TOTAL QUALITY MANAGEMENT AND COMPETITIVE ADVANTAGE OF PHARMACEUTICAL INDUSTRIES IN UGANDA: A CASE STUDY OF CIPLA QUALITY CHEMICAL INDUSTRIES LIMITED

BY

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DECLARATION

I, Murungi Christian, attest that the work contained in this Dissertation is original and has never been submitted to any University or Institution of higher learning for any academic award. Due citations have been made of all reference materials used.

Signature: ….....…… **Date:** …..…….…….

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APPROVAL

This Dissertation titled, "Total Quality Management and Competitive Advantage in Pharmaceutical Industries in Uganda, A case study of Cipla Quality Chemical Industries Limited (CiplaQCIL)" has been carried out under my supervision and is now ready for submission to the Examinations Committee for examination.

SIGNATURE: ……...…… **DATE:** …….....……..……

MR. WAMUZIRI SIMON ELVIS

SUPERVISOR

DEDICATION

This work is dedicated to my parents Mr. Gershom Bariira Masiko and Mrs. Florence Dinah Masiko (RIP), my son Trystan Jordan Murungi, my wife Mariam Naisanga, my siblings Catherine Kisakye, Caroline Mujuni, and Mrs. Christine Otim who tirelessly supported me throughout the course.

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LIST OF ACRONYMS

AMT	**:**	Advanced Manufacturing Techniques
APIs	**:**	Active Pharmaceutical Ingredients
CA	**:**	Competitive Advantage
cGMP	**:**	Current Good Manufacturing Practice
CiplaQCIL	**:**	Cipla Quality Chemical Industries Limited
CPD	**:**	Continuous Professional Development
CSRM	**:**	Customer - Supplier Relationship Management
EFQM	:	European Foundation for Quality Management
ICH	:	International Conference for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use
ISO	**:**	International Standard Organization
JIT	**:**	Just-In-Time
MRP	**:**	Material Requirement Planning
NDA	**:**	National Drug Authority
NDP	**:**	National Drug Policy
NHP	**:**	National Health Policies
PEAP	**:**	Poverty Eradication Action Plan
PSU	**:**	Pharmaceutical Society of Uganda
QA	:	Quality Assurance
QC	**:**	Quality Control
TQM	**:**	Total Quality Management
UNIDO	**:**	United Nations Industrial Development Organization
WHO	**:**	World Health Organization

DEFINITION OF KEY TERMS

Quality: ISO 9000:2015: Quality Management Systems - Fundamentals and vocabulary defines quality as the "degree to which a set of inherent characteristics of an object fulfils requirements."

Total quality management: Miller (1996: 157) defines TQM as a " Continuing process where top management makes whatever important steps to enable everyone in the organization in the course of performing all duties to establish and achieve standards which meet or exceed the need and expectations of their customers, both external and internal " According to Kanji and Asher (1996), TQM is a continuous process of improvement for individuals, groups of people, and whole firms; it encompasses a set of four principles (delight the customer, management by fact, people-based management, and continuous improvement) and eight core concepts (customer satisfaction, internal customers are real, all work is process, measurement, teamwork, people make quality, continuous improvement cycle, and prevention).

Competitive Advantage (CA): Porter (1985) asserts that CA is fundamentally born out of the value a firm can create for its customers. It is the leverage a firm has over its competitors allowing it to outperform them. This may be highly skilled labour, access to high grade natural resources, access to new technology and/or high entry barriers.

Quality Assurance (QA): This is a way of preventing mistakes or defects in manufactured products and avoiding problems when delivering solutions or services to customers; which ISO 9000 defines as "a part of quality management focused on providing confidence that quality requirements will be fulfilled".

Quality Control (QC): This is a system of maintaining standards in manufactured products by testing a sample of the output against a defined set of quality criteria or against specifications of the client or customer.

ISO 9000 defines quality control as "A part of quality management focused on fulfilling quality requirements".

ABSTRACT

The study set out to examine TQM and Competitive Advantage in Uganda's Pharmaceutical Industry, focusing on CiplaQCIL as the case study. The study was based on three objectives: 1) to establish how CiplaQCIL reviews and ensures continuous professional development and is aware of change in standards or regulatory current practices; 2) to determine how CiplaQCIL has ensured that production and related processes are capable of consistently achieving pharmaceutical products of required quality that comply with their specifications; and 3) to establish how CiplaQCIL has ensured that it works closely with its customers and suppliers to establish the highest quality standards.

A case study was employed using both quantitative and qualitative approaches of data collection. The study population was 200 staff from CiplaQCIL and a sample of 133 respondents was selected. However, this sample was revised to 114 as this was the number of usable questionnaires returned. Data was collected using questionnaires, interviews and review of related literature. The collected data was processed and summarized using SPSS, version 20. Data was analyzed using descriptive measures including frequencies, means and standard deviations. Inferential statistical measures including correlation, simple and multiple regression analysis, and analysis of variance (ANOVA) were used to test the hypotheses.

The study findings indicated that continuous professional development explains about 79.8% of the variation in competitive advantage, Continuous process improvement explains about 63.2% of the variation in competitive advantage, while customer-supplier relationship management explains about 74.2% of the variation in competitive advantage. The three constructs of TQM (continuous professional development, Continuous process improvement and customer-supplier relationship management explain about 63.7% of the variation in competitive advantage at CiplaQCIL.

The study concluded that CiplaQCIL reviews and ensures continuous professional development and is aware of change in standards or current regulatory practices; it was also discovered that the company ensures that production and related processes can achieve pharmaceutical products of required quality that comply with their specifications and CiplaQCIL works closely with its customers and suppliers to establish the highest quality standards.

The study recommends that CiplaQCIL should fully integrate continuous professional development in its strategic management systems, implement continuous process improvements, and integrate customer-supplier relationship management into all the operations of the company.

CHAPTER ONE
INTRODUCTION

Background to the study

The study is about Total Quality Management (TQM) and Competitive Advantage (CA) in the pharmaceutical industry in Uganda. It focuses on Cipla Quality Chemical Industries Limited (CiplaQCIL) as a case study.

In today's changing business environment, organizations must evaluate their external and internal environment for opportunities and challenges to remain competitive and sustain their growth. In such environments, organizations that want to grow and survive must improve their performance and achieve competitive advantage over competitors. However, how this performance can be enhanced and what strategies should be implemented towards that is still an issue that needs to be further investigated (Gaboul, 2015).

According to Musrani (2013), manufacturing companies particularly find themselves in an increasingly competitive environment. Averting these challenges and winning the competition requires adopting and implementing operations management best practices such as Just-in-Time (JIT), Advanced Manufacturing Technology (AMT), Material Requirement Planning (MRP), Six Sigma, and Total Quality Management (TQM).

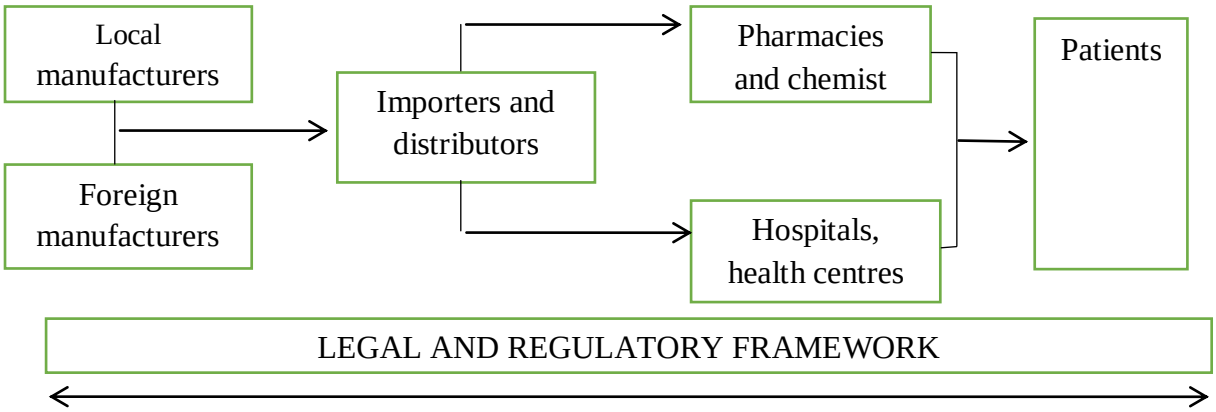
Several theories have been developed by different scholars to explain the concept of TQM (e.g. Deming's theory; Crosby's Theory; Joseph Juran's Theory; The EFQM Framework; and the six-sigma theory). Deming's theory can be taken as the ground-breaking theory in TQM.

According to UNIDO (2010), the pharmaceutical sector is a complex one; involving many different stakeholders such as the manufacturers themselves, national regulators, government ministries, wholesalers and others. Developing the industry requires concerted action across

these stakeholders to create the environment in which that industry can flourish and realize its full potential as an asset to economic and social development.

The pharmaceutical sector in Uganda has evolved over the last 15 years from two large manufacturing plants registered in the mid-1990s to the current four large, six medium and one small scale manufacturer (NDA, 2009). Uganda's pharmaceutical sector value chain consists of the supply of inputs, and production and distribution of outputs. Figure 1.1 summarizes the key activities of the value chain.

Figure 1.1: Uganda's Pharmaceutical Sector Value Chain



Source: UNIDO, 2009: 14

The National Drug Policy (NDP) of 2002 provides for a medicines and health supplies distribution system for both the public and private sectors in Uganda. It also assigns responsibilities to different institutions to facilitate distribution throughout the country. The policy defines strategies to ensure that the supply, selling and distribution of medicines is regulated effectively and that the contribution of manufacturing, wholesale and retailing activities within the medicines distribution chain is effectively and efficiently monitored. However, according to UNIDO, Uganda still imports most of its essential medicines and health supplies even though its pharmaceutical sector continues to expand with the establishment of several new large pharmaceutical manufacturers over the last 13 years. Consequently, local manufacturers face significant challenges that are likely to affect their

long-term commercial viability and thus the overall access of the population to essential medicines and health supplies in Uganda (UNIDO, 2010: 6).

Over the years, Uganda has developed two comprehensive National Health Policies (NHP); NHP I in 1999, and NHP II in 2009. Both policies aim at increasing access to essential medicines as part of national efforts to deliver the Uganda National Minimum Healthcare Package (UNMHCP), which puts emphasis on management of communicable diseases, especially HIV/AIDS, Hepatitis B, Malaria, and Tuberculosis. The focus on these four priority diseases is in line with the broader country strategy outlined in the Poverty Eradication Action Plan (PEAP) and with efforts to meet targets set in the Millennium Development Goals (MDGs) (UNIDO, 2010; NDA, 2009). Pharmaceutical industries are heavily regulated since mistakes in product design or production can have severe or even fatal consequences for patients. Hence quality, data integrity and its management are very critical.

NHP provides for adequate quantities of affordable and good quality essential medicines and health supplies to be accessible to all who need them. Nonetheless, this objective was not met during the ten-year period of NHP I and significant constraints in the health sector continue to limit its achievement in the immediate and near future.

To meet its objective of manufacturing and availing affordable high-quality medicines to the entire African continent, CiplaQCIL has in place a Quality Policy that clearly spells out the quality objectives. These objectives are measurable based on targets derived from time to time and include the following: 1) to focus on effective implementation of Quality Systems conforming to statutory and global regulatory standards to build and enhance 3Ps - Product Quality, Patient Safety, and Public Health; CiplaQCIL believes in Continuous improvements in each phase of product life cycle management and sustained customer confidence; 2) to

maintain integrity and transparency in all aspects to achieve high quality medicines; 3) to ensure that production and all related processes are capable of consistently achieving pharmaceutical products of required quality that comply with their specifications; 4) to meet the customer's requirements and commitments in technical agreement (as required) to meet highest quality standards; 5) to review and ensure continuous professional development and be aware of change in standards or regulatory current practices; 6) to comply with all applicable laws, and national and global regulations; 7) to minimize wastage, loss and inefficiencies in the company; 8) to work closely with customers and suppliers to establish the highest quality standards; 9) to ensure all round development of personnel through adequate trainings; 10) to create a suitable environment for all to participate in quality improvements; 11) to optimize production and control techniques; 12) to ensure that Quality Assurance and Production personnel share responsibility for the quality and safety of products so that the medicines are fit for their intended use; 13) to enhance productivity with Continuous improvements on quality and safety; 14) to ensure that all activities carried out are safe for personnel who come in contact with work; and to ensure that the quality of medical products is maintained throughout all stages of supply chain from manufacturing site to the pharmacy or person authorized or entitled to supply medical products to the customers.

The study focused on the following three of the above objectives:

i. Reviewing and ensuring continuous professional development and is aware of change in standards or regulatory current practices;
ii. Ensuring that production and related processes were capable of consistently achieving pharmaceutical products of the required quality that comply with their specifications and;
iii. Working closely with customers and suppliers to establish the highest quality standards.

Problem Statement

Despite having in place well stated objectives on quality management, CiplaQCIL faces many constraints that continue to curtail its competitive advantages as pharmaceutical manufacturing is a high-capital venture. A statement published on CiplaQCIL's official website confirms that the company faces high production costs. This is largely due to the high cost of utilities such as water and electricity, and the large distance of getting raw materials fulfilled as many arrive by sea and an order can take up to three months yet clients want products now. Occasionally the company is forced to bring in raw materials by air consequently driving up finished product prices. This has made some clients and/or markets skeptical and/or hesitant to purchase products from CiplaQCIL.

Furthermore, as cited in Sempijja (2012), the PSU asserts that Uganda's pharmaceutical industry is constantly affected by a lack of adequate skilled pharmacists and other professionals (such as biochemists, industrial chemists, and microbiology technicians). To alleviate this inadequacy, CiplaQCIL invests heavily in training staff and hiring expatriates. However; after staff are trained, they are often poached by competitors and government authorities such as the NDA.

CiplaQCIL also faces fierce competition from local and international pharmaceutical manufacturers who are similarly struggling with high production costs. Recently, a competitor attempted to tarnish CiplaQCIL's image by alleging that the company was illegally tampering with product prices through drug 'over pricing'.

Purpose of the study

The purpose of this study was to establish the relationship between Total Quality Management (TQM) and Competitive Advantage (CA) in Uganda's pharmaceutical industry using CiplaQCIL as a case study.

Study Objectives

The study was guided by the following objectives:

i. To establish how CiplaQCIL reviews and ensures continuous professional development (CPD) and is aware of change in standards or current regulatory practices.

ii. To determine how CiplaQCIL has ensured that production and related processes are capable of consistently achieving pharmaceutical products of required quality that comply with their specifications.

iii. To establish how CiplaQCIL has ensured that it works closely with its customers and suppliers to establish the highest quality standards.

Research Questions

The study addressed the following research questions:

i. How does CiplaQCIL review and ensure continuous professional development (CPD) be aware of change in standards or current regulatory practices?

ii. How does CiplaQCIL ensure that production and other related processes are capable of consistently achieving pharmaceutical products of required quality that comply with their specifications?

iii. How has CiplaQCIL ensured that it works closely with its customers and suppliers to establish the highest quality standards?

Research hypothesis

H_0: There is no significant relationship between Total Quality Management and Competitive Advantage in CiplaQCIL.

H_1: There is a significant relationship between Total Quality Management and Capital Advantage in CiplaQCIL.

Scope of the Study

This covered the subject and time scope.

Subject Scope

The study was guided by two major variables: TQM as the independent variable and Competitive Advantage as the dependent variable. TQM is measured in terms of continuous professional development practices, customer and supplier management and continuous process improvement while Competitive Advantage is measured in terms of cost leadership, productivity, market share, and profitability.

Time Scope

The study was carried out prospectively from the year 2014 to 2017. This is because several reports have been produced over this period highlighting the various challenges being faced by the pharmaceutical companies in Uganda.

Significance of the Study

The study shall be of benefit to different stakeholders in the following ways:

The management and administration of CiplaQCIL

The study findings may be beneficial to the management of CiplaQCIL and other similar organizations in providing valuable information about how TQM practices informs development of strategies on how to attain Competitive Advantage through increased productivity and stakeholder satisfaction. The findings might also help them identify ineffective TQM practices that exist in the company and how to remedy these unproductive practices with the aim of enhancing firm performance.

Government and its regulatory agencies

The government through its regulatory agencies might obtain information that can be used to design appropriate policy measures to enable pharmaceutical companies in Uganda to

improve on their TQM practices to produce medicine products that are in line with the national development objectives under the Health Policy framework.

Academicians and other researchers

The study findings might add to the already existing literature on TQM by providing a better insight into the understanding of TQM practices especially in the delicate pharmaceutical industry both within and outside of Uganda. The gaps discovered may also act as a basis for undertaking further research in the important area of the growing pharmaceutical industry in Uganda.

Setting of the study

CiplaQCIL was established in June 2005, when Cipla Ltd of India one of the world's leading generic pharmaceuticals manufacturers was requested by the government of Uganda to extend assistance through a joint venture with Quality Chemicals Ltd (QCL) of Uganda to enable Uganda to locally manufacture anti-retroviral (ARVs) and Anti-Malarial (ACTs) drugs under Cipla brand names.

From this venture, Quality Chemical Industries Ltd (QCIL) emerged and was inaugurated on 8th October 2007. On 21st November 2013, Cipla after acquiring 15.05 additional shares became the majority shareholder in QCIL with a total holding of 51.05 shares. Consequently, the company is now called Cipla Quality Chemical Industries Limited (CiplaQCIL).

Located at Luzira Industrial Park on a 12-acre piece of land 12km east of Kampala, Uganda; with a built-up area of 14000 square meters, CiplaQCIL is a state-of-the-art pharmaceutical plant. It is in line with the Pharmaceutical Manufacturing Plan of Action for Africa, the East African Pharmaceutical Manufacturing Plan of Action and the Millennium Development Goals. The facility manufactures 6 million tablets a day and employs over 300 talented individuals both directly and indirectly.

CiplaQCIL is made up of thirteen (13) operationally interlinked departments with an aim of meeting the company's set objectives and goals. These departments include Human Resources, Finance, Procurement, Stores, Quality Assurance, Legal, Engineering, Health Safety and Environment, Production, Quality Control, Information Technology, Marketing, and Regulatory Affairs.

CiplaQCIL produces the following drugs:

1. ACT products—Lumartem (Artemether and Lumefantrine)
2. ARV Products—Duovir-N (Lamivudine, Zidovudine, Nevirapine), Efavir 600 (Efavirenz), Duovir (Lamivudine, Zidovudine), Nevimune 200 (Nevirapine), Duomine (Tenofovir Disoproxil Fumarate, Lamivudine), Trioday, and Texavir.
3. Hepatitis B—Zentar.

The vision of the company is: *To become a center of excellence in the manufacturing of quality, affordable and newer medicines.*

The Mission of the company is: *To sustainably avail affordable and efficacious medicines to improve the quantity and quality of life.*

CiplaQCILis guided by six core values that create lasting benefits for its clients. These are Quality and Excellence; Accountability; Teamwork; Integrity; Customer focus; and Innovation. CiplaQCIL ensures that every decision and action taken demonstrates these values.

CiplaQCIL has specialized in the manufacture of anti-retroviral and new anti-malarial drugs known as Artemisinin-based Combination Therapies (ACTs).

Arrangement of the study

The Dissertation is arranged in nine chapters as follows. Chapter one presents the introduction to the study. Chapter two presents the study literature and contains the literature survey, literature review and the conceptual framework. Chapter three presents the research methodology and it highlights research design and data collection and management. Chapter four presents demographic characteristics of the respondents. Chapter five presents findings on how CiplaQCIL reviews and ensures that there is continuous professional development. Chapter six presents findings on how CiplaQCIL has ensured that the production and related processes are capable of consistently achieving pharmaceutical products of required quality. Chapter seven presents findings on how CiplaQCIL has ensured that it works closely with its customers and suppliers to establish the highest quality standards. Chapter eight links the survey findings to the literature review and suggests the way forward for total quality management practices and competitive advantage at CiplaQCIL. Chapter nine presents the summary and conclusion to the study.

CHAPTER TWO
STUDY LITERATURE

Introduction

This chapter presents the literature survey, literature review and the conceptual framework.

Literature Survey

The purpose of literature survey is to analyze studies that have been conducted in total quality management and competitive advantage within Uganda's pharmaceutical industry. This is aimed at establishing gaps in these studies to justify undertaking the current study and proposing how the current study intends to fill that important void in research.

Several studies have been conducted in TQM in Uganda (for example; Mutyaba, 2013; Majeedu, 2011; and Kabuye, 2013) but none has specifically focused on TQM and Competitive Advantage of companies within its pharmaceutical industry in Uganda. Majority of the studies have concentrated on other sectors or industries.

Mutyaba (2013) conducted a study on gaining Competitive Advantage through ensuring quality of services in the financial industry. The findings of the study revealed that personalization of banking and insurance services is the top factor for loyalty and that companies should actively reach out to their customers. As for insurance companies, insurance policy claims appear to act like a complaint management experience, and a competitive strategy can be built around health insurance. The results also revealed that customers become more price-sensitive as their service costs go up, thus customers with low costs are more loyal than customers with high costs.

Based on the findings of this study it can be deduced that managers are misguided when trying to enhance Competitive Advantage by concentrating on information technology (IT) solutions. The study showed that business in the finance sector is very people-centric where the relationships are formed between persons. Companies should discover new ways to please and impact their customers' emotions because that is the area which gives back the

lost bargaining power by raising their switching costs. There is also no room for service errors for it is the main reason why companies are losing customers, followed by core product failure and loss of trust.

Mutyaba's analysis was on gaining Competitive Advantage through quality of services in Uganda's financial industry. His focus was limited to only personalization of bank and insurance services and enhancing Competitive Advantage by concentrating on IT-solutions hence leaving a gap for this study which considers TQM and Competitive Advantage at CiplaQCIL.

Majeedu (2011) conducted a study on the impact of Competitive Advantage on organizational performance. His findings support the association between Competitive Advantage and firm performance. Competitive Advantage and firm performance are two special terms with a complex association. Overall studies have shown a significant association between competitive edge and performance.

In addition, practical improvement of a global institute lies to a great degree in its ability to identify and transfer tactical knowledge between its geographically dispersed locations. These studies provide large support for the importance of competence as a base of advantage in enhancing a company's yield. The middle management synchronization on competencies is related with higher performance and it is very important to keep an eye on management to gain high performance. In diverse organizations such as pharmaceuticals, automobile, textile, electronics, brewing, and computer manufacturers among others, there is an optimistic association among the unique characteristics and the performance of the organization. Decision-makers who follow competency judgment procedures may recognize important drift. It also explains that any firm's management can use it to improve the firm's

Competitive Advantage to gain higher performance and in future it will help to explore how these relations can be sustained.

