THE PROSPECTS OF TOTAL QUALITY MANAGEMENT
IN THE NIGERIA POWER SECTOR

BY

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DECLARATION

I hereby declare that this dissertation has been conducted solely by me under the supervision and guidance of Dr. U.J.F. Ewurum, Department of Management Studies, UNEC, and I have neither copied someone’s work nor has someone else done it for me. Authors whose works have been referred to in this work have been dully acknowledged.

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APPROVAL PAGE

This is to certify that, this thesis is an original work undertaken by Umar, Talatu Raiya of the Department of Management Studies and has been prepared in accordance with the rules and regulations governing the preparations and presentation of research thesis in University of Nigeria, Enugu Campus.

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DEDICATION

This thesis is dedicated to Almighty Allah.
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I am indeed very grateful to God Almighty for sparing, caring, leading and protecting me throughout my academic career in UNEC.

While conducting this research project I received support from many people in one way or another, without whose support, this thesis would not have been completed in its present form.

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I strongly believed that what I have learned during M.Sc study period, will be definitely profitable for the rest of my life. For this I am eternally grateful.

I especially thank Mr. H.N. Okoye, a classmate at UNEC for his help, without his help and assistance my life would have been more difficult.
ABSTRACT

The dynamic nature of changes in the environment has made organisations, big or small the world over, to turn to “quality” to help them cope with competitive challenges, as they affect tastes and aspirations of consumers. Most organisations have therefore adopted Total Quality Management (TQM) as a way of providing quality products and services to their customers. The Nigeria power sector has been associated with poor quality performance. Therefore, the research examined the prospects of TQM in Nigeria power sector. In a nutshell the research sets out to examine the prospects of TQM in PHCN in relation to the attitude of top management, its applicability in the Nigeria power sector. The survey and descriptive methods were adopted. Three hundred and twelve randomly selected personnel from a population of 1408 participated in the study, as well as four hundred customers were randomly selected from a population of 268,091. The instrument of data collection labeled Total Quality Management Applicability Inventory (TQMAI) was built on a Likert Scale system. Findings indicate that no difference exists between the PHCN staff and customers in their understanding of the relationship between top management support for quality and prospects of TQM. Also the study found that the culture of PHCN does not favour the application of TQM. The study confirms the need for cultural shift/change in order to facilitate the application of the tenets of TQM, and reaping of benefits they may accrue. Conclusively, the Nigeria power sector should initiate a company wide awareness of TQM through seminar and workshop.
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CHAPTER ONE
INTRODUCTION

1.1 BACKGROUND OF THE STUDY

The dynamic nature of changes in the environment, particularly as they affect the tastes and aspirations of consumers, underscore the need to respond effectively to challenges posed by the changes. On the account of deregulation of our economy, competition has become a major challenge which chief executives must meet effectively in order to remain in business. Most managers agree that if an organisation is to be successful, it must change continually in response to significant development, such as customer needs, technological breakthroughs and government regulations (Eke, 2001:44).

Globalization of market and operations forces organisations to think over their quality problems and in turn their overall organisational competitiveness. In order to be successful in this global market, organisations should dedicate themselves to improving productivity and quality in a timely and collaborative manner (Dobyns and Crawford, 1994:102).

Almaraz (1994:141) indicates that productivity and quality are integral components of organisational strategies. Designing and developing suitable
strategies, techniques, tools and models for improving productivity and quality have become an essential function of researchers and practitioners in a networked global economy. To this end, organisations have undergone numerous changes over the years in terms of implementing new operational strategies, methods and technologies.

In recent times, the concept of customer services has risen to the centre stage of modern business. As a result of this development, the management vocabulary is now replete with all kinds of technologies which are used to describe one and the same thing, customer service. Among these terminologies are customer satisfaction, customer care, customer relations, etc. (Nwosu, 1996:36).

To achieve world class customer service, Total Quality Management (TQM) techniques, supported by management commitment and good organisation will provide objective means of improving quality and hence the overall organisational competitiveness (Christopher, 1994:49).

Total quality management is among the new techniques which modern organisations now employ with very good result to secure and keep their customers permanently satisfied. It is therefore a way of managing to improve the effectiveness, efficiency, flexibility and competitiveness of a business as a whole (Christopher, 1994:23).
Benson and Savaph (1991:107) assert that TQM involves the whole organisation, getting organized in every department, in every activity with every single person at every level. This involves putting in place, process and system which will ensure that every aspect of its activity is aligned to satisfying customer needs and the organisation’s objectives. Thus for an organisation to be fully effective, every single part of it must work properly together because every person and every activity affect and in turn is affected by others.

Dobyns and Crawford (1994:94) expatiate further that TQM involves deep understanding of three basic components, namely; the system, the process and the philosophy from which the organisation is extracted.

The process here approximates to the necessary economic transformation from an underdeveloped economy to a modern industrial state. It also involves the uplifting of the basic quality of life of its people through modern processes of production. It involves still, the harnessing of the human and material resources for the goal of fitting into the system above.

The third component of TQM, the philosophy involves the identification of goals which have been partially addressed under the process as well as the means of attaining the goals.
Thus, TQM involves any attempt to improve quality at every phase of an organisation’s work whether it is on corporate plan initiation, implementation, personnel selection or customer satisfaction. Therefore, the ability to meet customer requirement is vital not only between two separate organisations but also within the same organisation.

Ryan (1998:68) argues that quality has to be managed, it will not just happen. Clearly it must involve everyone in the process and be applied throughout an organisation. Failure to meet the requirements in any part of the quality chains has a way of multiplying, as failure in one part of the system creates problems elsewhere leading to a cycle of yet more failures and more problems. The price of quality is the continued examination of the requirements and the ability to meet them. This will lead to a continuous improvement.

PROFILE OF POWER HOLDING COMPANY OF NIGERIA (PHCN)
Major energy product which has emerged from the development of Nigeria’s energy resources is electricity. Although at independence in 1960 the country inherited a rudimentary electric power generation and distribution system under the Electricity Corporation of Nigeria (ECN) and later changed to NEPA.
Nigeria’s Electricity Grid is being run on hydroelectric and thermal plants. The former are predominantly utilized in the northern part of Nigeria while the later which are fueled by petroleum appear to be largely favoured in the southern parts. The disadvantages of these approaches become evident in the harmattan seasons when the water level drops and in the chronic spate of fuel scarcity.

Nigeria has about 5,900 megawatts of installed electric generating capacity consisting of 3 hydro-based stations and 5 thermal power plants (Imoke, L.). Nigeria faces a serious energy crisis due to declining electricity generation from the power plants. Power outages are frequent and the power sector operates well below its capacity. NEPA is in charge of a sector which is grossly inefficient.

The previous Nigerian government set a 10,000MW target capacity for electricity generation by 2007 as a way of increasing power supply which has been epileptic over a long period.

When Chief Obasanjo administration came on board in May of 1999 one of the first tasks it undertook was to charge the then Minister of Power and Steel to put an end to power outages. The minister wasted no time in making some necessary changes in the composition of PHCN. PHCN was reconstituted
and new appointments were made bringing a team of specialists and technocrats to replace most of the politically appointed members of the management board. Yet the country recorded no significant improvement in its power sector. Indeed somewhat that the situation got more worse.

A new technical board directly answerable to Mr. President under the chairmanship of Senator Liyel Imoke was appointed in 2006 to oversee the administration of PHCN and its eventual privatization. An improvement is still yet to be seen.

On July, 1st 2006, NEPA was transformed to PHCN in line with the on-going government power sector reform programme.

The Nigeria Electricity Regulatory Commission (NERC) was thereby established under the Electric Power Sector Reforms Act 2005 to provide regulatory oversight in electricity sector. PHCN was set up to have a life span of one year after which successor companies owned by private operations would take over from the firm. But, however, exactly a year after the company was established and the exact date it was scheduled to cease to exist, nothing happened.

Part of the efforts to realize this ambition is the on-going power plants construction in different parts of the country. Ten power stations are in the
pipeline. They include the 414MW Geregu power station in Kogi State, 335MW Omotosho Gas Turbine Power Station in Ondo State, 335MW Papalanto Thermal Station in Ogun State, others include the Mambilla Station in Taraba State, a 250MW in Calabar, a 500MW plant in Eyaea, Edo State, a 270MW in Ikot Abasi, Akwa Ibom State, a 500MW in Sapele, Delta State and a 230MW plant in Omoku, River State. The existing power stations and their installed capacities are Egbin Thermal Station, Lagos (1320MW) Afam Thermal Station, Delta State (1020MW) Ijoro Thermal Plant, Lagos (40MW), Kainji Hydro Station, Niger State (760MW), Jebba Hydro Station, Niger State (578MW) and Shiroro Hydro, Niger State (600MW). But the actual power capacity currently generating in the country is presumed to be below 4000MW.

The country’s power generating potential is said to be the highest in Africa. This is attributed to her abundant natural resources (Imoke, Ibid). With natural gas reserve of about 188 trillion cubic feet, the country has enough associated gas potential to power the biggest thermal station in Africa. While other countries are busy encouraging investment in nuclear power in addition to the sources of energy, Nigeria is still struggling to exploit the areas other countries have left behind. South Africa for instance has hit a power generating capacity of 26,000MW and is planning to construct
additional 5,000MW by 2010. 4000MW is not enough for the country and the projected target of 10,000MW of electricity in 2009 might be hampered. There is still over dependence on the aged plants and obsolete equipment, and also the incessant vandalization of election cables nationwide.

1.2 THE STATEMENT OF THE PROBLEM

The role played by the power sector, as a vital input in the socio-economic and welfare development of any nation cannot be overestimated. Nigeria is blessed with abundant energy resources, but suffers from perennial energy crisis that has so far defied every solution.

Evidence abounds that poor quality culture has been the bane of management in Nigeria. This record contrasts sharply with empirical evidence from developed nations, where tremendous improvement has been recorded in almost all fields of human endeavour. Final delivery is still judged to fall below expectation in Nigeria and lack of customer focus has been given as the main reason for the suboptimal performance of many organisations. Many industries are said to believe in the concept of ‘sellers market’ which makes them start from the stand point that the customer has to look for them and not necessarily that managers look for the customer.

Nigeria faces a serious power crisis due to declining electricity generation from the power plants. Power outages are frequent and the power sector
operates well below its capacity. Despite efforts by government to end the country’s chronic electricity problems, an assured power supply is still a distant dream. Even though the country is endowed with huge power generating potentials, the country’s power supply is still abysmally low.

Given the deteriorating power supply and unsatisfactory performance of the power sector, there is a strong feeling that the pursuit of quality has not been given its rightful place in the organisational scheme of things. The persistent power problem has tended to disrupt productive activities, especially in the industrial sector, where effective operation of machinery and equipment is energy dependent. The situation has become so usual that when there is uninterrupted supply of power for say, one week, people become really amazed.

One is therefore compelled to ask, in this period of TQM, what are the prospects of TQM in the Nigeria power sector?

1.3 THE OBJECTIVES OF THE STUDY

This study is aimed at examining the prospects of Total Quality Management in Nigeria power sector. This project seeks ways by which the quality of service rendered by the power sector can be improved. The epileptic nature of electricity supply calls for serious management effort. To this end, the following specific objectives will be pursued:
1. To ascertain the level of awareness and readiness of the management of PHCN.

2. To examine the prospects of TQM in PHCN in relation to the attitude of top management.

3. To ascertain if the culture of PHCN will favour the application of TQM in the organisation.

4. To assess the effect of environmental factors on the application of TQM in PHCN.

1.4 RESEARCH HYPOTHESES

In order to provide focus for the study, the following hypotheses have been proposed to guide the researcher in the pursuit of the objectives of the study.

1. There is a significant difference between the extent to which employees are ready and the swiftness for adoption of TQM.

2. There is a positive relationship between top management support for quality and prospects of TQM in PHCN.

3. There is positive relationship between the culture of PHCN and the application of TQM.

4. External environmental factors exert positive influence on the application of TQM.
1.5 SCOPE OF THE STUDY

This research work is confined to the prospects of Total Quality Management in the Nigeria power sector, a study of PHCN Kaduna Zonal Office, as a management paradigm based on the principles of total customer satisfaction, employee involvement, and continuous improvement in Nigeria power sector.

In a nutshell, emphasis was focus on TQM, as a concept that holds that, no matter how well you are already doing you can always do better.

1.6 LIMITATION OF THE STUDY

There is no doubt that researchers experience some difficulties in the course of undertaking a research. It is noteworthy to mention that the researcher encountered some difficulties, among which included bureaucratic bottlenecks in the administrative procedures of the case study, obtaining all the necessary information needed in producing a comprehensive research work was not an easy task.

Also the process of going through some records to obtain data was very tedious and herculean task as some materials needed were labeled “Top Secret”. Cooperation from the staff of the case study limited the research to some vital documents and information, necessary to support this study.
were withheld as either confidential matter or the uncertainty of the information.

1.7 SIGNIFICANCE OF THE STUDY

The study is important because it will make tremendous contribution towards improving the power sector.

It is in the light of the aforementioned that it becomes paramount to carry out this study because it will help in determining the prospects of TQM in the Nigeria power sector. This will in no small measure, increase performance in terms of profitability and customer satisfaction and thus contribute to knowledge in the field of quality management.

It is hoped that this study will serve as an avenue to managers of PHCN to have a better understanding on ways of handling the power sector for better economic development which will invariably lead to customer satisfaction.

The study will also be of immense significance to managers and future researchers who may wish to probe further on the topic.

1.8 DEFINITION OF TERMS

Deregulation Economics: This refers to those economies whose political superstructure is based on capitalist ideology.
TQM: This is an abbreviation for Total Quality Management

**TQM Principles:** This refers to doing things right the first time, be customer-centered, build term work and staff empowerment.

**PIMS:** This is defined as the Profit Impact of Market Strategy, one of the first solid pieces of evidence linking TQM.

**NERC:** This is an abbreviation for Nigeria Electricity Regulatory Commission, which was established under the Electric Power Sector Reforms Act of 2005.

**PHCN:** This is acronym for Power Holding Company of Nigeria.

**ZEST:** This refers to good service delivery as the special emotional plus that keeps the customer coming back time and time again.
REFERENCES


CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 INTRODUCTION

The chapter deals with the review of related literature which has to do with the conceptual and theoretical considerations, relating to the problem under investigation.

Major ideas of this chapter are presented under the following sub-headings: An Overview of Total Quality Management (TQM); TQM: Evolution, Concepts and Prospects; the Traditional Concept of Quality; Determinants of Service Quality; TQM Concept of Quality and Service; TQM concept of Quality and Customer Satisfaction; Organisational Culture and the Applicability of TQM in the Nigeria Power Sector; Influence of Environmental Factors on Electric Power Sector; and Summary of Related Literature.

2.2 AN OVERVIEW OF TOTAL QUALITY MANAGEMENT (TQM)

To have an understanding of the concept, we need to define the component words. The word ‘total’ according to Macdonald (1993:6) and Kermally (1996:41) means that everyone in the organisation, all process systems, levels of management and employees must be involved in satisfying the customer.
The word ‘quality’ on the other hand means so many things to so many people. In the words of Garvin (1988:11), quality is an unusually slippery concept easy to visualize and yet exasperatedly difficult to define. According to Wilkinson et al. (1998:8), quality include conformance to standards, fitness to use, excellence, meeting or exceeding customer expectations right first time, customer satisfaction.

Similarly, the word ‘management’ according to Macdonald (1993:6) recognizes that TQM is not an accidental phenomenon of an organisation’s activities. It is a managed process which involves systems and supporting tools and techniques. It also implies that continuous quality improvement must be planned, measured and controlled.

