International Journal of Scientific Research in Engineering and Management (IJSREM)
Volume: 08 Issue: 05 | May - 2024 SJIF Rating: 8.448 ISSN: 2582-3930

TOTAL QUALITY MANEGMENT

Mr. RAVINDRA LALU HAMARE

UNDER THE GUIDANCE OF **Prof.Amol Baviskar**
MASTER OF MANAGEMENT STUDIES IN OPRATION MANAGEAMENT
Alamuri Ratnamala Institute of Engineering and Technology

ABSTRACT

Title: Total Quality Management: A Test of the Effect of TQM on the Performance and Stakeholder Satisfaction

Background and Problem Discussion: The performance of TQM Airlines and Non TQM airlines is measured comparing statistically three major performance indicator Customer satisfaction, Employee satisfaction and Operational effectiveness. To establish a link between TQM and performance and showing the need for the adoption of total quality culture in the local airline sector of the Nigeria aviation industry.

Purpose: The purpose of this thesis is to highlight the benefit of TQM implementation in the Nigerian Airline industry by examining the basic principles of TQM in the airlines. The impact of TQM implementation of the three performance indicator will be assessed.

Method: Quantitative and qualitative method. Primary data is collected from the airline companies by questionnaires and interview. Secondary data is gotten from articles, journals and online resources.

Theory: The theory section looks at different concepts of quality as defined and viewed by various authors. Also the benefits and hindrances of TQM implementation were reviewed.

Analysis: We have used a T-test hypothesis to measure the difference in means of TQM airline and Non-TQM airlines using the three performance indicator.

Conclusion: The research findings confirmed the benefits that ensue from the implementation of TQM. It showed that TQM is a strategic tool industry can employ in the quest to remain competitive. It was also discovered that for the TQM to be properly implemented, everybody in the organization must be involved from the management to the employees and even the customers.

CHAPTER 1

1 INTRODUCTION

1.1 THE BACKGROUND OF THE STUDY

Total Quality Management (TQM) is a management philosophy which focuses on the work process and people, with the major concern for satisfying customers and improving the organizational performance. It involves the proper coordination of work processes which allows for continuous improvement in all business units with the aim of meeting or surpassing customer's expectations. It emphasizes on totality of quality in all facets of an organization with the aim of reducing waste and rework to reduce cost and increase efficiency in production.

TQM is applicable to any organization irrespective of size, and motives, even the public sector organization are fast adopting the ideology in order to make them effective in meeting public demands. However, the adoption of the ideology by most organization has been hampered due to their noncompliance with the procedures and principles of TQM implementation. While some organization, run TQM like a program which they expect to function and perform the magic all by itself, others have used a halfhearted approach to it, by using some bits and pieces of the principles. This has accounted for the failure of most organization in meeting up to their expected target from implementing this ideology.

The deregulation of the airline industry in most part of the world marked the beginning of a new realm of competition in the industry. The deregulation n ensured that airlines set fares and service

levels based on the market situation (Rhoades and Waguespack, 1999).

1.2 RESEARCH MOTIVATION

The change in consumer behavior has made most producers of goods and services to tailor their products to meet the requirement of potential buyers. Thus, most organizations are concerned about how to satisfy their customers through improved services which is tailored to meet or exceed the expectation of customers. Even as organizations strive to meet customer's expectation, there still exist some flaws in the process involved in service delivery. Rather than take the whole process as a matter of importance, most local Airlines in Nigeria narrow down their quality approach to few operations in other to cut cost. The emergence of new airlines into the market is now changing the face of competition in the industry, as these airlines tend to adopt a total quality management ideology. The advantage this brings to them can be viewed in terms of increased patronage over time.

The improvement in quality can result in increased market share and profitability. Implementation of TQM further ensures that organizations change how they perform activities so as to eliminate inefficiency, improve customer satisfaction and achieve the best practice. Porter noted that constant improvement in the effectiveness

of operation is essential but not a sufficient factor for organisation to be profitable

1.3 THE NEED FOR BENCHMARKING IN THE NIGERIAN AIRLINES

Benchmarking is one of techniques used by TQM firms in their continuous improvement drive. According to Rank Xerox, cited in 'benchmarking is defined as the continuous process of measuring product services and processes against strongest competitors or those renowned as world leaders in their field'. The idea behind this is to understand and evaluate the present position of a business in relation to the best practices and draw up areas for improving performance.

. The TQM airlines on the other hand will have to continue to improve their services by looking at what obtains in other parts of the world in order to meet or surpass customers' expectations.

1.4 RESEARCH QUESTION

In this thesis, we will intend to answer the following questions:

1. What is the stand of the Nigerian local airlines today as regards TQM?
2. What are the quality levels of local airlines in Nigeria?
3. What are the problems possibly faced in the implementation of TQM in the Nigeria airline industry?
4. Who is likely to the effect of TQM implementation on the airline industry?
5. What are the compares and contrast in performance of TQM Airlines and Non TQM airlines?
6. What will be the benefit of TQM implementation in the local Nigeria airlines industry?
7. What are the basic principles that the local Nigeria airline industry can adopt to implement TQM?
8. How can the old airlines afford quality improvement and who will lead the quality improvement process?
9. Will Nigeria airline see TQM a means to improve their services?
10. How does the finding fit with the theory in the field?

1.5 OBJECTIVE AND AIM OF THE RESEARCH

The main objectives of this research are to highlight the benefit of TQM implementation in the Nigerian Airline industry by examining the basic principles of TQM in the airline.

It will thus compare and contrast the performance of TQM Airlines and Non TQM airlines by measuring statistically three major added values namely-:

- Customer satisfaction
- Employee satisfaction

- Operational effectiveness

The outcome of these comparison if positive, will show the need for benchmarking by the non- TQM airlines, in other to derive the value created by its implementation, if not the researcher will assess the problems associated with the implementation of this ideology by the TQM airlines by drawing inferences from the various interviews conducted outside the use of data gathered from the questionnaire.

CHAPTER 2

2 LITERATURE REVIEW

2.1 INTRODUCTION

This chapter reviews the concept of quality by assessing the various definitions and views of numerous authors. A general frame work of what quality is all about is discussed under the elements of quality. Since the research is more concerned about the effects of TQM on service quality, the literature also looks at the concept of service and service quality and how it is being assessed by the organization and the customers alike. The road path to TQM implementation follows the concept of service quality, where the various stages and characteristics of these stages are discussed.

The concept of TQM under review looks at the contributions of its founding fathers to the tenets of TQM. The benefits of TQM and the hindrance to its implementations are reviewed. Finally, the literature gives an overview of the Nigerian aviation industry and the need for benchmarking its activities with the world best.

2.2 THE CONCEPT OF QUALITY

Quality is a significant element of production or services in keeping the customers satisfied. There are different definitions and competing views of the term quality by different people and the common element of the business definitions is that the quality of a product or service refers to the perception of the degree to which the product or service meets the customer's expectations. Crosby, (1979) defined quality as the conformance to requirements or specifications and also suggested that to manage quality adequately; it must be able to be measured. ISO 9000: (2000) (cited in Vorley and Tickle, 2001) defined quality as the degree to which a set of inherent characteristics fulfil requirements.

The American Society of Quality sees quality as being subjective, with different individuals having their own perception of it (www.asq.org, assessed 29/10/08). To them, quality can be seen as having two meanings – the characteristics of the product or service ability to satisfy a particular need or a product or service devoid of faults.

2.3 QUALITY MANAGEMENT

Quality management involves the formulation of strategies, setting goals and objectives, planning and implementing the plans; and using control systems for monitoring feedback and taking corrective actions. An

organization's quality management implementations are of two folds-

a) Satisfying customer's expectation and

b) Improvement in the overall business efficiency The basic goal of quality management is the elimination of failure; both in the concept and in the reality of products, services and processes. This does not only mean that product, services and processes will fail in fulfilling their function but that their function was not what the customer desire. Failure must be prevented in quality management and to handle this there should be planning, organizing and controlling.

2.3.1 INSPECTION

According to (ISO 8402, 1986) inspection can be defined as 'activities such as measuring, examining, testing, gauging one or more characteristics of a product or service and comparing these with specified requirements to determine conformity'. It involves the examination, measurement and testing of the characteristics of a product or service and the comparison to specified requirement and to access if the characteristics conform to specified requirement.

2.3.2 QUALITY CONTROL

Quality control is a conventional way that businesses have used to manage quality. Quality control is concerned with checking and reviewing work that has been done. This is mainly done by inspection of products and services (checking to make sure that what's being produced is meeting the required standard) take place during and at the end of the operations process. defined

quality control as the regulatory process through which we measure that actual quality performance, compare it with standards, and act on the difference. It is a more sophisticated management tool aims at preventing goods and services which do not conform to basic requirements from getting to the final consumer. Quality controls are operational techniques and activities that are used to fulfil quality requirement (ISO 8402, 1994). As a measure of quality, quality control however is costly when viewed in terms of tangible and intangible variable cost. It could also result in the production of substandard goods and services when conducted late in the process of production

2.3.3 QUALITY ASSURANCE

Quality assurance is focused on the prevention of the production of non conforming product and much emphasis is placed on the activities involved in the process of production. Thus, it is a management design aimed at controlling quality at all stages of production to prevent quality problems from emerging.

2.3.4 TOTAL QUALITY MANAGEMENT

This is the highest level of quality management. It is concerned with the management of quality principle in

all the facets of a business including customers and suppliers (Dale et al, 1994, Lockwood et al, 1996). Total Quality Management (TQM) involves the application of quality management principles to all aspects of the organization, including customers and suppliers, and their integration with the key business processes. It is an approach which involves continuous improvement by

everyone in the organisation. TQM is a principle which involves the mutual cooperation of everyone that aids the business process of an organisation and it involves all the stake holders of an organisation. Dale et al, ((a) 1994) cites BS.4778; part 2(1991) where

'TQM is defined as a philosophy embracing all activities through which the needs and expectations of the customer and the community, and the objectives of the organization are satisfied in most efficient and cost effective way by maximising the potentials of all employees in a continuing drive for improvement.'

According to Mohammed (2006), TQM is an effective system for integrating the quality development, quality maintenance and quality improvement efforts of various aspects of a system so as to enable services at most economical level and derive full satisfaction.

Table 2.1 The stages of Quality management and Characteristics

TOTAL QUALITY MANAGEMENT	Policy deployment Involves suppliers and customers Involve all operations Process management Performance Measurement Team work Employee involvement
QUALITY ASSURANCE	Quality system development Advanced quality planning Comprehensive quality manuals Use of quality costs Involvement of non-production operation Failure mode and effect analysis
QUALITY CONTROL	Develop quality manuals Process performance data Self inspection Product testing Basic quality planning Use of basic statistics Paper work control
INSPECTION	Salvage Sorting, grading and re-blending Corrective actions Identify sources of non-conformance

Source- Adapted from Dale et al, (1994)

2.3.4.1 STAGES OF TQM IMPLEMENTATION

Dale et al, ((b) 1994) identified six different levels of TQM implementation, these includes- uncommitted, drifters, tool pushers, improvers' award winners and world class. According to them, these stages do not necessarily represent the stages through which organization's pass on their TQM journey. These levels according to Dale et al are to help organization in identifying their weaknesses and proffering solutions to them through the use of continuous improvement.