Kabuye (2013) conducted a study on TQM and Competitive Advantage of firms in Uganda. The study found out that in enterprises, TQM implementation is very complicated and has a long process. The study revealed that one of the key challenges in service firms is how to control quality. While the quality of manufactured products can be tested and controlled before delivery, it is difficult to control the quality of service before delivery, because of its intangible nature. This implies that a defective product can be replaced but a defective service may create permanent and/or long-lasting damage. The study also revealed that service firms use relatively fewer quality management tools compared to the manufacturing firms. The application level of TQM implementation is lower in-service firms than in manufacturing firms.

However, despite all these efforts by different authors, they did not consider TQM and Competitive Advantage in pharmaceutical industries in Uganda. Therefore, while a wealth of literature exists on the themes of the proposed study, there is a gap regarding the study of these variables at CiplaQCIL.

Literature Review

This section reviews literature related to Total Quality Management and Competitive Advantage of Pharmaceutical Industries outside the Ugandan context. These variables have been discussed based on the theories, models and practical recommendations outlined in other research works done elsewhere outside Uganda.

Review of Theories and Models

Several theories have been developed by different scholars to explain the concept of TQM (e.g. Deming's theory; Crosby's Theory; Joseph Juran's Theory; The EFQM Framework; and the six-sigma theory). Deming's theory can be taken as the ground-breaking theory in TQM.

Deming's Theory

Deming's theory of Total Quality Management rests upon fourteen points of management (Beamount et al., 1997; Chong et al., 2003; Corredor et al., 2010; and Deming, 1986). Deming identified the system of profound knowledge, and the Shewart Cycle (Plan-Do-Check-Act). He is known for his ratio: Quality is equal to the result of work efforts over the total costs. If a company is to focus on costs, the problem is that costs rise while quality deteriorates. Deming's system of profound knowledge consists of the following four points: 1) System appreciation - an understanding of the way that the company's processes and systems work; 2) Variation Knowledge - an understanding of the variation occurring and the causes of the variation; 3) Knowledge Theory - the understanding of what can be known; and 4) Psychology Knowledge - the understanding of human nature (Deming, 1986).

By being aware of the different types of knowledge associated with an organization, then quality can be broached as a topic (Mann, 1992). Quality involves tweaking processes using knowledge. The fourteen points of Deming's theory of total quality management are as follows: 1) Create constancy of purpose; 2) Adopt the new philosophy; 3) Stop dependencies on mass inspections; 4) Don't award business based upon the price; 5) Aim for continuous production and service improvement; 6) Bring in cutting-edge on the job training; 7) Implement cutting-edge methods for leadership; 8) Abolish fear from the company; 9) Deconstruct departmental barriers; 10) Get rid of quantity-based work goals; 11) Get rid of quotas and standards; 12) Support pride of craftsmanship; 13) Ensure everyone is trained and

educated; and 14) Make sure the top management structure supports the previous thirteen points.

According to Kumar (2009) Plan-Do-Check-Act (PDCA) is a cycle created for continuous improvement. In the planning phase, objectives and actions are outlined then, actions and the implementation of the process improvements. The next step is to check to ensure quality against the original and then finally acting requires that you determine where changes need to occur for continued improvement before returning to the plan phase.

Crosby's Theory

Kuratko (2001) asserts that Philip Crosby is another person credited with starting the TQM movement. He made the point, much like Deming, that if you spend money on quality, it is money that is well spent. Crosby based on four absolutes of quality management and his own list of fourteen steps to quality improvement. The four key absolutes of Crosby: 1) We define quality as adherence to requirements; 2) Prevention is the best way to ensure quality; 3) Zero Defects (mistakes) is the performance standard for quality; and 4) Quality is measured by the price of nonconformity.

Just like Deming, Crosby also suggested fourteen steps to continuous quality improvement and these include: 1) Attain total commitment from management; 2) Form a quality improvement team; 3) Create metrics for each quality improvement activity; 4) Determine cost of quality and show how improvement will contribute to gains;5) Train supervisors appropriately; 6) Encourage employees to fix defects and keep issues logs; 7) Create a zero-defects committee; 8) Ensure that employees and supervisors understand the steps to quality; 9) Demonstrate your company's commitment by holding a zero defects day; 10) Goals are set on 30, 60, or 90 day schedule; 11) Determine root causes of errors, remove them from

processes; 12) Create incentives programs for employees; 13) Create a quality council and hold regular meetings; and 14) Repeat from step one (Reed et al., 2000).

Joseph Juran's Theory

Another scholar who has contributed to the debate on TQM is Joseph Juran who is responsible for what has become known as the "Quality Trilogy" (Pace et al. 1995). The quality trilogy is made up of quality planning, quality improvement, and quality control. If a quality improvement project is to be successful, then all quality improvement actions must be carefully planned out and controlled. Juran believed there were ten steps to quality improvement. These steps are: 1) An awareness of the opportunities and needs for improvement must be created; 2) Improvement goals must be determined; 3) Organization is required for reaching the goals; 4) Training needs to be provided; 5) Initialize projects; 6) Monitor progress; 7) Recognize performance; 8) Report on results; 9) Track achievement of improvements; 10) Repeat.

Ishikawa's Theory

Dr. Kaoru Isikawa developed a theory of how companies should handle their quality improvement projects. Ishikawa looked at quality from a human standpoint. He pointed out that there are seven basic tools for quality improvement. These tools are: 1) Pareto Analysis - This identifies the big problems in a process; 2) Cause and Effect Diagrams - these help to get to the root cause of problems; 3) Stratification - this analyzes how the information that has been collected fits together; 4) Check Sheets - these look at how often a problem occurs; 5) Histograms – these monitor variation; 6) Scatter Charts - these demonstrate relationships between a variety of factors; 7) Process Control Charts - these help to determine what variations to focus upon.

The EFQM Model

According to Bou-Llusar et al. (2009), the European Foundation for Quality Management (EFQM) Model is based upon nine criteria for quality management. There are five enablers (criteria covering the basis of what a company does) and four results (criteria covering what a company achieves). The result is a model that refrains from prescribing any one methodology, but rather recognizes the diversity in quality management methodologies. The nine criteria as defined by the EFQM Model are: 1) Focus on Results - pleasing company stakeholders with results achieved by stakeholders is a primary focus; 2) Focus on Customers - it is vital that a company's quality management leads to customer satisfaction; 3) Constancy of Purpose and Consistent, Visionary Leadership; 4) Process and Facts form the Management Focus - Management breaks down everything into systems, processes and facts for easy monitoring; 5) Training and Involving Employees - Employees should receive professional development opportunities and be encouraged to remain involved in the company; 6) Continuous Learning - everyone should be provided with opportunities for learning on the job; 7) Developing Partnerships - It is important to encourage partnerships that add value to the company's improvement process; 8) Social Responsibility of the Corporation - The company should always act in a way where it is responsible towards the environment and society at large.

Models of Competitive Advantage

According to Conner (1991) and (Porter, 1980; Porter, 1985) as cited by Reed et al. (2000) there are two models of Competitive Advantage, both of which are grounded in economic theory. The first model; the Market-based model, and the second, the Resource-based model, are complementary. The market-based model focuses on cost and differentiation and asserts that inefficient firms including those that do not offer products for which consumers are prepared to pay a premium price are uncovered by the market (Reed et al., 2000). The

market-based model of Competitive Advantage is mainly driven by determinants like opportunities, threats, and industry competitions which are external to the firm, and as Porter (1985) points out, sustaining an advantage means presenting competitors with "a moving target."

Concepts of TQM

The following are the concepts of total quality management;

Leadership Commitment

Fening, Amaria and Frempong (2013:3) have argued that as competition increases, and changes occur in the business world, there is the need to have a better understanding of quality and that to implement TQM successfully, top management must first believe in it. Pekar (1995: vii) contends that the leadership of an organization must be committed to continuous improvement. This commitment must be visible throughout all layers of management. Only when management is committed and provides the right tools and systems will employees excel at what they do. Sing et al. (2010) in their study established that top management commitment was found to be the most significant factor affecting the implementation of TQM. Top management of the respondent companies assumed responsibility for quality. It was found that the level of commitment and involvement shown by the senior management had noticeable effects on the success of the company. Sing et al. (2010) have also pointed out that leadership is an important factor for TQM. An effective and dynamic leader can lead a successful team and subsequently make a profitable organization.

Customer Focus

Customer focus is another key construct of TQM and Pekar (1995: vii) has argued that the organization must be customer focused. He states that everyone in the organization must understand that without the customer there would be no purpose to their work, no paycheck, no capital investment, and no end-of-year company party or picnic. What must also be

understood is that the external customers are served by the internal customers (employees). There is, therefore, a need to focus on the requirements and expectations of both internal and external customers. One of the first steps management should take in this regard is to conduct surveys of external and the internal customers. Employees (internal customers) should be apprised of the results of external customer surveys. A truly committed management team will also allow employees to see the results of any internal surveys. This brings "the good, the bad, and the ugly" to the table for discussion. The good can be improved upon. The bad can lead to opportunities for improvement. The ugly must be addressed through open, two-way communication with cross-functional teams to find solutions. Sing et al. (2010) in their study contend that the main objective for a product or service design is to meet or exceed the customers' expectation and thus to satisfy the customer while making a reasonable profit. Customers are the driving force for product and service design. A customer oriented or customer focused organization maintains its Competitive Advantage.

Training and Development

Pekar (1995: vii) has also pointed out that the organization must assess the current skill level and awareness of total quality principles of all employees. The idea is to start with top management and move through the organization. Begin by training top management; with their commitment and knowledge of total quality, it will be easy to train those who follow. This training will pay high dividends at every level in the organization. Through training, firms assure that their employees have the necessary skills and technical knowledge to perform their jobs effectively. They can also count on them to be effective participants in contributing to the total quality process. Information should be provided to employees describing educational programmes available to them through various professional organizations and community colleges. By creating an awareness of these opportunities, the organization demonstrates its commitment to a continuous improvement of employee skills.

Empowerment and Involvement

Soon after the commencement of training, management must provide opportunities for employees to apply what they have learned. They need to test their skills. They will not and should not be content with the way things are. Every aspect of their job should be evaluated and measured against the new paradigms. This will bring new challenges to their supervisors. The supervisors, in turn, through their own training will now be equipped with the attitudes and analytical skills to consider their suggestions. They will no longer feel the threat of losing control.

Recognition and Awards

Recognition and awards encourage further participation by the employees and shows other employees that their efforts are appreciated. When a team has met an established goal, the entire team should be recognized.

The value of the recognition should be commensurate with the value of the accomplishment. Furthermore, when recognition is given, it should be consistent. To assure consistency, a panel of management and non-management employees should be established to set up a recognition programme.

Communication

Organizations must communicate with the work force, suppliers, and customers.

Supplier and Vendor Quality

Sing et al. (2010) contend that supplier and vendor quality is also an important dimension of quality management as defective materials, parts and services lead to product and process quality problems. Maintaining good supplier and vendor relationships is acknowledged as a key factor in maintaining Competitive Advantage.

Process Management, Continuous improvement and innovation

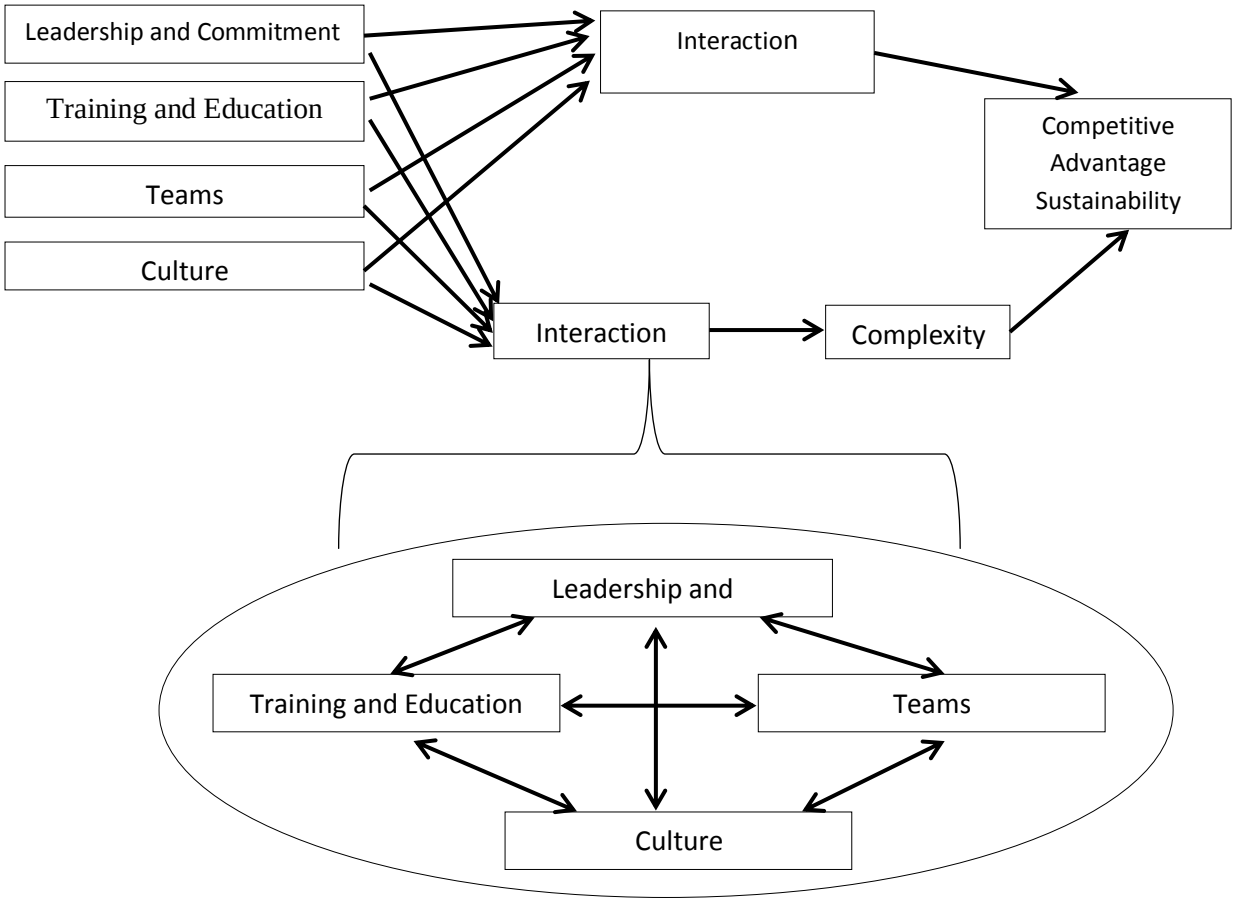
Reed et al. (2000: 8) summarized the above concepts of TQM in line with the various authors who have ventured into exploring TQM over the years.

Table 2.1: Commonalities among seminal TQM work

Concept/author	Crossby (1979, 1996)	Deming (1982, 1986)	Feigenbaum (1951, 1961, 1983, 1991)	Ishikawa (1985)	Juran (1951, 1962, 1988, 1989, 1992)
Customer satisfaction	Maturity grid: from goodness and delighting the customer to satisfaction and conformance.	Customers define quality; consumers are the most important part of the production line.	Quality is what the customer says it is; customer focus is embedded in the management of quality.	Total quality control (TQC) means having a consumer orientation	Customer satisfaction, which drives market share and profits, comes from product satisfaction.
Cost reduction	The price of non-conformance means that quality is free.	Doing it right first time means less waste, less rework, and lower costs.	Controlling quality costs less than correcting mistakes.	TQC reduces costs over the long term, not the short term.	Costs of poor quality remain unknown, but they are very high.
Leadership and top management commitment	Leadership by example-commitment is demonstrated by participation and attitude.	Management's job is leadership (to show constancy of purpose in their focus on quality).	Requires complete support of top management, who realize that it is not a temporary cost reduction project.	Top management commitment should be shown by adopting the lead role in implementation.	Top management's job is motivation, which includes participation in quality programs.
Training and education	Use training in quality, from the CEO down, to internalize concepts; training and education should be continuous.	Vigorous, continuous program for (re)training employees in new knowledge and skills; statistical methods to check training efficacy.	Training (on-the-job, classroom, problem solving) and education are fundamental to achieving full commitment to quality.	TQC is a revolution in thinking, so training and education must be continuous for all employees (from the CEO down).	To make quality happen, training should include the entire hierarchy, starting at the top: purpose of training is to create or update skills.
Teams	Use management team on quality for internal communication, quality councils for internal/external communication.	Cross-functional teams can create improvements in product, service, quality, and reduce costs.	Quality control committee should have representatives from all functional areas.	Cross-function management committees (teams) facilitate the responsible Development of quality assurance.	Major quality improvement projects are multifunctional in nature, thus requiring multifunctional teams.
Culture	Quality commitment-genuine belief by employees in importance of good quality, workmanship, good designs and service.	A new philosophy is required: drive out fear (of quotas, questioning Accepted methods, etc.), and instill pride in quality.	Quality control is a "spirit of quality mindedness, 'from CEO to the shop floor; it is communication channel and means of participation.	TQC requires organization-wide participation; where there are no (voluntary) quality circle activities, there is no quality control.	Changing to a company-wide quality system means changing existing cultural patterns; there may well be cultural resistance.

Source: Reed et al. 2000: 8

Figure 2.1: Total Quality Management (TQM) process activities, complexity and sustainability of advantage



Reed et al. /Journal of Quality Management 5 (2000) 5-26

TQM is a set of beliefs and principles that portrays the basis of a consistently growing organization. It is the application of quantitative methods and human resources to improve all the processes within an organization and exceed the customer needs now and in the future. Other definitions of TQM are that it is a management style based on producing quality products and services as defined by the customer. However, Godfrey (1999) defines it as a quality-centered, customer-focused, fact-based, team-driven, senior-management-led process to achieve an organization's strategy imperative through continuous process improvement. Additionally, according to Wade (2008), TQM is a comprehensive and structured approach to organizational management that seeks to improve the quality of products and services through ongoing refinements in response to continuous feedback.

Sing and Dhalla (2010: 2) posit that since the mid 80's TQM is considered as the universal remedy for a range of organization problems including organization performance. Today, successful companies understand that quality provides a Competitive Advantage. They put the customer first and define quality as meeting or exceeding customer expectations.

The TQM evolution has been summarized in Table 2.2 below:

Table 2.2: Quality Movement from Inspection to TQM

Criterion	**Inspection**	**Statistical Quality Control (SQC)**	**Quality Assurance (QA)**	**Total Quality Management**
Objective	Measurement of Specifications	Control of processes	Distribution of quality responsibility to functional areas	Continuous quality improvement at every level, at every place and at every stage
Focus	Uniform product quality	Reduction in inspection work	Evaluation at all stages	Customer (internal and external) satisfaction
Tools	Gauges and measurement Techniques	Statistical quality control tools and techniques	Quality planning, documentation and quality systems	Commitment, participation, motivation, education and training, organization development
Responsibility for quality	Inspection department	Production department	All departments	Top management leadership with everyone in organization
Approach	Inspection, sorting Grading	Trouble shooting and controlling the quality	Assuring to build quality planning programme design and programme control	Strategic management, team involvement and action research

Source: Mohanty and Lakhe, 1994 in Sing and Dhalla, 2010: 2

Total Quality Management

According to Motwani (2001), there are several key characteristics that differentiate service firms from banks and these would affect TQM principles, tools and techniques transfer to service environments. It must be emphasized that whilst intangible goods are less homogeneous and difficult to measure, tangible goods can be measured and are standardized in their specifications. For example, the concept of SERVQUAL, brought about by Zairi, M. et al (1995) to evaluate quality of intangible goods was dominated by intangible variables such as responsiveness, courtesy and accessibility. Another important distinction is that in the service firms the use and delivery of a product takes place at the same time, hence it is difficult to control and even monitor the quality of the product before delivery to the customer. On the other hand, the quality of physical products can be tested, monitored and controlled before delivery. This is also evident by the fact that a defective item can be replaced but a defective service may create a lasting problem. A lot of research has been conducted to critically compare the difference in TQM implementation between manufacturing and service firms.

Among the pioneering studies, was a study on 261 manufacturing firms and 85 service firms conducted by Chase and Bowen (1991) which indicated that service firms use fewer quality management tools; especially statistical and process control. Again, another study conducted by Chase and Bowen (1991) on 240 Singaporean companies found that the service organizations generally showed a lower level of TQM implementation than the manufacturing organizations, particularly in terms of the elements of information and analysis, process management, and quality performance. On the other hand, the studies also revealed no marked difference with respect to the elements of leadership, human resources, and customer focus. These two studies support the point that the “soft” elements of TQM which include leadership, human resources and the like, are more applicable in service-firms

than are the other statistical and process control methods. Hassan and Kerr (2003) also examined the difference in TQM implementation between 18 manufacturing and service companies based on TQM dimensions and found that the service companies apply TQM practices selectively as opposed to the manufacturing firms, which apply the full range of TQM practices.

Total Quality Management practices lead to growth in market share

Growth in market share and unit cost of production are chosen as measures of performance because the use of specific quality management measures such as 'rate of defects', omits relevant details (e.g. investment in TQM) and financial measures, such as share prices, are affected by other factors (e.g. interest rates), which are not related to TQM policy (Wade, 2008).

According to Wade, (2008), as perceived quality not only depends on physical attributes but also on marketing strategy then price, advertising and warranties should have a positive relationship with perceived quality. Price also has a positive relationship with consumer expenditure. Neither perceived quality nor consumer expenditure have been assessed in the analysis and are therefore latent variables in the framework. If perceived quality has a positive relationship with market share growth, then advertising and warranties should have a positive relationship with market share growth. Thus, the expected effect of price (in the normal range of prices) on market share growth is null, since the negative effect of perceived expenditure counteracts the positive effect of perceived quality on market share growth. This lack of relationship would not be expected to exist for any price because extremely high prices imply reductions in market share.

Powell, (1995) has shown that TQM helps to improve intrinsic quality through reduced defect rates and better design. Also, intrinsic quality (another latent variable in the model) has a positive effect on consumer perceptions of quality (Wade, 2008), and that perceived quality has a positive effect on growth in market share.

Better design characteristics (intrinsic attributes) may require increasing the cost of the product. They also imply improved perceived quality and consequently may imply an improvement in market share growth. However, differences in costs are not only due to differences in attributes, but also to differences in efficiency (McAdam, and Bannister, 2001). Moreover, when higher quality is achieved with more intrinsic attributes, and, therefore, an increase in costs, a higher market share need not follow, because the increase in price needed to maintain the benefit counteracts the effect of higher quality. All these elements imply a null (neither negative nor positive) effect of production cost over market share.

The operational profits of companies are clearly dependent upon sales and costs. Therefore, companies with larger market share growth and with smaller unit costs (McAdam, and Bannister, 2001) will obtain better operational profits.