Designing and developing suitable strategies, techniques, tools and models for improving productivity and quality have become an essential function of researchers and practitioners in a networked global economy. Quality management has become an important part of management culture. To this end, organisations have undergone numerous changes over the years in terms of implementing new operation strategies, methods and technologies. The general pattern of relationship shows that TQM is contributing to company outcomes, especially to direct performance outcomes. This assertion is supported by the finding that the amount of coverage by TQM
practices is strongly related to company performance (Lawler et al, 1995:78).

According to Robert (2003:411), the definitions of TQM are many and varied today. However, for our present purposes, TQM is defined as creating an organisational culture committed to the continuous improvement of skills, teamwork, process product service, quality and customer satisfaction. Therefore, the application of Total Quality Management (TQM) as a management philosophy and company practice that is aimed at harnessing the human and material resources of an organisation in the most effective way in order to achieve the objectives of the organisation cannot be overemphasized.

Easton and Jarrell (1999:82) argue that, the motivation for quality improvement comes from conscious awareness shared by all members of an organisation that every process can be done more effectively giving increased value and satisfaction to customers and more efficiently, with less waste and resource consumption.

This increase in effectiveness and efficiency benefit customers, the organisation and its members, and the society in general. The rate of price may be a critical factor for patronage but another factor is the quality of the
service. Infact quality is often the major issue because poor quality can lead to erosion of goodwill. TQM is among the new techniques which when employed can keep customers permanently satisfied (Martin, 1993:68).

Total Quality Management (TQM) is an integrated management philosophy that is supported by a coherent set of principles and practices (Dean and Bowen, 1994:25).

The core principles of TQM include customer focus, process of orientation and treating the organisation as a total system. The goals of satisfying customers are fundamental to TQM and are expressed by organisational emphasis on the design and delivery of products/services that fulfill customer needs. Process orientation stresses that quality processes are a necessary prerequisite for delivery quality products/services, that customer needs (Demming, 1986:13).

TQM can be seen as a change in management style that aims to continuously increase value to customers by designing and continuously improving organisational processes and systems. For Dahlgaard et al (1998:19), TQM is a corporate culture characterized by increased customer satisfaction through continuous improvements in which employees in the firm actively participates.
Iornum (1998:127) defines TQM as “the continuous improvement of individuals, groups, departments and of organisational processes focused on meeting customer requirements first time and always”. Ciampa (1992:41) sees it as “the state of an organisation in which all the activities of all functions are designed and carried out in such a way that all external customer requirements are met while reducing internal tune and cost and enhancing the workplace climate”. Gilbert (1992:9) gives a quantitative definition of TQM as “a process designed to focus on customer expectations, preventing problems, building commitment to quality in the workplace and promoting open decision making”.

Dean and Bowen (1994:29) note that TQM principles are supported by a set of practices; these practices emphasize among other things, creating a quality vision, implementing policies and structure, supporting the quality vision, engaging the continuous process, improvement, promoting teamwork and cooperation among employees and fostering participation of key external agents.

Weihrich and Koontz (1994:650) see TQM as an “organisation’s long term commitment to the continuous improvement of quality throughout the organisation, and with the active participation of all members at all levels to meet and exceed customer’s expectation.”
2.3  **TQM: EVOLUTION AND CONCEPTS**

Total Quality Management (TQM) refers to management methods used to enhance quality and productivity in organisations, it is a comprehensive system approach that works horizontally across an organisation, involving all departments and employees, and extending backward and forward to include both suppliers and customers/clients. It is only one of the many acronyms used to label management systems that focus on quality. Other acronyms that have been used to describe similar quality management philosophies and programs include Continuous Quality Improvement (CQI), Statistical Quality Control (SQC), Quality Function Deployment (QFD), Quality in Daily Work (QDW), Total Quality Control (TQC), etc. Like many of these other systems, TQM provides a framework for implementing effective quality and productivity initiatives that can increase the profitability and competitiveness of organisations.

2.3.1  **EVOLUTION OF TQM**

Although, TQM techniques were adopted prior to World War II by a number of organisations, the creation of the Total Quality Management philosophy is generally attributed to Dr. W. Edwards Deming. In the late 1920s, while working as a summer employee at Western Electric Company in Chicago, he found worker motivation systems to be degrading and economically
unproductive; incentives were tied directly to quantity of output, and inefficient post-production inspection systems were used to find flawed goods.

Deming teamed up in the 1930s with Walter A. Shewhart, whose work convinced Deming that statistical control techniques could be used to supplant traditional management methods. Using Shewhart’s theories, Deming devised a statistically controlled management process that provided managers with a means of determining when to intervene in an industrial process and when to leave it alone. Deming got a chance to put Shewhart’s-quality-control techniques, as well as his own management philosophies, to the test during World War II. Government managers found that his techniques could be easily taught to engineers and workers, and then quickly implemented in over-burdened war production plants.

One of Deming’s clients, the U.S. State Department, sent him to Japan in 1947 as part of a national effort to revitalize the war-devastated Japanese economy. It was in Japan that Deming found an enthusiastic reception for his management ideas. Deming introduced his statistical process control, or statistical quality control, programmes into Japan’s ailing manufacturing sector. Those techniques are credited with instilling a dedication to quality
and productivity in the Japanese industrial and service sectors that allowed the country to become a dominant force in the global economy by the 1980s.

While Japan’s industrial sector embarked on a quality initiative during the middle 1900s, most American companies continued to produce mass quantities of goods using traditional management techniques. America prospered, while war-ravaged European countries looked to the United States for manufactured goods. In addition, a domestic population boomed resulted in surging for U.S. markets. But by the 1970s, some American industries had come to be regarded as inferior to their Asian and European competitors. As a result of increasing economic globalization during the 1980s, made possible in part by advanced information technologies, the U.S. manufacturing sector fell prey to more competitive producers, particularly in Japan.

In response to massive market share gains achieved by Japanese companies during the late 1970s and 1980s, U.S. producers scrambled to adopt quality and productivity techniques that might restore their competitiveness. Indeed, Deming’s philosophies and systems were finally recognized in the United States, and Deming himself became a highly-sought-after lecturer and author. The “Deming Management Method” became the model for many American corporations eager to improve, and Total Quality Management,
the phrase applied to quality initiatives proffered by Deming and other management scholars, became a staple of American enterprise by the late 1980s. By the early 1990s, the U.S. manufacturing sector had achieved marked gains in quality and productivity.

TQM evolved from the concepts of quality control. During earlier times quality was determined by the time spent in training to instill pride in the workers for quality products. These conditions are the actual use and the selling price of the product. Feiganbaum (1961:39) sees control, on the other hand, as a management tool with four steps namely: setting quality standards, appraising conformance to these standards, acting when the standards are exceeded, and planning for improvements in the standards.

The underlying principle of this total quality view and its basic difference from all other concepts is that, to provide genuine effectiveness, control must start the design of the product or service and end only when the product of service has been placed in the hands of the customer who remains satisfied.

TQC evolved within a half century period. In its evolution there have been five stages, each generally taken a 20 year period from inception to realization. Within these steps are highlights of events and the key players
who have contributed significant benchmarks in the total quality management movement. Figure 1 illustrates the five stages in the evolution of quality control.

Source: The Evolution of Quality Control: Armand Feiganbaum (1961:85)

Operator Quality Control

One worker, or few workers were responsible for the manufacture of the entire product, hence, each worker could totally control the quality of his work. This was innate in the manufacturing process up to the end of the nineteenth century.

Foreman Quality Control

The specialization of labour during the Industrial Revolution resulted in the decline of workmanship. Since the worker made only a portion of the whole product and most products were made from non-standardized materials using non-standardized methods quality was greatly affected. Productivity
increased and cost decreased, however, lower customer expectations. It became necessary to inspect products after manufacture. Inspection by the purchaser was the most common form of quality control. Many workers performing a similar task were grouped together so that they could be supervised by a foreman, who then assumed responsibilities for the quality of their work.

A statistical chart for the control of product variable was developed by Dr. Waiter A Shewhart of Bell Telephone Laboratories in 1924. This chart became the start of more structured quality control. Later on during the century, Frederick Taylor developed his system of scientific management which productivity at the expense of quality.

**Inspection Quality Control**

Centralised inspection departments were organized to check for quality at the end of the production line. At its peak in 1928, the Hawthorne Works at Western Electric Company employed 40,000 persons in the manufacturing plant, 5,200 were in the inspection department. Visual inspection or testing of the product was employed to detect manufacturing problems. Large numbers of workers doing more complex tasks reported to a production foreman, an inspector. Full time inspectors of large inspection organisations ensure quality control.
Statistical Quality Control

The quality for man’s production necessitated the expansion of the inspection phase and big inspection organisations more efficient. A few statistical tools such as sampling and control charts were made available to inspectors doing shop-floor inspection job.

A substitute for 100% inspection, statistical quality control, was developed by HF Dodge and HG Romig, both of Bell Telephone laboratories later in the same century. There was a recognition of the value of statistical quality control in 1942. Its value, however, failed to be recognized by the US managers.

In 1946, the American Society for Quality Control was organized. The organisation promoted the use of quality control for all types of production and service through its publication, conferences and training sessions.

Total Quality Control

A total quality control approach was espoused by Armand Feiganbaum (1961:4). He promoted a system for integrating efforts to develop, maintain, and improve quality by the various groups in an organisation. To do otherwise would be to inspect for control quality after the fact rather than build it in an earlier stage of the process. He further defines total quality
control as an effective system for integrating the quality-development, quality maintenance, and quality improvement efforts of the various groups in an organisation so as to enable production and service at the most economical levels which allow for full customer satisfaction.

For quality improvement the first quality circles were formed in the 1960s. Simple statistical techniques were learned and utilized by Japanese workers.

**Total Quality Management**

US managers made frequent trips to Japan in the late 1970s and early 1980s and a quality renaissance began to occur in US products and services and by the middle of 1980 the concepts of TQM were being publicized.

Statistical Process Control (SPC) was emphasized in the automotive industry in the late 1980s. Industries and the US Department of Defense also implemented SPC. The Malcolm Baldrige National Quality Award was established and became the tool to measure TQM.

A resurgence of design of experiments as a valuable quality improvement tool took place when Genechi Taguchi introduced his concepts of parameter and tolerance design.

Continued emphasis on quality invaded the auto industry in the 1990s when the Saturn automobile ranked third in customer satisfaction behind two most
expensive Japanese cars. ISO 9000 became the worldwide model for quality system.

2.3.2 THE CONCEPTS OF TQM

Quality has evolved as the managerial essential and inescapable thing of the times. Almost every professional or trade journal includes an aphorism like ‘quality counts’ or ‘the key to survival is quality’ (Creech, 1994:52).

It has been discussed earlier that quality was a serious issue in the olden times. Obsession with quality may be explained by the meagerness of resources. Then, starvation became an actuality and handcrafted goods have become extremely costly.

Today, we are all victims of quality failures one way or another, such as malfunctioning of electricity facilities, leaking roof, premature expiration of goods, etc. The losses incurred as a result of quality failure is usually of greater proportion than the actual value of the imperfect item.

Organisations everywhere are increasingly and invariably aware of the competitive capability of quality. Many social services must now compete for work in a way not conceivable about a decade ago Jablonski (1992:94) believes that today, rivalry focuses not on price but quality. Such is the climate that today, ever-higher standards are demanded in the face of
decreased or decreasing resources and amidst the impact of modernization and globalization. This situation calls for not merely quality but beyond quality. Something like taking quality as a means to an end, where end is continued viability. What is referred now is known as Total Quality Management is a new management approach.

A great deal of attention has been given in recent years to the TQM process as an important quality and productivity improvement strategy. With TQM concepts, companies have learned that quality improvement truly goes beyond the product or service specifications required by the customer (Depew, 1994).

Total Quality Management is a management approach that originated in the 1950’s and has steadily become more popular since the early 1980’s. George (2002:32) opines that Total quality is a description of the culture, attitude and organisation of a company that strives to provide customers with products and services that satisfy their needs. The culture requires quality in all aspects of the company’s operations, with processes being done right the first time and defects and waste eradicated from operations.

Cole (1999:12) considers Total Quality Management as a method by which management and employees carry continuous improvement of the
production of goods and services. It is a combination of all tools aimed at increasing business and reducing losses due to wasteful practices.

Similarly, Teck and Tobia (2000:49) believe that TQM is a comprehensive system of satisfying the customer continuously whose philosophy is based on total integration of the business to achieve the desired result. The goal is to achieve greater efficiency and effectiveness, lower operating costs and increased market share.

TQM practices focus on satisfying of customer needs, this means making the needs of the customer a priority, expanding the relationship beyond traditional services and incorporating customer’s needs in the company’s business planned corporate strategies (Jeffrey, 2001:62).

According to Bernard and Roberts (1993:54) TQM is seen as a people focused management system that aims at continual increase in customer satisfaction at continually lower real cost.

Martin (1993:68) assert that TQM is a management philosophy that seeks to interpret all organisational functions (manufacturing, engineering and production, customer service etc.) to focus on meeting customer needs. This means that TQM views an organisation as a collection of processes. It maintains that organisations improve these processes by incorporating the
knowledge and experiences of worker. TQM is “Do the right things, right the first time, every time”.

Benson and Savaph (1991:71) believe that TQM is mainly concerned with continuous improvement in all work from high level strategy to detailed execution of work elements on the shop floor. It stems from the belief that mistakes can be avoided and defects can be prevented. It leads to continuously improving results, in all aspects of continuously improving capabilities, people, processes, technology.

Hendricks and Singhal (1997:1258) stress that the central principle of TQM is that, mistakes may be made by people, but most of them are caused by faulty systems and processes. This means that the root cause of such mistakes eliminated, and repetition can be prevented by changing the process. Thus, there are three major mechanisms of prevention.

i. preventing mistakes (defects) from occurring (mistake-proofing or poka-yoke).

ii. where mistakes cannot be absolutely prevented, detecting them early (inspection at source or by the next operation).

iii. where mistakes occur, stopping production until the process can be corrected (stop in time).
TQM can be seen as an organisation’s approach in supply, customer focus, product and service quality management style, process management and organisational culture to achieve the common value and achievement of quality (Ismaila; 2004:74). This view is also shared by Charles (1998:123).

To top management, TQM means improving the internal financial and operational management of the company, thereby satisfying the needs of all shareholders. TQM means changing the way of the people do things so as to minimize the potential for error and or defects. The TQM approach uses the statistical approach to find problems that cause errors or defect.

Badiru and Ayeni (1999:18) emphasize that the business customer integration requires that business look out for the customer while the customer looks out for the survival of the business. Because if there is no business, there will be no product, if there is no product, customer needs cannot be met. If the customers are satisfied, they will be more willing to embrace the products offered by the business thereby creating profit potential for the business.

TQM views the organisation as a collection of processes, in fact the customer is regarded as the ultimate judge of quality.
2.3.3 PROSPECTS OF TQM

Change has become a management by-word today as the key to survival of any service based organisation. PHCN not only should manage change, but will have to cope and lead change if it were to survive and be responsive for the development of quality workforce. There are many factors to be taken into account in shifting the approach of managing PHCN, Kaduna distribution zone from its traditional orientation into TQM managed organisations. Some of the more important factors are:

★ it is important to view organisations as open and dynamic systems.
★ TQM managed organisations are learning organisations
★ TQM combines and makes used of many management approaches.

Buzzell and Gale (1990:36) stress that “in nearly all cases, companies that used Total Quality Management practices achieved better employee relations, higher productivity, greater customer satisfaction, increased market share and improved profitability”.

This view is also shared by the GAO (United States General Accounting Office) (1993:52) researchers, who identified six common features contributing to improved performance that appeared consistently among the companies quality efforts: customer focus, management leadership, employee
involvement, open corporate culture, fact-based decision making and partnership with suppliers.

