

**IMPACT OF TOTAL QUALITY MANAGEMENT ON
ORGANIZATIONAL PRODUCTIVITY
(A CASE STUDY OF AMA BREWERY, 9TH MILE CORNER,
ENUGU)**

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TITLE

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Organizational Productivity
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Faculty of Business Administration
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April, 2012

DECLARATION

I, **Nechi Ndubuisi H.**, student in the Department of Management with Registration No. **PG/MBA/10/54785** state that the work embodied in the project is original and has not been submitted in any other University.

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Date

CERTIFICATION

We, hereby certify that this project **"Impact of Total Quality Management on Organizational Productivity (A Case Study of Ama Brewery, 9th Mile Corner, Enugu"** by **Nechi Ndubuisi H.** with Registration Number **PG/MBA/10/54785** under my supervision the project is adequate in scope and quality, in partial fulfilment of the requirements for the award of Masters in Business Administration (MBA) in Management, Faculty of Business Administration, University of Nigeria, Enugu Campus.

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Date

External Examiner

Date

DEDICATION

This project work is specially dedicated to Chief C.B.N. and Blessing Nechi, their death was a big lose to the family. May their souls rest in perfect peace. Amen.

ACKNOWLEDGEMENT

On the whole, God has made the success of this work possible. I must express my sincere appreciation to those who have contributed in one way or the other to the full realization of the study. My gratitude goes first to my supervisor, Dr. E.K. Agbaeze of the University of Enugu Campus, whose direction and efforts aided the outcome of this study. His invaluable contributions, encouragement and assistance throughout this study will always be remembered. My sincere and special thanks to Prof. U.J.F. Ewurum, the Dean of the Faculty of Business Administration. Dr. C.A. Ezigbo, the Head of Department of Management and Mr. Okoro Okoro, he taught us on business finance.

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Finally, none of those who helped me in this work should be held responsible for the work or any errors but me.

Nechi Ndubuisi Hypolitus Alexander

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ABSTRACT

This study is an attempt to examine the Impact of Total Quality Management (TQM) on organizational productivity, A Case Study of Ama Brewery, 9th mile Enugu. The research further focuses on the approach adopted by organizations that has implemented the concept and the rate of success achieved. These is a prove that effective TQM implementation can improve their competitive abilities and provide strategic advantages in the market place. The effects of not participating in TQM implementation by all management levels, challenges disrupting the TQM implement in an organization and failure to organize frequent employee training have been a big problem. This research work tries to ascertain the impact of TQM implementation in the organization, level of management involvement, challenges disrupting the implementation, impact of employee training and TQM principles application to goal attainment. It is through the questionnaire method and oral interview that data are collected from aforementioned organization. References were made to journals, related books, internet and magazines when writing this project. The aforementioned organization agreed that TQM have impact in organizational productivity. It is not all management levels in Ama Brewery contribute in TQM implementation. The failure to organize frequent employee training have been a major setbacks to their organization, while some management challenges disrupt TQM implementation in the organization. They should engage in frequent employee training inorder to increase the level of individual and organizational competence. All management levels should join hands in TQM implementation so that quality will be attained. Researches can be made for further informations on all related textbooks from foreign country.

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Total Quality Management (TQM) has become a world-wide topic in the twenty-first century. Having its roots partly in the USA and partly in Japan, it was primarily adopted by some Japanese companies in the decades immediately after world war II with the greater successes of Japanese companies during the 1980s.

Companies all over the world found that it was necessary to have good quality management practices in order to stay competitive (Lagrosen, 2002). Total Quality Management is an enhancement of the traditional way of doing business. It is a proven technique to guarantee survival in world competition. Only by changing the actions of management will the culture and actions of an entire organization be transformed. Total quality management (TQM) as a management approach of an organization is centred on quality based on the participation of all its members and aiming at long term success. This is achieved through

customer satisfaction and benefits to all members of the organization and society.