Total Quality Management and product quality in pharmaceutical industries

Effective TQM leads to improvements in quality. Improvement of quality is linked with higher profits and increased market share (Reed et al., 1996).

Similarly, through continuous improvement and process efficiency with TQM, companies could produce high quality products or cost-efficient products (Reed et al., 1996). In line with Porter (1985), firms with quality products or cost efficiency could achieve competitive advantage (Reed et al., 1996). Because, through these improvements, firms could charge higher prices for their products and increase their profitability and capture higher market shares (Kumar et al., 2009). As mentioned, effective TQM could lead to higher revenues,

which also have positive influence on market share. In general, with effective TQM companies could produce products with higher quality through process and quality improvements and improve market share.

Furthermore, long-term supplier relationships and quality focus able firms to meet the expectations and needs of their customers with their high-quality products. In turn, improved product and service quality through effective TQM increases customer satisfaction and loyalty (Chong and Rundus, 2004). So, effective TQM is associated with customer orientation and satisfaction. Prajogo and Sohal (2006) describe that companies with customer orientation will focus on gaining a market advantage where they can outperform their competitors in terms of attracting more customers with distinguished products and charge a premium price. Furthermore, Yusuf et al. (2007) underline that organizations that understand what customers really want and provide a product or service to meet these requirements can gain Competitive Advantage and profit with their effective TQM system.

Powell (1995) mentions that TQM is a potential source of sustainable Competitive Advantage for companies. He concludes that firms with implemented TQM combined with tacit resources (e.g. employee empowerment) can outperform competitors. Furthermore, Reed et al. (1996) describe that TQM could lead to competitive advantage, because improved quality is linked with higher profits and increased market share. They mention that TQM practices function as an independent system in organization and when combined with other organizational assets it generates Competitive Advantage (Douglas and Judge, 2001).

Kuratko et al. (2001) investigate the effect of TQM on Competitive Advantage in smaller firms. The authors support the proposition that small firms tend to employ TQM that enables changes and that positions the firm to pursue Competitive Advantage.

Companies with TQM will benefit in the long run, so top management should incorporate quality practices in their organizations' culture since it has been proved that TQM does improve Competitive Advantage and produce economic value (Agus and Sagir, 2001).

Shenawy et al. (2007) conducted a meta-analysis to investigate the effect of TQM on Competitive Advantage. The authors suggested a model for TQM that incorporates five major components of TQM which are top management commitment and leadership, teamwork, culture, training and education, and process efficiency. They showed that firms with TQM could achieve Competitive Advantage, because it leads to improved financial performance, improved customer satisfaction, faster response to competitive environment and improved product quality.

Corredor and Goni (2008) assert that early adopters of TQM benefit from being the first ones in the market. Companies could be first in the market with effective TQM and achieve customer satisfaction or efficiency improvements.

Additionally, Kumar et al. (2009) states that improvements in quality and productivity through effective TQM enable firms to increase their market share and to charge higher prices for their products, which, in turn, results in higher profitability.

In contrast to Kumar et al. (2009), Jimenez and Costa (2009) describe that TQM leads not only to higher quality products but also to cheaper products through cost efficiency which generates Competitive Advantage.

Thus, the literature concludes that aspects such as process improvement, top management and employee involvement, customer satisfaction and product quality that are achieved through effective TQM practices could lead to Competitive Advantage. Through TQM practices, companies can perform better than their competitors and achieve advantage in their markets.

To measure Competitive Advantage, the most used measures of Competitive Advantage in TQM literature are selected. These are improved revenues, growth in market share, product quality and customer satisfaction.

Total Quality Management and Sales Volume

Firms employing a TQM approach can simultaneously achieve all three of Porter's competitive strategies. The focus on improving the quality of products and services to the organization's current customers (thereby increasing customer value), leads both to lower costs of production (cost leadership) which produce both greater profits and lower prices, and differentiation (the firm's products and services provide higher levels of reliability, quality, and value).

According to Talib et al. (2012), many leaders find it difficult to create a Competitive Advantage because they are not sufficiently aware of the threats and opportunities in the external environment or their firm's strength, weaknesses and unique competencies. Again, when some managers, firms, or organizations are successful in business, they think they have a Competitive Advantage. This is not entirely true, because it is not based on any scientific proof. Such managers, firms or organizations are temporarily successful despite having a weak, or no Competitive Advantage. It is just a matter of time before other firms, with a strong Competitive Advantage, take away their business.

Competitive Advantage

Al-Rfou (2012), defines competitive advantage as the ability of an organization to produce goods or services more effectively than competitors do, thereby outperforming them.

According to Porter (1985), organizations achieve Competitive Advantage through one or a combination of three approaches: differentiation, cost leadership, or focus. He moved on

further to explain that firms employing a differentiation strategy attempt to achieve a Competitive Advantage by distinguishing their firm's products or services from those of their competitors (i.e. making their products unique).

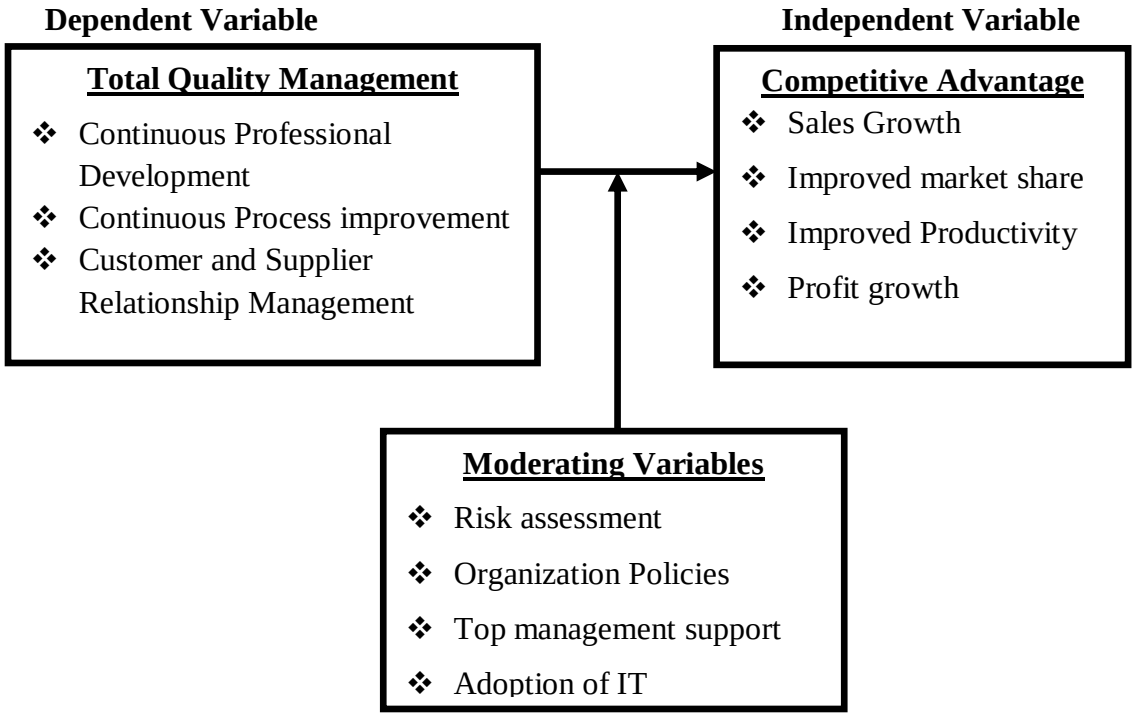
Firms employing a cost leadership strategy effectively compete based on price. Cost advantages can be achieved through such means as efficiency, cost reductions, tight cost controls or volume. Firm's employing a focus strategy attempt to achieve a Competitive Advantage by concentrating their efforts on a specific regional market or buyer group.

Employees usually look up to their management as the example and to set a tone for them in doing their work. Adopting TQM in an organization means a cultural change which is difficult without a solid commitment from the leadership.

Leadership sets the core values of the organization which include commitment to service quality and customer satisfaction and they act on those values to make everyone in the organization follow. Drive out fear, so that everyone may work effectively for the company. Empowerment is essential where employees can make decisions on the spot to meet customer’s needs and expectations rather than wait for top management to make decisions which can create delay and dissatisfactions of customers.

A study conducted by Easton and Jarrel (1998) revealed that in Uganda, several organizations are under performing and finally collapsing because they have relegated quality management to the background. Most of these organizations, particularly the service and some manufacturing ones treat customers like beggars, forgetting that in this modern business world customers can make and/or unmake an organization and so organizations should place quality at the top of their priority table if they want to attain Competitive Advantage. Quality of employees is a very important element, but most organizations ignore it. Because most organizations ignore training and development of their employees, inferior goods are produced by the employees.

The Conceptual Framework



Source: Raduan et al. (2009) Modified by the Researcher, 2017

Figure 2.2: Conceptual Framework for TQM and Competitive Advantage of pharmaceutical industries in Uganda.

Explanation of the conceptual model

As indicated in Figure 2.2, the independent variable is total quality management viewed in terms of continuous professional development, continuous process improvement and customer-supplier relationship management. These are supported by the intervening variables defined in terms of risk assessment, organizational policies, top management support and adoption of IT. The dependent variable, competitive advantage is measured in terms of sales growth, improved market share, improved productivity, and profit growth.

CHAPTER THREE

METHODOLOGY

Introduction

This chapter presents the methodology that was used in the study. It explores the research design, approach, strategy, classification and duration. The study population and the sample are also described. The instruments used to collect the data, including methods implemented to maintain their validity and reliability are described. The chapter also explores the data collection procedure, data processing and analysis, the ethical considerations and the limitations of the study.

Research Design

A case study research design was used. The study focused on how TQM implementation results in sustainable Competitive Advantage for CiplaQCIL with detailed explanatory, analytical, quantitative as well as qualitative research approaches. The qualitative approach was used because the study called for the description of personal, organizational, and other variables that cannot be quantified; and the quantitative approach was used to measure relationships amongst the study variables.

Research Approach

This study followed the phenomenological research approach which focuses on understanding why something is happening rather than describing why it is happening. The case study approach was especially useful in situations where contextual conditions of the events being studied are critical and where the researcher may have no control over the events as they unfold.

Research Strategy

The case study, as a research strategy encompassed specific techniques for collecting and analyzing data, directed by clearly stated theoretical assumptions. The data was collected from different sources and measures were taken to ensure its integrity. A survey strategy

through a case study was used in this study as it allows the collection of large amounts of data from a sizeable population in an economical way.

Research Duration

The study was cross-sectional and focused on the period from 2014 to 2017. This is because several reports on the pharmaceutical industry in Uganda pointed out that the firms continue to encounter many challenges to do with quality, and price and cost leadership.

Study Population

The target population for this study was 200 individuals. These comprised employees of CiplaQCIL and other stakeholders covering the officers, operators, managers, line managers, and departmental assistants for the various departments at CiplaQCIL.

Table 3.1: Study Population

Category	**Study Population**
Administration	05
Regulatory Affairs (RA)	04
Engineering	16
Finance	07
Human Resource (HR)	03
Packaging	40
Procurement	05
Production	40
Quality Assurance (QA)	18
Quality Control (QC)	44
Stores	18
Total	**200**

Source: Primary Data, 2018

Sample Size

According to Evans et al. (2000), Sample size is the number of observations in a sample. Moser and Kalton (1979) assert that in many cases, a researcher is unable to cover the entire population, in which case he/she takes a sample that is part of the population to save money, time and other resources. The sample size for the current study was selected based on the criteria set according to Neuman (2000).

$$n = \frac{N}{1+N(e)^2}$$

$$n = \frac{200}{1+200(0.05)^2}$$

$$n = \frac{200}{1+200(0.0025)}$$

$$n = \frac{200}{1.5}$$

n = 133

Where, n is the required sample size

N is the study population

e- is the level of significant co-efficient

Table 3.2: Distribution of the Study Population and Sample Size

Category	**Sampling Technique**	**Sample**
Administration	Purposive and Stratified	03
Regulatory Affairs (RA)	Purposive and Stratified	02
Engineering	Simple Random	10
Finance	Purposive and Stratified	06
Human Resource (HR)	Purposive and Stratified	02
Packaging	Simple Random	24
Procurement	Purposive and Stratified	03
Production	Simple Random	25
Quality Assurance (QA)	Simple Random	12
Quality Control (QC)	Simple Random	34
Stores	Simple Random	12
Total		**133**

Source: Primary Data, 2018

Sampling Techniques

The study applied both random and non-random sampling techniques.

Stratified Sampling Technique

This technique involves dividing the study population into different groups from which one can sample randomly. The study population at CiplaQCIL was grouped into the company's respective departments and other techniques such as purposive and simple random sampling were used to select staff from each department to participate in the study.

Purposive Sampling Technique

Purposive sampling is a selective or subjective sampling technique where the researcher relies on sound judgment when choosing a sample from the study population. The purposive sampling technique was employed to select staff in Regulatory Affairs (RA), Administration, Finance, Human Resource (HR), and Procurement. Teddlie and Fen Yu (2007:83) affirm that purposive sampling is typically designed to pick a small number of cases that yield the most information about a phenomenon.

Simple Random Sampling Technique

Simple random sampling involves selecting respondents from the population listing by chance. This method allows everyone an equal chance of being selected. The simple random sampling technique was used to select respondents from top management to casual labourers.

Data Collection Procedures

A supporting letter, signed by the Dean, was obtained from the School of Business Administration. This was intended to explain to the respondents the objective of the research. A cover letter was also written to the respondents promising them of the anonymity of the data they would provide. An acceptance letter was sought from the management at the CiplaQCIL allowing the collection of the data.

Data Collection Methods

Different methods of data collection exist, and they include the survey, descriptive, experiment, historical and case study methods. The case study method was selected for this research as was it was the most appropriate for it. Collection of data for this research involved the use of both case study method and review of related literature. The case study method made use of both the questionnaire and interview instruments to collect primary data while reviewing of related literature was used to collect secondary data.

Data Collection Instruments

These comprised of the following:

Self-Administered Questionnaires (SAQs)

SAQs were you used to collect basic information about the backgrounds of the respondents and to probe several TQM practices and their relationship to Competitive Advantage at CiplaQCIL The Questionnaires used a five-point Likert scale (1= SD, 2= D, 3= N, 4= A, and 5= SA) ranging from "strongly disagree" to "strongly agree" to determine the extent to which respondents held certain attitudes or perspectives on TQM and Competitive Advantage at CiplaQCIL. This instrument was used because it is easy to administer, and it allowed literate respondents to give their views without fear.

Interview Guide

Structured interviews were used to collect data from the different stakeholders and these were mainly composed of heads of departments and line managers at CiplaQCIL. The interview guide was used to ensure consistency and uniformity of the questions asked so as to ensure reliability of the findings of the study. The interview lasted for about 10 minutes with each respondent in a bid to probe deeply the various developments with regard to total quality management and competitive advantage in CiplaQCIL.

Validity and Reliability of Research Instruments

The validity and reliability of the research instruments are important considerations when conducting research.

Validity

Validity refers to the extent to which an empirical measure adequately reflects the real meaning of the concept under consideration (Babbie, 2010 as cited in Masejane, 2012). In other words, a measure of Total Quality Management should measure Total Quality Management, not political orientation (Masejane, 2012). Validity is also seen as the extent to which a study is free from interference and contamination and control or variable manipulation.

To ensure validity of the data, the study used purposive sampling to ensure that research instruments are only administered to management and operational staff of CiplaQCIL. The study also ensured that company data base information is from authoritative personnel. The questionnaire was pre-tested and comments for the questions which are not clear were reviewed and corrected.

The reliability of the study data was tested using the Statistical Package for Social Scientists (SPSS - Version 20) to calculate the Cronbach's alpha coefficient of internal consistency of the variables used in the questionnaire.

Reliability

Reliability estimates the consistency of the measurement or more simply, a degree to which an instrument measures the same way each time it is used under the same conditions with the same subjects (Adams et al., 2007 as cited in Masejane, 2012). When the outcome of the measuring process is reproducible, the measuring instrument is reliable. However, this does not mean that it is valid.

Reliability is therefore the relation of error variation to the total variation as obtained by the measuring instrument deducted from 1.00. The index 1.00 indicates perfect reliability (Smit, 1991 as cited in Oschman, 2004).

Piloting the Questionnaire and Interview

To ensure validity and reliability, the questionnaires and interview were pilot-tested on a small group of MBA students at Nkumba University (n=10). This was done to refine the questionnaire or interview process by identifying mistakes in the questionnaire/interview and removing ambiguous questions and those that respondents could not answer. The results of the pilot study were analyzed, and the necessary changes effected before the questionnaire were distributed to the main subjects of the study. The pre-tests revealed that the questionnaire should not take more than ten (10) minutes to complete. Confidentiality was guaranteed as questionnaires were returned anonymously.

Table 3.3: Reliability of instruments

Variables	**Section of the questionnaire**	**Cronbach's Alpha**
1.	Reviews and Continuous Professional Development Activities at CiplaQCIL	.994
2.	Continuous Process Improvement at CiplaQCIL	.996
3.	Customer and Supplier Relationship Management at CiplaQCIL	.992
	Average	**.994**

Source: Primary Data, 2018

A reliability coefficient of 0.7 or higher is considered acceptable (Kothari, 2006).

According to Table 3.3, the reliability coefficient for each of the objectives was approximately 0.99 implying that the scales on the questionnaire that were used to measure the three sections were reliable and consistent.

Data Processing and Analysis

Completed questionnaires were reviewed to ensure accuracy, consistency and completeness of information before leaving the field. Data from the questionnaires were coded and captured in the Statistical Package for Social Scientists (SPSS—Version 20) programme for statistical processing and analysis. Descriptive statistical analyses involving the use of tables, frequencies, and other descriptive statistical measures such as mean, standard deviation among others were used.

The cause-effect relationship between the independent and the dependent variables was established through frequency analysis, correlation matrices and multiple regression analysis.

Ethical Consideration

Authorization to conduct research about TQM and competitive advantage at CiplaQCIL was sought and granted by its top management. A statement as to the strict confidentiality of any information provided was expressly stated in the questionnaire and got high priority during the briefing sessions because any interference in this regard could affect the reliability of results. Questionnaires were structured in such a way that there was no mention of the respondent's name.

Furthermore, the respondents were briefed on the purpose of the research and their relevance in the research process.

CHAPTER FOUR

BACKGROUND INFORMATION OF THE RESPONDENTS

Introduction

This chapter presents findings about the demographic characteristics of the respondents.

Demographic Characteristics of the Respondents

The demographic factors considered for the different respondents included gender, age, and level of education, marital status and length of service at CiplaQCIL. This was done to give the user of this information a clear picture of the attributes of the sample from whom the data was collected. A total of 133 questionnaires were distributed to selected respondents. Of the 133 distributed questionnaires, 121 were returned to the researcher. After the exclusion of incomplete questionnaires, only 114 were considered for data analysis. The results from this analysis are presented below:

Gender of Respondents

From Table 4.1, the majority (approximately 64%) of the respondents were male while 36% were female. This is because most of the staff in CiplaQCIL are male. Besides that, males were more excited about and willing to take part in the study hence they comprised most of the respondents.

Table 4.1: Gender of respondents

		Frequency	Percentage	Cumulative Percentage
Valid	Male	73	64.0	64.0
	Female	41	36.0	100.0
Total		114	100.0	

Source: Primary Data, 2018

Age Distribution of Respondent

From Table 4.2, a large portion of the respondents (about 65%) were aged 30 to 50 years and above. 35% of the respondents were in the lowest age group of 20 – 29 years. According to these findings, all respondents were mature enough to take part in the study and provide relevant responses.

Table 4.2: Age Distribution of Respondent

		Frequency	Percentage	Cumulative Percentage
Valid	20 - 29 years	40	35.1	35.1
	30 - 39 years	44	38.6	73.7
	40 - 49 years	21	18.4	92.1
	50 years and above	9	7.9	100.0
Total		114	100.0	

Source: Primary Data, 2018

Highest Level of Education Attained

From Table 4.3, most of the respondents (about 47%) have an undergraduate degree. The highest level of education attained by the respondents (26% of them) was found to be a master's degree or a postgraduate diploma in business management and pharmacy. The remainder of the respondents (just over 26% of them) was found to be either undergraduate diploma or certificate holders.

Table 4.3: Highest level of education attained

		Frequency	Percentage	Cumulative Percentage
Valid	PGD	7	6.1	6.1
	Masters	23	20.2	26.3
	Bachelor's Degree	54	47.4	73.7
	Diploma	16	14.0	87.7
	Certificate	14	12.3	100.0
Total		114	100.0	

Source: Primary Data, 2018

Length of Service at CiplaQCIL

The various respondents had served in CiplaQCIL for varying tenures as shown in Table 4.4. 44(38.6%) had served for less than a year, 43(37.7%) had served for 1 to 4 years, 16(14%) and served for 5 to 9 years and 11(9.6%) had served for 10 years and above a testament to the company's steady growth. Those who had served for 4 to 10 years and more provided basic to more detailed information on TQM and Competitive Advantage in the pharmaceutical industry.

Table 4.4: Length of Service at CiplaQCIL

		Frequency	Percentage	Cumulative Percentage
Valid	Less than 1 year	44	38.6	38.6
	1 - 4 years	43	37.7	76.3
	5 - 9 years	16	14.0	90.4
	10 years and above	11	9.6	100.0
	Total	114	100.0	

Source: Primary Data, 2018

Departments of Respondents

The study findings on the respondents' work departments revealed that 2.6% of the respondents were from Administration, 1.8% were from RA, 7% were from Engineering, 3.5% were from Finance, and 1.8% were from HR. About 37% of the respondents were from QA and QC. Majority of the respondents (about 46%) were from Packaging, Procurement, Production and Stores departments as shown in table 4.5.

Table 4.5: Department of the Respondents

		Frequency	Percentage	Cumulative Percentage
Valid	Administration	3	2.6	2.6
	Regulatory Affairs (RA)	2	1.8	4.4
	Engineering	8	7.0	11.4
	Finance	4	3.5	14.9
	Human Resource (HR)	2	1.8	16.7
	Packaging	20	17.5	34.2
	Procurement	3	2.6	36.8
	Production	20	17.5	54.3
	Quality Assurance (QA)	10	8.8	63.1
	Quality Control (QC)	32	28.1	91.2
	Stores	10	8.8	85.1
	Total	114	100.0	

Source: Primary Data, 2018

CHAPTER FIVE
ENSURING CONTINUOUS PROFESSIONAL DEVELOPMENT (CPD) AT CIPLAQCIL

Introduction

This chapter presents the findings about the continuous professional development activities at CiplaQCIL and how these influence the competitive advantage of the company. These empirical findings are presented in view of the established best practices as required by the TQM approach. The gaps established against best practices are also discussed with the view of providing ground for recommendations.