When you consider applying the philosophy and concept of TQM in PHCN Plc., it is good to think of the following that are likely to affect the quality of performance:

1. high moral values,
2. good teamwork, etc.

Taking a look at the succeeding list of some factors (which by no means is a comprehensive one) below shows that there is a considerable scope of improving quality of service under each item and hence shows the great prospect of TQM in the management of the PHCN Plc. Thus, the six elements identified as crucial to successful TQM implementation are:

a. **Quality of Personnel**: The degrees of personnel employed by the organisation will go a long way to determining the impact of TQM application. If the quality is high, there is the probability that they will quickly grasp the training in TQM and vice versa.

b. **Computerization**: This is to said to hasten the processing of data and transactions. Computerization engenders fast service time.

c. **Attitude to Work by Employees**: The attitudes to work by employees also go a long way to influencing the TQM implementation. If the
attitudes of the workers are negative, it is not likely that the TQM will be successfully implemented.

d. **Awareness of Organisation Objectives**: If the employees are aware of organisation’s objectives they will work towards achieving the objectives. But a situation, where the objectives are not communicated to the employees, the employees will only believe that whatever they are doing is the right thing.

e. **The Level of Motivation**: This factor is about reward compensation for hard work and promotion as the case may be. The higher the level of motivation, the greater the commitment of the employees.

f. **Participation and Involvement in Decision Making**: This refers to the extent to which jobs are delegated to the employees.

2.4 **THE TRADITIONAL CONCEPT OF QUALITY**

There is the need to differentiate between the traditional concept of quality and the TQM concept of quality.

The traditional concept of quality makes quality a function of the attributes of the product or service, for example, a quality product/service is one that meets all the specifications laid down by the provider of the product/service. Within this conception of quality, there is the implied relationship between
quality and costs (in short by implication is that the higher the quality, the higher is the cost of product/service).

Nonetheless, Robson (2000:43) define quality as “meeting the agreed requirements of the customer, now and in the future”. Adedeji and Basiru (1989:12) provide the following systems-oriented definition of quality:

> Quality refers to an equilibrium level of functionality possessed by a product or service based on the product’s capability and the customers need.

Quality for a product or service has two aspects (Wakhlu, 1995:63). The first relates to the features and attributes of the product or service. These ensure that the product meets the needs of its users. The second aspect concerns the absence of deficiencies in the product. The users of products (customers) are satisfied by a product only if it meets their expectations through these attributes.

Organisations owe their success to good service quality. Companies that differentiate on the basis of service, can ask higher prices for comparative products or services and achieve superior profit margins. These same companies are more resistant in economic down turns and experience greater growth in economic boom periods (Horovits and Panak, 2002:102).

It is an attractive option because unlike most strategies, a strategy based on excellent service quality is nearly impossible to imitate or duplicate. Service
quality converts a company from a anonymous object into a familiar face (Horovitz and Panak, 2002:120).

A good service company has a personality in its customers’ eyes, and every good services company has a personality which is unique and different from any other. Most customers who have already experienced and service with a company will not want to take the risk of experiencing bad service with a new company. Customers will always be willing to pay a slightly superior price for a guarantee of good service.

It is hard to achieve service quality. This is because service is complex and multidimensional. According to (Horovitz and Panak, 2002:128), selling a service means not only selling a commitment to do something, it also means selling the way in which it is done. Thus, the service quality battle is fought on two fronts – decision and delivery. In order to be a service leader, companies must do both well.

Customers generally have expectation on a number of aspects of the service. An organisation should adjust or fine-tune its service to match its customer expectations. If a company says that it provides “perfectly customized service, then that is what its customers expect to receive – to the better” (Horovits and Panak; 2002:69).
Panak and Horovitz (2002:87), further stress that Woe betide the company that promises that it cannot or does not intend to provide besides losing the customer, it gives him a wonderful opportunity to tell others how he was misled. Studies show that, on average, a customer will tell eleven people about a bad service experience.

Customer expectations must not only be met in service design, but also in service delivery. Providing well-delivered service means being able to ensure that the service package is provided without fault, wherever and whenever the customers comes into contact with the company. This is referred to as a zero-default service.

Good service delivery also means creating an environment in which the customer will experience a positive ‘fit’ with the company – the special emotional plus that keeps him coming back time and time again. This is referred to as service zest.

Zero-default concerns the consistency of the service. Customers expect consistency in three ways, namely:

a. between visits;

b. between different geographical locations; and

c. between employees.
Consistency in service between visits primarily involves influencing the behaviour of employees. Consistency between locations involves not only influencing employees’ behaviour, but also ensuring that the company and its products or services are presented in the same manner.

Consistency in service between locations also means ensuring that the same advantages are offered in each location. While managing for zero-default service involves the standardization of behaviour and practices, managing for service zest involve the development of employee creativity and independence. Employees who offer customers ZEST in service are confident, competent, motivated and people-oriented.

Confidence and competence go hand-in-hand. Employees are confident because they know their jobs and they are prepared to handle any situation that might be presented to them. Confident employees mean reassured customers. The fact is that customers want to be reassured. Customers do not want to worry that what they are buying is substandard or unreliable. Contact with a confident and seemingly competent employee reduces the insecurity of the purchase.

Zest service also means having motivated employees. Motivated employees increase the pleasure of purchase. The positive energy which they generate
can make a purchase become an adventure or a novelty for the customer. The emotional attainment which customers develop for certain companies, and which keeps them loyal, comes from such employees.

Motivated employees are also more ready to respond to customers and will make greater efforts to ensure that they are truly satisfied. The competent but non-motivated employee may be perfectly able to resolve the customers’ problem, but will not execute it with the same enthusiasm as will motivate employee. Motivated employees means employees who are prepared to take special initiatives to give customers a service plus.

2.5 DETERMINANTS OF SERVICE QUALITY

Customers use basically similar criteria regardless of the type of service. The criteria are:

Access: This refers to the receptiveness of the service provider to the customer requests, the service is easy to access in convenient locations at convenient times with little waiting.

Courtesy: The employees are friendly, respectful, polite, considerate, empathetic.

Communication: This refers to the ability to listen to the customer, keep the customer informed, describe the service accurately in the customer’s language, and accept customer feedback.
Competence: This refers to the adequacy of skills and knowledge required to deliver service by employees.

Credibility: The company and employees are honest, trustworthy and have the customers’ best interest at heart.

Reliability: This deals with the consistency, accuracy, and dependability of services.

Responsiveness: The employees respond quickly, willingly, promptly and creatively to customers’ request and problems. Responsiveness encompasses timeliness.

Understanding (comprehension): The readiness of the service provider and all employees to know the customer, understand the customers’ needs, and provide the individual attention.

Security: The service is free from danger, risk or doubt.

Tangibles (Tools): This deals with the appearance of physical facilities, equipment, personnel and communication materials.

2.6 TQM CONCEPT OF QUALITY AND SERVICE

Robson (2000), views TQM concept of quality as consistently providing goods and services in a way that fully means or even exceeds the needs/expectations of the customer. This view of quality is radically different from the traditional view on the following grand:
it is customer centered. It means that quality is not quality if it does not meet the needs of the customer as defined by the customer.

customer expectations/needs in a product or service can be precisely defined or measured. Indeed, from the point of view, if the expectation/need is not precisely measured/defined, then it is not quality.

Service is any act or performance that one party can offer to another that is essentially intangible and does not result in the ownership of anything, (Kotler, 1988). The concept of service differs from a product based on the following held perceptions:

sales, production and consumption of a service take place almost simultaneously,

a service cannot be demonstrated, nor can a sample be sent for customer approval or tried in advance of purchase. The provider can explain, promise, and tell how the service has benefited others but the service does not exist for the prospective customer,

a service cannot be centrally produced, inspected, stockpiled or warehoused. It is usually delivered to wherever the customer is, by people who are beyond the immediate influence of management,

the person receiving the service generally owns nothing tangible once the service has been delivered. The value is frequently internal to the customer,
a service is frequently an experience that cannot be shared, passed
ground or given away to someone else once it is delivered,
the more people are involved in the deliver of the service the less
likely it is the receiver will be satisfied,
the receiver of the service frequently has a critical role to perform in
the actualization of the service. The customers then have to know their
role in the delivery process,
delivery of the service usually requires some form of human contact.
Receiver and deliverer frequently come into contact in some relatively
personal way,
the receivers’ expectations are critical to their satisfaction with the
service. What they get compared or contrasted to what they expect to
get determines satisfaction, and
exerting quality control over a service requires monitoring of
processes and attitudes.

2.7 TQM CONCEPT OF QUALITY AND CUSTOMER SATISFACTION
The quality concept has been expanded and evolved from the product-
oriented one which can satisfy the customer’s needs and expectations. TQM,
as an important source of the quality competition, especially is a tool for the
firm’s growth in the long run. TQM is a strategic tool for the growth of the firm in the long run.

Customer satisfaction is the driving force that propels organisation existence (Oaklan, 1995:20). In considering the extent of customer satisfaction in Total Quality Practice the US Department of Commerce in a 1993 Quality Award Criteria examined organisations relationship with customers and knowledge of customer requirements and of the key quality factors that drive marketplace competition. They inferred that an understanding of customer requirements derives from thoroughness and objectivity of the organisation, customer types and service features.

Other key excellence indications for customer satisfaction, according to Ross (1955:211) are a resolution by management to empower frontline staff, strategic infrastructure support for frontline employees and attention to living, training, attitude, and morale for frontline employees. Ross is of the view that these activities will help employees relate to customers in highly professional manners and also provide services that will satisfy their requirements.

Unruh (1996:2) opines that even if an organisation is not focused on its customer, its competitors are. And the customers know where to find those
competitors. He also believes that “the customer focus is not a one-time programme. It requires a permanent ongoing commitment of all organisational resources”.

For an organisation to achieve success in any customer focus initiative, it is crucial that it has an understanding of customers. Unruh (1996:39) believes that customer needs and values should influence every aspect of the organisation.

The focus on customer satisfaction applies to internal customer as much as it applies to external customers. Ross (1995:208) defines internal customers as “the people, the activities and the functions within the company that are the customers of other people, activities and functions”.

According to Dahlgaard et al (1998:20) “before you can satisfy external customers, however, you must first eliminate some of the obstacles to the internal customers (employees) and create the conditions necessary for them to produce and deliver quality. What they are saying is that it will be difficult if not impossible to meet and exceed the expectations of the external customers if quality is not delivered to internal customers.

Myoung et al (2000:137) assert that TQM focuses on customer-oriented approach so as to pursue strategically the continuous improvement of the
results from all process. There are various models that have been developed to evaluate customer’s judgement about service experience.

2.8 ORGANISATIONAL CULTURE AND THE APPLICABILITY OF TQM

The themes of customer-focus, horizontal process management and continuous improvement have become central to the values and culture of Total Quality Organisations. Ross (1995:40) sees culture as “the pattern of shared believes and values that provides members of an organisation rules of behaviour or accepted norms for conducting operations.

What Ross is saying here is that organisational culture describes the best qualities and values that characterize the ideal behaviour of a Total Quality Organisation including the interaction of employees with one another and with customers. In the words of Kilmar et al (1986:89), culture is “the philosophies, ideologies, value, assumptions, beliefs, expectations attitudes and norms that knit an organisation together and are shared by employees.

Organisational culture includes the beliefs and attitudes of people about the way things are being done, how work should be organized, assessed and rewarded and the way people think and feel about the organisations they work for (Cluther buck et al, 1993:80).
Oakland (1995:22) states that the culture within an organisation is formed by a number of components:

i. behaviour based on people interactions;

ii. norms resulting from working groups;

iii. dominant values adopted by the organisation;

iv. rules of the game for getting on; and

v. the climate.

He then defines culture “as the beliefs that pervade the organisation about how business should be conducted and how employees should behave and should be treated”.

TQM requires an organisation to change its culture so that it can readily adapt to and take advantage of quality practices. The fundamental issue which these various views of organisational culture underline is the principles and rules which holds an organisation together as a corporate entity and upon which its operational strategies are based. Certainly every organisation desires a culture that supports its goals and objectives. An organisation’s culture is defined by the way it is structured and managed. Concepts like, authority, bureaucracy, creativity, good followership and accountability are experienced by organisations in different ways.
Macdonald (1993:53) sees Total Quality culture as having distinct values and beliefs. Total quality organisations have at the moment taken into consideration the key levers and mechanisms of customer values, continuous improvement and cross functional process as the focus of their culture, belief and attitude. This according to Stahl (1995:261) is why continuous improvement needs to be part of the culture of Total Quality Organisations. A quality culture, as viewed by Wilkins (1994:60), is the final expression of an organisation goals, objectives requirements and values; it is an embodiment of what an organisation is. Wilkins maintains that a culture cannot be forced into existence by policy, but it can be effectively steered and evolved through the resolute application of appropriate employee education and training.

Atkinson (1990:256) states that the effect of TQM on organisational culture should not be estimated, as it radically influences an organisation’s strategy and is geared to changing culture in a long term. He maintains that effective cultural change is the key to successful application and implementation of TQM.

The culture and beliefs of traditional organisations may however, be different. Some traditional organisations were established based on culture and belief systems that support bureaucracy and firm control. In this class of
organisations, there is inward focus on internal processes rather than on customers, while the process culture is usually characterized by slow feedback and low-rise decisions. As Lou Gerstner remarked shortly, after taking over as Chief Executive Officer (CEO) at IBM in 1983:

I have never seen a company that is introspective, caught up in its own underwear, so preoccupied with internal processes. Some dealings required 18 signatures. It was a bureaucracy run amok (Stahl 1995:297).

Gerstner’s observation of IBM is that of an organisation with very high bureaucratic undertone and in which the idea of total quality values and beliefs is alien to the idea of “why change when what we have been doing over the years have earned us business success?”.

Cluther Buck et al (1993:180) believe in organisational culture because of its all encompassing and frequently intangible nature, presents for many organisations, the largest and most intractable barrier to change. Since TQM is all about satisfying customer organisation should as a matter of fact audit those aspects of their culture and belief systems that tend to impede meeting and exceeding customer needs and expectations.

However, whether an organisation has distinct Total Quality Values and beliefs or the traditional bureaucratic culture it must provide basic qualities and value that characterize the interaction of employees with one another and with customers and also serve as the cornerstone for operating business.
Specifics related to the framework and implementation of TQM vary between different management professionals and TQM programme facilitators, and the passage of time has inevitably brought changes in TQM emphases and language. But all TQM philosophies share common threads that emphasize quality, teamwork, and proactive philosophies of management and process improvement. As Howard Weiss and Mark Gershon observed in Production and Operations Management, “the terms Quality Management, Quality Control, and Quality Assurance often are used interchangeably. Regardless of the term used within any business, this function is directly responsible for the continual evaluation of the effectiveness of the total quality system”. They go on to delineate the basic elements of total quality management as expounded by the American Society for Quality Control: (1) policy, planning, and administration; (2) product design and design change control; (3) control of purchased material; (4) production quality control; (5) user contact and field performance; (6) corrective action; and (7) employee selection, training and motivation.

All of these factors as cornerstones of total quality philosophies. Companies needed to create an overall business environment that emphasized improvement of products and services over short-term financial goals. If such a philosophy was adhered to, various aspects of business-ranging from
training to system improvement to manager-worker relationships would
become far more healthy and, ultimately, profitable. A well-conceived
system of statistical process control could be an invaluable TQM tool. Only
through the use of statistics, Deming argued, can managers know exactly
what their problems are, learn how to fix them, and gauge the company’s
progress in achieving quality and organisational objectives.

Jablonski (1992:60) identifies three characteristics necessary for TQM to
succeed within an organisation. They are participative management;
continuous process improvement; and the utilization of teams. Participative
management refers to the intimate involvement of all members of a company
in the management process, thus de-emphasizing traditional top-down
management methods. In other words, managers set policies and make key
decisions only with the input and guidance of the subordinates that will have
to implement and adhere to the directives. This technique improves upper
management’s grasp of operations.