➢ Uncommitted: - This stage represents organisations that have not started a formal procedure of quality improvement. Organisations in this stage view quality improvement as an added cost and thus have no investment in quality improvement programmes such as training of employees. Organisations in this stage are termed uncommitted because they are not aware of the benefit of quality improvement and lack an appropriate quality improvement plan (Dale et al, (b) 1994). The management of these organisations are characterized by an emphasis on return of sales and net asset employed.

Other common features of this level as highlighted by Dale et al ((b) 1994), this include

- A major concern for meeting sales target.
- Employees show little or no concern for quality.
- Full inspection of materials is carried on incoming material and at strategic points during the process of production.
- Lack of communication among the various units of production even between the top management and front line employees.
- Minimal contact with customers.

➢ Drifters**: -** These are organisations that have engaged in a process of quality improvement for up to three years and have followed the available advice and wisdom of TQM. The management of the organisations in this stage tend to review the performance of the firm based on the implementation of TQM and expect immediate gains from it. These organisations view TQM as a programme rather than a process thus making the policy have a low profile among employees. Dale et al ((b) 1994) noted that organisations with such an approach to management are termed drifter because they drift from one programmer to the other in a start stop fashion with concepts, ideas and initiative being reborn and re-launched under different guises.

➢ Tool pushers: - Organisations in this category look at quality improvement programs but in most cases fail to use such tools appropriately. They adopt quality management tools such as quality cycles, quality improvement groups Some characteristics of the drifters includes –

- A major concern for meeting sales target.
- Solving current problems rather than future problems

- Non commitment of every senior management to TQM
- TQM does not operate in every facet of the organisation.

Companies under this category are more experienced in quality improvement when compared with the drifters.

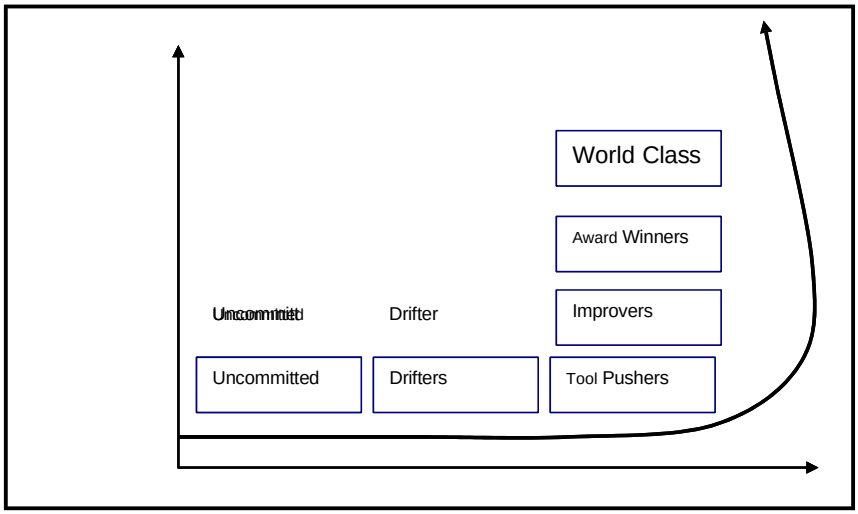
➢ Improvers**: -** Organisations in this category have engaged in a process of quality improvement for between five and eight years and during this time made important advances (Dale et al, (b) 1994). They understand that total quality involves long term cultural change and have recognised the importance of cultural change and the importance of quality improvement. Dale et al, ((b) 1994)

explained that organisations in this category are termed improvers because they are moving in the right direction and have made significant progress but still have a long way to go. This is because the implementation of TQM is dependent on a few managers to sustain the drive and direction of the improvement strategy.

➢ Award Winners: - These organisations are termed award winners because they have attained a point in their TQM maturity where the kind of culture, values and trust capabilities relationship and employee involvement has become total in nature and encompasses the whole organisation (Dale et al (b) 1994). In these type of organisation every member of staff recognises the importance of quality and all effort is made to maintain a quality standard

➢ World class:-According to Dale et al, ((b) 1994) these organisations are characterised by the total quality improvement and business strategies to the delight of customers. The organisations that have attained this stage are always in search of opportunities to improve their services to satisfy customers.

Figure 2.1: Levels of TQM adoption



2.4 MAJOR PRINCIPLES OF TQM

Before an organisation can rip the benefit from TQM implementation, some principle would have to be

enshrined into the organisation's culture. This section of the literature reviews these principles in relation to TQM implementation. The principles are discussed below:-

2.4.8 TOP MANAGEMENT COMMITMENT AND LEADERSHIP

TQM requires effective change in organisational culture and this can only be made possible with the deep involvement/commitment of management to the organisation's strategy of continuous improvement, open communication and cooperation through out the organisation. TQM implementation improves the organisational performance by influencing other TQM dimensions (Kaynak, 2003). According to Oakland (1993), 'to be successful in promoting business efficiency and effectiveness, TQM must start at the top with the chief executive'.

2.4.2 CUSTOMER FOCUS

TQM is an ideology which is focused on the satisfaction of customer's need. Thus, most organisations try as much as possible to meet or exceed customer's expectation in their daily activity and also their long term plan . TQM require organisations to develop a customer focused operational processes and at the same time committing the resources that position customers and meeting their expectation as an asset to the financial well being of the organisation. Filippini and Forza explained that it is necessary for organisation to maintain a close link with their customers in order to know their requirements and to measure how it has been successful in meeting up to customers' requirements. According to Muffatto and Panizzolo , a high level of customer satisfaction is obtained solely by providing services or products whose features will satisfy customer's requirements or needs. The customer's needs and expectation serve to drive development of new service offering.

2.4.3 TOTAL INVOLVEMENT

In the traditional sense, employee involvement was conceived to mean a 'feeling of psychological ownership among organisational members'. Unlike what obtains in the TQM ideology, the traditional employee involvement is narrow-minded; it is job-centred rather than process-centred. The TQM approach involves 'achieving broad employee interest, participation and contribution in the process of quality management' (Dale and Cooper, 1993). The concept assumes a company wide quality culture, which gives autonomy or a level of freedom to employees in taking decisions that affect their job. Thus, employees are encouraged to perform function such as information processing, problem solving and decision making (Dimitriades, 2000).

2.4.4 CONTINUOUS IMPROVEMENT

Continuous improvement means 'a commitment to constant examination of the technical and administrative process in search of better methods' (Fuentes-Fuentes et al, 2004). Turney and Anderson (1989) defined continuous improvement as the relentless pursuit of improvement in the delivery of value to customers. This

was supported by Dean and Bowen (1994), who argued that customer satisfaction can be attained only through the relentless improvement of processes that create product or service.

Total quality management involves the design into the process of production, a system of continuous improvement. This contains regular cycles of planning, execution and evaluation . According to Oaklan, 'the focus on continuous improvement will lead to the formation of formidable team whose membership is determined by their work on the detailed knowledge of the process, and their ability to take improvement action'

2.4.5 TRAINING

Training helps in preparing employees towards managing the TQM ideology in the process of production. Training equips people with the necessary skills and techniques of quality improvement. It is argued to be a powerful building block of business in the achievement of its aims and objectives (Stahl, 1995). Through training, employees are able to identify improvement opportunities as it is directed at providing necessary skills and knowledge for all employees to be able to contribute to

ongoing quality improvement process of production. Stahl argued that training and development programme should not be seen as a one time event but a lifelong process.

2.4.6 TEAM WORK

A well-structured team will aid the effective production of goods and services through the integration of activities involved in the process of production. Dale et al (1994) noted that team work is a key feature of involvement. To him, team work aids the commitment of the workforce to the organisational goals and objectives.

The researchers believe it is essential to have a team made of people with right attitudinal disposition to working in groups so as to realise the gains of quality management. To them, the proposed improvements have a way of changing the attitudes of employees that are resistance to change.

Some of the benefits of Team work as highlighted by Oakland are listed below

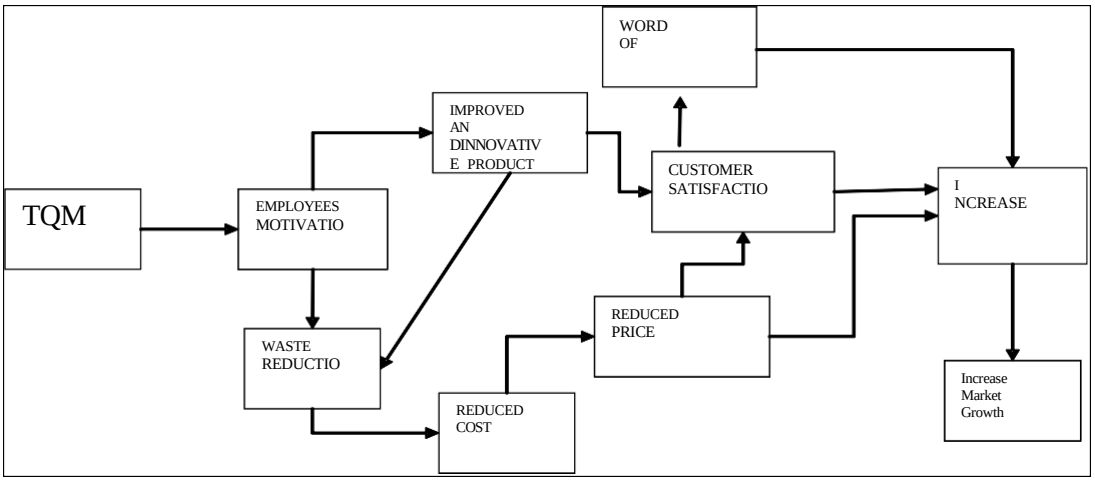
- Recommendations made by teams are more likely to be accepted and implemented where the team is highly formidable, unlike the individual suggestion which represents just an individual's opinion.
- A greater variety of complex problem will be tackled i.e. problems beyond the capability of an individual or department can be handled more efficiently through the pooling of resources together.
- Working in teams exposes a problem to a great variety of knowledge thus problems beyond functional departments can be solved more easily.
- Team work will boost workers morale and ownership through participation in problem solving and decision making.

2.5 BENEFITS OF TQM IMPLEMENTATION

The effective implementation of TQM will increase customer satisfaction with the service offerings . Quality

enhances customer loyalty through satisfaction; this in turn can generate repeat business and lead to the attraction of new customers through positive word of mouth. The word of mouth communication will help in cost reduction. This Omachonu and Ross , noted will provide competitive edge to the company. The improvement in quality will result in increased market share and profitability (Figure 2.3)

Figure 2.2 An adaptation of the effect of quality management



Total quality management is a management philosophy which emphasises the devolution of authority to the front line staff. It ensures the participation of every one in the decision making process through activities such as quality cycles and team work.