CPD is the holistic commitment of professionals towards the enhancement of personal skills and proficiency throughout their careers. CPD is the term used to describe the learning activities professionals engage in to develop and enhance their abilities. CPD combines different methodologies to learning, such as training workshops, conferences, seminars and events, e-learning programmes, best practice techniques and idea sharing, all focused for an individual to improve and have effective professional development.

Engaging in CPD ensures that both academic and practical qualifications do not become outdated or obsolete; allowing individuals to continuously ‘up skill’ or ‘re-skill’ themselves, regardless of occupation, age or educational level.

Commitment by CiplaQCIL for Strategic Human Resource Management (SHRM)

SHRM includes typical human resource components such as hiring, discipline, and payroll. It also involves working with employees in a collaborative manner to boost retention, improve quality of the work experience, and maximize the mutual benefit of employment for both the employee and the employer. Table 5.1 presents responses from respondents regarding their opinion on CiplaQCIL’s commitment to SHRM.

Table 5.1: Commitment by CiplaQCIL to Strategic Human Resource Management

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	17	14.9	14.9
	Disagree	12	10.5	25.4
	Neutral	10	8.8	34.2
	Agree	42	36.8	71.1
	Strongly Agree	33	28.9	100.0
Total		114	100.0	

Source: Primary Data, 2018

The survey results indicate that 28.9% of the respondents strongly agreed that the company is committed to SHRM as compared to 14.9% who strongly disagreed. Similarly, 36.8% agreed with the statement as compared to 10.5% who disagreed while 8.8% of the respondents remained neutral.

Leaders are responsible for developing quality oriented management systems

The respondents were also asked to indicate whether leaders at CiplaQCIL are responsible for developing quality oriented management systems and the survey results are presented in Table 5.2.

Table 5.2: Responsibility for developing quality-oriented management systems

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	20	17.5	17.5
	Disagree	14	12.3	29.8
	Neutral	6	5.3	35.1
	Agree	57	50.0	85.1
	Strongly Agree	17	14.9	100.0
Total		114	100.0	

Source: Primary Data, 2018

Results in Table 5.2 show that 14.9% of the respondents strongly agreed with the statement that leaders are responsible for developing quality-oriented management systems as compared to 17.5% who strongly disagreed. Similarly, 50.0% of the respondents agreed with the statement as compared to 12.3% who disagreed while only 5.3% remained neutral.

Employee Involvement in Firm Activities

The purpose of this question was to solicit respondents' opinions on whether employees are involved in firm activities and the results from the survey are presented in Table 5.3.

Table 5.3: Employee Involvement in Company Activities

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	22	19.3	19.3
	Disagree	13	11.4	30.7
	Neutral	7	6.1	36.8
	Agree	53	46.5	83.3
	Strongly Agree	19	16.7	100.0
Total		114	100.0	

Source: Primary Data, 2018

Employee involvement refers to the opportunities for employees to take part in decisions that affect their work, either in their immediate job (task discretion) or in relation to wider company issues (organizational participation). From Table 5.3, 16.7% of the respondents strongly agreed that CiplaQCIL allows them to be involved in company activities and consults them on areas for improvement while 19.3% strongly disagreed. Similarly, 46.5% agreed with the statement as compared to 11.4% who disagreed. 6.1% had no opinion on this.

Dedicated Programme to Employee Education and Training

The findings in Table 5.4 revealed that 21.1% strongly agreed CiplaQCIL dedicates on-job training for enhancing the skills of the staff while 16.7% strongly disagreed. In the same way, 44.7% agreed with the statement as compared to 9.6% who disagreed while 7.9% remained neutral.

Table 5.4: Dedicated Programme to Employee Education and Training

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	19	16.7	16.7
	Disagree	11	9.6	26.3
	Neutral	9	7.9	34.2
	Agree	51	44.7	78.9
	Strongly Agree	24	21.1	100.0
Total		114	100.0	

Source: Primary Data, 2018

Key Performance Management Approach

Performance management aims at developing individuals with the required commitment and competencies for working towards the shared meaningful objectives within an organizational framework.

Table 5.5 shows that 15.8% of the respondents strongly agreed that CiplaQCIL has performance management policies in place and constantly monitors key performance indicators such as quantity and quality of products per capita per department, the level of staffing and the proficiency of the staff, stock/inventory turnover among others. 17.5% strongly disagreed with that statement. Similarly, 45.6% of the respondents agreed with the statement as compared to 13.2% who disagreed while 7.9% remained neutral.

Table 5.5: Key Performance Management Approach

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	20	17.5	17.5
	Disagree	15	13.2	30.7
	Neutral	9	7.9	38.6
	Agree	52	45.6	84.2
	Strongly Agree	18	15.8	100.0
Total		114	100.0	

Source: Primary Data, 2018

Employee Recognition Policy

The Employee Recognition Policy provides a framework for individuals and teams to be recognized for their outstanding work and contributions.

Findings in Table 5.6 revealed that 59.7% of the respondents submitted that CiplaQCIL hosts annual staff parties where best performing employees are recognized with certificates of appreciation, cash vouchers, and honorary mentions. On other occasions, due to necessity but bearing in mind the company's HR policies, some staff are also rewarded with promotions, delegated responsibility, salary increments, and study scholarships.

Table 5.6 also shows that 13.2% of the respondents had no opinion about CiplaQCIL's employee recognition policy while 27.2% noted that the level of recognition by the company was not commensurate with the high effort put in by staff.

Table 5.6: Employee Recognition Policy

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	15	13.2	13.2
	Disagree	16	14.0	27.2
	Neutral	15	13.2	40.4
	Agree	40	35.1	75.4
	Strongly Agree	28	24.6	100.0
Total		114	100.0	

Source: Primary Data, 2018

Employee well-being is taken as a priority by the management

Prioritizing employee well-being is important for all organizations. When a company invests in the health of its staff, employees are more likely to strive to be and do their best.

From Table 5.7, 64% of the respondents agreed that staff wellbeing is one of CiplaQCIL's priorities. Besides their main salary, CiplaQCIL employees are also given medical cover (for member, spouse and two children), group life insurance, free meals, and transport. Senior

management are given 80% of the rental fees for their homes, a vehicle with fuel, a phone with airtime, and their water and electricity bills paid.

Findings for Table 5.7 also revealed that 9.7% of the respondents had no opinion on whether CiplaQCIL prioritizes employee wellbeing.26.3% of the respondents asserted that the company needed to do a lot more toward the wellbeing of staff.

Table 5.7: Employee well-being is taken as a priority by the management

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	13	11.4	11.4
	Disagree	17	14.9	26.3
	Neutral	11	9.7	36.0
	Agree	44	38.6	74.6
	Strongly Agree	29	25.4	100.0
Total		114	100.0	

Source: Primary Data, 2018

Leaders Listen and Support Employees

Listening is a key to employee commitment and enables leaders support employees to go the extra mile. Findings in Table 5.8 show that 47.3% of the respondents believed leaders at CiplaQCIL listen to employee concerns, queries and ideas. However, 38.6% of the respondents noted that the contribution of subordinate employees is negligible because they are hardly involved in management and planning meetings. The only chance they get to be heard is threw performance dialogue and departmental meetings.

14% of the respondents held a neutral stance regarding leaders listening to and supporting employees in idea generation to enrich CiplaQCIL's management policies.

Table 5.8: Leaders Listen and Support Employees

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	26	22.8	22.8
	Disagree	18	15.8	38.6
	Neutral	16	14.0	52.6
	Agree	43	37.7	90.4
	Strongly Agree	11	9.6	100.0
	Total	114	100.0	

Source: Primary Data, 2018

Reward Employees

As shown in Table 5.9, 61.4% of the respondents "strongly agreed" or "agreed" that CiplaQCIL acknowledges and rewards employees' contributions to bettering quality. The company rewards well performing staff with bonuses, additional fringe benefits, and paid delegated responsibility. Nonetheless, 38.6% of the respondents felt that senior management does more of criticizing staff than appreciating them.

Table 5.9: Reward Employees

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	32	28.1	28.1
	Disagree	12	10.5	38.6
	Neutral	00	00	38.6
	Agree	55	48.2	86.8
	Strongly Agree	15	13.2	100.0
	Total	114	100.0	

Source: Primary Data, 2018

Leaders measure and review the effectiveness of organizational change

Study finding in Table 5.10 revealed that 62.3% of the respondents "strongly agreed" or "agreed" that staff at CiplaQCIL are regularly appraised, and management assesses, and reviews new policies and strategies implemented. Information from these reviews is shared with staff to encourage them continue the good work where observed and improve where

deficiencies are identified. 28.9% of the respondents did not agree that top management carries out performance reviews or shares knowledge from any other assessments made about company operations. 8.8 % of the respondents were equivocal saying that they neither agreed nor disagreed that with the statement.

Table 5.10: Leaders measure and review the effectiveness of organizational change

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	13	11.4	11.4
	Disagree	20	17.5	28.9
	Neutral	10	8.8	37.7
	Agree	47	41.2	78.9
	Strongly Agree	24	21.1	100.0
Total		114	100.0	

Source: Primary Data, 2018

Leader - Customer interaction

Interacting with customers to pass on information, promote a brand, and seek feedback is a big component of corporate strategy. According to Table 5.11, most of the respondents (63.1%) believed that CiplaQCIL's management interacts with customers and considers their contributions during product design, manufacture and delivery. 23.7% believed that CiplaQCIL does not interact with the end-user of its medicines yet that is its actual customer base with the immediate clients-government of Uganda, Global Fund, and other international markets and NGOs-being mere go-betweens or distributors. 13.2% of the respondents were equivocal asserting they neither agreed nor disagreed that there was interaction between CiplaQCIL's management and customers.

Table 5.11: Leader - Customer interaction

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	10	8.8	8.8
	Disagree	17	14.9	23.7
	Neutral	15	13.2	36.9
	Agree	53	46.4	83.3
	Strongly Agree	19	16.7	100.0
	Total	114	100.0	

Source: Primary Data, 2018

Leaders always bear in mind stakeholder groups.

For Total Quality Management to sustainably support Competitive Advantage at CiplaQCIL, management must always uphold pharmaceutical quality standards and requirements set by customers and regulatory bodies such as WHO, UNBS, NDA, ISO, etc. Staff must also be informed about their goals, how they are to be accomplished, who is responsible for what, and how it all fits together.

Findings in Table 5.12 reveal that 57.9% of the respondents were optimistic about CiplaQCIL's role in ensuring it satisfies most-if not all-of the requirements and expectations of its various stakeholders. 36% of the respondents were skeptical about CiplaQCIL bearing in mind Stakeholder groups in its operations while 6.1% had no opinion about the same.

Table 5.12: Leaders always bear in mind stakeholder groups.

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	30	26.3	26.3
	Disagree	11	9.7	36.0
	Neutral	7	6.1	42.1
	Agree	38	33.3	75.4
	Strongly Agree	28	24.6	100.0
	Total	114	100.0	

Source: Primary Data, 2018

Employees are considered as Internal Customers

Treating employees as the first customer and treating them well will potentially result in them incorporating that feeling and experience in their daily operations to ensure the external customer feels valued too. From Table 5.13, 55.2% of the respondents felt that at CiplaQCIL employees are considered internal customers of the company who are usually the first to recommend the company's drugs to relatives and loved ones. 35% of the respondents did not think staffs at CiplaQCIL were the first line of consumers who participate in policies, strategies and organizational structure while 9.6% were neutral in this regard.

Table 5.13: Employees are considered as Internal Customers

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	33	28.9	28.9
	Disagree	7	6.1	35.1
	Neutral	11	9.6	44.7
	Agree	42	36.8	81.6
	Strongly Agree	21	18.4	100.0
Total		114	100.0	

Source: Primary Data, 2018

Quality is a responsibility of employees

Findings in Table 5.14 reveal that 57% of the respondents believed that it employees knew that quality is their responsibility, and they are encouraged to meet customers' and the organization's objectives. 30.7% of the respondents did not believe quality was their responsibility while 12.3% had no opinion on this matter.

Table 5.14: Quality is a responsibility of employees

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	20	17.5	17.5
	Disagree	15	13.2	30.7
	Neutral	14	12.3	43.0
	Agree	51	44.7	87.7
	Strongly Agree	14	12.3	100.0
Total		114	100.0	

Source: Primary Data, 2018

Continuous improvement is consistently fostered and facilitated.

The principle of Continuous Improvement guides the user through logical processes of identifying service objectives, measuring current organisational performance, determining the effect of current organisational practices and identifying where change is required.

Study findings represented in Table 5.15 revealed that 55.3% of the respondents believed that continuous improvement is consistently fostered and facilitated at CiplaQCIL. However, 36.9% of the respondents did not understand the interface between their tasks and CiplaQCIL's strategic plans and objectives to improve quality; while 7.9% had no opinion on this.

Table 5.15: Continuous improvement is consistently fostered and facilitated

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	24	21.1	21.1
	Disagree	18	15.8	36.8
	Neutral	9	7.9	44.7
	Agree	31	27.2	71.9
	Strongly Agree	32	28.1	100.0
Total		114	100.0	

Source: Primary Data, 2018

Employees are given tailor-made preparation for their jobs

Study findings in Table 5.16 revealed that 57% agreed that employees at CiplaQCIL are given tailor-made preparation and training for their jobs and are qualified to solve quality problems. This means the company ensures that employees can perform at least as required or as per their job description and demands.

However, 32.5% of the respondents felt that CiplaQCIL does not offer adequate preparation and training tailored toward specific job functions and/or demands. 10.5% of the respondents were equivocal in their opinions and neither agreed nor disagreed that CiplaQCIL provides tailor-made preparation and training for their jobs.

Table 5.16: Employees are given tailor-made preparation for their jobs

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	19	16.7	16.7
	Disagree	18	15.8	32.5
	Neutral	12	10.5	43.0
	Agree	48	42.1	85.1
	Strongly Agree	17	14.9	100.0
Total		114	100.0	

Source: Primary Data, 2018

Staff is continuously trained in the principles of quality

When respondents were asked whether staff are continuously trained in the principles of quality, team work and job-specific skills, 56.1% of them concurred. 31.5% disagreed stating that they were not aware of any trainings focused on quality principles at CiplaQCIL while 12.3% of the respondents held a neutral stance in this regard.

Table 5.17: Staff is continuously trained in the principles of quality

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	20	17.5	17.5
	Disagree	16	14.0	31.6
	Neutral	14	12.3	43.9
	Agree	47	41.2	85.1
	Strongly Agree	17	14.9	100.0
Total		114	100.0	

Source: Primary Data, 2018

Employees are actively involved in quality-related activities

With reference to Table 5.18, when asked whether employees are actively involved in quality-related activities, the success of the company, and many of their suggestions are implemented, 49.1% of the respondents confirmed that such was the case. On the other hand, 8.8% took a neutral stance while 42.1% of the respondents did not feel they were fully

invested in CiplaQCIL's quality related activities and could not gauge their contribution to the company's success.

Table 5.18: Employees are actively involved in quality-related activities

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	29	25.4	25.4
	Disagree	19	16.7	42.1
	Neutral	10	8.8	50.9
	Agree	38	33.3	84.2
	Strongly Agree	18	15.8	100.0
	Total	114	100.0	

Source: Primary Data, 2018

Employees are responsible for quality and end results of the product/service

On the question of whether employees are responsible for quality and end results of the product/service, and they can take decisions independently, their responses were as depicted in Table 5.19. 58.8% of the respondents believed that employees lead the production line and are responsible for the quality assurance, sustainability and improvement given the available production resources. However, 34.2% of the respondents noted that employees do not make independent decisions on quality but only make suggestion which may be accepted or rejected by top management. 7% were not sure whether they had any impact on quality or not at CiplaQCIL.

Table 5.19: Employees are responsible for quality and end results of the product/service

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	27	23.7	23.7
	Disagree	12	10.5	34.2
	Neutral	8	7.0	41.2
	Agree	53	46.5	87.7
	Strongly Agree	14	12.3	100.0
	Total	114	100.0	

Source: Primary Data, 2018

Quality Audits and/or Interdepartmental Teams to Improve Quality

A key element in the ISO quality system standard, a quality audit is a systematic examination of a company's quality system by an external or internal auditor. From Table 4.20, 51.8% of the respondents agreed that CiplaQCIL conducts quality audits and has an interdepartmental team or quality circle tasked with quality improvement. However, 39.4% of the respondents disagreed with the assertion noting that CiplaQCIL's strategic direction on quality is at the discretion of top management. 8.8% of the respondents held no opinion on this issue.

Table 5.20: Quality Circles and/or Interdepartmental Teams

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	20	17.5	17.5
	Disagree	25	21.9	39.4
	Neutral	10	8.8	48.2
	Agree	34	29.8	78.0
	Strongly Agree	25	22.0	100.0
	Total	114	100.0	

Source: Primary Data, 2018

Effective Communication

Whenever employees know their goals, how they are to achieve them and who is accountable for what, TQM implementation is bound to bear CA. Table 5.21 shows that 54.4% of the respondents believed that CiplaQCIL has effective two-way communication links with its employees and can clearly communicate its aims to them and get feedback where necessary.

On the other hand, 36.8% of the respondents were less positive and unanimous in their view that CiplaQCIL's management does not clearly communicate what it aims to achieve. 8.8% of the respondents had no opinion about CiplaQCIL's ability to communicate with stakeholders (which include employees) and customers.

Table 5.21: Effective Communication

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	22	19.3	19.3
	Disagree	20	17.5	36.8
	Neutral	10	8.8	45.6
	Agree	41	36.0	81.6
	Strongly Agree	21	18.4	100.0
Total		114	100.0	

Source: Primary Data, 2018

Pay and Promotion Systems

One way of motivating employees is for a company to have in place attractive pay and performance-based promotion systems. The study findings in Table 5.22 revealed that 52.7% of the respondents believed the nature of pay and promotion systems at CiplaQCIL acknowledge efforts of employees in quality improvements. 38.6% of the respondents felt that employees were sometimes not promoted on merit or after daily and periodic appraisals showed that they had performed well. 8.8% were neither for nor against CiplaQCIL's pay and promotion systems.

Table 5.23: Pay and Promotion Systems

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	27	23.7	23.7
	Disagree	17	14.9	38.6
	Neutral	10	8.8	47.4
	Agree	28	24.6	71.9
	Strongly Agree	32	28.1	100.0
Total		114	100.0	

Source: Primary Data, 2018

Pay and Acknowledgement Systems

Table 5.24 reveals that CiplaQCIL rewards employees who perform best on quality-related objectives and this was confirmed by 48.2% of the respondents. 36% opined that the pay rise is not only focused to quality related improvement but period of service and seniority while 15.8% held a neutral opinion. The conventional fact is that pay and acknowledgement systems benefit mostly those who perform best and they enable CiplaQCIL achieve the best outputs.

Table 5.24: Pay and Acknowledgement Systems

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	19	16.7	16.7
	Disagree	22	19.3	36
	Neutral	18	15.8	51.8
	Agree	38	33.3	85.1
	Strongly Agree	17	14.9	100.0
Total		114	100.0	

Source: Primary Data, 2018

Right Occupational Health and Safety Training

CiplaQCIL is very committed to safety and health of its employees and the environment. In efforts to ensure safety, the company provides the best personal protective equipment for its staff and ensures they are adequately trained to stay safe at the work place. This assertion is confirmed by 48.2% of the respondents as shown in Table 5.25. However, 40.3% of the respondents felt the company was not doing enough to ensure employee's occupational health and safety while 11.4% held a neutral stance in this regard.

Table 5.25: Right Occupational Health and Safety Training

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	29	25.4	25.4
	Disagree	17	14.9	40.4
	Neutral	13	11.4	51.8
	Agree	42	36.8	88.6
	Strongly Agree	13	11.4	100.0
Total		114	100.0	

Source: Primary Data, 2018

Testing Hypothesis 1

The hypothesis was tested to ensure whether there is relationship between Continuous professional development and competitive advantage in CiplaQCIL. This hypothesis has been tested using correlations and coefficients as shown in table 5.26.

Table 5.26: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.894(a)	.799	.798	.14921

a. Predictors: (Constant), Continuous Professional Development

The model summary table (Table 5.26) indicates that there is a significant positive relationship between continuous professional development and competitive advantage (r = 0.799). The actual contribution of continuous professional development to competitive advantage is about 79.8% (Adj. R Square = 0.798).

Table 5.27: ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	123.032	1	123.032	7548.960	.005[a]
	Residual	1.109	112	.029		
	Total	124.141	113			

a. Predictors: (Constant), Continuous Professional Development
b. Dependent Variable: Competitive Advantage

The ANOVA results show that there is significant linear relationship between continuous professional development and competitive advantage (F = 123.032, P< 0.005). This implies that the more of continuous professional development, the more of the competitive advantage that will be attained by the company.

Table 5.28: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.077	.040		1.919	.058
	Continuous Professional Development	1.359	.015	.894	72.332	.005
a. Dependent Variable: Competitive Advantage						

The coefficients Table (Table 5.28) give the model that relates continuous professional development and competitive advantage. The regression model generated was: $Y = 0.077 + 1.359X_1$ (where: Y= Competitive advantage and X_1 = Continuous professional development).

Conclusion

The results indicate that CPD accounts for about 79.8% of the variation in competitive advantage. This therefore, requires that CiplaQCIL engages in CPD activities to increase their competitive advantage.

CHAPTER SIX

CONTINUOUS PROCESS IMPROVEMENT AT CiplaQCIL

Introduction

This chapter presents the findings on how CiplaQCIL ensures that there is continuous process improvement in its manufacturing activities to attain competitive advantage. Survey results are discussed using both descriptive and inferential statistical methods including frequencies and percentages, means and standard deviations and correlations and regressions. These results provide the basis for recommendations.

Continuous improvement process, also often called a continuous improvement process (abbreviated as CIP or CI), is an ongoing effort to improve products, services, or processes. These efforts can seek incremental improvement over time or breakthrough improvement all at once. Delivery (customer valued) processes are constantly evaluated and improved in the light of their efficiency, effectiveness and flexibility.

In other words, Continuous improvement process *is* a process is a set of steps to accomplish a defined purpose or produce a defined product or service. Continuous process improvement is the set of on-going systems engineering and management activities used to select, tailor, implement, and assess the processes used to achieve an organization's business goals. Continuous improvement is recognized as a component of modern quality management.

Statistical process control that is utilized to optimize processes and systems

Respondents were asked whether there is a statistical process control that is utilized to optimize processes and systems and their responses were as presented in table 6.1.