Continuous process improvement, the second characteristic, entails the
recognition of small, incremental gains toward the goal of total quality.
Large gains are accomplished by small, sustainable improvements over a
long term. This concept necessitates a long-term approach by managers and
the willingness to invest in the present for benefits that manifest themselves
in the future. A corollary of continuous improvement is that workers and management develop an appreciation for, and confidence in, TQM over a period of time.

Teamwork, the third necessary ingredient for the success of TQM, involves the organisation of cross-functional teams within the company. This multidisciplinary team approach helps workers to share knowledge, identify problems and opportunities, derive a comprehensive understanding of their role in the over-all process, and align their work goals with those of the organisation.

Jablonski (1992:37) also identifies six attributes of successful TQM programmes:

★ customer focus (includes internal customers such as other departments and coworkers as well as external customers);

★ process focus;

★ prevention versus inspection (development of a process that incorporates quality during production, rather than a process that attempts to achieve quality through inspection after resources have already been consumed to produce the good or service);

★ employee empowerment and compensation;

★ fact-based decision making; and
receptiveness to feedback.

Jablonski (1992) offers a three-phase guideline for implementing Total Quality Management; these are preparation, planning, assessment. Each phase is designed to be executed as part of a long-term goal of continually increasing quality and productivity. Jablonski’s approach is one of many that has been applied to achieve TQM, but it contains the key elements commonly associated with other popular total quality systems.

**Preparation:** During preparation, management decides whether or not to pursue a TQM programme. They undergo initial training, identify needs for outside consultants, develop a specific vision and goals, draft a corporate policy, commit the necessary resources, and communicate the goals throughout the organisation.

**Planning:** In the planning stage, a detailed plan of implementation is drafted (including budget and schedule), the infrastructure that will support the programme is established, and the resources necessary to begin the plan are earmarked and secured.

**Assessment:** This stage emphasizes a thorough self-assessment with input from customers/clients of the qualities and characteristics of individuals in the company, as well as the company as a whole.
2.8.1 APPLICATION OF TQM IN THE ELECTRIC POWER SECTOR

One of the first solid pieces of evidence linking TQM and business results was the groundbreaking Profit Impact of Market Strategy (PIMS) research. Begun in 1972, this program was described in detail by Robert and Bradley (1987:74). Over a period of years, PIMS amassed a large database documenting the strategies and financial results of more than 450 companies and nearly 3000 business units in order to study the general relationships between strategy and company performance. Its purpose was not to improve a link between quality and profitability but rather to discover those strategic principles most strongly related to performance. Among all the strategic principles distilled from the PIMS studies, one linkage between strategy and performance stood out above all the rest, TQM in the long run the most important factor affecting a business unit’s performance is the quality of its products and services.

PIMS found that businesses offering superior products/service quality are more profitable than those with inferior quality, based on the measures return on sales and return on investment.

PIMS revealed other benefits of supervisor perceived quality: stronger customer loyalty more repeat purchases, less vulnerability to price wars and lower marketing costs.
One other frequently referenced study on the linkages between quality and firm performance is the 1991 review of Baldrige Award applicants by the United States General Accounting Office. The GAO examined the impact of formal TQM practices on the performance of U.S. companies, its report studied twenty companies that were among the highest scoring applicants in the 1988 and 1989 award cycles of the Malcom Balbrige National Quality awards. The principle funding, companies that adopted TQM practices experienced an overall improvement in corporate performance. In nearly all cases, companies that used TQM practices achieved better employee relations, higher productivity, greater customer satisfaction, increased market share and improved profitability.

Jarell (1999:56) finds that eight of the nine studies conducted showed positive quality related performance effects. Overall, the vast majority of the studies show positive impact associated with TQM.

A related study published by Hendricks and Singhal (2001:94) found that, effective implementation of TQM principles and philosophies does lead to improvement in long term financial performance. They sum up their findings with three guidelines for companies implementing TQM practices:

a. TQM is a good investment “Don’t give up on TQM, when implemented effectively, it improves financial performance”.
b. be patient “the benefits of TQM are achieved over a long period …even after effective implementation, it still takes a couple of years before financial performance starts to improve”.

c. be realistic “set realistic expectations on the potential impact of TQM”.

Edward et al (1995:18) carried out a study on both utilization and effectiveness of employee involvement and TQM practice and also sought to determine what combination of TQM and employee involvement programmes has a positive impact. The results: organisations consistently find that employee involvement and TQM practices have helped improve their internal operations and their financial results. There is also the evidence that organisations that have better financial performance are more likely to use employee involvement programmes.

2.9 **INFLUENCE OF ENVIRONMENTAL FACTORS**

An organisation’s environment is defined as those physical and social factors that are outside the boundary of the organisation but are still relevant for its success (Duncan, 1972:401). The environment creates contingencies to which the organisations have to respond, typically through the product and process innovations. Systems theory suggests that organisations should strive to ensure compatibility with their environment, and that such
compatibility may be essential for the organisation’s long-term survival and growth (Thompson, 1967:28).

Bird (1989:102) conceptualizes the environment as events, circumstances, situations, settings and niches, which surround organisational activity. In the same vein, Gnyawali and Fogel (1994:78) see the environment as the overall economic, socio-cultural and political factors that influence people’s willingness and ability to undertake organisational activities. A good environment will encourage firms to be well managed and efficient, be profitable to grow, create jobs, increase the rate of economic growth and reduce poverty (Development Gateway, 2004).

Nemickas, Senchuk and Babanin (2002) are of the opinion that every organisation consists of environmental conditions, circumstances and influences that can affect its operations, which is made of both external and internal components.

A system view of the industry would normally place the electric power sector within the industry boundary, where the government regulatory policies and bureaucratic practice, infrastructure, availability of operational resources, political climate and customers, would usually be external environment, which focuses on issues and conditions generally outside the organisation, some of them beyond the control of the organisation. The
internal environment focuses on the internal structure, culture and process of the organisation, including organisational structure, managerial practice, incentive systems, collegial relationships and other organisational idiosyncrasies (Kilby, 2003:44).

Issues and problems experienced within the organisation may stem either externally or internally (Castrogiovanne, 1991:69).

Support for this view which centres on problems experienced in the Nigeria electric power sector can be found in a recent publication, Kilby (2003:63) reiterates his long standing thesis on the problems of managerial coordination and control in developing countries. He noted that the managerial gaps, especially the reluctance to delegate power and authority, would have been more visible if the external turbulence has been less extreme. He therefore recognizes that the external environment can confound our capacity to clearly understand and explain the nature and degree of organisational bottlenecks in Nigeria power sector.

As study by McKinsey revealed that 85% of the variables affecting productivity in American companies are internal to the organisation and controllable by management, while 15% are external and beyond management control. A Kepner-Tregor study further showed that 80% of the
internal variables can be influenced or changed by management, while 20% are influenced by labour. If these figures are close to reality, around 70% of productivity factors in the industrialized market economy countries are under managerial control.

In developing countries or in countries undergoing a transition to a market economy the reverse could often be true, in view of their economic crises and unnecessarily high level of government intervention as well as their dependence upon the developed economies, indeed too much government intervention could kill the business or drive it underground (Agboli, 2004:62). However, it is essential to know and understand the intensity and interplay of the external and internal factors, which will go a long way in helping the Power Holding Company of Nigeria (PHCN) to secure competitive advantage as well as to achieving compatibility which requires organisations to adopt on a continuous basis by government creating conducive and enabling environment.

The decision by government to influence the electric power sector through its environment rests upon its policy towards intervention. The role of government in the new classical context is to provide the enabling environment, where material, administrative or regulatory policies are available for PHCN to operate. Government seems to have anticipated that
there was no going back in the privatization of the then NEPA, where the laws of the Federation of Nigeria promulgated in 1998, specially provided that “a licence… may be granted to any person, other than the National Electric Power Authority… a state government or any of its agencies…” such licensee under these provisions shall have the same rights and obligations as NEPA or any other government agency would have. This position was reiterated in the NEPA (Amendment) Decree No. 29 of 1998. On July 2006, NEPA was transformed to PHCN in line with the going government power sector reform programme.

However, even in the so-called free market approaches adopted by developed nations, government plays a vital role. In an unpublished manuscript (Agboli, 2004) states that the idea after independence in 1960 was that Nigeria would graduate from import substitution to an exported industrialization. Post-independence found expression in simultaneous government and private investment in service enterprises. Government involvement in the economy was alone in good faith as a way to fill the gaps created by the incapacities of an embryonic entrepreneurial class with its fragile capital base.

The policy and action of successive governments were indeed consistent with Gerschenkron’s (1965:49) statement that a country’s lateness to
economic development coupled with economic backwardness necessitates state intervention and involvement in economic activity. Consequently, post-independence and subsequent governments invested in strategic sections such as electricity.

The above assertion shows that despite concerns about the need to reduce the intervention of the government and allow market forces to shape the economy destiny of nations, government continuous to play a dominant part in the industry. The World Economic Forum Survey (WEF; 2003) shows that the Nigeria has turned its policy attention to private sector development. This new policy, anchored in neoliberalism, precludes government from direct participation in economic activity, but assigns it the role of providing an enabling environment for the successful operation of activities, whilst at the same time playing the role of a regulator.

2.10 SUMMARY OF RELATED LITERATURE

The reviews have been given impetus by both internal and external trends which indicate a challenging future for the Nigeria power sector. Evidently, it can be seen that all commentators are in support of the fact that quality improvement activities are on the rise, TQM efforts are often considered by executives to have a beneficial effect on their firm’s performance.
The chapter focuses on the identification of the concept of TQM on the basis of the literature review. The sector describes the evolution, and prospects of TQM as well as organisational culture and the applicability of TQM in the Nigeria power sector.

Worldwide, much research has been conducted in the field of TQM prospects. After a review of the relevant TQM literature, it has been found that different researchers adopted different TQM definitions and frameworks based on their understanding of TQM and research objectives consequently there is less consensus on what TQM is and what constitutes it.

Convinced that TQM is a fundamentally better way to conduct business and is necessary for the economic wellbeing of the Nigeria power sector.

The phenomenal spread of TQM has generated an ironic controversy. The controversy pits TQM advocates, who see it as a uniquely effective method for improving organisational performance, against opponents who see it as the latest of many organisational facts (Hackman and Wageman, 1995:67).

Most managers at organisations using TQM say it does work, the various empirical studies suggest TQM is having a widespread, generally positive on organisational performance. None of the studies reviewed provides any
substantial evidence that TQM is having a negative impact on organisational performance.
REFERENCES


CHAPTER THREE
RESEARCH METHODOLOGY

The description of the procedures is done under the following headings:

- Research Design
- Source of Data
- The Area and Population of the Study
- Sample Size and its Determination
- Instrument for Data Collection
- Method of Data Analysis
- Validity and Reliability of the Instrument

3.1 RESEARCH DESIGN

Given the nature of the study, the researcher used both the survey and descriptive methods of data collection so that the required objectives can be achieved.

Similarly, the choice of the survey method was suitable for the study, because it served as the convenient approach for accurate data collection.

3.2 SOURCES OF DATA

Sources of information were generally categorized as primary or secondary depending on their relevance and their proximity to the source or origin. For
the purpose of this study, both the primary and secondary sources of data were used.

3.2.1 PRIMARY DATA

For this study, the source of primary data included interview with both staff and some customers of PHCN, Kaduna distribution zone.

Questionnaire was also used for this study. The information obtained from the questionnaire described, compared or predicted facts. The questionnaire and personal interviews constituted the primary source of data.

3.2.2 SECONDARY DATA

Secondary source in the context of this study consists of information already in existence which includes information obtained from, books, journals, internet, etc. Information from this source were sought to complement the primary data from the field survey.

3.3 AREA OF THE STUDY

The study examined the prospects of Total Quality Management in Nigeria power sector, with focus on PHCN (Power Holding Company of Nigeria), Kaduna distribution zone, made up of eight business units, spreading across four states namely; Doka, Makera, Rigasa, Kafanchan, and Zaria in Kaduna State, while Sokoto, Gusau, and Birnin Kebbi are located in Sokoto, lxxx
Zamfara and Kebbi States respectively. The population of the study shall therefore cover the customers and staff of the zone.

3.4 **POPULATION OF STUDY**

The target population of the study consists of management, staff and customers of the distribution zone. The zone has a total staff-strength of 1408. This is made of senior staff (EG-SS3) 788 (seven hundred and eighty eight) and the Junior (SS4-JS4), 620 (six hundred and twenty). The zone consists of an executive management team headed by a chief operating officer, and supported by 7 (seven) heads of departments, namely:

i. Head, technical services
ii. Head, administration and services
iii. Head, finance and accounts
iv. Head, customer services
v. Principal manager, public affairs
vi. Principal manager, Audit
vii. Principal manager, performance management

**Eight (8) Business Units**

a. Doka
b. Makera
c. Rigasa
d. Zaria  
e. Kafanchan  
f. Birnin Kebbi  
g. Sokoto  
h. Gusau  

Each business unit is headed by a business manager and supported by other management team consisting of head of administration, head of marketing, customer service officer, head of accounts, headed by an accountant and head (technical).

Kaduna distribution zone has a total number of about 268,019 registered customers made up of residential, commercial and industrial. The breakdown of the customer population for each business units is as follows:

**Table 3.1**: Population distribution of the study area.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Units</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Doka Business Unit</td>
<td>33,262</td>
</tr>
<tr>
<td>2.</td>
<td>Rigasa Business Unit</td>
<td>37,571</td>
</tr>
<tr>
<td>3.</td>
<td>Makera Business Unit</td>
<td>33,700</td>
</tr>
<tr>
<td>4.</td>
<td>Zaria Business Unit</td>
<td>40,455</td>
</tr>
<tr>
<td>5.</td>
<td>Kafanchan Business Unit</td>
<td>15,825</td>
</tr>
<tr>
<td>6.</td>
<td>Gusau Business Unit</td>
<td>34,652</td>
</tr>
<tr>
<td>7.</td>
<td>Sokot Business Unit</td>
<td>53,489</td>
</tr>
<tr>
<td>8.</td>
<td>Birnin Kebbi Business Unit</td>
<td>19,065</td>
</tr>
</tbody>
</table>
The above information was obtained from KED Newsline, official journal of Kaduna Electricity Distribution Plc., Vol. 1, April-June, 2006.

3.5 **SAMPLE SIZE AND ITS DETERMINATION**

Sampling approaches are usually adopted in collecting the data from their sources, either through probability or non-probability sampling design. Sampling simple means; taking any portion of a population as a representative of the entire population. Several methods have been used for selecting samples that serve as representative of a population. Some of them are random, stratified, double, cluster sampling etc.

However, a simple random sampling was used to select the samples from the total population of the zone. Information were obtained from the entire executive management team, consisting of a chief operating officer and 7 senior managers. However, samples from the eight Business Units were selected based on proportionate sampling. In each of these business units respondents were selected from both staff and customers with the aid of table random numbers.

This is because the population of the staff is not homogenous, rather it is heterogeneous therefore, the best way of obtaining a representative sample in such a heterogeneous population is to draw its members from the
population randomly. This method of sampling ensures that every staff of the organisation has an equal and independent chance of being included. Alongside the sampling design there is an attendant factor of the sample size. Sample size must be adequate and appropriate and representative of the population from which it is drawn. A decision on adequate sample size is a difficult one. Seymour (1995:47) suggests that the best decision on sample size should be an empirical one, that is, discovering what sample sizes have been used by others with similar research problems.