LIMITATIONS TO THE IMPLEMENTATION OF TQM

Oakland, (1995) identified factors that hinder the implementation of TQM. These include the thought that its implementation can be time consuming, bureaucratic, formalistic, rigid and impersonal. Ugboro and Obeng, (2000) in their research they found out that the half hearted implementation of TQM is a major reason for its failure in most organisations. According to them, organisations are only willing to implement just those aspects of TQM which is supported by existing organisational culture. Their findings revealed that employees did not feel as part of the decision making process and their ability to make contributions to quality improvement were restricted due to the limited authority granted them to carry out their activities..

TQM AND THE AIRLINE INDUSTRY

The deregulation of the airline industry in most part of the world marked the beginning of a new realm of competition in the industry. The deregulation ensured that airlines set fares and service levels based on the market situation (Rhoades and Waguespack, 1999). In trying to gain competitive advantage, airlines try to outshine their competitors by providing quality services that meets or exceeds the expectation of customers'. Thus, customer satisfaction in the airline industry is never ending as they face numerous challenges and competition daily. This makes Quality management critical to the airlines as they strive to continuously

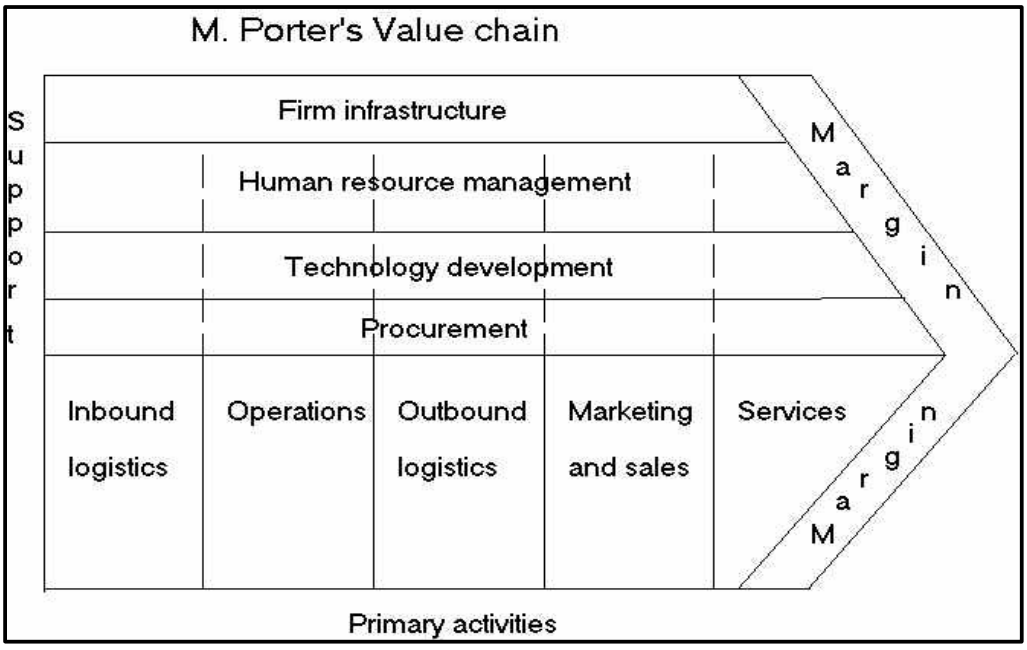
improve their services to meet customers' expectation.

- to satisfy customer's needs and requirement
- to meet the corporate objectives of the company
- to outperform competitors through product differentiation

These three reasons are interrelated as one is said to lead to the other. The satisfaction of customers will lead to increased patronage which will eventually lead the company in meeting its corporate objective of profitability, thus making more money for investors.

The researchers' view of the airline industry as a network of activities involving different operating units some of which are outsourced due to regulations in the industry and also due to the need to benefit from the expertise of others who are specialised in such field so as to derive economies of scale. The implementation of TQM involves the buying in of these different units involved in the process of service delivery into the ideology and practices of quality management, which should be championed by the leadership of the airlines. That is, the support and primary activities of service delivery must inculcate quality in their activities.

Figure 2.3 Value Chain



Source: Mellahi, Frynas, and Finlay (2005)

1.1 OVERVIEW OF THE NIGERIAN AVIATION INDUSTRY

Development in Nigeria aviation sector is believed to have begun when the Royal Air force plane made the

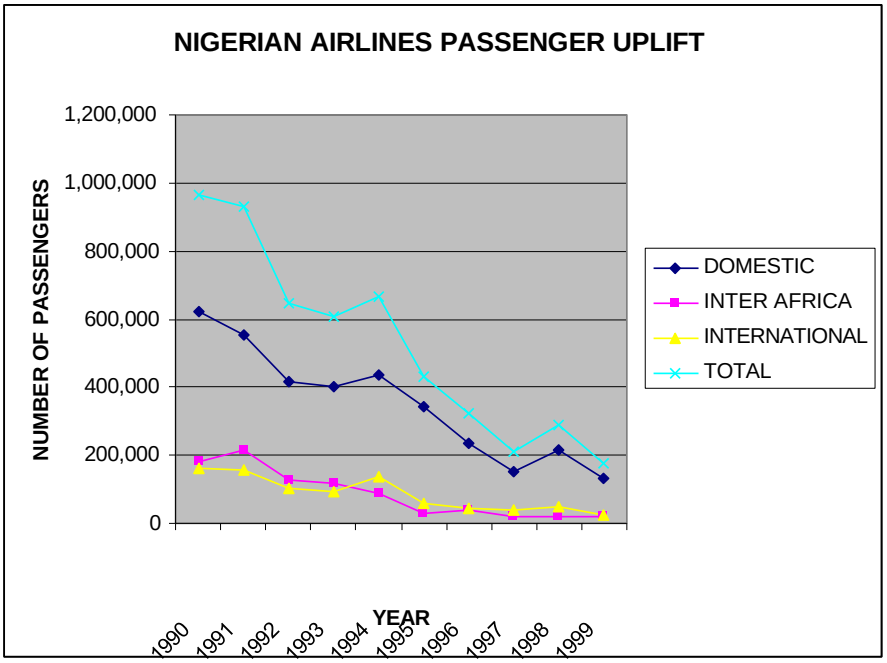
pioneering flight to the race course in Kano, from Khartoum in the 1920s. The first civil airplane which flew from Lagos to Kano was privately owned. By 1936, the Royal Air Force threw open its airfields to commercial aviation.

The first commercial flight to Nigeria was operated by the Imperial Airways which began its services to Nigeria with four-engine De Havilland DH86 bi-planes. British Overseas Airways Corporation (B.O.A.C) later introduced its aeroplanes - the Argonauts and strato cruisers which landed in Kano and Ikeja airports from London taking 14 - 15 hours. After the Second World War, the West African Airways Corporation (WAAC) was established in 1946 in the four British colonies of Nigeria, Ghana, Gambia and Sierra-Leone with a fleet of De Havilland Dove (DH-104), Bristol Way Farers and Freighters (B-170.The Nigerian Airways in its hay days had about 19 aircrafts, 9000 staffs which included 250 pilots, flight and maintenance engineers (Adapted from F.I. Sotunde, 1990).

The growth and development of aviation in Nigeria mirrors the Nations political growth, as air transportation grew as an instrument of colonial bureaucracy. This later had a negative influence on the structure and development of the industry, as a result of it being dominated by public sector (Sotunde, 1990). The planning, development and management of the industry therefore reflected the peculiarity and weaknesses of public sector enterprises.

The combined effect of mismanagement, commercial monopoly, growing cost, bad policies and unfriendly business environment resulted in the non–realization of the objectives for which the national carrier was set up and this was reflected in loss of passengers over time (Figure 2.4)

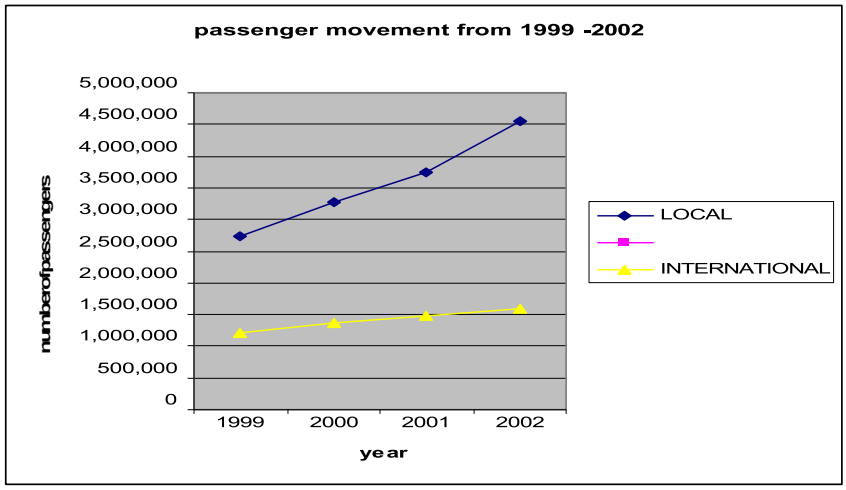
Figure 2.4 Nigerian Airway Passengers Uplift



Source: Adapted from FMA (2000)

The advent of the democracy in Nigeria in 1999 saw the government initiating policies which were geared to revamping all the sectors of the economy. These policies were witnessed by the influx of both foreign and national investors in different sectors of the economy which account for the increase in the number of local and international flights operated by local airlines. See Figure 2.5 below

Figure 2.5 Passenger Traffic (Nigeria) from 1999-2002



Source: Adapted from FMA, (2003)

The aviation industry on its part saw the emergence of new carriers, such as Aero-contractors, Virgin Nigeria and Arik Airlines to the market. Since then, the face of competition seem to have changed, as these airlines for the first time in several years brought in brand new planes into the skies of Nigeria. Asides, these new airlines have a customer driven ideology, through the range of services

rendered to customers and their management approach to service delivery. As a result of these events a correlated passenger shift was observed based on quality of service being offered by the new airlines. Within the few years of operation, the frequency of flights of these new airlines has increased indicating that most air travellers are more willing to use their services. Thus, there is a need for the management of the old airlines to improve the quality of services in all areas of operation.

Mohammed (2006) explained that airlines in Nigeria have much role to play in meeting the expectations of passengers as they serve as the bedrock of success of the Aviation industry. According to him, the more people fly, the more the revenue for the company as well as the regulatory authority.