Table 6.1: Statistical process control that is utilized to optimize processes and systems

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	24	21.1	21.1
	Disagree	31	27.2	48.2
	Neutral	11	9.6	57.9
	Agree	24	21.1	78.9
	Strongly Agree	24	21.1	100.0
	Total	114	100.0	

Source: Primary Data, 2018

The statistical process control includes process capability studies

Statistical Process Control (SPC) is an industry-standard methodology for measuring and controlling quality during the manufacturing process. The study asked respondents whether processes are designed ensuring that skills and capabilities are right for company needs. The results are indicated in the table 6.2:

Table 6.2: The Statistical process control includes process capability studies

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	20	17.5	17.5
	Disagree	17	14.9	32.5
	Neutral	12	10.5	43.0
	Agree	53	46.5	89.5
	Strongly Agree	12	10.5	100.0
Total		114	100.0	

Source: Primary Data, 2018

Findings in table 6.2 present that 65(57%) of the respondents agreed that processes are designed ensuring that skills and capabilities are right for company needs. In CiplaQCIL, statistical process control is applied to monitor and control a process. Monitoring and controlling the process ensures that it operates at its full potential. On the other hand; 12(10.5%) of the respondents were not sure and 37(32.5%) of the respondents disagreed.

Therefore, quality data should be the form of Product or Process measurements are obtained in real-time during manufacturing.

Statistical process control includes significant characteristic selection

When respondents were asked whether the statistical process control includes significant characteristic selection in the system and their responses were as presented in table 6.3.

Table 6.3: Significant characteristic selection in the system

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	27	23.7	23.7
	Disagree	19	16.7	40.4
	Neutral	12	10.5	50.9
	Agree	41	36.0	86.8
	Strongly Agree	15	13.2	100.0
Total		114	100.0	

Source: Primary Data, 2018

The research study discovered that statistical records are vital in establishing trends in the production process. According to the study findings in table 5.3, 56(49.2%) of the respondents agreed that the statistical data generated helps to determine whether the quality of output is good and the necessity to produce more hence increasing the quantity produced. Statistical process control enables workers in CiplaQCIL finance department to apply relevant statistical techniques used in process quality control and to evaluate a process against a given specification. Therefore, Statistical Process Control should be taken as to analytical decision-making tool which allows CiplaQCIL to view when a process is working correctly and when it is not.

The Statistical process control includes reports to top management for action

Statistical process control (SPC) is a technique for applying statistical analysis to measure, monitor, and control processes. Respondents were asked whether the statistical process

control includes reports to top management for action on non-capable processes and their responses were as presented in table 6.4.

Table 6.4: The Statistical process control includes reports to top management for action

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	24	21.1	21.1
	Disagree	29	25.4	46.5
	Agree	38	33.3	79.8
	Strongly Agree	23	20.2	100.0
Total		114	100.0	

Source: Primary Data, 2018

The records generated reflect the general health of the business that is the finances, out puts, inputs and human resource performance. Findings in table 6.4 revealed that 61(53.5%) of the respondents agreed that more important are financial and production statistics which reflect the performance of the company in terms of the costs involved, in production, the amount of inputs and output, the projected outputs and other relevant statistics which reports are produced and availed to the top management as tools which they rely on for making financial decisions. 53(46.5%) of the respondents disagreed, this implies that some reports are cumbersome for investigative purposes, but records provide the firm basis for making decisions on the various areas of development.

Documented process instructions for manufacturing and non-manufacturing jobs

When respondents were asked whether there are documented process instructions for manufacturing and non-manufacturing jobs and their responses were as presented in table 6.5 below.

Table 6.5: Documented process instructions for manufacturing and non-manufacturing

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	29	25.4	25.4
	Disagree	20	17.5	43.0
	Neutral	12	10.5	53.5
	Agree	30	26.3	79.8
	Strongly Agree	23	20.2	100.0
Total		114	100.0	

Source: Primary Data, 2018

Records are very important for any business organization and CiplaQCIL is no exception. The study findings on whether there are documented process instructions for manufacturing and non-manufacturing jobs revealed that 61(46.5%) of the respondents agreed that generating records on inputs (inventory), output, sales, transport, human resources and all the other process in the company which ensure that there is available information on the commercial transactions, production line (quantity and quality). The records are stored for reference in the very short run, medium and long-term for better planning. On the other hand, however, 12(10.5%) were not sure and 49(42.9%) of the respondents noted not all records are vital for reference and can be redundant. But records are vital for reference and for keeping track of all performances that is to ensure that there is material for reference and keeping up the quality of output in the company.

Critical process parameters are regularly monitored by the quality department

Critical process parameters (CPP) in pharmaceutical manufacturing are key variables affecting the production process. Respondents were asked whether critical process parameters are regularly monitored by the quality department in the firm, their responses were as presented in table 6.6.

Table 6.6: CPP are regularly monitored by the quality department

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	24	21.1	21.1
	Disagree	15	13.2	34.2
	Neutral	13	11.4	45.6
	Agree	46	40.4	86.0
	Strongly Agree	16	14.0	100.0
Total		114	100.0	

Source: Primary Data, 2018

Being a drug and medicine manufacturing firm CiplaQCIL has in place a critical and systematic production process. Findings from the table 5.6 revealed that 62(54.4%) of the respondents agreed that in the process of manufacturing drugs and medicines, the company ensures that all details are captured to make it clear that there is proper information on all sections of the manufacturing process and that no mistake is done while mixing syrups and segregating the necessary from the unnecessary ingredients. This is aimed at ensuring that the drugs and medicines produced are suitable for human use. On the other hand, 13(11.4%) were not sure and 39(34.3%) of the respondents noted that quality is of strategic use, though some counterfeits can easily be found on the market which may compromise quality on the streamlined end though quality is regarded at its based.

Critical and functional part characteristics are monitored and documented

Critical Characteristics address product safety issues. Respondents were asked whether critical and functional part characteristics are monitored and documented during processing and their responses were as presented in table 6.7.

Table 6.7: Critical and functional part characteristics are monitored and documented

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	29	25.4	25.4
	Disagree	17	14.9	40.4
	Neutral	11	9.6	50.0
	Agree	28	24.6	74.6
	Strongly Agree	29	25.4	100.0
Total		114	100.0	

Source: Primary Data, 2018

The research study in table 6.7 revealed that there are critical and functional part characteristics which are monitored and documented during processing in the factory. Findings revealed that 57(50%) of the respondents agreed that there is documentation of all processes involved mixing drugs and medicines. From the same study, 11(9.6%) were not sure on the statement and 46(40.3%) stated that critical and functional part characteristics may not be so crucial in enabling production to take part considerably. However, records are clear that documentation is crucial for tracking the chemical chain, cold chain storage and the other production/ manufacturing processes involved.

All processes, procedures and products are assessed regularly

Respondents were asked whether all processes, procedures and products are assessed regularly to bring in change and improvement. Their responses are summarized in table 6.8.

Table 6.8: All processes, procedures and products are assessed regularly

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	13	11.4	11.4
	Disagree	23	20.2	31.6
	Neutral	10	8.8	40.4
	Agree	39	34.2	74.6
	Strongly Agree	29	25.4	100.0
Total		114	100.0	

Source: Primary Data, 2018

Constant improvement in the quality of medicines and drugs is very vital in the study and manufacture of tropical medicines. From the field study, 68(59.6%) of the respondents, agreed that because the disease patterns in Uganda and African Environment is changing as tropical conditions deteriorate leading to more diseases, the management has tried to ensure that every now and, they research about new disease strains to improve on the ingredients and quality of medicine and make it possible to avail better treatment. On the opposite side, however, it was revealed that 10(8.8%) were not sure and 36(31.6%) of the respondents argued that there has not been significant change in the drugs made because they have always produced what is regarded good quality medicine and drugs, thus all processes, procedures and products are assessed regularly in an attempt to bring in positive change and improvement in the business operation and the quality of the output.

Ensuring that skills and capabilities are right

The study asked respondents whether processes are designed ensuring that skills and capabilities are right for company needs. The results are indicated in the table 6.9:

Table 6.9: Skills and capacities are right for company needs.

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	17	14.9	14.9
	Disagree	16	14.0	28.9
	Neutral	12	10.5	39.5
	Agree	46	40.4	79.8
	Strongly Agree	23	20.2	100.0
	Total	114	100.0	

Source: Primary Data, 2018

The table 6.9 shows that majority of the respondents 69(60.6%) generally agreed that processes are designed ensuring that skills and capabilities are right for company needs. This implies that the company has skilled and competent employees who effectively operate in

several departments or sectors. However, 33(28.9%) of the total respondents disagreed and 12(10.5%) were not sure. When interviewed respondents whether the company trains, its employees, it was discovered that employees are effectively equipped with the necessary skills through coaching, on-job training and off job training. It should be noted that the collective skills, abilities, and expertise of CiplaQCIL are the outcome of investments in staffing, training, compensation, communication, and other human resources areas. They represent the ways that people and resources are brought together to accomplish work. They form the identity and personality of the organization by defining what it is good at doing and, in the end, what it *is*. They are stable over time and more difficult for competitors to copy than capital market access, product strategy, or technology.

Cost of quality reports are generated and provided to management

Quality costs are the costs associated with preventing, finding, and correcting defective work. The study asked respondents whether cost of quality reports are generated and provided to management. The results are indicated in the table 6.10:

Table 6.10: Cost of quality reports are generated and provided to management

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	17	14.9	14.9
	Disagree	29	25.4	40.4
	Neutral	13	11.4	51.8
	Agree	23	20.2	71.9
	Strongly Agree	32	28.1	100.0
	Total	114	100.0	

Source: Primary Data, 2018

The study findings revealed that quality comes at a higher cost and it must be tracked well with supportive reports in place for reference. From table 6.10, it was revealed that 55(48.3%) of the respondents agreed that when production is taking place, the process is recorded that is the necessary inputs, the necessary outputs and the follow-up mechanisms to

ensure that quality is ever promoted and sustained to enhance company's effectiveness in the market. On the other hand, 13(11.4%) were not sure on the statement and 46(40.3%) noted that costs regarding quality do not need to become a routine volume of papers, thus one well targeted quality report is need for quality reporting that is including the costs involved and how they can be sustained to improve production at all stages.

Problem Identification and Resolution System

Problem identification provides the platform for investigating a broad range of interventions and generating options. Respondents were asked whether there is a system for problem identification and resolution that looks for root causes and their responses were as presented in table 6.11.

Table 6.11: Problem Identification and Resolution System

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	37	32.5	32.5
	Disagree	28	24.6	57.0
	Neutral	13	11.4	68.4
	Agree	24	21.1	89.5
	Strongly Agree	12	10.5	100.0
Total		114	100.0	

Source: Primary Data, 2018

The current study revealed that the management of the CiplaQCIL engages in problem identification and resolution which includes finding out what leads to the problem (causes) as agreed by 36(31.6%) of the respondents the research study noted that issues related to the quality of produce (trends for charge) are identified for example why production was increased or declined for a given brand in a special time, why it is important to increase production of certain quantity of medicines and drugs. On the other hand, 13(11.4%) of the respondents noted that they could not establish the trends of production. Furthermore, 65(57.1%) stated that the problem identification mechanisms are still weak, and it cannot

come up with very detailed information on how to advance the development of the organization, and there is still a need to put in peace more extended mechanisms for production quality tracking for sustaining better performance. Thus, the current weak problem identification and resolution mechanisms are not powerful enough and would need to be improved upon tremendously to make production more sustainable.

Documented system to provide and control changes to product

For an organization to demonstrate the effective implementation of its Quality Management Systems, it may be necessary to develop documents other than documented procedures. The study asked respondents whether there is a documented system to provide and control changes to product specifications and processing. The results are indicated in the table 6.12:

Table 6.12: Documented system to provide and control changes to product

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	15	13.2	13.2
	Disagree	22	19.3	32.5
	Agree	46	40.4	72.8
	Strongly Agree	31	27.2	100.0
Total		114	100.0	

Source: Primary Data, 2018

Documenting every detail of the production chain is crucial when it comes in a sustainable way to ensure that quality measurements are in place for increased production. Findings in table 6.12 revealed that 77(67.6%) of the respondents were in agreement that the available documents on production include mechanisms for producing detailed feedback on how the products are perceived in the market, and the mechanisms which are in place to direct on how quality of products can be sustained including the specifications on the necessary, quality of ingredients necessary for better production including mixing, processing and how to sustain the quality if output to the market. However, 37(32.5%) stated that if the formulae and chemists/pharmacists are in place, it will ensure quality production for the detailed medicines

and drugs on market from CiplaQCIL's production line, though documentation is vital to have reference material for decision making on the requisite quality specifications in future.

Clients' needs are passed on and are understood at all levels

Customers are the most important people for any organization. They are the resource upon which the success of the business depends. The study asked respondents whether CiplaQCIL clients' needs are passed on and are understood at all levels. The results are summarised in the table 6.13.

Table 6.13: Clients' needs are passed on and are understood at all levels

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	23	20.2	20.2
	Disagree	10	8.8	29.0
	Neutral	31	27.2	56.2
	Agree	31	27.2	83.3
	Strongly Agree	19	16.7	100.0
Total		114	100.0	

Source: Primary Data, 2018

CiplaQCIL is market-oriented and as such ensures that it meets the market demands for medicines and drugs at all levels in Uganda and neighboring countries. From the field findings in table 6.13, the researcher discovered that 50(43.9%) of the respondents agreed that the company produces medicines and drugs which are important for treating ailments and illnesses that affect people, common of which include waterborne diseases, cough, flu, colds and other infections. CiplaQCIL bases on the marketing data to determine how much to increase in terms of quantity, and when the demand is high, then it means that the drugs and medicines work well to sustain the quality produced for the market locally, regionally and internationally. But 33(29%) noted that client's needs are not individually met, but it is the market needs that are addressed by sustaining and promoting better quality output, but

31(27.2%) of the respondents were not aware because they did not know. The overall meaning here is that the market demand has led to improved quality and quantity outputs.

Clients leave is thoroughly analyzed

Respondents were asked whether clients leave is thoroughly analyzed and their responses were as presented in table 6.14.

Table 6.14: Clients leave is thoroughly analyzed

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	34	29.8	29.8
	Disagree	19	16.7	46.5
	Agree	40	35.1	81.6
	Strongly Agree	21	18.4	100.0
Total		114	100.0	

Source: Primary Data, 2018

The company is attached to the clients because of the quality outputs and quantity it serves to them. The field study in table 6.14 revealed that 61(53.5%) of the respondents agreed that clients are studied and understood as key stakeholders for the company because they are the consumers of the products, thus their leave is thoroughly analysed to find out how it impacts on the production line and its sustainability on the side of quality assurance. Clients are continued to continue consuming the products of the company, so their leave is greatly regarded, and appropriate mechanisms are sought to enhance their knowledge and liking of the products and services. Furthermore, 52(46.5%) of the respondents disagreed, they reveal that clients leave has its shortcomings which cannot be sustainably addressed at this level like shifting demands and interest when a product which is considered more effective comes to the market. Therefore, clients leave has it bearing on the quality and quantity of products demanded and thus needs to be given attention, although not very high attention.

Using clients' complaints and grievances to improve a product

When respondents were asked whether CiplaQCIL use clients' complaints and grievances and their responses were as summarized in table 6.15.

Table 6.15: Using clients' complaints and grievances to improve a product

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	21	18.4	18.4
	Disagree	25	21.9	40.4
	Neutral	8	7.0	47.4
	Agree	60	52.6	100.0
Total		114	100.0	

Source: Primary Data, 2018

Market sustainability and expansion is important for the company to increase production and remain competent. Findings from table 6.15 revealed that 60(52.6%) of the respondents agreed that the CiplaQCIL is much into the marketing and distributing of its produce and other channels such as hospitals, pharmacies, clinics, drug shops and other channels of marketing the drugs and medicines. The feedback obtained includes receiving customer's complaints for instance expiry of drugs, inadequate supply, effects of the drugs and medicines and others. These CiplaQCIL to become more proactive and enhance quality where necessary to advance quantity of outputs, On the other hand, 8(7%) were not sure and 46(40.3%) of the respondents disagreed as they noted that the complaints and grievances are few and do not significantly affect production, but feedback received helps to improve the quality of output of the products.

Present relationships with clients are analyzed and regular attempts are made

When respondents were asked whether present relationships with clients are analyzed and regular attempts are made to improve them, their responses were as indicated in table 6.16.

Table 6.16: Present relationships with clients are analyzed

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	19	16.7	16.7
	Disagree	17	14.9	31.6
	Neutral	10	8.8	40.4
	Agree	26	22.8	63.2
	Strongly Agree	42	36.8	100.0
	Total	114	100.0	

Source: Primary Data, 2018

From the study findings in table 6.16, it was found out that the company is linked directly and indirectly with the clients through the marketing, public relations and corporate social responsibility department findings show that 68(59.6%) of the respondents agreed that through the marketing department, the company makes direct contact with the large scale and medium scale buyers and feedback is obtained about the quality of the products marketed. Through the public relations department, the company communicates directly with the public from whom the clients are drawn and the involvement of CiplaQCIL in the various corporate social responsibility mechanisms help to link the company to the public. For 10(8.8%) of the respondents were not sure because clients and the company relations are purely on business basis and for them they could not measure how large it was, while 35(31.6%) of the respondents noted that the relationship with clients is not clearly analysed which makes it hard for regular attempts to be made aimed at improving them. But the fact is the company does not want to lose clients but instead want more, so they make sure that the current member is sustained.

CiplaQCIL increase level of commitment towards its clients via policies designed

When respondents were asked whether CiplaQCIL to increase its level of commitment towards our clients via policies designed to encourage customer loyalty guarantees, their responses were as summarized in table 6.17.

Table 6.17: CiplaQCIL increase level of commitment towards its clients via policies

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	22	19.3	19.3
	Disagree	11	9.6	28.9
	Neutral	12	10.5	39.5
	Agree	45	39.5	78.9
	Strongly Agree	24	21.1	100.0
Total		114	100.0	

Source: Primary Data, 2018

The aim of any company is to ensure that it maintains good/ cordial relatives with whoever they deal with because they constitute the clientele they wish to exploit as market. Thus from the study findings in table 6.17, the majority69(60.6%) of the respondents agreed that the CiplaQCIL is committed towards building a strong mechanism for better relations by establishing policies aimed at providing incentives for them to buy the products of the company on large scale for example discounts on large volume of sales, free delivery of products at customers' destination, coupons for added free amounts of produce and any other ways that build closer relations between the client and the company. On the other hand, 12(28.9%) were not sure and 33(28.9%) of the respondents disagreed, this stressed that the company does not directly engage in relationship building, but, uses her marketing department and products and services to link up with the clients/ customers, yet this translates almost in the same measure with improved commitment by the company towards the clients through policies which link up the public interests with those of the company which was enhanced loyalty to the company brand and guarantees the company if an assured customer base.

Long-term relationships with supplies designed to resolve quality-related problems.

Respondents were asked whether close, long-term relationships with their supplies have designed to resolve quality-related problems and their responses were as shown in table 6.18.

Table 6.18: Long-term relationships with supplies designed to resolve quality problems

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	21	18.4	18.4
	Disagree	11	9.6	28.1
	Neutral	14	12.3	40.4
	Agree	29	25.4	65.8
	Strongly Agree	39	34.2	100.0
Total		114	100.0	

Source: Primary Data, 2018

The company aims at building a stable and powerful market by providing high quality products and services. According to the study findings in table 6.18, it was revealed that 68(59.6%) of the respondents agreed that CiplaQCIL has built powerful linkages with the suppliers of raw materials, and subsidiary finished products to ensure that they continuously supply them. This stems from the fact that they have identified them as the best source of supplies with whom they can negotiate for better quality for example Glaxo Smithkline, Quality Chemicals, Kyebe Industries and others which promote quality since they also must maintain a stable supply line in the company. Contrary though, 14(12.3%) were neutral and 32(28%) of the respondents disagreed, this reveals that because the suppliers are basically competitors, the company has not been able to keep some of them for some periods yet there is need for constant supply to the company. Despite breaks in the relations with the traditional suppliers, the company continues to get supplies even from outside of Uganda like from Pakistan, India, China, Europe and Africa and in the process can maintain quality at its best.

Suppliers help to improve products and/or services and provide technical assistance

When respondents were asked whether Company suppliers help to improve products and/or services and provide technical assistance, their responses were as presented in table 6.19.

Table 6.19: Suppliers help to improve products and services

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	24	21.1	21.1
	Disagree	7	6.1	27.2
	Neutral	22	19.3	46.5
	Agree	34	29.8	76.3
	Strongly Agree	27	23.7	100.0
Total		114	100.0	

Source: Primary Data, 2018

According to the study findings in table 6.19, it was found out that the company maintains suppliers who are more reliable producers and whose quality is good and guaranteed. Findings revealed that 61(53.5%) of the respondents agreed that company has suppliers who are committed to quality products, and as such they supply CiplaQCIL with quality ingredients such as Quinine Sulphate, Ammonium, Iron, Zinc and other bio-chemicals needed for production. Though, 22(19.3%) of the respondents stated that they were not sure that indeed suppliers at hand have been instrumental in product improvement and if they extend technical assistance to the CiplaQCIL whereas 31(27.2%) revealed that the company aims at obtaining supplies from companies that are conscious about quality of products and services, and the associated technical expertise which they have not been able to obtain adequately from the current suppliers. But indeed, the current crop of suppliers is technically well positioned to help the company provide quality products in Uganda.

The company is prepared to form alliances with partners and collaborator

Alliances between companies, whether they are from different parts of the world or different ends of the supply chain, are a fact of life in business today. The study asked respondents whether the company is prepared to form alliances with partners and collaborators in the market to achieve competitive advantage. The results were as shown in the table 6.20.

Table 6.20: The Company is prepared to form alliances with partners and collaborator

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	28	24.6	24.6
	Disagree	25	21.9	46.5
	Neutral	11	9.6	56.1
	Agree	39	34.2	90.4
	Strongly Agree	11	9.6	100.0
Total		114	100.0	

Source: Primary Data, 2018

Cartels, mergers and acquisitions and formation of other related alliances are crucial if the company is to benefit from the synergies of being powerful technically and technically and financially. Findings in table 6.21 presented that 50(43.8%) of the respondents agreed that the company can ally with PVT drug producers, Lahore drugs and medicine suppliers and a couple of other local potential partners like the Ministry of Health of Uganda, local herbalists and others who provide a strong synergy to promote the popularity of CiplaQCIL's products (drugs and medicines). This attempt at oligopoly would position the company strong enough not to make financial losses because they able to determine the prices of the products, and 11(9.6%) did not know this hugely technical area, while 53(46.5%) noted that the company has not benefited proficiently from the synergies formed because they are not powerful enough and the public has alternative sources of related supplies. However, CiplaQCIL has built powerful bases for better alliances and collaborations in the market which benefits her with improved market position in Uganda, South Sudan and neighboring countries, but with her base in Uganda.

Reducing and optimizing physical, economic and financial resources.