In other words, TQM is a philosophy for managing an organization in a way, which enables it to meet stakeholders need and expectations efficiently and effectively without compromising ethical values (ISO, 8404, 1994). TQM has been widely implemented throughout the world. Many firms have arrived at the conclusion that effective TQM implementation can improve their competitive abilities and provide strategic advantages in the market place. (Anderson, Fornell & Lehmann, 1994) several studies have shown that the adoption of TQM practices can allow firms to compete globally (Easton, 1993), (Ernst and Young, 1996; Womack & Roos, 1990). Several researchers also reported that TQM implementation has led to improvements in quality, productivity and competitiveness in only 20 - 30% of the firms that have implemented it (Benson, 1993). According to a survey of manufacturing firms in Georgia, the benefits of TQM are improved quality, employee participation, teamwork, working relationship, customer satisfaction, employee, satisfaction, productivity, communication, profitability and

market share (Dale, Zairi, Vanfder Wiele & Williams, 2000).

A study conducted by Rategan (1992) indicated that a 90% improvement rate in employee relations, operating procedures, customer satisfaction, and financial performance is achieved due to TQM implementation. However, Burrows (1992) reported a 95% failure rate for initiated TQM implementation programs; Eskildson (1994), Tomow and Wiley (1991) reported that TQM implementation has uncertain or even negative effects on performance. Longenecker and Scazzero (1993) indicated that achieving high product quality and pursuing successful TQM implementation are highly dependent on top management support.

Total quality management is seen as a holistic approach to managing project. It includes continuous improvement, training and re-training of staff, customers satisfaction, top management support, defect-free product at first attempt, elimination of rework, cost effectiveness etc.

Haris and McCaffer (2002) stated that total quality management consists of all activities that managers perform to improve their quality and policy such as quality planning,

quality control, quality assurance and quality improvement. It is a process of getting assurance and quality rid of poor quality from production rather than getting rid of poor quality products. Total quality management (TQM) is a philosophy that involves everyone in an organization in continual efforts to improve quality and achieve customers satisfaction.

Continuous improvement is the philosophy that seeks to make never ending improvements to the process of converting inputs into outputs. The three key philosophies in TQM according to Telsang (2004) are;

- Continuous improvement is never-ending push to improve.
- Involvement of everyone in the organization goal of customers satisfaction.
- Constant training of employees on the methods and concepts of quality.

According to Bamiscile (2004), quality can be measured by clearly laid down requirements Newlove (1987) and Pateman (2004) used the concept of conformity with requirement as the definition of quality in productive

organization. All team members who perform quality functions should endeavour to produce quality products at first attempt. This will ensure clients satisfaction and save cost for rework. Quality affects all aspects of the organization and has dramatic cost implications. The most obvious consequence occurs when poor quality creates dissatisfied customers and eventually leads to loss of business.

Even though there are disadvantages associated with ISO,9000 implementations, the benefits cannot be discounted.

Figure 1: Conceptual Framework of TQM

1.2 STATEMENT OF THE PROBLEM

New competitive strategies have ruptured established management doctrines and rendered conventional methods or products/services development and delivery obsolete. Competition has become so high in all fronts that the time is now when organizations will only survive by making a difference. This is the reason John Young, president of Hewlett - Packard once said "in order to compete in a global economy, our products, systems and services must be of a higher quality than our competition increased expectation and demands on the part of customers in every area of organizational life have taken the centre stage.

The days are gone when organizations could rest on their Laurels and claim to hold franchise to best quality products and services. The continually wave of technological and environmental change have turned several organizations into bystanders on the road to the future and have made their structures, processes and skill become progressively less attained to the ever-changing realities of the demands and expectations of present day customers.

While the rule of the game today in all industry segments is continuous improvement of processes, systems and skills, many organizations do not possess a keen sense of urgency required to reinvent the needs of the current business model.

Quality improvement and service delivery is still seen by many organization today not as a way of survival but as optional extras. Even on occasions where a good number of organizations attempt improvement efforts.