Table 2.2 Critical Success Factors of Nigerian Aviation Industry

Capital	Technology	Customer Service
Adequate Capitalization Acceptable Funding	Upgrades the IT infrastructure Enhanced Performance	Creating a market focus Timely Service Delivery
Adequate Capacity Utilization		Customer Focused services Market driven Pricing
Safety	**People**	**Operational Efficiency**
High Safety Standards Effective Maintenance Culture Well equipped to handle emergencies Adequate fleet of aircraft	Skilled Innovation Shared vision Well motivated Empowerment	Least Cost operation Shield against competition threats

Source – Action plan of the Federal Ministry of Aviation, Nigeria 2000

Today, the Nigerian aviation industry needs improved funding and more investment in infrastructure to give the sector the capacity to profitably meet the needs of a fast growing market and fit into the global aviation industry of the present time. The prospects for commercial air transportation in Nigeria are bountiful but would depend on the airlines adaptability to the aviation environment of the 21st century and beyond. Competition laws rather than regulations will guide commercial operations. The future, however, calls for increased enforcement of good management philosophy and security regulations by regulatory agencies via increased use of modern technology. There is the need for all stake holders to be committed to managing quality efficiently so as to reap the benefits of that will accrue from meeting travellers' expectations.

1.1 SUMMARY OF LITERATURE

Quality is a major determinant of customers' buying behaviour as shown in the review, thus organisations focused on satisfying customers' demands adopt measures through which the demands and expectations of customers are met. This is in order to remain competitive while ensuring that the organisation remains profitable.

The adoption of the TQM approach is to ensure that organisations manage quality at all functional areas of operation without giving room for lapses in the inter functional processes of operations. It is an ideology which is holistic and allows for the participation and contribution of everybody to the quality improvement drive of the organisation. This is aimed at satisfying customers and all stake holders alike, as the implementation brings about added value to the organization.

CHAPTER 3

2 THEORETICAL FRAME WORK AND METHODOLOGY

2.1 INTRODUCTION

This chapter describes the research design applied for the conduction of this study. The chapter examines the purpose of the study, the techniques used to conduct the research, as well as the design of the sample, the data collection methods and the data analysis process. Furthermore, justification of each choice made regarding the mentioned issues are included, in order for the research design to be supported.

This chapter is divided into two sections, the theoretical framework and the methodology. The first section will give an insight into the theory which is used as a framework for this research, while the second section explain the rational behind the methods used for the research.

2.2 PURPOSE OF THE RESEARCH

The main objectives of this research are to highlight the benefit of TQM implementation in the Nigerian Airline industry by examining the basic principles of TQM in the airlines. The researchers thus compared and contrasted the performance of TQM Airlines and Non TQM airlines by measuring statistically three major added values namely-:

- Customer satisfaction
- Employee satisfaction
- Operational effectiveness

These three areas assumed to be the benefits that will accrue airlines if they effectively implement total quality management. In summary, this research will assess the impact of TQM implementation on the aforementioned variables. The literature review has earlier highlighted, some of the benefit that accrues to an organisation from the implementation of TQM, with authors linking it with the aforementioned variables.

2.3 THEORETICAL FRAMEWORK

“A theoretical frame work is a conceptual model of how one makes logical sense of the relationship among the several factors that have been identified as important to the problem” (Sekeran, 2003). Cases and variables are always part of elements used in research.

Cases are objects whose behaviour or characteristics studied. Usually, the cases are persons. But they can also be groups, departments, organizations, etc. They can also be more esoteric things like events (e.g., meetings), utterances, pairs of people, etc.

Variables are characteristics of cases. They are attributes and qualities of the cases that is measured or recorded. For example, if the cases are persons, the variables could be gender, age, height, weight, feeling of

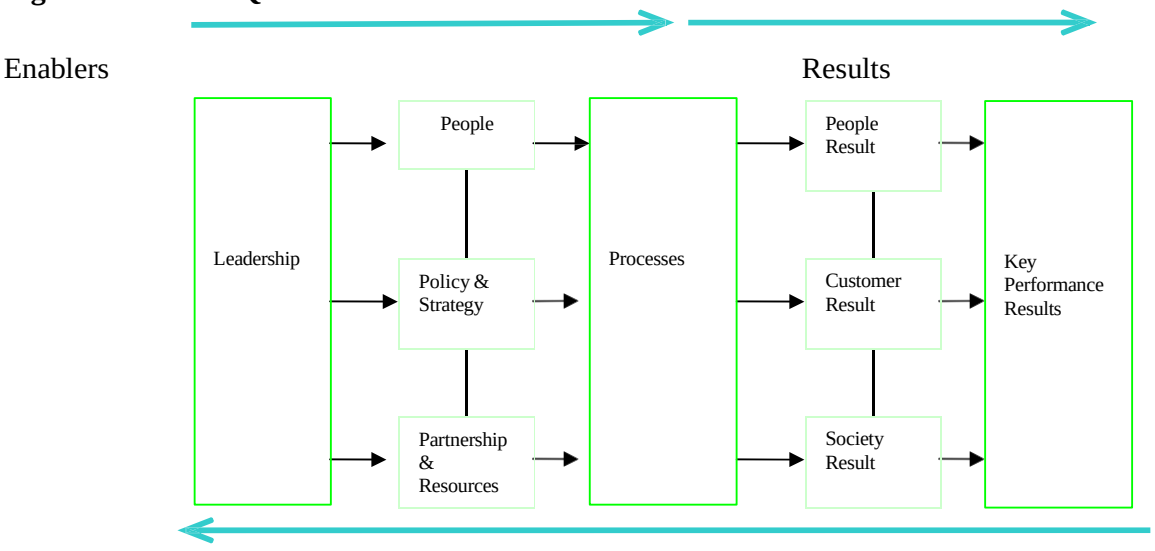
empowerment, math ability, etc. Variables are called what they are because it is assumed that the cases will vary in their scores on these attributes. For example, if the variable is age, we obviously recognize that people can be different ages.

(Adapted from http//www.analytictech.com)

EFQM (European Foundation Quality Model)

According to Dubas and Nijhawan (2005), the European Foundation Quality Model (EFQM) Excellence Model is a non-prescriptive framework based on nine criteria. Five of these are 'Enablers' and four are 'Results'. The Enabler criteria cover what an organization does. The Results criteria cover what an organization achieves. Results are caused by Enablers and feedbacks from Results help to improve Enablers. It contains a set of nine weighted criteria that are utilized in the assessment process. The Model is based on the premise that: Excellent results with respect to Performance, Customers, People and Society are achieved through Leadership driving Policy and Strategy, that is delivered through People Partnerships and Resources, and Processes. The EFQM Excellence Model is depicted below in Figure 3.1.

Figure 3.1 The EFQM Model



Source- Dubas and Nijhawan (2005)

The EFQM model is based on the idea that customer satisfaction, people satisfaction and impact on the society are achieved through the leadership driving policy and strategy, people management, resources and processes, leading ultimately to business results.

Organisations that are characterized by a relatively high degree of customer and employee satisfaction are believed to have a positive effect on society, will excel and achieve business results (Porter and Tanner, 1996). This is based on the fact that results are achieved through key processes which are funded and supported by skilled people with a clear direction. For an organization to achieve results, it must have an able executive leadership which drives the enablers of business success.

➢ **ENABLERS**

- Leadership - The driver of the business who gives direction to business objectives, it is concerned about how the top management inspire and drive total quality as a vital process for continuous improvement.
- People management - This involves how the company harnesses the potential of her employees in order to improve the business continuously. With EFQM covering training, evaluation, effective human resources development, team work, empowerment, rewards and recognition. It ensures the effective development of people's skill, time and effort.
- Policy and strategy - How the firm's policy reflects the concept of total quality and how this principle is being used to determine improvement strategy. It covers product, service quality and organizational policy and strategy.
- Partnerships and Resources management - This involves how the resources of the company are disbursed to support quality initiatives. Active encouragement of supplier partnership is given, with emphasis on mutually beneficial relationships. On resources, the facilities need to be maintained for capability, and materials should be conserved.
- Processes – The efficient managing of processes to ensure that business objectives of value creation are achieved. It involves identifying and reviewing the processes involved in production so as to deliver the organization's strategy.
- Employee Result - People are supposed to be adequately surveyed, with ideas such as team briefings and suggestion schemes incorporated.
- Customer Results - This is external customer's perception of the company's product. This requires evaluation of customer satisfaction through surveys and interviews. Loyalty and market share are measures.

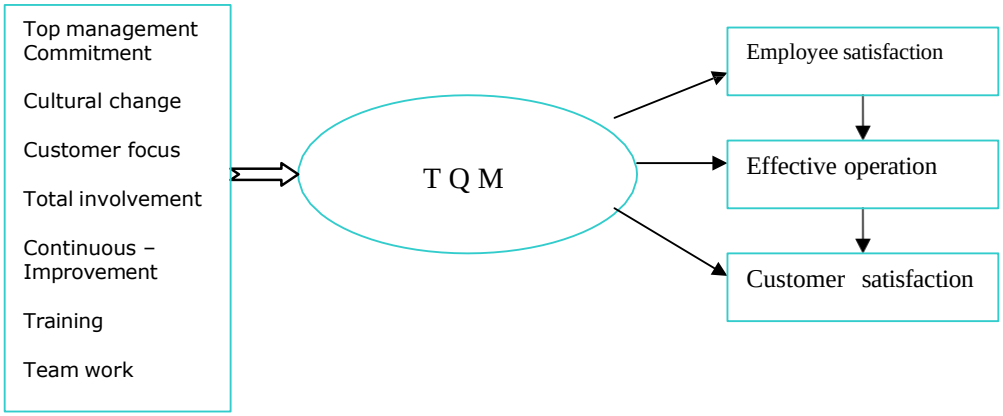
- Key Performance results – what the company is achieving in relation to its planned business. EFQM requires a "balanced scorecard" type approach, as well as cost of quality, product and process measures.

HYPOTHESIS FORMULATION

This gives an insight into how the researchers derived the hypothesis formulated for this research. Three major hypotheses will be tested in this research which will help to answer the research questions highlighted in

chapter one. The hypothesis development is divided into three parts, namely employee satisfaction, effective operations and customer satisfaction (Figure 3.2).

Figure 3.2 Dissertation model



Source – Researchers' (2008)

2.3.1 EMPLOYEE SATISFACTION

An employee must be happy with his job for they are a crucial part of an organisation in implementing its strategy and be well informed as to how they affect customers; this can lead to a great performance in the company.

A successful TQM environment requires a committed and well-trained work force that participates fully in quality improvement activities. Such participation is reinforced by reward and recognition systems which emphasize the achievement of quality objectives. On-going education and training of all employees supports the drive for quality. Employees are encouraged to take more responsibility, communicate more effectively, act creatively, and innovatively. As people behave the way they are measured and remunerated, TQM links remuneration to customer satisfaction metrics

(http://www.johnstark.com/fwtqm, last assessed 20/11/08), In the airline industry, which is characterised by a substantial level of contacts with customers, employees play a rather crucial role in creating customer satisfaction, through their service delivery approach. The goal of any business is profitability, but the manners in which they achieve this differ from firm to firm depending on the type of organisation either for manufacturing or service

Hypothesis 1 - TQM Airlines will have a higher degree of employees' satisfaction than NON TQM airlines.

- H_0 - There is no difference in employee's satisfaction in TQM airlines and non TQM airlines.
- H_1 - There is a significant difference in employee satisfaction between TQM airlines and non TQM airlines.