When respondents were asked whether work is organized around reducing and optimizing physical, economic and financial resources, their responses were as revealed in table 6.22.

Table 6.22: Reducing and optimizing physical, economic and financial resources.

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	18	15.8	15.8
	Disagree	17	14.9	30.7
	Neutral	13	11.4	42.1
	Agree	46	40.4	82.5
	Strongly Agree	20	17.5	100.0
Total		114	100.0	

Source: Primary Data, 2018

As a private company, CiplaQCIL aims at ensuring that it incurs minimum costs while anticipating high profits. From the field findings in table 6.22, the majority 66(57.9%) of the respondents were in agreement that the company employs few works and uses computerized and online procurement and performance packages, uses less money on human resources and physical customer contacts, but relies more on computerized ways to communicate her products to the public and while obtaining supplies, they order in most cases through electronic procurement. In addition to that, 13(11.4%) were not sure if the company uses very option physical (human resources), financial and technical resources, but 35(30.7%) revealed that the company has not greatly established mechanism to integrate fully in computerized production and as such still uses physical resources and considerable big sum of money. In today's environment, CiplaQCIL has been able to reduce and optimize physical labour/ human resources, finances because of the increase in online business services.

Efforts to keep facilities clean and orderly

An organized, clean workplace can help prevent accidents. Eliminate the risk of workplace injury by posting signs to instruct workers to keep the facility clean and orderly. On the question asked whether CiplaQCIL makes ongoing efforts to keep their facilities clean and in order, their responses were indicated in table 6.23.

Table 6.23: Efforts to keep facilities clean and orderly

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	14	12.3	12.3
	Disagree	14	12.3	24.6
	Neutral	13	11.4	36.0
	Agree	49	42.9	79.9
	Strongly Agree	24	21.1	100.0
Total		114	100.0	

Source: Primary Data, 2018

The company has an organized production and distribution mechanism. This involves keeping the plant hygienically clean and orderly as agreed by 73(64%) of the respondents. This involves disinfecting the buildings, warehouses and stores where medicines are manufactured and packaged for storage before delivery. The facilities are tidy because the medicines and drugs produced aim at bettering the health of the people who consume them when in need. However, 13(11.4%) were not sure whether the facilities are maximally clean and orderly and 28(24.6%) stated that there is no need to mention this because a facility which is being used for this purpose ought to be naturally clean, as they have attempted to do so. Therefore, the plant at Namanve is clean and tidy as a paramedical facility.

Company coordinates its strategies and technological equipment, machinery

The company coordinates its strategies and technological equipment, machinery and know-how and their responses were as shown in table 6.24.

Table 6.24: Company coordinates its strategies and technological equipment, machinery

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	38	33.3	33.3
	Disagree	21	18.4	51.8
	Agree	22	19.3	71.1
	Strongly Agree	33	28.9	100.0
Total		114	100.0	

Source: Primary Data, 2018

According to the findings in table 6.24, the majority 55(48.2%) of the respondents agreed that the CiplaQCIL has put in place computerized machinery, and mechanisms for better mixing of ingredients and quickening production to ensure that there is reliable supply of quality products in high quantities. Further, 59(51.7%) noted that the company has attempted to have coordinated strategies for providing a high-tech environment. But, it has not fully achieved that because physical and manual labour is still being greatly relied on in packaging, loading and unloading. The company also needs more technically proficient personnel to reach competitive high-tech levels.

Improvement of operational efficiency by efficient use of technology

Respondents were asked whether CiplaQCIL strives to improve operational efficiency by efficient use of technology and their responses were as presented in table 6.25.

Table 6.25: Improvement of operational efficiency by efficient use of technology

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	28	24.6	24.6
	Disagree	6	5.3	29.8
	Neutral	5	4.4	34.2
	Agree	45	39.5	73.7
	Strongly Agree	30	26.3	100.0
Total		114	100.0	

Source: Primary Data, 2018

Efficiency brings effectiveness, and thus CiplaQCIL aims at being effective at service delivery. From the study findings in table 6.25, the majority 75(65.8%) of the respondents were in agreement that the company is using good technology and committed management, and staff who have ensured that operations are professionally carried out from procurement planning, industrial operations to the marketing of the products hence leading to efficiency in running business operations and 5(4.4%) of the respondents were not sure, whereas 29.9% noted that there is still low technology because physical and manual inputs are being used. But in this era of technological development, the company has tried to mechanize operations by incorporating use of machinery for efficiency, time saving and proficiency in production.

Company creates databases and files with the information

Respondents were asked whether CiplaQCIL creates databases and files with the information it must analyze and learn; their responses were as depicted in table 6.26.

Table 6.26: Company creates databases and files with the information

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	23	20.2	20.2
	Disagree	17	14.9	35.1
	Neutral	14	12.3	47.4
	Agree	28	24.6	71.9
	Strongly Agree	32	28.1	100.0
Total		114	100.0	

Source: Primary Data, 2018

Data / information generation, storage and retrieval are keys to running operations efficiently. The study findings in table 6.26 indicated that 60(52.7%) of the respondents agreed that the company has a database where all information on raw material inventory, produced quantities, types and quality, human resource and employee performance, turnover and all that is associated with all such is captured and kept, in further attempt, 14(12.3%) were not sure, while 40(35.1%) of the respondents disagreed. It was noted that the database is not very

detailed because the ICT department is understaffed and operators there are not technically proficient enough thus needs further improvement. From the above analysis though, the company has put-up a database which currently enables them to track quality and quantity of produce as well as services at all levels to ensure that better decisions are made to improve quality and quantity for the available abundant market.

Updated quality-related data available to all members of the company

When respondents were asked whether there is updated quality-related data available to all members of the company; their responses were as revealed in table 6.27.

Table 6.27: Updated quality-related data available to all members of the company

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	18	15.8	15.8
	Disagree	13	11.4	27.2
	Neutral	9	7.9	35.1
	Agree	53	46.5	81.6
	Strongly Agree	21	18.4	100.0
Total		114	100.0	

Source: Primary Data, 2018

According to the study from table 6.27, the majority 74(64.9%) of respondents agreed that there is an updated database for the company. the database is regularly updated regarding inventory, human resource performance, output and others which guarantees that the information is generated and stored for use in future. The data base information which is not "classified" is availed to all members within the company to give them a probable picture on the health of the organization and their contribution to its success or not, and 9(7.9%) noted that the database may not be the essential component for the lower staff but their remuneration, whereas 31(27.2%) noted that the database which is open to all is not well updated as the classified information is not availed, but at least the available information on

the current database gives the employees and management a clear clue for performance and the health of the company, so they can make their own independent assessment.

Active programs or plans to facilitate participation in Continuous Quality Improvement

When respondents were asked whether there are active programmes or plans to facilitate participation in Continuous Quality Improvement, their responses were as indicated in table 6.28.

Table 6.28: Active programs to facilitate participation in Continuous Quality

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	29	25.4	25.4
	Disagree	22	19.3	44.7
	Neutral	17	14.9	59.6
	Agree	20	17.5	77.2
	Strongly Agree	26	22.8	100.0
Total		114	100.0	

Source: Primary Data, 2018

The company has ensured that at all levels it produces quality for the market. In this context, 46(40.3%) of the respondents agreed that there are regular in-company mechanisms to avail all necessary physical and financial resources, raw materials and training to staff to ensure that there is production. The production is regularly inspected to make sure that the product is of high quality, 17(14.9%) of the respondents noted that they were not sure if everybody in the company aimed at improving quality, and 51(44.7%) noted that quality improvement is the reserved contingency plan for the highly proficient personnel and management. However, the company aims at ensuring that at all levels of production and in the overall picture, the company produces quality products, and as well ensures that the quality of product appreciates constantly.

Testing Hypothesis 2

The hypothesis was tested to determine whether there is relationship between Continuous Process Improvement and Competitive Advantage. This hypothesis has been tested using correlations and regressions as shown in table 6.29.

Table 6.29: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.796(a)	.633	.632	.12243

a. Predictors: (Constant), Competitive Advantage

The model summary table (Table 6.29) indicates that there is a significant positive relationship between Continuous process improvement and competitive advantage (r = 0.796). The actual contribution of Continuous process improvement to competitive advantage is about 63.2% (Adj. R Square = 0.632). The results thus show that CiplaQCIL should ensure that the production and related processes are capable of consistently achieving pharmaceutical products of required quality that complies with their specifications and cGMP regulatory requirements.

Table 6.30: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	246.219	1	246.219	13506.663	.005[a]
	Residual	2.042	112	.018		
	Total	248.261	113			

a. Predictors: (Constant), Continuous Process Improvement
b. Dependent Variable: Competitive Advantage

The ANOVA results show that there is significant linear relationship between Continuous process improvement and competitive advantage (F = 13506.663, P< 0.005). This implies that the more of Continuous process improvement, the more of the competitive advantage that will be attained by the company.

Table 6.31: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.178	.031		5.709	.005
	Continuous Process Improvement	1.098	.009	.796	116.218	.005
a. Dependent Variable: Competitive Advantage						

The coefficients Table (Table 6.31) gives the model that relates Continuous process improvement to competitive advantage. The regression model generated was: $Y = 0.178 + 1.096X_2$ (where: Y= Competitive advantage and X_2 = Continuous process improvement).

Conclusion

The results indicate that there is a strong positive relationship between Continuous process improvement and competitive advantage and that Continuous process improvement accounts for about 63.2% of the variation in competitive advantage. The regression model indicates that a unit increase in Continuous process improvement would lead to an increase in competitive advantage by a factor of 1.098. This implies that investment in Continuous process improvement by the company will significantly contribute to the attainment of a better competitive advantage.

CHAPTER SEVEN

CUSTOMER AND SUPPLIER RELATIONSHIP MANAGEMENT AT CiplaQCIL

Introduction

This chapter presents the findings on customer-supplier relationship management within CiplaQCIL and the effect of this on the competitive advantage of the firm. Survey results are discussed using both descriptive and inferential statistical methods including frequencies and percentages, and correlations and regressions.

Long-term customer satisfaction

Customer satisfaction is defined as the number of customers, or percentage of total customers, whose reported experience with a firm, its products, or its services (ratings) exceeds specified satisfaction goals. When respondents were asked whether long-term customer satisfaction is laid down as the organization's mission and basic principle, their responses were as presented in table 7.1.

Table 7.1: Long-term customer Satisfaction

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	15	13.2	13.2
	Disagree	21	18.4	31.6
	Neutral	14	12.3	43.9
	Agree	25	21.9	65.8
	Strongly Agree	39	34.2	100.0
Total		114	100.0	

Source: Primary Data, 2018

Findings in table 7.1 reveal that 64(56.1%) of the respondents agreed that long-term customer satisfaction is laid down as the organization's mission and basic principle. This is a clear implication that at CiplaQCIL, customer satisfaction is seen as a key performance indicator within business and is often part of a "Balanced Scorecard. It was further revealed that customer satisfaction is used as a measure on how products and services supplied by a company meet or surpass customer expectations. However, 14(12.3%) were not sure and

36(31.6%) of the respondents disagreed. This indicates that sometimes the firm does not fulfill the mission and principle of customer satisfaction.

Management -Customer Interaction

On the question whether leaders interact with customers and keep in mind their contributions when designing goods and services, their responses were as shown in table 7.2.

Table 7.2: Management - Customer Interaction

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	21	18.4	18.4
	Disagree	23	20.2	38.6
	Neutral	12	10.5	49.1
	Agree	41	36.0	85.1
	Strongly Agree	17	14.9	100.0
Total		114	100.0	

Source: Primary Data, 2018

Result of findings in table 7.2 above present that the majority 58(50.9%) of the respondents agreed that leaders interact with customers and keep in mind their contributions when designing goods and services. This implies that CiplaQCIL utilizes effective communication channels to form meaningful, ongoing relationships with customers or end users; this has enabled the company to identify the ghastly and good side of their products and services on the market, thus competitive advantage on other companies in same industry. However, 12(10.5%) of the respondents were not sure and 44(38.6%) of the respondents disagreed.

In an interview held with staff in Production Unit, they emphasised that almost everyone in pharmaceutical industry (bosses, workers and partners) ultimately answers to an influential and powerful group of beings called customers. Loyal customers are worth their weight in repeat visits and goodwill (profits), therefore CiplaQCIL should create several communication channels to discern what is considered necessary by all their potential customers.

Customer Relationship Management Policy

CRM is a competitive strategy and process of acquiring, reacting and partnering with selective customers to create superior value for the company and the customer. When respondents were asked whether the company has a customer relationship management policy in place, their responses were as indicated in table 7.3.

Table 7.3: Customer Relationship Management Policy

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	22	19.3	19.3
	Disagree	18	15.8	35.1
	Neutral	15	13.2	48.3
	Agree	30	26.3	74.6
	Strongly Agree	29	25.4	100.0
Total		114	100.0	

Source: Primary Data, 2018

Findings in table 7.3, indicate that 59(51.7%) of the respondents agreed that company has a customer relationship management policy in place. This reveals that CiplaQCIL have strengthened its commitment to customer satisfaction through comprehensive strategies (policies) and efforts that aims to improve customer relations processes. Though, 15(13.2%) were neutral and 40(35.1%) of the respondents disagreed. This implies that even though the policy is in place, it was found out that some administrators do not follow or fulfill it. *In an interview held with Mr. Samuel Acuti Opio, the Supervising Pharmacist at CiplaQCIL, argued that the company has a high-quality policy that was established through its mission, vision, and core values. He emphasised that CiplaQCIL believe in the enormous importance of customer satisfaction created by products and services.*

CiplaQCIL is committed to customers as part of the requirements of TQM

A business is successful only when its products and services have enough buyers in the market. Business marketers need to focus on their end-users and what exactly they expect from their organization. On the question whether the company is committed to its customers as part of the requirements of Total Quality Management (TQM), their responses were as shown in table 7.4.

Table 7.4: CiplaQCIL is committed to customers as part of the requirements of TQM

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	22	19.3	19.3
	Disagree	16	14.0	33.3
	Neutral	20	17.5	50.9
	Agree	41	36.0	86.8
	Strongly Agree	15	13.2	100.0
Total		114	100.0	

Source: Primary Data, 2018

According to findings in table 7.4 above presents, the majority 56(49.2%) of the respondents agreed that the company is committed to its customers as part of the requirements of Total Quality Management (TQM). This implies that Total quality management ensures that CiplaQCIL understand their target customers well before making any changes in the processes and systems to deliver superior quality products for better customer satisfaction. They further elaborated that customer feedbacks are regularly and carefully monitored before formulating any major business strategy, thus improved quality of products and services. Though 20(17.5%) of the respondents were not sure on the statement and 38(33.3%) of the respondents disagreed. Therefore, CiplaQCIL should introduce total quality management or any other quality management process that increase their customer base and levels of customer satisfaction.

Monitor and Measure the level of Customer Satisfaction

The necessity to monitor and measure customer satisfaction comes from the fact that one of the key elements of organizational success is the customer's satisfaction with the organization and its products. When respondents were asked whether the company routinely monitors and measures the level of satisfaction of its customers and their responses were as indicated in table 7.5.

Table 7.5: Monitor and Measure the level of Customer Satisfaction

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	19	16.7	16.7
	Disagree	22	19.3	36.0
	Neutral	12	10.5	46.5
	Agree	32	28.1	74.6
	Strongly Agree	29	25.4	100.0
Total		114	100.0	

Source: Primary Data, 2018

Results of findings in table 7.5 present that 61(53.5%) of the respondents agreed that the company routinely monitors and measures the level of satisfaction of its customers. This implies that the information obtained from monitoring and measuring customer satisfaction help identify opportunities for improvement of the CiplaQCIL's strategies, products, processes and characteristics that are valued by customers. Such improvements strengthen customer confidence and result in commercial and other benefits. However, 12(10.5%) were neutral and 41(36%) of the respondents disagreed. Therefore, CiplaQCIL should also consider that customer satisfaction is related not only to product and delivery characteristics, but also to organizational behavior characteristics.

Customer satisfaction results are incorporated in new product design and production

Customer satisfaction is the state of mind that customers have about a company when their expectations have been met or exceeded over the lifetime of the product or service. When respondents were asked whether customer satisfaction results are usually incorporated in new product design and production, their responses were as presented in table 7.6.

Table 7.6: Customer satisfaction results are incorporated in new product design

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	19	16.7	16.7
	Disagree	13	11.4	28.1
	Agree	35	30.7	58.8
	Strongly Agree	47	41.2	100.0
Total		114	100.0	

Source: Primary Data, 2018

Findings in table 7.6 reveal that 82(71.9%) of the respondents agreed that customer satisfaction results are usually incorporated in new product design and production. This implies that customers are informed about changes brought about as the direct result of listening to their needs. They also responded that customer satisfaction is incorporated into the strategic focus of the CiplaQCIL via the mission statement. However, 32(28.1%) of the respondents disagreed. This means that some products are produced without changes end-users requested to be modified. The achievement of customer satisfaction leads to company loyalty and product repurchase. *In an interview held with officials in Marketing Department, stated that defining and understanding customer satisfaction help CiplaQCIL identify opportunities for product and service innovation and serve as the basis for performance appraisal and reward systems. It also serves as the basis for a customer satisfaction survey programme that ensure that quality improvement efforts are properly focused on issues that are most important to the customer.*

Comparisons of Customer Satisfaction

Customer satisfaction is a competition and tool, the competitive advantage received from customer satisfaction is hard to duplicate for other companies, especially if the company devotes more effort into their customer service than their competition. When respondents were asked whether the company regularly makes comparisons of customer satisfaction results with those of key competitors and their responses were as revealed in table 7.7.

Table 7.7: Comparisons of Customer Satisfaction

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	23	20.2	20.2
	Disagree	21	18.4	38.6
	Neutral	11	9.6	48.2
	Agree	29	25.4	73.7
	Strongly Agree	30	26.3	100.0
Total		114	100.0	

Source: Primary Data, 2018

According to findings in table 7.7, the majority 59(51.7%) of the respondents agreed that company regularly makes comparisons of customer satisfaction results with those of key competitors. However, 11(9.6%) were neutral and 44(38.6%) of the respondents disagreed. Therefore, Customer Satisfaction Survey should be used as market research tools and are frequently part of product/service improvement programmes that can then be used to improve the quality of processes within an organization that have an end effect on the products, services and relationships offered.

Customer surveys are regularly conducted by the company

When respondents were asked whether customer surveys are regularly conducted by the company to determine customer future requirements and their responses were as indicated in table 7.8.

Table 7.8: Customer surveys are regularly conducted by the company

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	22	19.3	19.3
	Disagree	17	14.9	34.2
	Neutral	24	21.1	55.3
	Agree	35	30.7	86.0
	Strongly Agree	16	14.0	100.0
Total		114	100.0	

Source: Primary Data, 2018

Findings in table 7.8 reveal that 51(44.7%) of the respondents agreed that customer surveys are regularly conducted by the company to determine customer future requirements. This implies that customer survey provides a wealth of information that assist CiplaQCIL in meeting and measuring the mission, vision, goals, and strategic plans. This also helps the company measure satisfaction, identify unhappy customers and find potential advocates, thus improved products and services offered. Though, 24(21.1%) of the respondents were not sure and 39(34.2%) of the respondents disagreed. This implies that sometimes the company is reluctant to determine whether the products and services offered meet end user expectations.

Documented system to address customer returns

Respondents were asked whether there is a documented system to address customer returns ensuring prompt response to corrective action inquires and their responses were as distributed in table 7.9.

Table 7.9: Documented system to address customer returns

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	16	14.0	14.0
	Disagree	22	19.3	33.3
	Neutral	10	8.8	42.1
	Agree	34	29.8	71.9
	Strongly Agree	32	28.1	100.0
Total		114	100.0	

Source: Primary Data, 2018

Table 7.9 indicates that 66(57.9%) of the respondents agreed that there is a documented system to address customer returns ensuring prompt response to corrective action inquires. However, 10(8.8%) were neutral on the statement and 38(33.3%) of the respondents disagreed. This clearly identifies that even though the system is in place, it is sometimes not used by the management to know the responses of the customers towards company's goods and services. *Interview held with staff in Supply Chain Department; argue that "if an issue arises with a customer, CiplaQCIL should have procedures in place for recording customer complaints and feedback whilst incidents should be managed within Risk and Safety Management Plan". They elaborated that, a well-handled complaint can lead to return business and improved customer relationships.*

Defined and Documented Quality Control function

Quality control is the part of quality management that ensures products and service comply with requirements. It is a work method that facilitates the measurement of the quality characteristics of a unit, compares them with the established standards, and analyses the differences between the results obtained and the desired results to make decisions which will correct any differences. On the question whether the Company has a clearly defined and documented quality control function, their responses were as presented in table below and their responses were as reflected in table 7.10.

Table 7.10: Defined and Documented Quality Control Function

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	26	22.8	22.8
	Disagree	24	21.1	43.9
	Neutral	13	11.4	55.3
	Agree	29	25.4	80.7
	Strongly Agree	22	19.3	100.0
	Total	114	100.0	

Source: Primary Data, 2018

According to table 7.10, the majority 51(44.7%) of the respondents were in agreement that Company has a clearly defined and documented quality control function. This is a clear implication that the Company has a well document specification or verification forms in place; the aim is to filter the products before they reach the client, so that products that do not comply with requirements are discarded or repaired. However, 13(11.4%) were neutral and 50(43.9%) of the respondents did not agree. This indicates that in some incidences some products get on market without thorough verification and returned by the customers. Therefore, Cipla QCIL should reduce the costs of bad quality as much as possible and ensure that the result of its processes comply with the client's requirements. Both internal and external controls can be carried out before set on market.

Clear and documented authority to act on quality and non-quality issues

Quality control is an integral part of the daily activities occurring within each operational unit. When respondents were asked whether the Quality Control function has a clear and documented authority to act on quality and non-quality issues through disposition of product, their responses were as indicated in table 7.11.

Table 7.11: Clear and documented authority to act on quality and non-quality issues

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	24	21.1	21.1
	Disagree	13	11.4	32.5
	Neutral	17	14.9	47.4
	Agree	30	26.3	73.7
	Strongly Agree	30	26.3	100.0
Total		114	100.0	

Source: Primary Data, 2018

Findings in table 7.11 reveal that 60(52.6%) of the respondents were in agreement that Quality Control function has a clear and documented authority to act on quality and non-quality issues through disposition of products. This reveals that CiplaQCIL has a procedure or set of procedures intended to ensure that a manufactured product or performed services adheres to a defined set of quality criteria or meets the requirements of the client or customer. However, 17(14.6%) were neutral on the statement and 37(32.5%) of the respondents disagreed. Therefore; quality control should be generally responsible for the operational units and quality should be infused into the outputs and verified as they are being generated. The company should enforce an effective and efficient quality systems promotion, timely registration of drugs by eliminating waste, and the need for rework with overall financial benefits.