- 1.What are the impacts of Total Quality Management (TQM) in the organization?
- 2.What are the effects of not participating in the TQM implementation by the entire management levels.
- 3.What are the challenges disrupting the TQM implementation in the organization and how can it be attacked.
- 4.To what extent does the failure to organize frequent employee training affect the TQM implementation in the organization and how can it be solved.
- 5.What are the implications of not applying all TQM principles during its implementation in the organization?

1.3 OBJECTIVES OF THE STUDY

An organization that adopts total quality management approach will not only survive but also increase its market share while the one that does not, will hardly survive. As we face the new millennium with challenges this study will help to determine the level of TQM adoption in Ama brewery.

This study will indicate if there are things that are being done wrongly and how to take the corrective steps. The study, will among other things achieve the following objectives;

- 1.To ascertain the impact of TQM in Ama Brewery.
- 2.To ascertain the level of managements involvement in TQM implementation.
- 3.To determine the challenges disrupting TQM implementation in Ama Brewery, 9th Mile Corner.
- 4.To access the impact of employee training in the achievement of quality.
- 5.To investigate if the application of TQM principles in Ama Brewery has led to the significant success of their project.

1.4 RESEARCH QUESTIONS

1. Do TQM implementation affect the organizational productivity.
2. In what ways (if any) does all management level involvement in TQM implementation affect productivity in Ama brewery.
3. Do some challenges disrupt the TQM implementation in the Organization.
4. In what ways does the failure to organize frequent TQM implementation.
5. In what ways does the failure to apply all TQM principles during its implementation affect the organization.

1.5 RESEARCH HYPOTHESES

It is in consideration of the problems stated above and the objective of the studied environment that the researcher propounded the following hypotheses.

1. **Ho:** The implementation of TQM in the organization have no impact in the organizational productivity?

Hi: The implementation of TQM have impact in the organizational productivity.

2.**Ho:**Failure of all the management levels to participate in TQM implementation have no side affect on organizational productivity.

Hi:Failure of all the management levels of participate in TQM implementation have side affect an organizational productivity.

3.**Ho:**There are no challenges disrupting the TQM implementation in the organization.

Hi:There are challenges disrupting the TQM implementation in the organization.

4.**Ho:**The failure to organize frequent employees training have no affect in the TQM implementation.

Hi:The failure to organize frequent employee training have affect in the TQM implementation.

5.**Ho:**Failure to apply all TQM principle during its implementation does not effect the organization.

Hi:The failure to apply all TQM principles during its implementation, affects the organization.,

1.6 SIGNIFICANCE OF THE STUDY

These research work will help management/organizations to understand the new definition of total quality management (TQM) and it's importance in competitive industries.

TQM is not only important to Ama brewery but to all organizations in the areas of purchasing, manufacturing, product service, and marketing.

Total quality management (TQM) affects purchasing, manufacturing, product service and marketing.

These study is significant in many aspects the benefits are:

1.Economic Improvement

(In the form of reduced operating costs and loses).

2.Customer Satisfaction

(Especially regarding product quality, service and design).

3.Increases employee morale.

Total quality management (TQM) encourages innovation, makes the organization adaptable to change, motivates people for better quality and integrates the business arising out of a

common purpose and all these provide the organization with valuable and distinctive competitive edge.

It would also enable management, especially the management of Union Bank Plc to create an environment in which the quality of service and their products will be the vision and concern of not only the production quality department but of every staff of the organizations.

1.7SCOPE OF THE STUDY

This study is intended to focus on the impact of total quality management in organizational productivity with particular reference to Nigerian Breweries Plc, Ama Brewery Enugu where the goal is not only to enhance customer satisfaction but also to manage the business effectively. With a view to finding out the level of success recorded in their organization as a result of total quality management (TQM) implementation.

1.8 LIMITATION OF THE STUDY

The difficulty in obtaining information from Nigerian brewery, 9th Mile Corner Enugu was the major limitation of

the study. The questionnaire was administered on a hundred and sixty-eight (168) and only one hundred and forty employees responded. The unavailability of some organizational document equally was a set back to this work.