However, to determine the sample size, the Taro Yamani formula was adopted, thus:

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

Where:

- \( n \) = Sample size
- \( l \) = A constant value
- \( N \) = Population size
- \( e \) = Error limit

The total number of PHCN staff, Kaduna distribution office is 1408.

To determine the sample size, the following formula is used thus:

\[ n = \frac{N}{1 + N(e)^2} \]
The total staff-strength of Kaduna distribution zone.

Table 3.2: The distribution of the staff

<table>
<thead>
<tr>
<th></th>
<th>Management</th>
<th>Senior staff</th>
<th>Junior staff</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zonal office</td>
<td>8</td>
<td>17</td>
<td>14</td>
<td>39</td>
</tr>
<tr>
<td>Doka</td>
<td>5</td>
<td>85</td>
<td>81</td>
<td>171</td>
</tr>
<tr>
<td>Makera</td>
<td>5</td>
<td>103</td>
<td>68</td>
<td>176</td>
</tr>
<tr>
<td>Rigasa</td>
<td>6</td>
<td>88</td>
<td>73</td>
<td>167</td>
</tr>
<tr>
<td>Zaria</td>
<td>6</td>
<td>91</td>
<td>78</td>
<td>175</td>
</tr>
<tr>
<td>Kafanchan</td>
<td>5</td>
<td>86</td>
<td>77</td>
<td>168</td>
</tr>
<tr>
<td>Birnin Kebbi</td>
<td>5</td>
<td>84</td>
<td>76</td>
<td>165</td>
</tr>
<tr>
<td>Sokoto</td>
<td>5</td>
<td>96</td>
<td>77</td>
<td>178</td>
</tr>
<tr>
<td>Gusau</td>
<td>5</td>
<td>88</td>
<td>76</td>
<td>169</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>738</strong></td>
<td><strong>620</strong></td>
<td><strong>1,408</strong></td>
</tr>
</tbody>
</table>


Where:

N = Total number of staff

1 = Constant value

e = Error limit

N = 1,408

e = (0.05)

\[
n = \frac{\frac{1,408}{1 + 1,408(0.05)^2}}{1 + 1,408(0.0025)}
\]
\[
\frac{1,408}{1 + 3.52} = \frac{1,408}{4.52} \\
\]

\[n = 311.5044\]

The sample is approximately 312 and these were distributed amongst the respondents.

This was arrived at by using the formula below:

\[\chi = \frac{X}{N} \times Y\]

Where:

\[\chi = \text{sample per business unit}\]

\[X = \text{number of business units}\]

\[N = \text{total number of business units}\]

\[Y = \text{total sample for all the business units}\]

Thus:

Zonal Office: \[\frac{39}{1,408} \times 312 = 8.6\]

Doka: \[\frac{171}{1,408} \times 312 = 37.89\]

Makera: \[\frac{176}{1,408} \times 312 = 39\]

Rigasa: \[\frac{167}{1,408} \times 312 = 37\]

Zaria: \[\frac{175}{1,408} \times 312 = 38.77\]
Kafanchan: \[
\frac{168}{1,408} \times 312 = 37
\]

Birnin Kebbi: \[
\frac{165}{1,408} \times 312 = 37
\]

Sokoto: \[
\frac{178}{1,408} \times 312 = 39
\]

Gusau: \[
\frac{169}{1,408} \times 312 = 37
\]

Table 3.3: Selection of stratified sample of business units from a population of 1,408 of the 8 business units in Kaduna distribution zonal office.

<table>
<thead>
<tr>
<th>UNITS</th>
<th>SAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zonal office</td>
<td>9</td>
</tr>
<tr>
<td>Doka</td>
<td>38</td>
</tr>
<tr>
<td>Makera</td>
<td>39</td>
</tr>
<tr>
<td>Rigasa</td>
<td>37</td>
</tr>
<tr>
<td>Zaria</td>
<td>39</td>
</tr>
<tr>
<td>Kafanchan</td>
<td>37</td>
</tr>
<tr>
<td>Birnin Kebbi</td>
<td>37</td>
</tr>
<tr>
<td>Sokoto</td>
<td>39</td>
</tr>
<tr>
<td>Gusau</td>
<td>37</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>312</strong></td>
</tr>
</tbody>
</table>

Table 3.4: The Population Distribution of the PHCN Customers

<table>
<thead>
<tr>
<th>Business Unit</th>
<th>Total No. of Customers</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doka</td>
<td>33,262</td>
<td>12.4</td>
</tr>
<tr>
<td>Rigasa</td>
<td>37,571</td>
<td>14</td>
</tr>
<tr>
<td>Makera</td>
<td>33,700</td>
<td>12.6</td>
</tr>
<tr>
<td>Zaria</td>
<td>40,455</td>
<td>15.1</td>
</tr>
<tr>
<td>Kafanchan</td>
<td>15,825</td>
<td>5.9</td>
</tr>
<tr>
<td>Gusau</td>
<td>34,652</td>
<td>12.9</td>
</tr>
<tr>
<td>Sokoto</td>
<td>53,489</td>
<td>20</td>
</tr>
<tr>
<td>Birnin Kebbi</td>
<td>19,065</td>
<td>7.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>268,019</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>


The total number of customers of the eight business units in the Kaduna Distribution Zone is 268,019. The sample size was determined using the formula.

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

Where:
- \(N\) = Total number of staff
- \(1\) = Constant value
- \(e\) = Error limit

\[N = 268,019\]

\[e = 0.05\]

\[n = \frac{268,019}{1 + 268,019(0.05)^2}\]
\[
= \frac{268,019}{1 + 268,019(0.0025)} \\
= \frac{268,019}{1 + 670.0475} = 268,019 \\
\]

\[n = 399.4039\]

The sample is approximately 400 out of 268,019 customers and questionnaires were distributed amongst the eight business units in relation to the number of customers of each business unit. Thus, the formula below was used to arrive at a stratified sample of customer from the population of customers.

\[
\chi = \frac{X}{N} x Y
\]

Where:

\(\chi\) = sample per business unit

\(X\) = number of business units

\(N\) = total number of business units

\(Y\) = total sample for all the business units

Thus:

Doka: \[\frac{33,262}{268,019} x 399 = 45\]

Makera: \[\frac{33,700}{268,019} x 399 = 50.2\]

Rigasa: \[\frac{37,571}{268,019} x 399 = 55.9\]
Table 3.5: The sample distribution of the PHCN customers

<table>
<thead>
<tr>
<th>UNITS</th>
<th>SAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doka</td>
<td>50</td>
</tr>
<tr>
<td>Makera</td>
<td>50</td>
</tr>
<tr>
<td>Rigasa</td>
<td>56</td>
</tr>
<tr>
<td>Zaria</td>
<td>60</td>
</tr>
<tr>
<td>Kafanchan</td>
<td>24</td>
</tr>
<tr>
<td>Birnin Kebbi</td>
<td>28</td>
</tr>
<tr>
<td>Sokoto</td>
<td>80</td>
</tr>
<tr>
<td>Gusau</td>
<td>52</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>400</strong></td>
</tr>
</tbody>
</table>

*Source: Field Survey, 2007.*

3.6 **INSTRUMENT FOR DATA COLLECTION**

The instruments used for data collection were questionnaire and interview. A questionnaire is a compiled series of questions device to illicit the maximum
possible information for a research, which could either be “closed” or “open”. The designing of questionnaire, is made in such a way as to cover the period of time with which this research work is concerned. A well structured questionnaire was distributed to respondents who were part of the sample size.

The advantage in this system are that it consumes less time, permits wider coverage, the respondent has more time and can even consult references. However, the disadvantages that must be considered include the problem of non-return of questionnaires.

Interviewing is also an instrument for data collection, which involves a face-to-face interpersonal contact, in which the interviewer asks the interviewee questions designed to obtain answers.

3.7 METHOD OF DATA ANALYSIS

In an attempt to achieve the aim and objectives of this study, the use of both descriptive and inferential statistical methods of analysis become necessary. The research exercise required a technique that will bring about the degree of accuracy desired. In the quest to achieve this, the researcher employed the use of simple percentage to present and analyse data collected from questionnaire and interview schedules, while the Pearson Product Moment
correlation coefficient was used to determine the reliability of the instrument.

Frequencies, percentages, mean, standard deviation and standard error and t-test, and chi-square were used.

Cross tabulation was used for scores to determine responses of the two groups of respondents on the strategy to decide either rejecting or not rejecting the null hypothesis.

3.8 RELIABILITY AND VALIDITY OF THE INSTRUMENT

3.8.1 RELIABILITY

Reliability work contains elements of consistency in the measures and facts presented. Two questions are suggested to guide a researcher in establishing the reliability of referred material, Bulmer, 1996:26). The questions are as follows:

i. would the method adopted, if repeated by a different researcher at the same time or same person at a later time, yield the same results as a second?

ii. are the results achieved reproducible under other circumstances?

Only when the above questions are answered that an instrument is said to be reliable. Validity, on the other hand is used as a test of the method of data
collection. Here too, the questions below should guide one in the collection as well as in examining the quality of works reviewed thus: does the researcher obtain measurements of what he/she is really trying to measure?

3.8.2 VALIDITY

Validity test of the instrument helps the researcher in assessing the value of particular methods, results and conclusion of a study and also for making a self-assessment of one’s personal work. There is no credit for massive compilations or summaries of works which are not evaluated in terms of their relevance to the study and validity and reliability (Meekyaa, 1992:12).

3.8.3 TEST: TEST RETEST

Distributed questionnaires after interval of 3 weeks distributed to know constancy in response.

Split half, gave half and later exchanged the other half, result still constant.
REFERENCES


CHAPTER FOUR
DATA PRESENTATION AND ANALYSIS

In the chapter, results of the data analysis are presented. The data for the study are presented in tables and percentages, according to the hypothesis which guided the study. This aspect of the study assesses the cumulative responses of the sampled 312 and 361 PHCN staff and customers respectively.

4.1 PRESENTATION OF DATA

A total of 312 copies of questionnaire administered to PHCN staff, an impressive 100% returns were made. Out of the 400 copies of questionnaire sent out to the customers, 361 were adequately responded to, while the remaining 39 copies were not returned.

4.2 RESPONDENTS PROFILE

Table 4.2.1

<table>
<thead>
<tr>
<th>Status</th>
<th>No. of Responses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHCN Staff</td>
<td>312</td>
<td>100%</td>
</tr>
<tr>
<td>Customer</td>
<td>361</td>
<td>90.25%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>683</strong></td>
<td></td>
</tr>
</tbody>
</table>

*Source: Field Survey, 2008.*
Information contained in the table above shows a total of 312 representing 100% of the staff, 90.25% indicate the total number of customers that responded, while the remaining 9.75%, represents copies of questionnaire not returned.

Table 4.2.2

<table>
<thead>
<tr>
<th>Position</th>
<th>No. of Responses</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief Operating Officer</td>
<td>01</td>
<td>0.33</td>
</tr>
<tr>
<td>Business Manager</td>
<td>08</td>
<td>2.56</td>
</tr>
<tr>
<td>Head of Department</td>
<td>47</td>
<td>15.06</td>
</tr>
<tr>
<td>Others</td>
<td>256</td>
<td>82.05</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>312</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

*Source: Field Survey, 2008.*

Table 4.2.1 above shows that 82.05% of the respondents are workers of the various business units. There is a chief operating officer, 8 business managers and 47 heads of departments accounting for 15.06% of the respondents.

Table 4.2.3

<table>
<thead>
<tr>
<th>Years of Experience</th>
<th>No. of Responses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 10 years</td>
<td>31</td>
<td>9.94</td>
</tr>
<tr>
<td>11 – 20 years</td>
<td>83</td>
<td>26.60</td>
</tr>
<tr>
<td>21 – 30 years</td>
<td>109</td>
<td>34.94</td>
</tr>
<tr>
<td>30 years and above</td>
<td>89</td>
<td>28.54</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>312</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

*Source: Field Survey, 2008.*
On the experience of the respondents, table 4.2.3 reveals that about 34.94% of the PHCN staff have spent at least 21 years and at most 30 years, followed by those of 30 years and above with about 28.54% and the rest of the group have spent at least between 11 – 20 years and 1 – 10 years representing 26.60% and 9.94% respectively.

Table 4.2.4

<table>
<thead>
<tr>
<th>Years of Experience</th>
<th>No. of Responses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st School Leaving Cert.</td>
<td>28</td>
<td>8.97</td>
</tr>
<tr>
<td>GCE</td>
<td>82</td>
<td>26.28</td>
</tr>
<tr>
<td>Diploma</td>
<td>85</td>
<td>27.24</td>
</tr>
<tr>
<td>Degree</td>
<td>66</td>
<td>21.15</td>
</tr>
<tr>
<td>Higher Degree</td>
<td>21</td>
<td>6.73</td>
</tr>
<tr>
<td>Others</td>
<td>30</td>
<td>9.63</td>
</tr>
<tr>
<td>Total</td>
<td><strong>312</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

*Source: Field Survey, 2008.*

The table above shows that small percentage has higher degree, that is 6.73%, while those with Higher and National Diploma is about 27.24 or 85 people, others i.e. with professional qualification has 30 or about 9.63%, 1st degree has 21.15%, for higher degree 21 responded or 6.73% and 1st Leaving certificate, 28 responded representing 8.97% of the total number of participants.
Table 4.2.5

<table>
<thead>
<tr>
<th>Time</th>
<th>No. of Responses</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below One year</td>
<td>19</td>
<td>5.27</td>
</tr>
<tr>
<td>1 – 3 years</td>
<td>63</td>
<td>17.45</td>
</tr>
<tr>
<td>4 – 6 years</td>
<td>102</td>
<td>28.25</td>
</tr>
<tr>
<td>Above 6 years</td>
<td>177</td>
<td>49.03</td>
</tr>
<tr>
<td>Total</td>
<td>361</td>
<td>100</td>
</tr>
</tbody>
</table>

*Source: Field Survey, 2008.*

About 49.03% of the customers have patronized PHCN for a period of over 6 years, a total of 102 (28.25%) customers who responded have patronized PHCN for at least 4 years and at most six years, followed by those who have been with PHCN on basis of client – customer relationship for between 1 – 3 years and finally the remaining category have spent less than one year representing 5.27%.
4.3 **HYPOTHESIS I**

**FREQUENCY DISTRIBUTIONS OF THE RELATIONSHIP BETWEEN TOP MANAGEMENT SUPPORT FOR QUALITY AND PROSPECTS OF TQM IN PHCN.**

**Table 4.3.1**

Top management is generally happy with the quality of work passed from one department to next.

<table>
<thead>
<tr>
<th>RESPONDING ITEM</th>
<th>SD F</th>
<th>D F</th>
<th>U F</th>
<th>A F</th>
<th>SA F</th>
<th>TOTAL F</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHCN Staff</td>
<td>13</td>
<td>32</td>
<td>42</td>
<td>147</td>
<td>78</td>
<td>312</td>
</tr>
<tr>
<td></td>
<td>4.17</td>
<td>10.25</td>
<td>13.46</td>
<td>47.12</td>
<td>25.00</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>32</td>
<td>42</td>
<td>147</td>
<td>78</td>
<td>312</td>
</tr>
</tbody>
</table>

*Source: Field Survey, 2008.*

*Key: SD = Strongly Disagree, D = Disagree, U = Undecided, A = Agree, SA = Strongly Agree*

Using the table 4.3.1 above as the basis for the analysis, an attempt is made to find out whether there is a relationship between top management support for quality and prospects of TQM, the response in the table shows that most respondents that is 72.12% of the PHCN staff.
Table 4.3.2

Indicates that management ensures that the generating units are properly maintained to avoid breaking down

<table>
<thead>
<tr>
<th>RESPONDING ITEM</th>
<th>SD</th>
<th>D</th>
<th>U</th>
<th>A</th>
<th>SA</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>PHCN Staff</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>38</td>
<td>12.18</td>
</tr>
<tr>
<td>Customer</td>
<td>50</td>
<td>13.85</td>
<td>197</td>
<td>54.57</td>
<td>32</td>
<td>8.86</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>13.85</td>
<td>197</td>
<td>54.57</td>
<td>70</td>
<td>257</td>
</tr>
<tr>
<td>Mean</td>
<td>6.93</td>
<td>27.29</td>
<td>10.52</td>
<td>40.01</td>
<td>15.26</td>
<td>100.1*</td>
</tr>
</tbody>
</table>

* Error due to rounding.