The Quality Control structure is oriented for prevention instead of detection

Quality control is a process through which a business seeks to ensure that product quality is maintained or improved, and manufacturing errors are reduced or eliminated. Respondents were asked whether the Quality Control structure is oriented for prevention instead of detection, their responses were as shown in table 7.12.

Table 7.12: The Quality Control structure is oriented for prevention instead of detection

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	17	15.0	15.0
	Disagree	21	18.4	33.4
	Neutral	11	9.6	43.0
	Agree	43	37.7	80.7
	Strongly Agree	22	19.3	100.0
Total		114	100.0	

Source: Primary Data, 2018

From table 7.12, the findings indicate that 65(57%) of the respondents agreed that the quality control structure is oriented for prevention instead of detection. However, 11(9.6%) were not sure and 38(33.4%) of the respondents disagreed. This revealed that the quality control structure is oriented for both prevention and detection to reduce or eliminate manufacturing errors. *In group a discussion with staff in the Quality Assurance Department; it was argued that quality control requires the company to create an environment in which both management and employees strive for perfection. This is done by training personnel, creating benchmarks for product quality, and testing products to check for statistically significant variations.*

Quality Assurance System

Quality Assurance systems are a tool to help company run more effectively and efficiently; it also helps to ensure that a minimum standard of quality is being met for a product, service or project. When respondents were asked whether there is a system to assure the quality of purchased materials, their responses were as indicated in Table 7.13.

Table 7.13: Quality Assurance System

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	17	14.9	14.9
	Disagree	21	18.4	33.3
	Neutral	14	12.3	45.6
	Agree	31	27.2	72.8
	Strongly Agree	31	27.2	100.0
	Total	114	100.0	

Source: Primary Data, 2018

Findings in table 7.13 above present that 62(54.4%) of the respondents agreed that CiplaQCIL has a system that assure the quality of purchased materials. This implies that in CiplaQCIL, there is quality assurance system check to see whether a product or service being developed is meeting specified requirements. Though, 14(12.3%) were neutral on the

statement and 38(33.3%) of the respondents disagreed. *In an interview held with some staff in quality assurance department, it was revealed that quality assurance system increases customer confidence and a company's credibility, to improve work processes and efficiency, and to enable a company to better compete with others.*

Total Quality Systems

When respondents were asked whether there is a system that measures the effectiveness of the total quality systems through an evaluation of packaged, ready to ship product, their responses were as presented in table 7.14.

Table 7.14: Total Quality Systems

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	20	17.5	17.5
	Disagree	17	14.9	32.5
	Neutral	10	8.8	41.2
	Agree	30	26.3	67.5
	Strongly Agree	37	32.5	100.0
Total		114	100.0	

Source: Primary Data, 2018

According to findings in table 7.14, the majority 67(58.8%) of the respondents agreed that there is a system that measures the effectiveness of the total quality systems through an evaluation of packaged, ready to ship product. This is an implication that CiplaQCIL has management system that focuses on customer and involvement of all employees in Continuous improvement. This system uses strategy, data, and effective communications to integrate the quality discipline into the culture and activities of the organization. However, 10(8.8%) were not sure on the statement and 37(32.5%) of the respondents disagreed. Therefore, Total Quality should describe the culture, attitude of CiplaQCIL that strives to provide customers with products and services that satisfy their needs.

Product Conformance to Specifications

When respondents were asked whether there is a system to assure product conformance to specifications at the initial setup phase of product manufacture, their responses were as presented in table 7.15.

Table 7.15: Product Conformance to Specifications

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	27	23.7	23.7
	Disagree	18	15.8	39.5
	Neutral	10	8.8	48.2
	Agree	44	38.6	86.8
	Strongly Agree	15	13.2	100.0
Total		114	100.0	

Source: Primary Data, 2018

In table 7.15, the findings indicate that 59(51.8%) of the respondents agreed that there is a system to assure product conformance to specifications at the initial setup phase of product manufacture. This implies that Top of Production (TOP) Inspections/Initial Production Inspection (IPI) evaluate products at the start of production for conformance with client specifications. Though, 10(8.8%) were not sure and 45(39.5%) of the respondents disagreed. Therefore, CiplaQCIL should establish, implement, and maintain a system that allows the delivery of products with the quality attributes appropriate to meet the needs of patients, health care professionals, regulatory authorities (including compliance with approved regulatory filings) and other internal and external customers.

Absence of Statistical Process Control

When respondents were asked whether in the absence of Statistical Process Control, there is a system with documentation to verify that product conforms to specification prior to shipment, their responses were as presented in table below.

Table 7.16: Absence of Statistical Process Control

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	34	29.8	29.8
	Disagree	19	16.7	46.5
	Agree	44	38.6	85.1
	Strongly Agree	17	14.9	100.0
Total		114	100.0	

Source: Primary Data, 2018

Result of findings in table 7.16 above indicates that 61(53.5%) of the respondents agreed that in the absence of Statistical Process Control, there is a system with documentation to verify that product conforms to specification prior to shipment. This implies that CiplaQCIL has Final Random (FRI)/Pre-Shipment (PSI) Inspections that provide a final quality check on finished product samples before the product leaves the factory including packaging, product labeling and carton markings. However, 53(46.5%) of the respondents disagreed. Therefore, CiplaQCIL should avoid absence of statistical process control because it is used to monitor, improve and control the manufacturing process itself. These include probability, basic statistics, statistical control charts, process capability studies and experimental design for improvement and optimization, thus improved service delivery.

System Provides Traceability of all Raw Materials

Traceability refers to company's ability to identify and follow raw materials, components and products through all stages of receipt, production, processing and distribution. Respondents were asked whether there is a system which provides lot traceability through each process and includes traceability of all raw materials used during manufacture and their responses were as presented in table below.

Table 7.17: System Provides Traceability of all Raw Materials

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	27	23.7	23.7
	Disagree	19	16.7	40.4
	Neutral	9	7.9	48.2
	Agree	31	27.2	75.4
	Strongly Agree	28	24.6	100.0
Total		114	100.0	

Source: Primary Data, 2018

According to findings in table 7.17, 59(51.8%) of the respondents agreed that there is a system which provides lot traceability through each process and includes traceability of all raw materials used during manufacture. Though, 9(7.9%) were not sure on the statement and 46(40.4%) of the respondents disagreed. *In an interview held with staff in quality assurance department, they argued that traceability has become an integral requirement of modern quality management systems; the traceability of raw materials should be ensured at all stages to facilitate control, the recall of defective products, consumer information and the attribution of responsibility.*

A system with supporting documentation that assures nonconforming product

On the question whether there is a system with supporting documentation that assures nonconforming product is removed from the normal process flow and clearly marked for disposition, their responses were as presented in table below.

Table 7.18: system with supporting documentation that assures nonconforming product

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	36	31.6	31.6
	Disagree	11	9.6	41.2
	Agree	45	39.5	80.7
	Strongly Agree	22	19.3	100.0
Total		114	100.0	

Source: Primary Data, 2018

Study finding in table 7.18 indicates that 67(58.8%) of the respondents agreed that there is a system with supporting documentation that assures nonconforming product is removed from the normal process flow and clearly marked for disposition. This implies that CiplaQCIL developed and implemented a Quality Management System to document the company's best business practices, better satisfy the requirements and expectations of its customers and improve the overall management of the company. Though, 36(31.6%) of the respondents disagreed. Therefore, the Quality Management System of CiplaQCIL should meet the requirements of the international standard ISO 9001:2008. This system addresses the design, development, and implementation of the company's services, including its deliverables herein referred to as the company's products.

Documentation of Inspection Plans

Respondents were asked whether inspection plans are documented, and they include sample size; sample frequency; acceptance criteria; significant characteristics; and product disposition. Their responses were as shown in table below.

Table 7.19: Documentation of Inspection Plans

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	28	24.6	24.6
	Disagree	20	17.5	42.1
	Neutral	13	11.4	53.5
	Agree	26	22.8	76.3
	Strongly Agree	27	23.7	100.0
Total		114	100.0	

Source: Primary Data, 2018

From table 7.19 above, study findings reveal that 53(46.5%) of the respondents agreed that inspection plans are documented, and they include sample size; sample frequency; acceptance criteria; significant characteristics; and product disposition. This implies that there is a regulatory inspection strategy development and accompanying inspection preparation

programme. Though, 13(11.4%) were neutral and 28(42.1%) of the respondents disagreed. *In an interview with Inspection Team of CiplaQCIL, they argued that inspection support team ensures that the inspection is structured so that all customers' requests are handled in a professional and timely manner. To allow for any immediate action on the company's part during the inspection, it is advisable to hold a daily internal inspection support team meeting at the end of each inspection day to reflect on the previous day and plan for the next, thus to achieve competitive advantage.*

Inspection plans are designed for zero defects

Inspection plans is a document that provides instructions on how an inspection of a product is to take place. When respondents were asked whether inspection plans are designed for zero defects, their responses were as presented in table below.

Table 7.20: Inspection plans are designed for zero defects.

		Frequency	Percentage	Cumulative Percentage
Valid	Strongly Disagree	18	15.8	15.8
	Disagree	12	10.5	26.3
	Neutral	11	9.6	36.0
	Agree	35	30.7	66.7
	Strongly Agree	38	33.3	100.0
Total		114	100.0	

Source: Primary Data, 2018

Research findings in table 7.20 present that 63(64%) of the respondents generally agreed that inspection plans are designed for zero defects. This implies that there are inspection plans aimed at the reduction of defects through prevention. These plans are directed at motivating people to prevent mistakes by developing a constant, conscious desire to do their job right the first time. Though, 11(9.6%) were neutral on the statement and 30(26.3%) of the respondents disagreed. Therefore, Inspection plans provide details about what characteristics must be tested to ensure the quality of the product, as well as specific metrics and measurements that must be achieved for the product to be judged in compliance with standards.

Testing Hypothesis 3

The hypothesis was tested to ensure whether customer-supplier relationship management at CiplaQCIL achieves competitive advantage. This hypothesis has been tested using correlations and regressions as shown below.

Table 7.21: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.862(a)	.743	.742	.17297

a. Predictors: (Constant), customer-supplier relationship management

The model summary table (Table 7.21) indicates that there is a significant positive relationship between customer-supplier relationship management and competitive advantage (r = 0.862). The actual contribution of customer-supplier relationship management to competitive advantage is about 74.2% (Adj. R Square = 0.742).

Table 7.22: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	244.090	1	244.090	4534.312	.005[a]
	Residual	4.171	112	.037		
	Total	248.261	113			

a. Predictors: Customer-Supplier Relationship Management
b. Dependent Variable: Competitive Advantage

The ANOVA results (Table 7.22) show that there is significant linear relationship between customer supplier relationship management and competitive advantage (F = 4534.312, P< 0.005). This implies that the more of customer-supplier relationship management, the more competitive advantage the firm will gain.

Table 7.23: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.286	.044		6.574	.005
	Customer-Supplier relation Management	1.096	.014	.862	80.959	.005
a. Dependent Variable: Competitive Advantage						

The coefficient Table gives the model that relates customer supplier relationship management to competitive advantage. The regression model generated was: $Y = 0.286 + 1.096X_3$ (where: Y= Competitive Advantage and X_3 = Customer-supplier relationship management).

Conclusion

The findings indicate that there is a significant positive relationship between customer-supplier relationship management and competitive advantage and that customer-supplier relationship management explains about 74.2% of the variation in competitive advantage. The regression model indicates that a unit increase in customer-supplier relationship management would lead to an increase in competitive advantage by a factor of 1.096.

CHAPTER EIGHT
TOWARDS CONSOLIDATING TOTAL QUALITY MANAGEMENT AND COMPETITIVE ADVANTAGE AT CiplaQCIL

Introduction

This chapter provides the harmonization of the survey results on Total Quality Management (TQM) and Competitive Advantage in CiplaQCIL in line with established best practices elsewhere.

Total Quality Management

Total Quality management refers to a continuous effort of management along with the employees of an organization to improve the quality of products and services. Businesses need to emphasize the quality of their products rather than the quantity to survive the fierce competition.

Total Quality management works on a very simple principle: The responsibility of delivering quality products and services to customers lies on the shoulders of every single individual who is even remotely associated with the organization. It is not only the management but also employees irrespective of their designation, suppliers, clients, customers who need to come up with improvement ideas to make foolproof systems and processes to deliver quality products which meet and exceed the expectations of end-users.

Continuous professional development practices

Continuing Professional Development (CPD) is a Continuous process of lifelong learning which is focused on implementing learning within professional practice and improving outcomes for patients.

A self-directed, ongoing, systematic and outcomes-focused approach to lifelong learning that is applied into practice, involves the process of active participation in formal and informal learning activities that assist in developing and maintaining competence, enhancing

professional practice, and supporting achievement of career goals. The CPD approach is cyclical in nature where each stage of the process can be recorded in a personal learning portfolio.

Continuing Professional Development is the process of tracking and documenting the skills, knowledge and experience that employees gain both formally and informally as work, beyond any initial training. It is a record of what employees experience, learn and then apply. The term is generally used to mean a physical folder or portfolio documenting development as a professional. Some organizations such as pharmaceutical industries use it to mean a training or development plan.

All pharmacists must undertake continuing professional development (CPD) to be eligible to continue their registration as pharmacists on an annual basis. CPD involves maintaining appropriate experience in the practice of pharmacy, keeping up-to-date with continuing education and professional competency and undertaking appropriate development and training opportunities that are relevant to the practice of pharmacy.

In 2009, the PSI commissioned a detailed review and assessment of international CPD models to inform the system of CPD for pharmacists in Ireland. This framework is a portfolio-based self-reflective model that allows pharmacists to employ a wide range of learning methods to meet their individual learning needs, therefore even pharmaceutical industries in Uganda should adopt this model.

Continuing professional development should include a wide variety of methods for attaining new knowledge, skills, attitudes, and values. CPD learning experiences should be based on an assessment of needs and goals (Reflect), generated from a personal development plan with outcomes-based objectives (Plan), and evaluated for achievement of objectives and personal

and professional impact (Evaluate). Key to the CPD approach is linking learning to practice (Apply).

The REFLECT stage requires pharmacists to reflect on their personal and professional lives and self-assess their learning needs and goals. Areas requiring professional development should be identified. It is important to pinpoint what specific knowledge or skills are needed. Peer assessment can offer valuable insights to assist a pharmacist in identifying true learning needs.

The PLAN stage involves formulating a personal development plan to accomplish identified learning needs. Planning involves the process of defining learning objectives, learning activities, required resources and measures of success, and articulating the plan with colleagues to support learning over an extended period of time. Learning needs should be prioritized based on importance and urgency in order to guide development of a plan specifying both short-term and long-term goals.

In the LEARN stage, the pharmacist puts the personal development plan into action to meet identified learning objectives utilizing an appropriate range of learning activities and methods. In the CPD model, the pharmacist is not limited to ACPE-accredited educational activities but may find relevant learning activities from other sources, such as academic programmes, or specialized training courses. In the APPLY stage**, l**earned knowledge, skills, attitudes, and values are then applied into practice.

The EVALUATE stage involves the pharmacist assessing how successful the personal development plan has been in meeting stated learning needs by considering outcomes and impact. If learning needs were not fully met, it may be possible to identify further development needs at this stage. Activities that result in practice changes or beneficial patient

outcomes are analyzed. Personal evaluation leads to reflection, which continues the ongoing cyclical process of CPD.

Documentation of each stage in the CPD cycle in a personal portfolio can support reflection and evaluation and provide evidence of the work involved to others (e.g. employers, professors, regulatory agencies). The portfolio should be simple to use, readily accessible, and developed over time into a comprehensive record of learning experiences which acts as an ongoing tool for review and self-evaluation.

In summary, when selecting CPD activities, consideration should be given to incorporating a wide variety of learning formats and methods that can meet one's professional development needs and goals. Resources (e.g. expertise/access, financial, technology, etc.) should also be considered when selecting an activity to support professional development. The breadth of activities selected should meet identified learning objectives and collectively address the competency areas relevant to one's practice.

Continuous improvement of the production processes

Continuous improvement is an essential element in a modern quality system and it aims at improving efficiency by optimizing a process and eliminating wasted efforts in production. In the current system continuous improvement is difficult, if not impossible. Reducing variability provides a "win-win" opportunity from both public health and industry perspectives, therefore continuous improvement needs to be facilitated.

Generally, the term *continuous improvement* is broadly used for all improvement efforts including *corrective actions* and the ensuing *preventive actions*. In the regulatory setting a distinction between corrective action and continuous improvement is essential. Need for corrective actions occur when product quality characteristics are in question (e.g., out of

specification). Such a situation can require urgent risk assessment and sound quality decisions to prevent any adverse impact on patients.

The combined work products of the cGMP Initiative are positioned well to provide a comprehensive set of regulatory tools to facilitate a move towards the desired state. Only companies that achieve a high level of process understanding will have the opportunity to use their information to justify a more flexible regulatory path towards continuous improvement. The proposed ICH Q10 should utilize these regulatory polices to provide additional guidance on quality system for change control under cGMPs to facilitate continuous improvement.

Continuous improvement is an essential element in a modern quality system that aims at improving efficiency by optimizing a process and eliminating wasted efforts in production. Improvement efforts are carried out in a structured manner with appropriate pre-defined protocol and oversight. These efforts are primarily directed towards reducing variability in process and product quality characteristics and are not for changing the fundamental design of a manufacturing process. For continuous improvement products should already follow their specifications and process improvement steps (e.g., adjustment of process parameters, introduction of new equipment of the same design, and operating principles with advanced control options) should be within the original "design space." That is, such improvement steps are not considered as "changes" because product quality and performance (e.g., bioavailability, shelf-life) are assured.

National Drug Authority (NDA) ensures the quality of drug products by carefully monitoring drug manufacturers' compliance with its Current Good Manufacturing Practice (cGMP) regulations. The cGMP regulations for drugs contain minimum requirements for the methods, facilities, and controls used in manufacturing, processing, and packing of a drug

product. The regulations make sure that a product is safe for use, and that it has the ingredients and strength it claims to have.

The approval process for new drug and generic drug marketing applications includes a review of the manufacturer's compliance with the cGMP. NDA inspectors determine whether the firm has the necessary facilities, equipment, and skills to manufacture the new drug for which it have applied for approval. Decisions regarding compliance with cGMP regulations are based upon inspection of the facilities, sample analyses, and compliance history of the firm. This information is summarized in reports which represent several years of history of the firms.

NDA can issue a warning letter or initiate other regulatory actions against a company that fails to comply with Current Good Manufacturing Practice regulations. Failure to comply can also lead to a decision by NDA not to approve an application to market a drug.

Customer supplier relationship management and competitive advantage

Like any other organization operating in a competitive market, pharmaceutical companies must seek innovative ways to stay ahead of competitors to secure their existence. A growing number of pharmaceutical companies see potential in implementing a customer-centric strategy to improve customer loyalty and drive growth. Customer-Supplier Relationship Management (CSRM) is nothing new, yet many companies in the pharmaceutical and healthcare industry fail to build the business case, let alone successfully implement a working CSRM strategy.

Modern manufacturers work with a wide range of suppliers, and supply chains are growing increasingly complicated. The growing need to cut prices for the consumer means margins are being squeezed like never before and in order to maintain profitability and drive efficiencies, these companies are turning to supplier relationship management as a controlled

and systematic approach to sourcing the goods and materials they need. There are several benefits associated with supplier relationship management, and they all culminate in a healthier bottom line.

Reduced costs: There are usually some significant costs involved in setting up deals with new suppliers, but a supplier relationship management programme can eliminate many of those costs. By cooperating in a mutually beneficial relationship with key suppliers, a company can strive for cost savings over the long term. Good working relationships with suppliers will not only deliver cost savings, they will reduce availability problems, delays and quality issues - and that means a better service for the consumer.

Increased efficiency: As a defined and established supplier relationship develops, communication improves. Suppliers gain a more complete understanding of the businesses they serve, and this allows them to meet their needs more effectively. Delays in the supply chain will decrease, and the flow of operations will greatly improve and when issues in the ordering process do arise, the healthy working relationship between supplier and client will make such issues easier to resolve.

Minimizes price volatility: Nothing spooks consumers more than huge fluctuations in market prices. In some cases, these fluctuations are as a direct result of increased volatility of commodity prices. However, by adopting the principles of supplier relationship management, companies can often take advantage of fixed pricing or scaled increases in exchange for lengthier contract terms, minimum order levels or various other qualifying criteria. Having a clear and unambiguous cost base allows a business to set its own pricing structures with some certainty, and that often translates to happier, more loyal customers.

Consolidation of the supply chain: As specific areas of both the supplier's and buyer's business work together, this allows both parties to better understand the inner workings of the other. In some cases, both parties will be able to adapt their own working practices and operations to better accommodate the other, and that can lead to further efficiencies and operational advantages. The consolidation of the supply chain may allow buyers to reduce the number of suppliers they purchase from - streamlining the purchasing process and making budgeting a far simpler task.

Outsourcing certain activities: A successful supplier relationship management programme will often create a trusting partnership between a buyer and a supplier. In some cases, this may result in many key activities being transferred to the supplier on a permanent basis. This may include entrusting a supplier with the management of inventory levels and some elements of customer service.

Continuous improvement of operations: A long-term relationship between supplier and buyer allows for the free-flow of feedback and ideas. Over time, this will create a more streamlined, effective supply chain that could have a positive impact on both costs and customer service. The areas of product development, instigating new ordering processes and inventory control can become a joint venture, and that can deliver a range of financial and operational benefits to both parties.

An integral component of many ERP software solutions is supplier relationship management. Working together with its suppliers, a company can tailor its supply chain to meet its individual needs. Processes can be consolidated, costs can be reduced and the end product for the consumer can be improved. Through a combination savings and efficiencies, companies can create a healthier bottom line despite underlying weakness in their sector.

In pharmaceutical industry, a Supply Chain Coordinator must be customer oriented, calm and precise, fast to react and have a good understanding of the product flow from arrivals to picking and deliveries. Also, the ability to handle stress and multilingualism are important as customers are in different countries and the Supply Chain Coordinator is essentially in the middle of it all holding the strings. Knowledge of the pharmaceutical industry and its regulations is helpful in daily work.

It is often the lack of knowledge, experience and expertise that prevents organizations from quickly shifting towards a client-centric and commercially successful transition. Developing a clear CRM strategy and successfully implementing it is what organizations struggle with most.

Competitive Advantage

Basically, competitive advantages are achieved through the capability of an organization to create value for costumers. Competitive advantages are created through lower costs from competitors or unique services against competitors' products and services, in fact it enables firms to create more economic value. Pharmaceutical industries have many competitive advantages but our emphasis in this paper is on the most effective of them along the most relevant with customers.