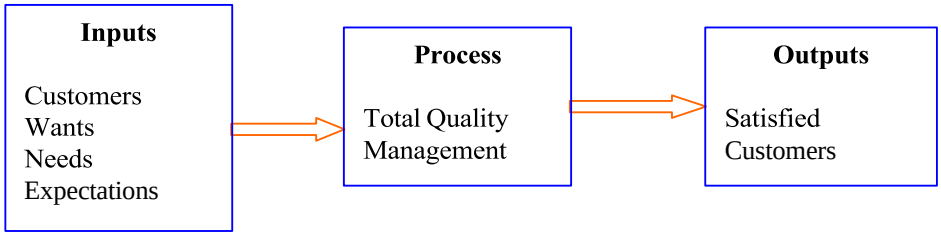
2.3.2 CUSTOMER SATISFACTION

For a business the customer comes first. Customer satisfaction is seen as the company's highest priority. The company believes it will only be successful if customers are satisfied. The TQM Company is sensitive to customer requirements and responds rapidly to them. In the TQM context, being sensitive to customer requirements' goes beyond defect and error reduction, and merely meeting specifications or reducing customer complaints. The concept of requirements is expanded to take in not only product and service attributes that meet basic requirements, but also those that enhance and differentiate them for competitive advantage. (http://www.johnstark.com/fwtqm.html last assessed 20/11/08)

TQM emphasises a customer focus approach to service delivery. Thus, focus is placed on the need to improve the quality of service provided to customers by understanding the needs and problems of customers (Figure 3.3). To maintain a high level of customer satisfaction, airlines need to understand their customer's needs and compare it with organisational performance in meeting these needs. According to Muffatto and Panizzolo (1995), a high level of customer satisfaction is obtained solely by providing services or products whose features will satisfy customer's requirements or needs

.

Figure 3.3 Model of TQM Process



Source- Jordan (2002)

The main arguments of most authors are that increased customer satisfaction will increase customer loyalty and will bring about repeat purchase; while on the contrary, it is believed unsatisfied customers will defect to other services which are expected to meet their needs. In an attempt to prevent the churn caused by poor services, and reap the benefit of increased patronage, organisation places much emphasis on services that will make customers satisfied. Since service quality is defined by customers, organisations imbibing the TQM

approach take measure in involving customers in their quality design..

The EFQM model, which serves as a frame work of this research, view customers as the final judge of service quality, thus customer loyalty and retention, are best optimised with a clear focus on customers' needs and requirement.

Hypothesis 2 - Airlines adopting TQM approach will have greater customer satisfaction than that not applying total quality management.

- H_0 - There is no difference in customer satisfaction in TQM airlines and non TQM airlines.
- H_1- There is a significant difference in customer satisfaction between the TQM Airlines and non TQM Airlines.

2.3.3 OPERATIONAL EFFECTIVENESS

The adoption of TQM is believed to have great impact on organisational effectiveness. From the literature review, different authors have linked TQM management to effective operation. While Sila, (2007) pointed to the fact that suppliers involvement in the overall process of quality improvement have a major role to play in the over all effectiveness of operations. Others pointed to the fact that continuous improvement, a major tenet of TQM leads to efficient operation

According to O'Brien and Voss, (1992), quality depends on broad base employee involvement and commitment. The principles of TQM such as employee involvement, improved communication and team work brings about effective operation, this in turn creates a better quality service delivery which creates customer satisfaction.

.

Hypothesis 3 - Airlines adopting TQM approach will have greater operational performance than non-TQM airlines.

- H_0 - There are no difference in the airline operational performance of TQM airlines and non- TQM airlines
- H_1- TQM airlines are more effective in their operation than non-TQM airlines

2.4 METHODOLOGY

Methodology is about anything that has to do with procedures or techniques of investigation, that is, the set of techniques used in one piece of research. It is all about the methods used in the study of the research. Methodology is essential in gathering relevant information thereby giving effective and reliable representation. It is possible to categorize different research method approaches into two main categories depending on how they are conducted, quantitative research methods and qualitative research methods. Merriam (1994) stated that, information brought by words is qualitative while information brought by figures is quantitative.

The methodology of this research is broken down into the following framework-

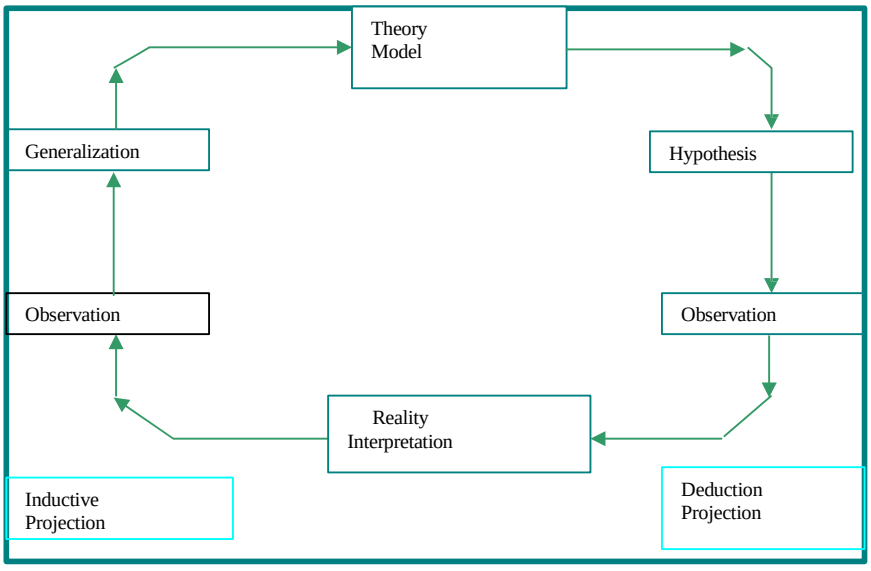
- Research design
- Method of data collection
- Population and sample
- Method of data analysis

2.4.1 RESEARCH DESIGN

Frankfort-Nachmias and Nachmias (1996) describe research design as 'a logical model of proof that allows the researcher to draw inferences concerning causal relations among the variables under investigation'. According to Sekaran (2003), the various issues involved in the research design concern the purpose of the study, the type of investigation, the type of the sample, which will be used, the methods by which the required data will be collected, as well as the process that will be followed for the analysis.

Induction and deduction are two ways in drawing conclusion to a research. According to Sekaran 2003, 'deduction is the process by which we arrive at a reasoned conclusion by logical generalization of a known fact, while induction on the other hand, is a process where we observe a phenomenon and on the basis arrive at a conclusion'.

Figure 3.4 Principles of Inductive and Deductive Research



Source – Wiedersheim-Paul and Eriksson (1991)

1.1.1 METHOD OF DATA COLLECTION

Data collection is simply the ways information is gathered. Secondary Data and primary data collection are two ways of collecting information.

1.1.1.1 SECONDARY DATA

Secondary data is information collected by others for purposes, which can be different than those of the researcher. It is a synthesis of published and unpublished documents related to the research and it is of highly importance, as it comprises the logical framework of the research (Sekaran, 2003, Fink, 1995).

The collection of secondary data has both advantages and disadvantages, one of the foremost advantages of using secondary data is that it helps the researcher formulate and understand better the research problem, broadening at the same time the base for scientific conclusions to be drawn. Nevertheless, it should be taken under consideration that other researchers, organization or government departments for studies with different objectives and purposes collected the data; therefore, it might not be suitable for the current research.

1.1.1.2 PRIMARY DATA

Primary data is the information gathered directly from the researcher, when secondary data is not available or is unable to contribute meeting research objectives (Sekaran, 2003). The collection of primary data involves the use of research instruments, such as questionnaires and interview schedules that have been constructed exclusively for the purposes of a specific study. For the purposes of this research, primary data were collected by questionnaire and interviews.

RELIABILITY OF PRIMARY RESEARCH

Reliability to regards the consistency of the results obtained from the instrument used in the research. Reliability is achieved when the same research process is repeated and reproduces results within stated confidence limits. Bells (1993) cited in (Eriksson, 2002) states that the reliability of an investigation is satisfying if another researcher can conduct the same research and draw the same conclusions. This has to do with the ability of a research finding to replicate itself if a parallel study is conducted.

1.1.1.2.1 VALIDITY OF PRIMARY RESEARCH

Validity represents 'the extent to which an instrument measures what it intended to measured. There is a distinction made among 'internal' and 'external' validity. Internal validity refers to whether the hypothesised cause produces the given effect in the research, while external regards the extent to which the results of the research can be generalised.

1.1.1.3 QUESTIONNAIRES

A questionnaire is a research instrument consisting of series of questions and other prompts for the purpose of gathering information from respondents. Most often it is designed for statistical analysis of the responses, (http://en.wikipedia.org/wiki/Questionnaires, last assessed 25/11/08). According to Sekeran, (2003), 'a questionnaire is a pre-formulated written set of questions to which respondents'

records their answers, usually within rather closely defined alternatives'.

- The first part relates to the commitment of management to the implementation of TQM.
- The second part relates to customers satisfaction to the services rendered.

- The third part relates to employees satisfaction, the extent to which employees are motivated and encouraged in the implementation of TQM.
- The fourth and final part relates to factors responsible for effective or ineffectiveness operation.

The questionnaire consists of closed ended and open ended questions. Open-ended questions are questions to which there is not one definite answer. Open-ended questions may be a good way to break the ice with a survey, giving respondents an opportunity to answer in their own words. The responses to open-ended questions can be very useful, often yielding quotable material, and the drawback to open-ended questions is that the responses are more difficult to catalogue and interpret (Fink, 1995).

1.1.1.4 INTERVIEW

Interviews were also carried out to source for information. According to Patton (1990), interviews could be base on

a) Informal conversational interviews - where the questions emerge from the immediate context and are asked in the natural context

b) Interview guide approach - where topics and issues are specified in advance but where the sequence is decided by the interviewer

c) Closed fixed response interview - where questions and response categories are fixed and determined in advance

d) Standard open ended interviews - where the wordings and sequence of questions are determined in advance

Personal interviews were conducted with the various airline operations manager so as to find out the following:-

1 Their view on TQM implementation in their organisations.

2 The effectiveness of their quality approach to their service.

3 Hindrances to the full implementation of TQM.

The interviews conducted were unstructured so as to enable the researchers obtain clarifications of some variables which needed further in-depth investigation. An informal mode of interview was carried out because of the sensitivity of some of the issues and also for the need to remove bias on the part of the respondents who might present false information in order to put their companies in better light just to earn some credibility.

1.1.2 POPULATION AND SAMPLE

Sekaran (2003) describes sampling as the process of selecting a sufficient number and the right type of elements for study from a certain population. As population is defined, the entire group of elements that the researcher is interested to investigate. An *element* on the other hand, is a single member of the population (Jankowicz, 1991

1.1.2.1 SAMPLE DESIGN

Sampling is divided into two main categories: probability and non-probability and these are used in this research. In probability sampling, the elements of the population have a definite chance, but not necessarily equal, of being included to the sample. On the contrary, in non-probability sampling, the odds that a particular element will be included in the sample are unknown.