Key as table 1 above

On the issue of whether management ensures that the generating units are properly maintained to avoid breaking down, 87.82% of the PHCN staff agreed that management ensures that the generating units are maintained. In contrast, the customers representing 68.42% disagreed, while the 22.72% agreed and remaining 8.86% of the customer were undecided.

Table 4.3.3

PHCN Management welcomes quality suggestions from specialists or any worker in periods of need especially when there is a problem or need for improvement.

<table>
<thead>
<tr>
<th>RESPONDING ITEM</th>
<th>SD</th>
<th>D</th>
<th>U</th>
<th>A</th>
<th>SA</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>PHCN Staff</td>
<td>23</td>
<td>7.37</td>
<td>17</td>
<td>5.45</td>
<td>31</td>
<td>9.94</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>7.37</td>
<td>17</td>
<td>5.45</td>
<td>31</td>
<td>9.94</td>
</tr>
</tbody>
</table>

* Error due to rounding.
On the question that PHCN management welcomes quality suggestions from specialists, the responses from table 4.3.3 shows that most respondents, that is 77.24% of the PHCN staff were of the opinion that management welcomes suggestions from specialists or any worker in periods of need especially when there is a problem or need for improvement.

**Table 4.3.4**

The organization periodically finds out the opinion of its workers on the quality of its service and top management attitude to quality programme.

<table>
<thead>
<tr>
<th>RESPONDING ITEM</th>
<th>SD</th>
<th>D</th>
<th>U</th>
<th>A</th>
<th>SA</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>PHCN Staff</td>
<td>-</td>
<td>-</td>
<td>23</td>
<td>7.37</td>
<td>207</td>
<td>66.35</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>-</td>
<td>23</td>
<td>7.37</td>
<td>207</td>
<td>66.35</td>
</tr>
</tbody>
</table>

*Error due to rounding up.

In terms of the organization periodically finding out the opinion of its workers on the quality of its service and top management attitude to quality programmes, Table 4.3.4 reveals that majority of the sampled PHCN staff representing 92.63% were in support of the assertion.
Table 4.3.5

Top management leadership can encourage adoption of quality service.

<table>
<thead>
<tr>
<th>RESPONDING ITEM</th>
<th>SD</th>
<th>D</th>
<th>U</th>
<th>A</th>
<th>SA</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>PHCN Staff</td>
<td>18</td>
<td>5.77</td>
<td>27</td>
<td>8.65</td>
<td>39</td>
<td>12.50</td>
</tr>
<tr>
<td>Customer</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>41</td>
<td>11.36</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>27</td>
<td>80</td>
<td>11.93</td>
<td>419</td>
<td>61.65</td>
</tr>
<tr>
<td>Mean</td>
<td>2.89</td>
<td>4.33</td>
<td>11.93</td>
<td>61.65</td>
<td>19.22</td>
<td>100.1</td>
</tr>
</tbody>
</table>

*Error due to Rounding.

On the issue of whether top management can encourage adoption of quality service, the result of the analysis shown in Table 4.3.5 indicates that most of the PHCN staff representing 73.08% support the view, while 14.42% disagreed and the remaining 8.65% were undecided. And also 88.64% of the customers agreed that top management can encourage adoption of quality service.

Table 4.3.6

TQM requires top management personal involvement in quality planning and performance.

<table>
<thead>
<tr>
<th>RESPONDING ITEM</th>
<th>SD</th>
<th>D</th>
<th>U</th>
<th>A</th>
<th>SA</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>PHCN Staff</td>
<td>12</td>
<td>3.85</td>
<td>18</td>
<td>5.77</td>
<td>34</td>
<td>10.90</td>
</tr>
<tr>
<td>Customer</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>23</td>
<td>6.37</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>18</td>
<td>57</td>
<td>8.64</td>
<td>379</td>
<td>55.68</td>
</tr>
<tr>
<td>Mean</td>
<td>1.93</td>
<td>2.89</td>
<td>8.64</td>
<td>55.68</td>
<td>30.95</td>
<td>-</td>
</tr>
</tbody>
</table>

*Error due to Rounding.
Information contained in Table 4.3.6 above shows that most of the respondents (79.48% and 93.62%) comprising bank staff and customers respectively agreed that TQM requires top management personal involvement in quality planning and performance.

**Table 4.3.7**

The commitment of top management is an essential requirement without which TQM implementation cannot succeed.

<table>
<thead>
<tr>
<th>RESPONDING ITEM</th>
<th>SD</th>
<th>D</th>
<th>U</th>
<th>A</th>
<th>SA</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>PHCN Staff</td>
<td>08</td>
<td></td>
<td>13</td>
<td></td>
<td>28</td>
<td>8.98</td>
</tr>
<tr>
<td>Customer</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td>48</td>
<td>13.30</td>
</tr>
<tr>
<td>Total</td>
<td>08</td>
<td></td>
<td>13</td>
<td></td>
<td>76</td>
<td>29.1</td>
</tr>
<tr>
<td>Mean</td>
<td>1.28</td>
<td></td>
<td>2.09</td>
<td></td>
<td>11.14</td>
<td></td>
</tr>
</tbody>
</table>

*Error due to rounding.*

Table 4.3.7 is an attempt to find out the commitment of top management as an essential requirement without which TQM implementation cannot succeed. Analysis shows that 84.29% of PHCN staff are in agreement, while 86.71% of customers also support the view.
4.4 HYPOTHESIS II

RELATIONSHIP BETWEEN CULTURE OF PHCN AND THE APPLICATION OF TQM.

To ascertain if the culture of PHCN will favour the application of TQM in the organization was assessed in this section. A total of four (4) items were involved in the assessment. Appendix 8 – 11 shows the responses of the two groups responded from the PHCN staff and its customers involved in the study. Frequency distributions of the perceived effect of culture of PHCN and the application of TQM.

Table 4.4.1

Organization culture describes the basic qualities and values that characterize the ideal behaviour of a total quality organization.

<table>
<thead>
<tr>
<th>RESPONDING ITEM</th>
<th>SD</th>
<th>D</th>
<th>U</th>
<th>A</th>
<th>SA</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>PHCN Staff</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>26</td>
<td>8.01</td>
<td>21</td>
<td>6.73</td>
<td>10</td>
<td>3.21</td>
</tr>
<tr>
<td>Customer</td>
<td>32</td>
<td>8.86</td>
<td>52</td>
<td>14.40</td>
<td>12</td>
<td>3.32</td>
</tr>
<tr>
<td>Total</td>
<td>58</td>
<td>8</td>
<td>73</td>
<td>22</td>
<td>12</td>
<td>205</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>8.44</td>
<td>10.57</td>
<td>3.27</td>
<td>30.61</td>
<td>47.12</td>
</tr>
</tbody>
</table>

*Error due to rounding.

The question that the organization culture describes the basic qualities and values that characterize the ideal behaviour of a total quality organization; 82.05% of the staff agreed with the assertion, 14.74% disagreed and 3.21%
are undecided. In the same vein, the customer also supported the notion representing 73.41%, 3.32% were undecided and the remaining 23.26% of the customers disagreed.

**Table 4.4.2**

Superior subordinate relationship in the organization is generally cordial because each of them performs his/her duties according to specifications required for quality service.

<table>
<thead>
<tr>
<th>RESPONDING ITEM</th>
<th>SD</th>
<th>D</th>
<th>U</th>
<th>A</th>
<th>SA</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>PHCN Staff</td>
<td>26</td>
<td>8.33</td>
<td>34</td>
<td>10.90</td>
<td>22</td>
<td>7.05</td>
</tr>
<tr>
<td>Total</td>
<td>26</td>
<td>34</td>
<td>22</td>
<td>761</td>
<td>69</td>
<td>312</td>
</tr>
</tbody>
</table>

*Error due to rounding.

From the above responses 73.72% of the staff agreed that the superior subordinate relationship in the organization is generally cordial, however, 19.23% disagreed.

**Table 4.4.3**

There is the culture of trust and intimacy among the employees.

<table>
<thead>
<tr>
<th>RESPONDING ITEM</th>
<th>SD</th>
<th>D</th>
<th>U</th>
<th>A</th>
<th>SA</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>PHCN Staff</td>
<td>64</td>
<td>20.51</td>
<td>87</td>
<td>27.88</td>
<td>74</td>
<td>23.72</td>
</tr>
<tr>
<td>Total</td>
<td>64</td>
<td>87</td>
<td>74</td>
<td>47</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>21.75</td>
<td>28.76</td>
<td>21.4</td>
<td>16.40</td>
<td>11.96</td>
<td>100</td>
</tr>
</tbody>
</table>

*Error due to rounding.
Table 4.4.3 above shows that the most of the respondents that is 48.39% of the PHCN staff disagreed with the assertion that there is the culture or trust and intimacy among the employee, while 23.72% representing the staff agreed.

Table 4.4.4

Organizational culture presents the largest and most intractable barrier to change.

<table>
<thead>
<tr>
<th>RESPONDING ITEM</th>
<th>SD</th>
<th>D</th>
<th>U</th>
<th>A</th>
<th>SA</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>PHCN Staff</td>
<td>15</td>
<td>4.81</td>
<td>22</td>
<td>7.05</td>
<td>13</td>
<td>4.17</td>
</tr>
<tr>
<td>Customer</td>
<td>40</td>
<td>11.08</td>
<td>57</td>
<td>15.79</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>55</td>
<td>99</td>
<td>13</td>
<td>364</td>
<td>162</td>
<td>663</td>
</tr>
<tr>
<td>Mean</td>
<td>7.95</td>
<td>11.42</td>
<td>2.09</td>
<td>54.40</td>
<td>24.16</td>
<td>100</td>
</tr>
</tbody>
</table>

*Error due to rounding.

On the question on whether organizational culture presents the largest and most intractable barrier to change the result of the analysis shown in table 4.4.4 indicates that most PHCN staff support the opinion, this can be seen in table 11 i.e. 262 responses or 83.97%. Similarly, 73.13% of the customers agreed.
4.5 HYPOTHESIS III

AN ASSESSMENT OF THE INFLUENCE OF EXTERNAL ENVIRONMENTAL FACTORS ON THE APPLICATION OF TQM IN PHCN

The effects of external environmental factors on the application of TQM in PHCN were assessed in this section. A total of four (4) items were involved in the assessment. Appendix 12 – 15 show the responses of the two groups of respondents (from the staff and customers of PHCN) involved in the study.

Frequency distributions of the perceived influence of external environmental factors on the application of TQM in PHCN.

**Table 4.5.1**

Influence of political factors on the application of TQM in PHCN.

<table>
<thead>
<tr>
<th>RESPONDING ITEM</th>
<th>HIGHLY POSITIVE</th>
<th>POSITIVE</th>
<th>UNDECIDED</th>
<th>MODERATELY POSITIVE</th>
<th>LOW POSITIVE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>PHCN Staff</td>
<td>40</td>
<td>12.80</td>
<td>180</td>
<td>57.70</td>
<td>07</td>
<td>2.24</td>
</tr>
<tr>
<td>Customer</td>
<td>51</td>
<td>14.13</td>
<td>128</td>
<td>35.46</td>
<td>57</td>
<td>17.79</td>
</tr>
<tr>
<td>Total</td>
<td>91</td>
<td>13.47</td>
<td>308</td>
<td>46.58</td>
<td>64</td>
<td>9.02</td>
</tr>
</tbody>
</table>

*Source: Field Survey, 2008.*

*Error due to rounding.*
From the above table 4.5.1, it can be seen that 220 responses or 70.50% of the staff and 49.59% of the customers are of the opinion that the political environment has positive influence on the application of TQM.

### Table 4.5.2

Influence of economic environment on the application of TQM in PHCN

<table>
<thead>
<tr>
<th>RESPONDING ITEM</th>
<th>HIGHLY POSITIVE</th>
<th>POSITIVE</th>
<th>UNDECIDED</th>
<th>MODERATELY POSITIVE</th>
<th>LOW POSITIVE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>PHCN Staff</td>
<td>49</td>
<td>15.71</td>
<td>143</td>
<td>45.83</td>
<td>07</td>
<td>2.24</td>
</tr>
<tr>
<td>Customer</td>
<td>32</td>
<td>8.86</td>
<td>181</td>
<td>50.14</td>
<td>26</td>
<td>7.20</td>
</tr>
<tr>
<td>Total</td>
<td>81</td>
<td>25.48</td>
<td>324</td>
<td>55.68</td>
<td>33</td>
<td>4.72</td>
</tr>
<tr>
<td>Mean</td>
<td>12.29</td>
<td>47.99</td>
<td>4.72</td>
<td>22.42</td>
<td>12.59</td>
<td>100.1</td>
</tr>
</tbody>
</table>

*Error due to rounding.

Table 4.5.2 above shows that the respondents comprising of 61.54% of PHCN staff agreed that the economic environment has positive influence on the application of TQM, while 59% of the PHCN customers support the notion that it exerts positive influence.

### Table 4.5.3

Influence of technological factor on the application of TQM in PHCN

<table>
<thead>
<tr>
<th>RESPONDING ITEM</th>
<th>HIGHLY POSITIVE</th>
<th>POSITIVE</th>
<th>UNDECIDED</th>
<th>MODERATELY POSITIVE</th>
<th>LOW POSITIVE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>PHCN Staff</td>
<td>76</td>
<td>24.36</td>
<td>182</td>
<td>58.33</td>
<td>03</td>
<td>1.60</td>
</tr>
<tr>
<td>Customer</td>
<td>92</td>
<td>25.48</td>
<td>201</td>
<td>55.68</td>
<td>08</td>
<td>2.22</td>
</tr>
<tr>
<td>Total</td>
<td>168</td>
<td>383</td>
<td>13</td>
<td>85</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>24.92</td>
<td>57.01</td>
<td>1.80</td>
<td>12.60</td>
<td>3.57</td>
<td>99.99*</td>
</tr>
</tbody>
</table>

*Error due to rounding.
On the question of whether technological factors exert influence on the application of TQM in PHCN, 82.69% of the PHCN staff support the notion, that it does exert positive impact on the application, while the 81.16% of the PHCN customers are of the opinion that it has positive impact.

**Table 3.5.4**

Influence of socio-cultural factors on the application of TQM in PHCN.

<table>
<thead>
<tr>
<th>RESPONDING ITEM</th>
<th>HIGHLY POSITIVE</th>
<th>POSITIVE</th>
<th>UNDECIDED</th>
<th>MODERATELY POSITIVE</th>
<th>LOW POSITIVE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHCN Staff</td>
<td>26 8.33%</td>
<td>159 50.96%</td>
<td>08 2.56%</td>
<td>110 35.26%</td>
<td>09 2.88%</td>
<td>312   100%</td>
</tr>
<tr>
<td>Customer</td>
<td>26 7.20%</td>
<td>188 52.08%</td>
<td>10 2.77%</td>
<td>125 34.63%</td>
<td>12 3.32%</td>
<td>361   100%</td>
</tr>
<tr>
<td>Total</td>
<td>52 347</td>
<td>18 235</td>
<td>21</td>
<td></td>
<td></td>
<td>100.1%</td>
</tr>
</tbody>
</table>

*Mean 7.77 51.52 2.67 34.95 3.10 100.1*

*Error due to rounding.

