvement practices?

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**Thank you for your input and cooperation!!**

## **APPENDIX 11: STATE CORPORATIONS IN THE MINISTRY OF HEALTH**

1. Kenyatta National Hospital
2. Kenya Medical Training College
3. National Hospital Insurance fund
4. Moi Teaching & Referral Hospital, Eldoret
5. Kenya Medical Research institute
6. Kenya Medical Supplies Authority
7. Radiation protection board

Source: [www.health.go.ke](http://www.health.go.ke)