The non-probability sampling technique was adopted using the quota sampling. This is due to the fact that the staffs that deal with customers directly in an organization are in the best position in providing the information required for this research (Sekeran, 2003). However, the use of this method is deficient in that the result cannot be generalised totally but it is believed to give the researchers the required information for the research and also offers the advantage of saving the researcher some costs and time.

1.1.2.2 POPULATION AND SAMPLE SIZE

The population of study was drawn out of the various local airlines in Nigeria. Thirty (30) questionnaires were distributed in each of the six Airlines under survey. These questionnaires were distributed among employees who deal directly with customers on daily basis. The choice for employees with customer facing role is borne out of the fact that they are believed to know the customers more since they have daily interactions with them and are supposed to know what the customers complain about and what they are happy with.

1.1.3 DATA ANALYSIS

The data was analysed using a parametric test, this determined statistically the significance between two independent samples. Hypothesis testing was adopted to test the differences in the means of the two categories of airlines. This was aided with the use of the SPSS software, which was used in carrying out the T-Test analysis by comparing the mean score of both TQM and non-TQM airlines to see if there is a significant difference in performance (Pallant, 2005).

1.2 PILOT STUDY

The pilot test is a useful tool for researchers, as it helps them to check the data collection methods and uncover any mistakes or miscomprehension of the questionnaire. The sample examined in the pilot study must be a part of the sample used for the conduction of the research; thus, the researcher may reveal unexpected findings, based on which any necessary adjustment is made (Gerson and Horowitz, 2002). A pilot study was conducted before the administration of the questionnaire in order to detect potential problems that may arise as a result of difficulty in the interpretation of questions by respondents. According to Blumberg et al (2005), respondents in a pilot study could range between five and hundred, thus twenty questionnaires were distributed among airline staffs. The feed back given from the respondents was considered in remodelling the questions to suite the research objectives

CHAPTER 4

1 DATA ANALYSIS

1.1 INTRODUCTION

Data extracted from the questionnaires were statistically analysed with the independent T-test using the SPSS software. Detailed analysis of the results derived from this analysis is presented in this chapter.

1.2 ANALYSIS OF RESEARCH POPULATION

The survey started on the 3rd of November, with the questionnaire distributed among front line staffs that have everyday contact with the customers, of the various airlines surveyed. It took the researchers four weeks in the distribution and collection of the questionnaires. *180* questionnaires were distributed among 6 airlines companies, of this *130* were returned but *14* of them were rejected as a result of so many omissions in filling. Out of the *116* respondents, *56* of the respondents were from airlines with the TQM ideology while the remaining *60* are from non-TQM airlines. The descriptive statistics of the research population is given below.

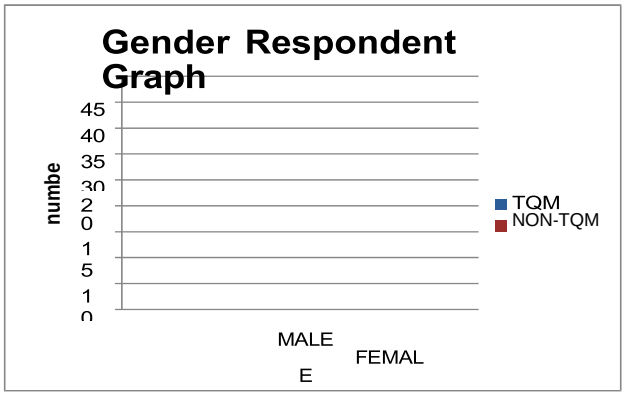
1.2.1 DISTRIBUTION OF RESPONDENTS BY GENDER

A representation of gender in the population of the 116 respondents in the non-TQM airlines and TQM airlines is shown in Figure 4.1. The percentage of the respondents based on gender for both TQM and non-TQM is 38.79% male and 61.21% female. Table 4.1 and Figure 4.1 reveals this figures in a tabular and graphical form respectively.

Table 4.1 Distribution of respondents by gender

GENDER	TQM	NON-TQM	TOTAL	%
MALE	25	20	45	38.79
FEMALE	31	40	71	61.21
TOTAL	56	60	**116**	**100**

Figure 4.1 Graphical representation of respondents by gender



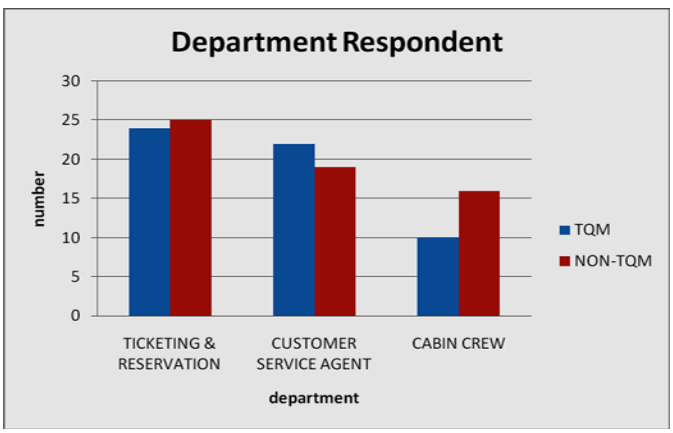
1.2.2 DISTRIBUTION OF RESPONDENTS BY DEPARTMENT

Questionnaires were distributed amongst respondents in three different sections of the airlines, namely ticketing and reservation, customer service and cabin crew. Figure 4.2 below is used to illustrate the representation of each section for the two airlines. The ticketing and reservation section had 24 respondents drawn from the TQM airlines and 25 respondents from the non-TQM airlines, represents 42.24% of the population.. This is represented in Table 4.2 and Figure 4.2 below:

Table 4.2 Distribution of respondents by departments

DEPARTMENT	TQM	NON-TQM	TOTAL	%
TICKETING & RESERVATION	24	25	49	42.24
CUSTOMER SERVICE AGENT	22	19	41	35.34
CABIN CREW	10	16	26	22.41
TOTAL	56	60	**116**	**100**

Figure 4.2 Graphical representation of respondents by departments



1.2.3 DISTRIBUTION OF RESPONDENTS BASED ON KNOWLEDGE OF TQM

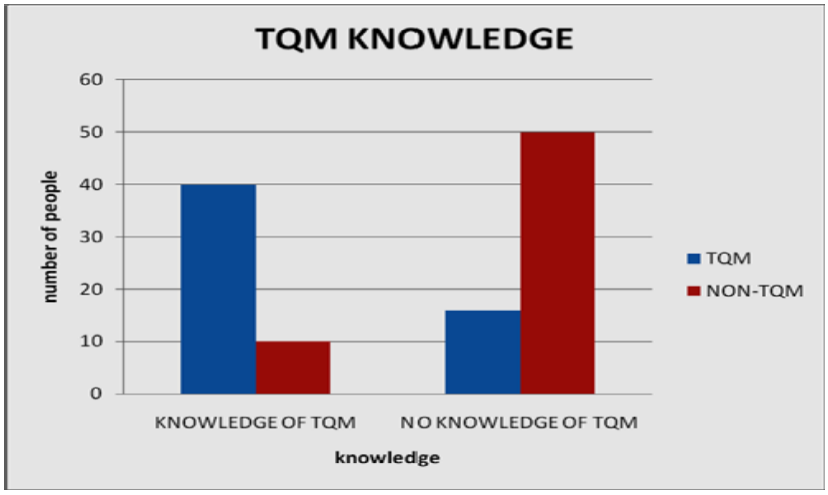
The knowledge of TQM is higher amongst employee of TQM airlines to that of the non-TQM airlines. 40 of the 56 respondents from the TQM airline are conversant with the principles and the implementation of TQM. This represents 71% of the TQM airlines' population and 34% of the total population surveyed. The non-TQM airlines on the other hand had 10 of the respondents who are familiar with the principles of TQM, this represents 17% of the non-TQM airlines' population and 9% of the total population surveyed. In total 43.1% of the total respondents have prior knowledge of TQM while the remaining 56.9% do not have any knowledge of TQM.

This is shown in Table 4.3 and Figure 4.3 below

Table 4.3 Distribution of respondents based on knowledge of TQM

TQM KNOWLEDGE	TQM	NON-TQM	TOTAL	%
KNOWLEDGE OF TQM	40	10	50	43.10
NO KNOWLEDGE OF TQM	16	50	66	56.90
TOTAL	56	60	**116**	**100**

Figure 4.3 Graphical representation of respondents based on the knowledge of TQM



1.2.4 DISTRIBUTION OF RESPONDENTS BASED ON THEIR LEVEL OF SATISFACTION WITH AUTHORITY

From the distributions in Tables 4.4, Table 4.5 and Figure 4.4 below, it is observed that most respondents from the non-TQM airlines are not satisfied with the authority given to them to do their job except for the cabin crew where most respondents were satisfied

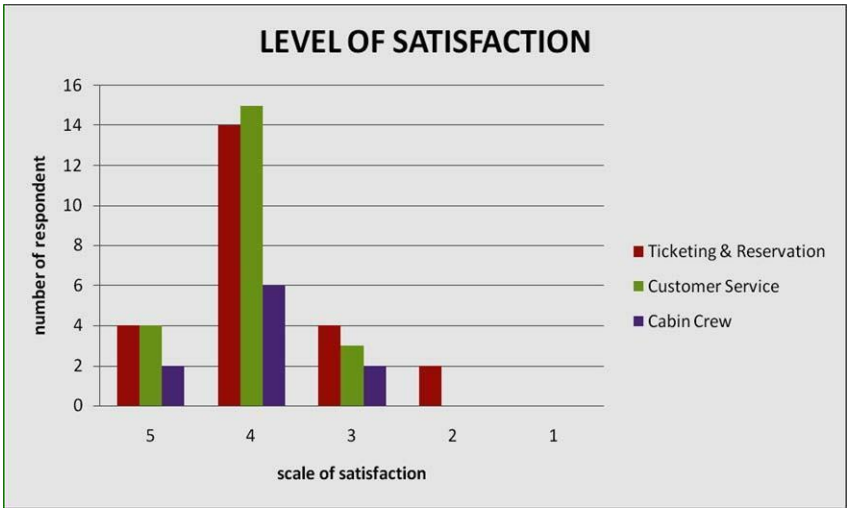
Figure 4.4 below illustrates this point rather clearly, where most of the respondents for the non- TQM airline

falls on the left hand of the scale which indicates dissatisfaction while the cabin crew for the same category of airline fell on the right side which indicates satisfaction.