In response to the table above, both respondents (staff and customers) representing 58.29% and 59.28% respectively are of the opinion that the socio-cultural environment impact positively on the application of TQM in PHCN.
4.6 HYPOTHESIS IV

THE EXTENT TO WHICH EMPLOYEES ARE READY AND SWIFTNESS FOR ADOPTION FOR TQM.

Indicate the level of awareness and readiness for adoption of TQM in PHCN.

Table 4.6.1

There is high level of awareness about TQM in PHCN.

<table>
<thead>
<tr>
<th>RESPONDING ITEM</th>
<th>SD</th>
<th>D</th>
<th>U</th>
<th>A</th>
<th>SA</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>PHCN Staff</td>
<td>31</td>
<td>9.94</td>
<td>-</td>
<td>-</td>
<td>24</td>
<td>7.69</td>
</tr>
<tr>
<td>Customer</td>
<td>20</td>
<td>5.54</td>
<td>-</td>
<td>-</td>
<td>33</td>
<td>9.14</td>
</tr>
<tr>
<td>Total</td>
<td>51</td>
<td>-</td>
<td>57</td>
<td>8.42</td>
<td>480</td>
<td>71.29</td>
</tr>
</tbody>
</table>

*Error due to rounding.

On the issue of whether there is a high level of awareness and readiness for adoption of TQM in PHCN, most of the participants involved in the study i.e. PHCN staff and customers agreed that they are fully aware of the notion representing 70.83% and 71.75% respectively.

Table 4.6.2

PHCN embarks upon extensive training of personnel for efficiency and effectiveness in line with TQM principles.

<table>
<thead>
<tr>
<th>RESPONDING ITEM</th>
<th>SD</th>
<th>D</th>
<th>U</th>
<th>A</th>
<th>SA</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>PHCN Staff</td>
<td>20</td>
<td>6.41</td>
<td>181</td>
<td>58.01</td>
<td>68</td>
<td>21.79</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>181</td>
<td>68</td>
<td>26</td>
<td>17</td>
<td></td>
</tr>
</tbody>
</table>

*Error due to rounding.
On the question of that PHCN embarks upon extensive training of personnel for efficiency and effectiveness in line with TQM principles, the table reveals that both the PHCN staff (58.01) and the customers (54.02) disagreed with the motion.

**Table 4.6.3**

PHCN is committed to quality in all aspects because it has vigorously pursued and adopted TQM.

<table>
<thead>
<tr>
<th>RESPONDING ITEM</th>
<th>SD</th>
<th>D</th>
<th>U</th>
<th>A</th>
<th>SA</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>PHCN Staff</td>
<td>30</td>
<td>9.62</td>
<td>08</td>
<td>2.56</td>
<td>26</td>
<td>8.33</td>
</tr>
<tr>
<td>Customer</td>
<td>46</td>
<td>12.74</td>
<td>-</td>
<td>-</td>
<td>28</td>
<td>7.76</td>
</tr>
<tr>
<td>Total</td>
<td>76</td>
<td>08</td>
<td>54</td>
<td>466</td>
<td>67</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>11.18</td>
<td>1.28</td>
<td>8.05</td>
<td>69.24</td>
<td>10.31</td>
<td>100</td>
</tr>
</tbody>
</table>

*Error due to rounding.

In terms of whether PHCN is committed to quality in all aspects because it has vigorously pursued and adopted TQM; most of the respondents comprising 69.23% for the PHCN staff and 69.25% of the customers agreed that the organization is committed to quality in all aspects.
Table 4.6.4

PHCN has started implementing TQM.

<table>
<thead>
<tr>
<th>RESPONDING ITEM</th>
<th>SD</th>
<th>D</th>
<th>U</th>
<th>A</th>
<th>SA</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>PHCN Staff</td>
<td>42</td>
<td>13.46</td>
<td>217</td>
<td>69.55</td>
<td>21</td>
<td>6.72</td>
</tr>
<tr>
<td></td>
<td>05</td>
<td>1.60</td>
<td>0</td>
<td>0</td>
<td>27</td>
<td>8.65</td>
</tr>
<tr>
<td>Customer</td>
<td>09</td>
<td>2.49</td>
<td>241</td>
<td>66.76</td>
<td>11</td>
<td>3.05</td>
</tr>
<tr>
<td></td>
<td>86</td>
<td>23.82</td>
<td>14</td>
<td>3.88</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>51</td>
<td>7.98</td>
<td>458</td>
<td>68.16</td>
<td>32</td>
<td>4.89</td>
</tr>
<tr>
<td></td>
<td>91</td>
<td>12.71</td>
<td>41</td>
<td>6.27</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100.1*</td>
</tr>
</tbody>
</table>

*Error due to rounding.

On the question of whether PHCN has started implementing TQM, most of the respondents disagreed with the assertion, comprising of 69.55% of PHCN staff and 66.76% of customers.
4.7 TEST OF HYPOTHESIS

The hypotheses raised in the study are tested in part of the chapter.

HYPOTHESIS I:

There is a positive relationship between top management support for quality and prospects of TQM in PHCN.

Level of Significance

\[ \alpha = 0.05 \]

Test Statistic

Kari – Pearson’s product – moment correlation coefficient using the Statistical Package for Social Sciences (SPSS).

Decision Criterion

Reject H\(_o\) if the calculated value of the test statistic exceeds the tabulated of if the p-value is less than the level of significance.
Computations

Table 4.7.1

The following summary table 4.5.1 is used for the analysis.

<table>
<thead>
<tr>
<th>Responses</th>
<th>(X) Top Mgt Support (%)</th>
<th>(Y) Prospects of TQM (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD</td>
<td>7.07</td>
<td>11.18</td>
</tr>
<tr>
<td>D</td>
<td>7.50</td>
<td>1.28</td>
</tr>
<tr>
<td>U</td>
<td>10.06</td>
<td>8.05</td>
</tr>
<tr>
<td>A</td>
<td>53.20</td>
<td>69.24</td>
</tr>
<tr>
<td>SA</td>
<td>21.78</td>
<td>10.31</td>
</tr>
</tbody>
</table>


The output of the analysis by the SPSS is as follows.

Table 4.7.2

Correlation

<table>
<thead>
<tr>
<th>Details of Correlation</th>
<th>Top Management Support</th>
<th>Prospect of TQM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Management Support</td>
<td>Pearson Correlation</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.959*</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>5</td>
</tr>
<tr>
<td>Prospect of TQM</td>
<td>Pearson Correlation</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.010</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>5</td>
</tr>
</tbody>
</table>


**Correlation is significant at the (1.01 level (2-tailed).
The result in the table (4.7.2) above shows that the correlation coefficient of 0.959 is very high and significant. Hence, there is a positive relationship between top management support for quality and prospects of TQM in PHCN. Therefore the null hypothesis is rejected.

**HYPOTHESIS II:**

There is a positive relationship between the culture of PHCN and the application of TQM.

**Level of Significance**

\[ \alpha = 0.05 \]

**Test Statistic**

Kari – Pearson’s product – moment correlation coefficient using the Statistical Package for Social Sciences (SPSS).

**Table 4.7.3**

The following summary table 4.5.3 is used for the analysis.

<table>
<thead>
<tr>
<th>Responses</th>
<th>(X) Culture of PHCN (%)</th>
<th>(Y) Application of TQM (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD</td>
<td>21.75</td>
<td>7.98</td>
</tr>
<tr>
<td>D</td>
<td>28.76</td>
<td>68.16</td>
</tr>
<tr>
<td>U</td>
<td>21.40</td>
<td>4.89</td>
</tr>
<tr>
<td>A</td>
<td>16.40</td>
<td>12.71</td>
</tr>
<tr>
<td>SA</td>
<td>11.96</td>
<td>6.27</td>
</tr>
</tbody>
</table>

*Source: Field Survey 2008.*
The support of the analysis by the SPSS is as follows.

**Table 4.7.4**

**Correlation**

<table>
<thead>
<tr>
<th>Details of Correlation</th>
<th>Culture of PHCN</th>
<th>Application of TQM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture of PHCN</td>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.140</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>5</td>
</tr>
<tr>
<td>Application of TQM</td>
<td>Pearson Correlation</td>
<td>.755</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.140</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>5</td>
</tr>
</tbody>
</table>

*Source: Field Survey 2008.*

The correlation coefficient of 0.755 is high but not significant since the p-value = 0.14 is greater than the level of significance. Hence, there is no evidence of a positive relationship between the culture of PHCN and the application of TQM; therefore the null hypothesis is accepted.

**HYPOTHESIS III:**

External environmental factors exert positive influence on the application of TQM.

**Level of Significance**

\[ \alpha = 0.05 \]
Test Statistic

Chi-Square test of independence using the Statistical package for Social Sciences (SPSS).

Decision Criterion

Reject $H_0$ if the calculated value of the test statistic exceeds the tabulated or if the p-value of the Chi-Square statistic is less than the level of significance.

Table 4.7.5

The following summary table 4.3.5 is used for the analysis.

<table>
<thead>
<tr>
<th>Responses</th>
<th>PHCN Staff</th>
<th>Customers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly Positive</td>
<td>49</td>
<td>32</td>
<td>81</td>
</tr>
<tr>
<td>Positive</td>
<td>143</td>
<td>181</td>
<td>324</td>
</tr>
<tr>
<td>Undecided</td>
<td>7</td>
<td>26</td>
<td>33</td>
</tr>
<tr>
<td>Moderately Positive</td>
<td>69</td>
<td>82</td>
<td>151</td>
</tr>
<tr>
<td>Low Positive</td>
<td>44</td>
<td>40</td>
<td>84</td>
</tr>
<tr>
<td>Total</td>
<td>312</td>
<td>361</td>
<td>673</td>
</tr>
</tbody>
</table>


The output of the analysis to the SPSS is as follows:
Table 4.7.6

Environmental Factors* Application of TQM Crosstabulation

<table>
<thead>
<tr>
<th>Environmental Factors</th>
<th>Application of TQM</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Response by PHCN Staff</td>
<td>Response by PHCN Customers</td>
</tr>
<tr>
<td>Highly positive</td>
<td>Count: 49</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>Expected Count: 37.6</td>
<td>43.4</td>
</tr>
<tr>
<td>Positive</td>
<td>Count: 143</td>
<td>181</td>
</tr>
<tr>
<td></td>
<td>Expected Count: 150.2</td>
<td>173.8</td>
</tr>
<tr>
<td>Undecided</td>
<td>Count: 7</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Expected Count: 15.3</td>
<td>17.7</td>
</tr>
<tr>
<td>Moderately Positive</td>
<td>Count: 69</td>
<td>82</td>
</tr>
<tr>
<td></td>
<td>Expected Count: 70.0</td>
<td>81.0</td>
</tr>
<tr>
<td>Low Positive</td>
<td>Count: 44</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Expected Count: 38.9</td>
<td>45.1</td>
</tr>
<tr>
<td>Total</td>
<td>Count: 312</td>
<td>361</td>
</tr>
<tr>
<td></td>
<td>Expected Count: 312.0</td>
<td>361.0</td>
</tr>
</tbody>
</table>

*Source: Field Survey 2008.
Table 4.7.7

Chi-Square Tests

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>16.795a</td>
<td>4</td>
<td>.002</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>17.444</td>
<td>4</td>
<td>.002</td>
</tr>
<tr>
<td>Linear-by-Linear</td>
<td>.159</td>
<td>1</td>
<td>.690</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>673</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


a. O cells (.0%) have expected count less than 5. The minimum expected count is 15.30.

Since the p-value = 0.002 is less than the level of significance (0.05). H₀ is rejected. Hence, we conclude that the external environmental factors do influence the application of TQM in PHCN.

HYPOTHESIS IV:

There is a significant difference between the extent to which employees are ready and the swiftness for adoption of TQM.

Level of Significance

\( \alpha = 0.05 \)

Test statistic

Student’s t-test for the difference of two means using the Statistical Package for Social Sciences (SPSS).
Decision Criterion

Reject $H_0$ if the calculated value of the t-test statistic exceeds the tabulated or if the p-value is less than the level of significance.

Table 4.7.8

The following summary Table 4.5.9 is used for the analysis.

<table>
<thead>
<tr>
<th>Responses</th>
<th>PHCN Staff (Employees)</th>
<th>Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD</td>
<td>31</td>
<td>20</td>
</tr>
<tr>
<td>D</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>U</td>
<td>24</td>
<td>33</td>
</tr>
<tr>
<td>A</td>
<td>221</td>
<td>259</td>
</tr>
<tr>
<td>SA</td>
<td>49</td>
<td>36</td>
</tr>
</tbody>
</table>

*Source: Field Survey 2008.*

The output of the analysis by the SPSS is as follows.

Table 4.7.9

<table>
<thead>
<tr>
<th>Readiness to Adopt TQM</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readiness to Adopt</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees</td>
<td>5</td>
<td>65.00</td>
<td>88.958</td>
<td>39.783</td>
</tr>
<tr>
<td>Customers</td>
<td>5</td>
<td>69.60</td>
<td>106.824</td>
<td>47.773</td>
</tr>
</tbody>
</table>

*Source: Field Survey 2008.*
Table 4.7.10

<table>
<thead>
<tr>
<th>Equal Variances Assumed</th>
<th>T</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Diff.</th>
<th>Std. Error Diff.</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.074</td>
<td>8</td>
<td>.943</td>
<td>-4.600</td>
<td>62.169</td>
<td>-147.96 138.76</td>
</tr>
<tr>
<td>Equal Variances not Assumed</td>
<td>.074</td>
<td>7.746</td>
<td>.943</td>
<td>-4.600</td>
<td>62.169</td>
<td>-148.78 139.58</td>
</tr>
</tbody>
</table>

*Source: Field Survey 2008.*

Since the p-value = 0.943 is greater than the level of significance (0.05), we accept $H_0$. Hence, we conclude that there is no significance difference between the extents to which employees are ready and the swiftness for adoption of TQM.

4.8 DISCUSSION OF RESULTS

In this study, four hypotheses were raised. They were aimed at determining the prospects of TQM in PHCN in relation to the attitude of top management. Also effort was made in determining whether the culture of PHCN will favour the application of TQM.
The influence of environmental factors on the application of TQM was assessed. Also the level of awareness and readiness of the management for the adoption of TQM was evaluated. In the test of hypothesis, certain facts have emerged. They are summarized separately below.

**HYPOTHESIS I:**

There is a positive relationship between top management support for quality and prospects of TQM in PHN.

On the first hypothesis, which sought to determine the positive relationship between top management support for quality and prospects of TQM in PHCN. The study reported a positive relationship leading to the rejection of the null hypothesis on this. The positive relationship was found to be high and significant as shown in appendix 1 – 7, which present the views of the PHCN staff and customers along the Likert Scale. The result confirms the report of Buzzell and Gale (1990) that in nearly all cases, companies that used TQM practices achieved better employee relations, higher productivity, greater customers’ satisfaction, increased market share and improved profitability.
HYPOTHESIS II:

There is positive relationship between the culture of PHCN and the application of TQM.

The hypothesis tested the extent of the relationship between the culture of PHCN and the application of TQM in the test of the hypothesis as shown in appendix 8 – 11 the correlation coefficient of 0.755 is high but not significant, since the p value – 0.14 is greater than the level of significance, hence, the null hypothesis is accepted, which concludes that there is no evidence of a positive relationship between the culture of PHCN and the application of TQM. This result aligns with Wilkins (1994:60) who maintains that a culture cannot be forced into existence by policy, but it can be effectively steered and evolved through the resolve application of appropriate employee education and training. Further evidence is provided by Atkinson (1990:256-261) that the effect of TQM on organizational culture should not be estimated, as it radically influences an organization’s strategy and is geared to changing culture in a long term.
HYPOTHESIS III:

External environmental factors exert positive influence on the application of TQM.