An efficient competitive intelligence strategy is becoming a must-have tool for modern pharmaceutical companies. In a fast-paced industry such as the pharmaceutical sector, it is integral to give business the edge by staying one step ahead of ITS competitors. With patents expiring, technology developing, business models changing and new competitors emerging, a competitive intelligence strategy is quickly becoming imperative to companies in the pharmaceutical industry.

Competitive intelligence, the process of compiling and analyzing intelligence focusing on competitor products, customers and market environment, can be a hugely efficient tool in identifying the direction or strategy of a competitor. This, in turn, can be used critically to shape a company's strategic response, allowing it to maintain its advantage. Implementing such a strategy can prove to be difficult, however. Efficient intra-department communication and understanding is vital considering how closely certain measures can potentially border on industrial espionage, a charge taken seriously in emerging pharmaceutical markets such as Asia and Africa.

With the generic market continuing to grow and the emerging bio-similar market threatening to rapidly expand on the back of support from Europe and the US, an effective competitive intelligence strategy can help to stabilize operations during what could prove to be a turbulent period for any pharmaceutical company.

Other benefits of a competitive intelligence strategy include the ability to forecast market shifts or competitor interests and the creation of a global intelligence network for use by the entire company. Such is the potential return on investment of an effective competitive intelligence function that these tools are now being implemented by some of the world's leading pharmaceutical companies, including Roche, AstraZeneca and GlaxoSmithKline.

The four dimensions are superior safety/efficacy, time, ease of patient use, and price. Each factor is important on its own, and each can lead to another.

Superior Safety and Efficacy refers to a drug that is best in class in its area. That means it has superior safety and efficacy profiles over competitor drug products. For example, in a phase 3 clinical study for advanced melanoma that compared two cancer immune therapies pembrolizumab and ipilimumab, the former was associated with higher response rate and

longer progression-free survival rate. A drug's superior efficacy and safety profiles can increase the number of times it is prescribed by physicians and adopted by patients.

Time is the industry's most commonly pursued dimension. Success here comes with being first in class or first to market. Bringing a drug first to market facilitates its adoption by patients without competition, drug pricing without competitive pricing considerations, and establishment of leadership position for an indication. With market exclusivity, a company can enjoy maximal profits, and it has flexibility to reduce drug price in case of later competition. But the time dimension can come with developmental challenges such as a lack of prior safety/efficacy data for a new class of drugs, additional regulatory requirements to demonstrate safety and efficacy, and the need to create a new market. Multiple examples illustrate this time dimension, including Lucentisranibizumab (from Genentech) for wet age-related macular degeneration and Mevacor lovastatin (from Merck) for lowering cholesterol.

Ease of patient use comprises all factors that can increase perceived and actual convenience to patients. Use of oral instead of injectable drugs reduces the need for physician administration and addresses patients' needle phobia. Gilenyafingolimod (from Novartis) and Tecfidera dimethyl fumarate (from Biogen) - oral drugs for multiple sclerosis - incorporated this dimension compared with Tysabrinatalizumab (from Biogen), an injectable multiple sclerosis drug. Self-administration by means of medical devices and fewer doses during a treatment period reduce physician visits and offer patient convenience. For example, insulin pens offer greater convenience to patients than insulin vials. Longer-lasting depot formulations reduce number of doses and physician visits, especially for drugs with short half-lives such as in case of Sandostatin versus Sandostatin LAR octreotide acetate (from Novartis). Fewer doses and fewer physician visits also can reduce total treatment cost, thus incorporating the price dimension.

Price dimension refers to a drug being priced lower than competitor drugs with similar safety and efficacy profiles. With significant increases in healthcare costs, companies face pressures on drug prices from the payers such as patients, insurance companies, and government agencies. Small differences in drug price compounded by large patient volume can lead to substantial benefits for payers. Some payers can negotiate exclusivity to one drug in exchange for lower drug prices.

Aspects of the ease of patient use dimension can contribute to the price dimension: e.g., fewer doses during a treatment period, self-administration instead of physician administration, and complexity of drug administration.

Testing the General Hypothesis

To establish the combined effect of the three constructs of TQM (i.e. continuous professional development, Continuous process improvement and customer-supplier relationship management) on competitive advantage, multiple correlation and regression analysis was run and the following is a discussion of the results.

Table 8.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.799 (a)	.638	.637	.19298
a. Predictors: (Constant), CPD, Continuous Process Improvement and CRM				

The model summary table indicates that there is strong positive relationship between continuous professional development, Continuous process improvement and customer-supplier relationship management and competitive advantage (R = 0.799). About 63.7% of the variation in competitive advantage is explained by total quality management, implying that 36.3% of the variation in competitive advantage is explained by factors that were out of the scope of this study.

Table 8.2: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	246.627	3	82.209	5533.721	.005[a]
	Residual	1.634	110	.015		
	Total	248.261	113			
a. Predictors: CPD, Continuous Process Improvement, CPD and CRM b. Dependent Variable: Competitive Advantage						

The ANOVA results indicate that there is a significant positive relationship between total quality management and competitive advantage ($F = 5533.721$, $P<0.005$). Therefore, the null hypothesis that there is no significant relationship between total quality management and competitive advantage is rejected and the alternative is accepted.

CHAPTER NINE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Introduction

This chapter presents the summary, conclusion and recommendations that have been drawn from the discussion of findings presented in chapters four through to eight.

Summary of Findings

The purpose of the study was to examine the relationship between Total Quality Management and Competitive Advantage in Pharmaceutical Industries in Uganda, focusing on Cipla Quality Chemical Industries Limited (CiplaQCIL) as a case study. The study was guided by three objectives: to establish how CiplaQCIL reviews and ensures continued professional development (CPD) and be aware of change in standards or current regulatory practices; to determine how CiplaQCIL has ensured that production and related processes are capable of consistently achieving pharmaceutical products of required quality that comply with their specifications and cGMP regulatory requirements; and to establish how CiplaQCIL has ensured that it works closely with its customers and suppliers to establish the highest quality standards. The study used the phenomenological research approach through the survey strategy. The study was longitudinal and explanatory in nature. The target population comprised of 200 potential respondents constituting of the staff of CiplaQCIL. Purposive and stratified random sampling was used to select a sample size of 114. Structured questionnaires and interviews were used to collect data from the respondents. Questionnaires were self-administered. Five-point Likert scale was used with 1= Strongly Disagree; 2= Disagree; 3= Neutral; 4= Agree and 5= Strongly Agree. The Statistical Package for Social Scientists (SPSS) software was used to summarize the data. Descriptive and inferential statistical methods were used to analyze data. The following is a summary of the results.

Continuous professional development and competitive advantage

The results showed that there is a significant positive relationship between continuous professional development and competitive advantage (r = 0.894). The actual contribution of continuous professional development to competitive advantage is about 79.8% (Adj. R Square = 0.798). The ANOVA results showed that there is significant linear relationship between continuous professional development and competitive advantage (F = 123.032, P< 0.005). This implies that the more of continuous professional development, the more of the competitive advantage that will be attained by the company. The regression model that relates continuous professional development and competitive advantage generated was: $Y = 0.077 + 1.359X_1$ (where: Y= Competitive advantage and X_1 = Continuous professional development). This implies that a unit increase in CPD would increase the level of competitive advantage by a factor of 1.359.

Continuous process improvement and competitive advantage

The results from the analysis indicate that there is a significant positive relationship between Continuous process improvement and competitive advantage (r = 0.796). The actual contribution of Continuous process improvement to competitive advantage is about 63.2% (Adj. R Square = 0.632). The ANOVA results show that there is significant linear relationship between Continuous process improvement and competitive advantage (F = 13506.663, P< 0.005). This implies that the more of Continuous process improvement, the more of the competitive advantage that will be attained by the company. The regression model that relates Continuous process improvement to competitive advantage generated was: $Y = 0.178 + 1.098X_2$ (where: Y= Competitive advantage and X_2 = Continuous process improvement). This implies that a unit increase in Continuous process improvement would increase the level of competitive advantage by a factor of 1.098.

Customer -supplier relationship management and competitive advantage

The model summary results indicated that there is a significant positive relationship between customer-supplier relationship management and competitive advantage (r = 0.862). The actual contribution of customer-supplier relationship management to competitive advantage is about 74.2% (Adj. R Square = 0.742). The ANOVA results showed that there is significant linear relationship between customer supplier relationship management and competitive advantage (F = 4534.312, P< 0.005). This implies that the more of customer-supplier relationship management, the more competitive advantage the firm will gain. The regression model that relates customer- supplier relationship management to competitive advantage generated was: $Y = 0.286 + 1.096X_3$ (where: Y= Competitive Advantage and X_3 = Customer-supplier relationship management).

Total quality management and Competitive Advantage

The model summary indicated that there is strong positive relationship between continuous professional development, Continuous process improvement and customer-supplier relationship management and competitive advantage (R = 0.799). About 63.7% of the variation in competitive advantage is explained by total quality management, implying that 36.3% of the variation in competitive advantage is explained by factors that were out of the scope of this study. The ANOVA results indicated that there is a significant positive linear relationship between total quality management and competitive advantage (F = 5533.721, P<0.005). Therefore, the null hypothesis that there is no significant relationship between total quality management and competitive advantage is rejected and the alternative was accepted.

Conclusions

Based on the survey results, the following conclusions have been drawn.

CPD accounts for about 79.8% of the variation in competitive advantage. This therefore, requires that CiplaQCIL engages in CPD activities to increase their competitive advantage. The results also indicated that there is a strong positive relationship between Continuous process improvement and competitive advantage and that Continuous process improvement accounts for about 63.2% of the variation in competitive advantage. The regression model indicates that a unit increase in Continuous process improvement would lead to an increase in competitive advantage by a factor of 1.098. This implies that investment in Continuous process improvement by the company will significantly contribute to the attainment of a better competitive advantage.

The findings indicate that there is a significant positive relationship between customer-supplier relationship management and competitive advantage and that customer-supplier relationship management explains about 74.2% of the variation in competitive advantage. The regression model indicates that a unit increase in customer-supplier relationship management would lead to an increase in competitive advantage by a factor of 1.096.

Based on the general hypothesis, it was concluded that there is strong positive relationship between continuous professional development, Continuous process improvement and customer-supplier relationship management and competitive advantage (R = 0.799). About 63.7% of the variation in competitive advantage is explained by total quality management, implying that 36.3% of the variation in competitive advantage is explained by factors that were out of the scope of this study.

Recommendations

The following recommendations are made based on the key study findings and are presented in line with the study objectives.

The management should fully implement the TQM practices to ensure quality management and delivery of goods and services to its customers.

Continuous professional development should be integrated across all the departments to guarantee a 360-degree performance within the industry.

The company should invest in process improvement to reduce the costs associated with delays and defects.

Customer-supplier relationships should be integrated with the operations of the company to build lasting and strategic relationships.

Areas for Further Study

Based on the limitations of the current study, further research can be conducted in the following areas:

1. Marketing strategy and competitive advantage.
2. Quality control practices and performance of pharmaceutical companies.
3. Market share strategies in the pharmaceutical industry in Uganda.

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APPENDIX I

SELF-ADMINISRTERED QUESTIONNAIRE

Dear Respondent,

I am a student undertaking a Master of Business Administration Degree at Nkumba University**.** As part of my study programme, I am carrying out a survey on the topic, **'Total quality management (TQM) and competitive advantage in the Pharmaceutical industry in Uganda: A case study of Quality Chemical Industries Limited'**

You have been selected as a respondent for this study as you are considered to be having information that is necessary for the successful completion of this research project. This is therefore, to request for your valuable time and cooperation to respond to the following questions by providing the most suitable answers to the best of your knowledge. Please be assured that the information you are about to provide will be treated with utmost confidentiality and will only be used for academic purposes.

Thank you for your cooperation.

Yours,

MURUNGI CHRISTIAN

STUDENT

SECTION A: DEMOGRAPHICS

1. Gender of respondents: a) Male ☐ b) Female ☐

2. Age group in years:

a) 20-29 ☐ b) 30-39 ☐ c) 40-49 ☐ d) 50 and above ☐

3. Highest level of education attained:

a) PhD ☐ b) Masters ☐ c) Degree ☐ d) Diploma ☐

e) Secondary ☐ f) Primary ☐ g) Others (Specify) ……

4. Duration you have served in Quality Chemicals Industries Limited:

a) Less than 1 year ☐ b) 1 – 4years ☐ c) 5-9 years ☐ d) 10years and above ☐

5. Department:

a) Quality Assurance ☐ b) Human Resource ☐ c) Finance ☐ d) Production ☐

e) Quality Control ☐

Please comment on the effect of Total Quality Management on competitive advantage under the following elements of TQM within QCIL. Put (✓) on the number that best represents your opinion. (Put (✓) in one box only). The following scale is applicable.

1= Strongly Disagree (SD); 2= Disagree (D); 3= Neutral (N); 4= Agree; and 5= Strongly Agree

SECTION B: INDEPENDENT VARIABLE: TOTAL QUALITY MANAGEMENT (TQM)

S.N	ITEMS	SD	D	N	A	SA
B1: Continuous professional development (CPD) and awareness of change in standards or current regulatory practices.						
7.	There is a commitment by QCIL to strategic Human Resource Management.					
8.	Organizational leaders take on the responsibility for developing quality oriented management systems.					
9.	There is employee involvement in all activities within the firm.					
10.	There is dedicated programme to employee education and training at the firm.					
11.	The firm has a key performance management approach dedicated to measuring employee performance.					
12.	The company has in place an employee recognition policy to recognize best performing employees.					
13.	Employee well-being is taken as a priority by the management of the firm.					
14.	Leaders listen and support employees and encourage them to					

	take part in deciding and managing total quality policies and plans					
15.	Leaders acknowledge and reward employees' contributions to bettering quality.					
16.	The management of the company is committed to boosting the morale of the employees as part of the TQM principles.					
17.	Leaders measure and review the effectiveness of organizational change and share the knowledge that is obtained.					
18.	Leaders interact with customers and keep in mind their contributions when designing goods and services.					
19.	Leaders always bear in mind stakeholder groups.					
20.	In human resource planning, the employee is considered an 'internal customer' who participates in policy, strategies and organizational structure.					
21.	Employees know that quality is their responsibility, and they are encouraged to meet customers' and the organization's objectives.					
22.	Continuous improvement is consistently fostered and facilitated.					
23.	Employees are given tailor-made preparation for their jobs and are qualified to solve quality problems.					
24.	Staff is continuously trained in the principles of quality, team work and job-specific skills.					
25.	Employees are actively involved in quality-related activities and the success of the company, and many of their suggestions are implemented.					

26.	Employees are responsible for quality and end results of the product/service. They can take decisions independently.					
27.	There are quality circles and/or interdepartmental teams to improve quality.					
28.	The company has effective two-way communication links with its employees.					
29.	The pay and promotion systems acknowledge efforts to improve quality.					
30.	Pay and acknowledgement systems are based on quality-related objectives and on company results.					
31.	Employees receive the right occupational health and safety training at work.					
B2: TQM and process improvement		**SD**	**D**	**N**	**A**	**SA**
32	There is a statistical process control that is utilized to optimize processes and systems					
33	The Statistical process control includes process capability studies					
34	The Statistical process control includes significant characteristic selection in the system					
35	The Statistical process control includes reports to top management for action on non-capable processes					
36	There are documented process instructions for manufacturing and non-manufacturing jobs					
37	Critical process parameters are regularly monitored by the quality department in the firm					

38	Critical and functional part characteristics are monitored and documented during processing					
39.	Processes are designed ensuring that skills and capacities are right for company needs.					
40.	All processes, procedures and products are assessed regularly in an attempt to bring in change and improvement.					
41.	Cost of quality reports are generated and provided to management					
42.	There is a system for problem identification and resolution that looks for root causes					
43.	There is a documented system to provide and control changes to product and product specifications and processing					
44.	Our clients' needs are passed on and are understood at all levels					
45.	Clients leave is thoroughly analyzed.					
46.	We use clients' complaints and grievances to improve our products.					
47.	Present relationships with clients are analyzed and regular attempts are made to improve them.					
48.	We strive to increase our level of commitment towards our clients via policies designed to encourage customer loyalty, guarantees.					
49.	We have close, long-term relationships with our supplies designed to resolve quality-related problems.					
50.	Our suppliers help to improve our products and/or services and also provide technical assistance.					

51.	The company is prepared to form alliances with partners and collaborator in the market in an attempt to achieve competitive advantage.					
52.	Work is organized around reducing and optimizing physical, economic and financial resources.					
53.	Our company makes ongoing efforts to keep their facilities clean and in order.					
54.	The company coordinates its strategies and it technological equipment, machinery and know-how.					
55.	Our company strives to improve operational efficiency by efficient use of technology.					
56.	Our company creates databases and files with the information it has in order to analyze and learn.					
57	There is updated quality-related data available to all members of the company.					
58	There are active programmes or plans to facilitate participation in Continuous Quality Improvement					
SECTION B3: Customer and Supplier Relationship Management		**SD**	**D**	**N**	**A**	**SA**
60.	Long-term customer satisfaction is laid down as the organization's mission and basic principle.					
61.	Leaders interact with customers and keep in mind their contributions when designing goods and services.					
62.	The company has a customer relationship management policy in place.					

63.	The company is committed to its customers as part of the requirements of TQM					
64.	The company routinely monitors and measures the level of satisfaction of its customers.					
65.	Customer satisfaction results are usually incorporated in new product design and production.					
66.	The company regularly makes comparisons of customer satisfaction results with those of key competitors.					
67.	Customer surveys are regularly conducted by the company to determine customer future requirements.					
68.	The company regularly surveys customers to determine their future expectations.					
69.	There is a documented system to address customer returns ensuring prompt response to corrective action inquires					
70	The vendors have a clearly defined and documented Quality Control function.					
72	The Quality Control function has a clear and documented authority to act on quality and non-quality issues through disposition of product.					
73	The Quality Control structure is oriented for prevention instead of Detection					
74.	There is a system to assure the quality of purchased materials.					
75.	There is a system that measures the effectiveness of the total quality systems through an evaluation of packaged, ready to ship					

	product.					
76	There is a system to assure product conformance to specifications at the initial setup phase of product manufacture.					
77	In the absence of Statistical Process Control, there is a system with documentation to verify that product conforms to specification prior to shipment					
78	There is a system which provides lot traceability through each process and includes traceability of all raw materials used during manufacture					
79	There is a system with supporting documentation that assures nonconforming product is removed from the normal process flow and clearly marked for disposition					
80	Inspection plans are documented and they include sample size; sample frequency; acceptance criteria; significant characteristics; and product disposition.					
81	Inspection plans are designed for zero defects.					
SECTION C: DEPENDENT VARIABLE: COMPETITIVE ADVANTAGE		**SD**	**D**	**N**	**A**	**SA**
82.	The company's sales have increased as a result of implementing TQM approach					
83.	The company's market share has increased over the years as a result of implementing TQM					
84	The company's profit has increased as a result of implementing TQM					
85.	There has been an improved quality of suppliers' goods as a					

	result of implementing TQM					
86.	The relationship with the suppliers is now better with the implementation of TQM					
87.	There is has been a significant improvement in delivery deadlines from suppliers as a result of implementing TQM					
89.	There is improved process efficiency in terms of fault medicines per total production as a result of implementing TQM					
90.	There is enhanced knowledge of the best way to handle processes through TQM					
91.	There is improved manufacturing time as a result of implementing TQM					
92.	There has been an improved customer delivery time as a result of implementing TQM.					
93.	There is more process flexibility within the company after the implementation of TQM.					
94	TQM has led to improved satisfaction of our clients.					
95	TQM has led to improved communication with our clients.					
96	TQM has led to a reduction in the number of customer complaints and grievances.					

Thank you for your cooperation.

APPENDIX II: INTERVIEW GUIDE

1. What is your understanding of the concept of total quality management (TQM)?
2. Using you description of the concept of TQM above, would you describe your company as implementing TQM?
3. If your company is not implementing TQM, what could be the possible reasons for this?

- high cost of implementation ( )
- lack of necessary expertise ( )
- lack of skilled workforce ( )
- the TQM concept is not clear ( )
- the size, of the company ( )
- the management is not convinced by TQM ( )

4. Does your company organize regular meetings involving all departments, sections and employees?
5. If the answer to the question is "no", is the reason they do not take part:

- decisions/instructions issued by senior management ( )
- reluctance of the departments/sections to take part ( )
- not necessary, as each department or section is aware of its own ( )
- responsibilities and obligations ( )
- don't know ( )
- Other (please specify).....

6. In your opinion, what importance does the company attach to team spirit?

- very important ( )
- fairly important ( )
- not very important ( )
- not convinced ( )

7. To what extent are the employees aware of its aims in your company?

- to a great extent ( )
- to a reasonable extent ( )
- to a limited extent ( )
- not sure ( )

8. Would you say that, in your company, management encourages its employees to take decisions on quality matters and to be involved in them?

- always ( )
- most of the time ( )
- sometimes ( )
- rarely ( )
- Other (please specify).....

9. Are explanations given to employees when there are changes to work policies or practices?

- Yes ( )
- No ( )

10. Does the company have to meet any conditions or specifications for production laid down by customers?

- Yes ( )
- No ( )

11. If the answer to the question is "yes", how does the company establish what the customer wants and requires?

- market research ( )
- feedback from sales representatives ( )
- cooperation between marketing, production, sales and other departments ( )

- past experience ( )
- Other (please specify) …….....

12. If the answer to the question is "no", please indicate the reasons.

……

……

……

13. Are there adequate production specifications available in the company?

- Yes ( )
- No ( )

14. If the answer to question 16 was "yes", are the products manufactured by the factory in compliance with any of these specifications?

- Yes ( )
- No ( )

15. Who is responsible for setting the specifications to which the products must conform?

- the marketing department ( )
- the research section of the marketing department ( )
- a specialized unit of the production department ( )
- factory engineers ( )
- foreign bodies ( )
- Other (please Specify)……. ……..

16. If the answer to question 16 was "no", what does the company rely on as a basis for manufacturing products with given specifications?

……

……

17. Do any foreign bodies or institutions provide the factory with specifications for the products which you manufacture?

- Yes ( )
- No ( )

18. If the answer to question 20 was "yes", please give the names of the bodies concerned:

……

……

……

19. Does the application of standard specifications pose difficulties in carrying out the work?

- Yes ( )
- No ( )

20. If the answer to question 22 was "yes", what, in your opinion, are the reasons for the difficulty in applying the specifications?

- the extreme precision of the specifications ( )
- lack of the necessary tools and measuring equipment ( )
- lack of skilled labour ( )
- the machinery available is not of the technological level required ( )
- the low quality of the raw materials and semi-finished materials ( )
- working conditions (heat - cold) make it impossible to achieve the desired quality ( )
- Other reasons (please specify)

.....

Thank you for your cooperation.