Table 4.4 Distribution of non-TQM respondents based on satisfaction with authority

Satisfaction Level	Satisfaction level Scale	Ticketing & Reservation	Customer Service	Cabin Crew	Total	%
Extremely Satisfied	5	0	0	6	6	10
Satisfied	4	4	1	8	13	21.67
Indifferent	3	6	3	2	11	18.33
Unsatisfied	2	15	14	0	29	48.33
Extremely Unsatisfied	1	0	1	0	1	1.67
Total	-	25	19	16	**60**	**100**

Figure 4.4 Graphical representation of non-TQM respondents based on satisfaction with authority



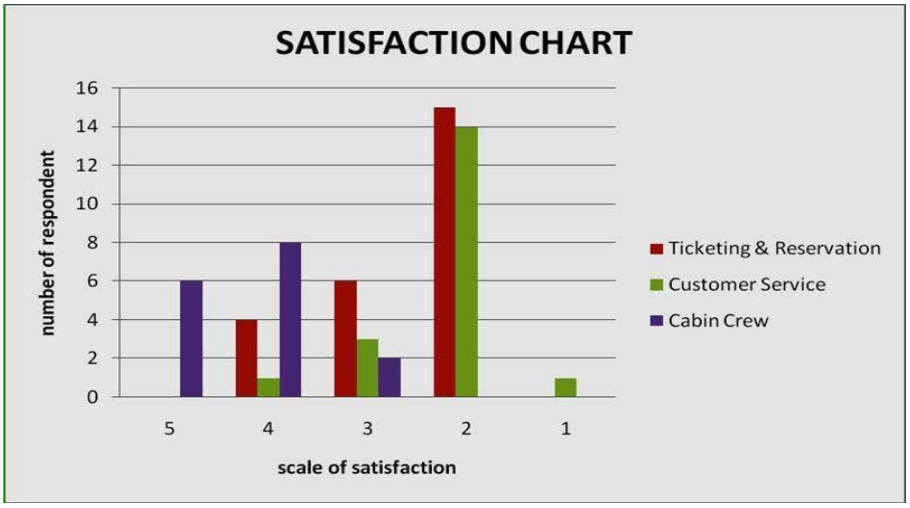
On the other hand, the TQM airlines portray a homogenous look, in that most of the respondents are satisfied with the authority given to perform their work. This could imply that the management of non-TQM airline are more concerned about in flight services and as such have given the cabin crew preference over other department in terms of empowerment. Thus, indicating that non-TQM airlines are just managing specific areas and not concerned about the totality of their operations.

Table 4.5 Distribution of TQM respondents based on satisfaction with authority

Satisfaction Level	Satisfaction level Scale	Ticketing & Reservation	Customer Service	Cabin Crew	Total	%

Extremely Satisfied	5	44	2	10	17.86
Satisfied	4	1415	6	35	62.50
Indifferent	3	43	2	9	16.07
Unsatisfied	2	20	0	2	3.57
Extremely Unsatisfied	1	00	0	0	0
Total	-	2422	10	**56**	**100**

Figure 4.5 Graphical representation of TQM respondents based on satisfaction with authority



1.3 DESCRIPTIVE ANALYSIS OF VARIABLES AND T-TEST OF HYPOTHESIS

This section of the analysis deals with the descriptive analysis of different variables and test of hypothesis. Descriptive analysis used for each hypothesis is assessed followed by the test of hypothesis

1.3.1 DESCRIPTIVE ANALYSIS FOR EMPLOYEE SATISFACTION

Table 4.6 shows the variables used in testing the satisfaction of employees between the TQM and non-TQM airlines. From the Table, the average mean performance of TQM airline exceeds that of non-TQM airlines on all the variables used except for the variable where individual efforts are recognised, this might not be unconnected with the TQM principles which requires that team efforts be recognised above individual efforts.

Table 4.6 Descriptive statistics for employee satisfaction

Variables	Airline	N	Mean	Std. Deviation	Std. Error Mean
Satisfied with Authority	TQM Airline	56	3.76	0.666	0.089
	Non-TQM Airline	60	1.93	0.8	0.103

Regular Training	TQM Airline	56	4.21	0.624	0.083
	Non-TQM Airline	60	1.93	0.756	0.098
Encourage Team-work	TQM Airline	56	4.27	0.587	0.078
	Non-TQM Airline	60	3.47	0.999	0.129
Continuous	TQM Airline	56	4.02	0.587	0.078

Improvement	Non-TQM Airline	60	2.75	0.0836	0.011
Suggestion	TQM Airline	56	4.05	0.585	0.078
Count	Non-TQM Airline	60	2.52	0.965	0.125
Responding to	TQM Airline	56	4.2	0.616	0.082
Customers	Non-TQM Airline	60	3.43	0.927	0.120
Individual	TQM Airline	56	1.84	0.93	0.124
Effort	Non-TQM Airline	60	3.37	0.974	0.126
Involvement in	TQM Airline	56	3.8	0.644	0.086
Decision	Non-TQM Airline	60	3	0.974	0.126
Commitment due	TQM Airline	56	4	0.714	0.095
to empowerment	Non-TQM Airline	60	2.07	0.756	0.098
Job	TQM Airline	56	4.32	0.575	0.077
Flexibility	Non-TQM Airline	60	2.88	1.001	0.129
Salary	TQM Airline	56	4.32	0.716	0.096
Motivation	Non-TQM Airline	60	2.55	0.852	0.110

Table 4.7 Mean Performance Employee satisfaction

Airline	Total Mean	Average Mean	Mean Diff.
TQM Airlines	42.79	3.89	1.17
Non-TQM Airlines	29.90	2.72	

The above average mean result indicates that the TQM airlines have a mean score of *3.89* while the non-TQM airlines have *2.72*, and the mean difference in employee satisfaction in the two categories of airlines is *1.17*.

1.3.2 STATISTICAL TEST OF HYPOTHESIS 1

H_0 - TQM Airlines will have a higher degree of employees' satisfaction than non-TQM airlines H_1 - There is no difference in employee's satisfaction in TQM airlines and non-TQM airlines.

There is a significant difference in employee satisfaction between the TQM airlines and non-TQM airlines. The significance level for the levene's test is *0.00*, this is lower than the cut off of *0.05*, thus the assumption of equal variances is violated, therefore the T–value for the second row, leading to the conclusion that the variances are not equal is used (Table 4.8).

In assessing the difference between the two categories of airlines, the value of the sig. (2–tailed) column on the second row is *0.00*; this is less than *0.5*, thus indicating that there is a significant difference between TQM and non-TQM airlines. Thus the alternate hypothesis (H0) which states that

TQM airlines have more satisfied employee is accepted while the null hypothesis is rejected. This indicates that difference in employee satisfaction is significant.

Table 4.8 Test of hypothesis for Employee satisfaction

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2 tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Total Employee Satisfaction	Equal variances assumed	29.692	0.00	16.07	114	0.00	12.896	0.803	11.307	14.486
	Equal variances not assumed			16.48	78.474	0.00	11.465	0.406	11.339	14.454

1.3.3 DESCRIPTIVE ANALYSIS FOR CUSTOMER SATISFACTION

The group statistics for variables used for customer satisfaction is shown in Table 4.9

Table 4.9 Descriptive statistics for customer satisfaction

Variables	Airline	N	Mean	Std. Deviation	Std. Error Mean
Quality Standards	TQM Airline	56	4.32	0.716	0.096
	Non-TQM Airline	60	2.55	0.852	0.110
Customer Complain	TQM Airline	56	2.41	0.654	0.087
	Non-TQM Airline	60	3.32	0.725	0.094
Repeat Customers	TQM Airline	56	4.05	0.999	0.133
	Non-TQM Airline	60	2.28	0.739	0.095
Defection of Customers	TQM Airline	56	2.2	0.876	0.117
	Non-TQM Airline	60	3.36	0.739	0.095
Response to Customers	TQM Airline	56	3.93	0.759	0.101
	Non-TQM Airline	60	1.95	0.699	0.090
Customer Recommendation	TQM Airline	56	4.41	0.596	0.080
	Non-TQM Airline	60	2.35	0.799	0.103

Table 4.10 Mean Performance for Customer satisfaction

Airline	Total Mean	Average Mean	Mean Diff.

TQM Airlines	21.32	3.55	0.92
Non-TQM Airlines	15.81	2.64	

Comparing each variable, the mean values of the TQM airlines are higher in every tested area; this indicates that the customers of the TQM airlines are more satisfied than the non-TQM airlines. The non-TQM airlines register a higher number of customer complaints but their response to customer complaint is lower when the average mean is considered. The quality standard of the TQM airline is higher on the average mean, thus customers are willing to recommend their services to others. On the average the mean difference in customer satisfaction between the two categories of airlines is *0.92* where the average mean for the two are *3.55* and *2.64* for TQM and non-TQM airlines respectively.

1.3.4 STATISTICAL TEST OF HYPOTHESIS 2

H_0 - There is no difference in customer satisfaction in TQM airlines and non-TQM airlines

H_1- There is a significant difference in customer satisfaction between the TQM Airlines and non- TQM airlines

The significance level for the levene's test is *0.009* this is lower than the cut off of *0.05*, thus the assumption of equal variances is violated, therefore the T– value for the second row which assumes that the variances are not equal is used.

Table 4.11 Test of hypothesis for Customer satisfaction

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2 tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Total Customer Satisfaction	Equal variances assumed	6.973	0.009	27.873	114	0	11.465	0.411	10.651	12.28
	Equal variances not assumed			28.23	104.592	0	11.465	0.406	10.66	12.271

1.3.5 DESCRIPTIVE ANALYSIS FOR OPERATION EFFECTIVENESS

Table 4.12 shows the variables used in the measurement of operation effectiveness of the airlines, like the previous variables assessed, the TQM airlines recorded higher means in all the variables assessed, thus indicating that there is a difference in operations of the TQM airlines and non-TQM airlines.

Table 4.12 Descriptive statistics for Operational Effectiveness

Variables	Company	N	Mean	Std. Deviation	Std. Error Mean
Accessibility to customer	TQM Airline	56	3.88	0.605	0.081
	Non-TQM Airline	60	2.58	0.591	0.076
Flight Scheduling	TQM Airline	56	4.14	0.554	0.074
	Non-TQM Airline	60	2.85	0.820	0.106
Baggage Handling	TQM Airline	56	3.63	0.620	0.083
	Non-TQM Airline	60	3.08	0.720	0.093
Flight Cancellation	TQM Airline	56	3.71	0.780	0.104
	Non-TQM Airline	60	2.33	0.629	0.081
Management Commitment to Quality	TQM Airline	56	4.54	0.538	0.072
	Non-TQM Airline	60	3.25	1.105	0.143
Employees Commitment to Quality	TQM Airline	56	4.39	0.731	0.098
	Non-TQM Airline	60	3.03	0.901	0.116
Job Flexibility Satisfaction	TQM Airline	56	4.27	0.587	0.078
	Non-TQM Airline	60	3.47	0.999	0.129
Suppliers Responsibility	TQM Airline	56	3.77	0.763	0.102
	Non-TQM Airline	60	2.98	0.983	0.127

Table 4.13 Mean Performance for Operational Effectiveness

Airline	Total Mean	Average Mean	Mean Diff.
TQM Airlines	32.33	4.04	1.10
Non-TQM Airlines	23.57	2.95	

The mean difference between the TQM and non-TQM airlines is *1.10.* An average mean of *4.04* was determined for TQM airlines and *2.94* for non-TQM airlines

1.1.1 STATISTICAL TEST OF HYPOTHESIS 3

H_0 - There are no difference in the airline operational performance of TQM airlines and non- TQM airlines

H_1- TQM airlines are more effective in their operation than non-TQM airlines

The significance level for the levene's test is *0.882* and this is higher than the cut off of *0.05*, thus the assumption of equal variances is not violated, therefore the T – value for the first row which assumes that the

variances are equal is used. In assessing the difference between the two categories of airlines, the value of the sig. *(2 –tailed)* column on the first row is *0.00*; this is less than *0.5*, thus
indicating that there is a significant difference between TQM and non-TQM airlines. Thus the alternate hypothesis which states that TQM airlines are more effective in operations is accepted while the null hypothesis is rejected.