The study found certain factors in the political, economic, socio-cultural and technological environment to exert positive and negative influences on the application of TQM in PHCN. Appendices 12 to 15 give details of these factors and views of their influence on TQM application.

The political factors were found to be supportive of TQM application.

Technological advances were found to promote in a significant way the application of TQM in PHCN as shown in table 4.4.14, the assured Chi-square indicates a high association between the technological environment and the application of TQM in PHCN. The result aligns with that of Bird (1989:102) who maintains that most dramatic force shaping people’s destiny is technology. This result further confirms the assertion by Unruh (1996:78), that technological environment will encourage firms to be well managed and efficient, be profitable to grow, create jobs, increase the rate of economic. The influence of technological factor on application of TQM in PHCN is high.
Hypothesis III also tested the influence of economic environment on the application of TQM in this test the Chi-square statistical technique was applied. The test revealed that the economic environment does exert positively. And if an organization is to be successful, it must change continually in response to significant economic development. Similarly, the finding agreed with Dosyns and Crawford (1994:102) that in order to be successful in the global market economically organizations should dedicate themselves to improving productivity and quality in a timely and collaborative manner.

The socio-cultural factors of the environment in PHCN tend to undermine the application of TQM in PHCN. In the test of the hypothesis, it was revealed that the socio-cultural factor of the environment does not exert any positive influence on the application of TQM. The study thus confirms report of Cluther Luck et al (1993:80) that socio-cultural factors are constraints on the beliefs and attitudes of people about the way things are being done, how work should be organized, assessed and rewarded and the way people think and feel about. Similarly, the result further confirm the report by Wilkins (1994) that a culture cannot be forced into existence by policy, but it can be effectively steered and evolved through the resolute application of appropriate education and training.
Generally speaking, the external environmental factors were found to promote the application of TQM in PHCN.

**HYPOTHESIS IV:**

There is a significant difference between the extent to which employees are ready and the swiftness for adoption of TQM.

This hypothesis tested differences in the extent to which employees are ready and the softness for adoption of TQM. The result as shown in table 4.5.11 indicate that there is no significant difference between the extent, therefore the null hypothesis is accepted.
CHAPTER FIVE
SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

The objective of this research work is to determine the prospects of TQM in the Nigeria power sector.

The purpose of this chapter therefore is to highlight the findings as a consequence of the data collected, analyzed within the context and scope of the proposals. Furthermore, this chapter contains suggestions and recommendations aimed at improving the area of prospects of TQM in PHCN.

5.2 SUMMARY OF FINDINGS

In the foregoing, data have been presented and analyzed, hypothesis obtained. In a nutshell, the following key results were got from the presentation and analysis of data.

From the study, results shows that no difference exist between the PHCN staff and customers in their understanding of the relationship between top management support for quality and prospects of TQM. It is obvious from the findings that the level of support is high.
The study found out that the culture of PHCN does not favour the application of TQM. It was also discovered that certain factors in the political, economic, technological and socio-cultural environment that all of them exert influences on the application of TQM.

The study reported no significant difference in the degree of readiness and swiftness to adoption of TQM in PHCN.

5.3 CONCLUSION
The main thrust of this study was focused on the prospects of TQM in the Nigeria power sector, a study of PHCN, Kaduna distribution office. Based on the findings of the study, it is concluded that although top management support for quality and prospects of TQM in PHCN is high but the extent of application is low.

The culture of PHCN exerts negative pull on the application of TQM. Environmental factors have positive influence on the application of TQM in PHCN. However, the extent to which the staff are ready and swiftness for action is low.

5.4 IMPLICATIONS OF THE STUDY
There is strong evidence that the prospects of TQM in PHCN is high. In this vein, Buzzi and Gale (1990) stressed that in nearly all cases, companies that
used TQM practices achieved better employee relations, higher productivity, greater customer satisfaction, increased market share and improved profitability.

The bottom-line from the study is that effective TQM application and implementations significantly improve financial performance, it does pay off handsomely.

Also effective implementation means that the key principles of TQM such as focus on customer satisfaction, employees, involvement and continuous improvement are accepted, practiced and deployed within PHCN.

The evidence from the study shows that environmental factors exert influence on the application of TQM in PHCN, especially as shown by both the PHCN staff and customers.

Therefore, there is the need for PHCN to be friendly with its environment, this enable it to compete globally with firms in the power sector.

The evidence that the culture of PHCN exert no positive impact on the application of TQM, therefore, firm that wants to implement TQM effectively must have patience. It is widely accepted as stated by Heller (1995) that TQM takes a long time to implement as it requires organizational
changes in culture and employee mindset, hence, the prospects will be
realized in the long run. He emphasized that even after effective application
it still takes a couple of years before financial performance starts to improve.

5.5 SPECIFIC RECOMMENDATIONS

On the basis of the summary highlighted above the following suggestions
are recommended to strengthen the achievement of the prospect of TQM in
the Nigeria power sector. There is no gainsaying the fact that the prospect of
TQM has positive influence on its application in the Nigeria power sectors.
To fully reap the prospects of TQM the following are recommended for the
Nigeria power sector.

a. The Nigeria power sector with particular reference to PHCN should
initiate a company wide awareness of TQM through seminar and
workshop.

b. The PHCN staff should be adequately trained, and the content of
training of the staff should be such that will enhance the
implementation of the TQM.

c. For TQM to succeed or even transcends the expected or targeted
point, the top management has got to be committed to their role and
carry its people along. The entire workforce has to be indulged to
take ownership of the processes. Every PHCN staff should be
allowed and encouraged to contribute reasonably to quality
improvement and satisfaction of customers needs.

d. Organization, restructuring to suit the demands of TQM should be
undertaken to ensure complete customer satisfaction at every stage.
This will lead to not only zero defects but also getting it right first
time, this will pave the way for the organization to compete globally.
e. PHCN staff’s quality awareness and involvement through well
developed programme should be given wide publicity.

GENERAL RECOMMENDATIONS

a. Top management should be involved in continuous monitoring of the
progress of TQM at different units of the organization.
b. Government should create a conducive environment for TQM to
thrive, whereby quality improvement strategy should be evolved to
cover all the aspects of the organization.
c. International quality standard like the ISO 9000 could be invented to
judge the acceptability of the service of the power sector.
d. Review procedures should be established.
e. External consultants can be employed on the criteria to be used for the
international standard for measuring the quality of service of the
power sector.
f. There is also need for prudential arrangements, adequate supervision and consistent maintenance of the structures put in place.

g. There is the need for cooperation between the regulators and the operations, such that the rate of the regulatory authorities must be such that creates an enabling environment for the power sector to operate.

5.6 SUGGESTION FOR FURTHER READING

Having undertaken the research on the prospects of TQM in the Nigeria power sector consulting, a wide range of validated texts I would recommend that, future researchers on the same topic should adopt other instruments like interview and observation or comparative analysis with a wider coverage of literacy texts to confirm or disapprove the findings in the study.

Also a study should be replicated in other part of the country in order to confirm or disapprove the finding of the study.
BIBLIOGRAPHY


Bulmer, M. (1986), Social Research in Developing Countries: Surveys and Censuses in Third World. 3rd edition, Chichester: John Wiley and Sons Limited.


APPENDIX I

LETTER OF INTRODUCTION

Department of Management,
Faculty of Business Administration,
University of Nigeria,
Enugu Campus.


The Chief Operating Officer,
_______________________
_______________________
_______________________

QUESTIONNAIRE ON THE PROSPECTS OF TOTAL QUALITY MANAGEMENT IN THE NIGERIA POWER SECTOR (A STUDY OF POWER HOLDING COMPANY OF NIGERIA, KADUNA DISTRIBUTION OFFICE)

I am a postgraduate student of Management of the University of Nigeria, Enugu Campus and presently conducting a research work in respect of the above mentioned title in partial fulfilment for the award of MSc. Management.

Consequently, I am requesting for your kind approval to distribute the Attached questionnaire to PHCN staff and customers as your organisation is one selected for the study.

It is envisaged that this study will help the Power Sector in adopting strategies that will ensure effective application and proper implementation of the TQM in the sector. This will create effectiveness and enhance the quality of service.

Thanks for your cooperation.

Yours faithfully,

Umar, Talatu Raiya
APPENDIX II

LETTER OF INTRODUCTION

Department of Management,
Faculty of Business Administration,
University of Nigeria,
Enugu Campus.


Dear Sir/Madam,

QUESTIONNAIRE ON THE PROSPECTS OF TOTAL QUALITY MANAGEMENT IN THE NIGERIA POWER SECTOR (A STUDY OF POWER HOLDING COMPANY OF NIGERIA, KADUNA DISTRIBUTION OFFICE)

The questionnaire is defined for the collection of data that would enable the researcher, an MSc. Management student of the above stated University, to carry out the study on the above underlined subject matter. You are please required to provide answers to the items on the questionnaire.

All responses to the questionnaire shall be treated in confidence and shall be used strictly for academic purpose.

Thank you for your cooperation.

Yours faithfully,

Umar, Talatu Raiya
APPENDIX III

QUESTIONNAIRE FOR PHCN STAFF

SECTION A: Biodata of the Respondent

Please tick [ ] inside one of the boxes provided for each question to indicate your response.

1. Age of the respondent
   a. 21 – 30 years [ ]
   b. 31 – 40 years [ ]
   c. 41 – 50 years [ ]
   d. 51 years and above [ ]

2. Name of the business unit where you work

3. What is your position in the organisation?
   a. Chief Operating Officer [ ]
   b. Business Manager [ ]
   c. Head of Department [ ]
   d. Others, specify please [ ]

4. Your working experience
   a. Below one year [ ]
   b. 1 – 3 years [ ]
   c. 4 – 6 years [ ]
   d. 6 years and above [ ]

5. Highest educational qualification
   a. Primary certificate [ ]
   b. Secondary school [ ]
   c. Diploma [ ]
   d. Degree [ ]
   e. Higher Degree [ ]
   f. Others, please specify [ ]

...
**SECTION B: The Prospects of TQM in PHCN in Relation to the Attitude of Top Management**

Make a tick [☑] against the most appropriate option to indicate the extent to which you agree with the statements regarding the positive relationship between top management support for quality and prospects of TQM in PHCN.

Note that;

SA = Strongly Agree
A = Agree
U = Undecided
D = Disagree
SD = Strongly Disagree

<table>
<thead>
<tr>
<th>S/N</th>
<th>OPTION</th>
<th>Sa</th>
<th>A</th>
<th>U</th>
<th>D</th>
<th>SD</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>To management is generally happy with the quality of work passed from one department to the next.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Management ensures that the generating units are properly maintained to avoid breaking down.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>PHCN management welcomes quality suggestions from specialists of any worker in periods of need especially when there is a problem or need for improvement.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>The organisation periodically finds out the opinion of its workers on the quality of its service and top management attitude to quality programmes.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5. Top management often reminds their subordinates of problems in their jobs and encourage careful working practices

6. The commitment of top management is an essential requirement without which TQM implementation cannot succeed

SECTION C: Perceived Effect of the Culture of PHCN on the Application of TQM in the Organisation.

<table>
<thead>
<tr>
<th>S/N</th>
<th>OPTION</th>
<th>Sa</th>
<th>A</th>
<th>U</th>
<th>D</th>
<th>SD</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Organisation culture describes the basic qualities and values that characterize the ideal behaviour of a total quality organisation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Superior-subordinate relationship in the organisation is generally cordial because each of them performs his/her duties according to specifications required for quality service</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>There is the culture of trust and intimacy among the employees</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Organisational culture presents the largest and most intractable barriers to change</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Do the customers influence the application of TQM in PHCN?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION D: Influence of Eternal Environmental Factors on the application of TQM in PHCN

<table>
<thead>
<tr>
<th>S/N</th>
<th>OPTION</th>
<th>Sa</th>
<th>A</th>
<th>U</th>
<th>D</th>
<th>SD</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Influence of political factors on the application of TQM in PHCN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Economic environment is capable of influencing the application of TQM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>in PHCN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>The influence of technological environment on the application of TQM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>in PHCN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>The application of TQM in PHCN is influenced by the socio-cultural</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>environment</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION E: The level of Readiness and Swiftness for adoption of TQM in PHCN

<table>
<thead>
<tr>
<th>S/N</th>
<th>OPTION</th>
<th>Sa</th>
<th>A</th>
<th>U</th>
<th>D</th>
<th>SD</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>There is high level of readiness about TQM in PHCN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>PHCN embarks upon extensive training of personnel for efficiency and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>effectiveness in line with TQM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>PHCN is committed to quality in all aspects because it has vigorously</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>pursued and adopted TQM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>PHCN has started implementing TQM</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
APPENDIX IV

QUESTIONNAIRE FOR PHCN CUSTOMER

SECTION A: Biodata of the Respondent

Please tick [✔] inside one of the boxes provided for each question to indicate your response.

1. Age of the respondent
   a. 21 – 30 years [ ]
   b. 31 – 40 years [ ]
   c. 41 – 50 years [ ]
   d. 51 years and above [ ]

2. Sex of the respondent
   a. Male [ ]
   b. Female [ ]

3. Highest educational qualification
   a. Primary certificate [ ]
   b. Secondary school [ ]
   c. Diploma [ ]
   d. Degree [ ]
   e. Higher Degree [ ]
   f. Others, please specify [ ]

4. How long have you been a customer of the PHCN?
   a. Below one year [ ]
   b. 1 – 3 years [ ]
   c. 4 – 6 years [ ]
   d. Above 6 years [ ]
**SECTION B: The Prospects of TQM in PHCN in Relation to the Attitude of Top Management**

Make a tick [✓] against the most appropriate option to indicate the extent to which you agree with the statements regarding the positive relationship between top management support for quality and prospects of TQM in PHCN.

Note that;
SA = Strongly Agree
A = Agree
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<tr>
<td>1.</td>
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<td></td>
<td></td>
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<td>Management ensures that the generating units are properly maintained to avoid breaking down.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Top management leadership can encourage adoption of quality practice</td>
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</tr>
<tr>
<td>4.</td>
<td>TQM requires top management personal involvement in quality planning and performance</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>The commitment of top management is an essential requirement without which TQM implementation cannot succeed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION C: Perceived Effect of the Culture of PHCN on the Application of TQM in the Organisation.

<table>
<thead>
<tr>
<th>S/N</th>
<th>OPTION</th>
<th>Sa</th>
<th>A</th>
<th>U</th>
<th>D</th>
<th>SD</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Organisation culture describes the basic qualities and values that characterize the ideal behaviour of a total quality organisation</td>
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<tr>
<td>2.</td>
<td>Organisational culture presents the largest and most intractable barriers to change</td>
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<tr>
<td>3.</td>
<td>Do the customers influence the application of TQM in PHCN?</td>
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SECTION D: Influence of Eternal Environmental Factors on the application of TQM in PHCN

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<tbody>
<tr>
<td>1.</td>
<td>Influence of political factors on the application of TQM in PHCN</td>
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<tr>
<td>2.</td>
<td>Economic environment is capable of influencing the application of TQM in PHCN</td>
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<td>3.</td>
<td>The influence of technological environment on the application of TQM in PHCN</td>
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<td>4.</td>
<td>The application of TQM in PHCN is influenced by the socio-cultural environment</td>
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## SECTION E: The Level of Readiness and Swiftness for adoption of TQM in PHCN

<table>
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<th>U</th>
<th>D</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>There is high level of readiness about TQM in PHCN</td>
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<td>2.</td>
<td>PHCN is committed to quality in all aspects because it has vigorously pursued and adopted TQM</td>
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<tr>
<td>3.</td>
<td>PHCN has started implementing TQM</td>
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</tbody>
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