This indicates that difference in operational effectiveness is significant (Table 4.14)

Table 4.14 T–test result for operational effectiveness

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2 tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Total Operations Effectiveness	Equal variances assumed	0.022	0.882	18.955	114	0	8.49762	0.4483	7.60955	9.38569
	Equal variances not assumed			19.021	113.899	0	8.49762	0.44675	7.6126	9.38264

1.2 SUMMARY OF ANALYSIS

The main objective of this research is to find out if the adoption of TQM principles by the Nigerian local airlines will make them more effective in their operations and increase customer and employee satisfaction. In order to arrive at a logical conclusion for this research objective, a T-test hypothesis was carried out to measure the difference in means of TQM airline and Non-TQM airlines in the areas of employee satisfaction, customers' satisfaction, and effective operations. The samples were drawn from six different airlines in Nigeria consisting of 116 respondents and from three departments.

The three tests carried out shows that TQM has a great impact on the organizational performance. This confirms the theory that TQM organisations have competitive advantages in meeting customers and employees needs while also enabling the organization to be effective in their daily operations. The results confirms the true

situation of the Nigerian airline industry, where the new entrants have had great impact in the industry, with an effective operations which has increased the satisfaction level of customers and a work process which gives room for involvement of all employees to partake in decision making with a great concern for managing quality.

CHAPTER 5

1 DISCUSSION, MANAGERIAL IMPLICATION AND CONCLUSIONS

INTRODUCTION

The major findings of this research, recommendation and limitation of the research will be discussed in this chapter. This chapter gives an insight into the major findings of the research and conclusions. The chapter starts by giving an insight into the findings of the research where the major principles of TQM and its level of adoption by the two airlines are discussed before looking at the three hypotheses tested and assess the degree of difference between the two categories while assessing the various effects of TQM implementation in the industry.

DISCUSSION OF FINDINGS

The arguments of this research is focused on the need for local airlines in Nigeria to adopt the TQM principles, due to the benefit derived from it in terms of customer satisfaction, operational effectiveness and employee satisfaction. The researchers based their argument on the EFQM model which gave three major benefits derived from TQM implementation. The results of this research attest to this fact.

The non-TQM airlines' employees on the other hand are less involved in the day to day decision making of the organization as the airlines are bureaucratic in structure, and only permit decisions from management. This has a psychological effect on employees in terms of motivation, as it limits them from taking necessary action as at when due, and also removes the feeling of intrinsic reward as employees do not feel responsible and accountable, thus reducing their satisfaction level. Motivation for employees in non-TQM airlines basically is based on the recognition of individual effort, which appears to be higher when compared to the TQM airlines. The implication of this is to encourage team work which is a major motivator of employees in the quest to deliver quality service in their daily operations and to prevent internal competition amongst employee.

Among the reasons cited are consistent break down of the conveyor belts, poor airport traffic control and other exigencies such as closure of the run way due to VIP movement. According to the operations' managers interviewed, this in most cases affects the timing of flights and turn around time. A negative effect is thus created as customers will always attribute the failure to the airlines and not to the suppliers. However, going by the statistical report, the TQM airlines have made their suppliers more involved in their operations, although with a little difference when compared to the non-TQM airlinesnon-TQM airlines couldbe

MANAGERIAL IMPLICATIONS

The managerial implication for these findings is based on two categories of airlines assessed and the aviation industry of Nigeria in general.

Quality issues must be taken seriously by any organisations in order to remain competitive, as the maintenance of high and consistency of high quality service will ensure that customers continue to patronize based on the trust built over time. Thus, the findings of this research suggest several implications for managers of non-TQM airlines, as there is the need to imbibe a total quality culture which will put them at the forefront of competition rather than manage quality partially or through inspection. It must be noted that the gains of a total quality culture far out weighs the cost of implementation as seen expressed in this research and the competitive nature of the industry calls for the organization to refocus it's strategies to suit the market demands. In this case, it would require an ideology which supports this strategic thinking to meet up with the challenges.

sector of the industry; this will give the airlines choices and use services which will best support their operations.

CONCLUSION

The findings of this research attest to the benefits that accrue from the implementation of TQM. It has shown that it is a strategic tool for an organization to employ in the quest to remain competitive. If adequately deployed, the principle brings about added value to an organization in terms of efficiency in operation, employee satisfaction, customer satisfaction, and even profitability. The finding also revealed that the relentless pursuit of improvement in service delivery bring about added value to customers by making the organization focused on satisfying customers needs, while team work and training empowers employees for the continuous improvement drive of the organization.

1.1 LIMITATIONS TO THE STUDY

The research was limited to front line staffs of the airline due to time limit and difficulty in reaching the management. The front line staffs does not represent the perception of the companies as a whole, thus the overview of this research is limited. Also, the sampling techniques used should have been representative of the sample population by adopting the simple random sampling technique but as a result of time and the cost involved, a non probability sample was adopted so as to get the information quicker from the companies.

1.2 RECOMMENDATION

It is recommended that a more studies should be carried out, which covers the whole departments of these airlines to establish the effectiveness of the implementation of TQM in the Nigerian aviation Industry, while using a representative sampling technique. Also, it will be of great benefit to ascertain the true perception of customers to service quality in Nigeria as no prior research has been carried out in that field. This will give a clue to what the customers' desire most in terms of airlines service delivery.

REFERENCE:

Alamdari, F. (1999), 'Airline In-flight Entertainment: The Passengers' Perspective', *Journal of Air Transport Management,* **5**(4)

Andrle, J. (1994), 'Total Quality Management in Public Transportation', *Research Result Digest,* **3**, pp 1-33

Asher, M. (1996), 'Managing Quality in the service sector', Kogan Page, London

Blumberg, B., Cooper, D. R., and Schindler, P. S. (2005) **'***Business Research Methods'***,** (1st ed.). Berkshire: McGraw Hill.

Cooper, M. and Ellram, L. (1993), **'**Characteristics of Supply Chain Management and the Implications for purchasing and logistics strategy', *The International Journal of Logistics Management,* **4**(2) pp 13- 24

Dean, J. W. J., Bowen, D. E., (1994), 'Management Theory and Total Quality Improving Research and Practice through Theory Development' *Academy of Management Review,* **3**(19) pp 392 – 418

Fuentes-Fuentes, M., Albacete-Saez, A. and Llorens-Montes, J., (2004), 'The Impact of Environmental Characteristics on TQM Principles and Organisational Performanc*e'***,** *International Journal of Management Science Omeg,* **32**(6) pp425-442

Kaynak, H., (2003), 'The Relationship between Total Quality Management Practices and their Effect on firm Performance'**,** *Journal of Operation Management,* **21**(4) pp405-435

Kondo, Y., (1997*), 'Quality* as a Source of Empowerment', *The Quality Magazine,* **9**(5) pp357-363

Lockwood, A., Baker, M., and Ghillyer, A., (1996), 'Quality Management in Hospitality', London, Cassell Martinez-Lorente, A. R., Dewhurst, F., Dale, B.G., (1999), 'TQM and Business Innovation',*European Journal of Innovative Management,* **2**(1), pp12-19

APPENDIX 1

THE QUESTIONNAIRE

The questionnaires consist of four major parts as shown below, which focuses on the areas of interest of the research. The first part relates to the extent to which employees are motivated to implement the TQM ideology, the second section focuses on customers' satisfaction. The final section focuses on operational effectiveness.

QUESTIONNAIRE

Age: _____ Gender: Male [ ] Female [ ]

Section: _____

Have you heard of Total Quality Management Yes [ ] No [ ]

How will you rate on a scale of 1-5 the following where

(1- Strongly disagree, 2 – Disagree, 3 - Neutral, 4 – Agree, 5 - Strongly agree)

Employee satisfaction

On a scale of 1-5 how will you rate your level of satisfaction with the listed variables

1. **You are satisfied with the authority [1] [2] [3] [4] [5]**
2. **Management encourages and recognise team-work effort [1] [2] [3] [4] [5]**
3. **Management recognises your suggestions [1] [2] [3] [4] [5]**
4. **Individual effort is recognized in delivering quality service [1] [2] [3] [4] [5]**
5. **You view your job as being flexible [1] [2] [3] [4] [5]**
6. **Salary is a means of motivation in the company [1] [2] [3] [4] [5]**
7. **When was your salary reviewed last? year(s) ago**

On a scale of 1- 5 how will you rate the following as regards to your organisation

8. **Regular Training for workers is put in place [1] [2] [3] [4] [5]**
9. **How many times are you trained in a year? times**
10. **There is continuous improvement in your organization [1] [2] [3] [4] [5]**
11. **Mistakes are seldom made while responding to customer's request [1] [2] [3] [4] [5]**
12. **Quality service delivery is due to workers empowerment [1] [2] [3] [4] [5]**
13. **Employees are involved in decision making [1] [2] [3] [4] [5]**
14. **How many times has your advised been seek in making a decision for your organization?**

_____

Times

Effective operation

On a scale of 1- 5 how will you rate the operational effectiveness of your organization

21. Your organization services are readily accessible to your customers [1] [2] [3] [4] [5]

22. Does the accessibility of services to customers' aids the efficiency in operation?

Yes [ ] No [ ]

23. Your organisation keeps to its flight schedule
[1] [2] [3] [4] [5]

24. Your organisation handles the baggage of customers promptly
[1] [2] [3] [4] [5]

25. Flight delays and cancellation are due to controllable factors
[1] [2] [3] [4] [5]

26. Slow decision making is liable for flight delays and cancellation
[1] [2] [3] [4] [5]

27. Management commitment to quality encourages effective operation

[1] [2] [3] [4] [5]

28. Employees' commitment to quality encourages effective operation [1] [2] [3] [4] [5]

29. Your job flexibility do contribute to effective operation [1] [2] [3] [4] [5]

30. Your suppliers, such as (NAHCO) are responsible for flight delays [1] [2] [3] [4] [5]

APPENDIX 2

Names of the Airlines assessed include the following

1. VIRGIN NIGERIA
2. AERO CONTRACTORS
3. CHANCHAGI AIRLINES
4. EAS AIRLINES
5. AERO LAND