The limited time available within my disposal also posed a major handicap on the proper execution of the research paper. Their workers were usually on a shifting schedule, there by making it difficult for me to meet those that were supposed to issue me with vital information.

1.9 DEFINITIONS OF TERMS

! Process

Any interrelated group of work activities that receives inputs from supplier and blends resources to transform and add value to the inputs in order to produce a product or service to meet customers needs and expectations.

! Quality

The extent to which a product satisfies the customers.

! Quality Circle

Work group that meets to discuss ways to improve quality and solve production problems.

! Total Quality Management

It is a comprehensive and structured approach to organizational management that seeks to improve the quality of products and services through ongoing requirements in response to continuous feedback.

! Quality Delivery

All activities engaged in an organization process aimed at delivery quality products and services to customers.

! Quality Function Deployment

A structured and disciplined process of identifying the requirements of customer for process realignment and product or services re-design.

! System

In an organization, the functions and activities that work together to fulfil the purpose of the organization.

! Total Quality

The culture of an organization where continuous improvement is integrated into all activities.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Global economic competition has increased in the past few decades, Toho (1999), "At the close of the century, the creating of the global market, the international orientation of management which sweeps national boundaries, the introduction of new technologies and shift toward customer focused strategies, make the competition stronger than ever". There has been greater trade co-operation amongst nations, which led to a decline in international trade barriers. This has afforded customers all over the world, wider alternatives among several offers and organizations for every business decision made.

The increase in demand of quality products and sophistication of customers have virtually re-written the rules of competition and forced organizations to focus on quality. Today what underlies competitive advantage is the ability to provide products and services that meet or exceed the needs of customers. This implies that to survive, organizations must device new management systems based on the tenets of total

quality and by offering quality products and service. This will not only lower costs but also outperform the products and services of competitors spread across the world. This is the driving force behind TOTAL QUALITY MANAGEMENT. In studying the impact of total quality management in Ama Brewery, several important principles of this management philosophy that influences its successful implementation are brought to the core. These include management commitment, customer focus and satisfaction, employee empowerment, continuous improvement and organizational culture and attitudes. Others are education, teamwork, communication, measurement and process chain. It is these tenets of TQM that will constitute major areas of review of scholarly literature. But first, what is TQM?

To have an understanding of the concept, we need to understand the component words. Total, Quality and management.

2.1 THE CONCEPT OF TOTAL QUALITY MANAGEMENT (TQM)

The quality movement emerged early in the second world war in Japan, when Japanese goods and services were very poor in quality. Within the next twenty years, Philip B. Crosby, W. Edwards Deming, Armand v. Flegenbaum, Kaoru Ishikawa, Joseph M. Juran, Genichi Taguchi and others took the quality broader realm of reliability engineering and quality assurance (Gavire, 1978), that traditionally "quality" meant quality assurance which stresses the need for conformance to specification. It lays emphasis with pre-determined specification. Quality is a control measure or process to ensure that they attain specific standard and the management of the quality of such goods and services so that they maintain such specified standard. TQM goes beyond just producing standardized products or services.

Arene (1995) has defined TQM as a means of applying the quality concept to facilitate team work, employee empowerment and reduction in cycle time.

TQM involves everyone at all levels in the organization and has an impact on every activity.

This requires changes in the culture of the organization of the organization, in management style and in workers. Management relationship quality should not be perceived as something that is done to you, at you or for you.

In particular, teamwork is of prime importance in solving problems and meeting customers needs (index foundation research project, 1992).

Recently, Marshal and Kiser (1993) in defining TQM captured the essence of Dennings philosophy of quality, TQM means that the organizations culture is defined by and supports the constant attainment of customer satisfaction through an integrated system of tools, techniques and training. This involves the continuous improvement of organizational process, resulting in high quality products and services.

The importance of quality in todays competitive environment such as Nigeria cannot be over-emphasis. Mathers (1980) stressed on this when he said "to stay ahead in the toiletries business you must have top quality products and maintain quality standards". He also agreed with Ayorinde that it is not an area to which you can pay lip service and

went further to enumerate how to ensure that quality is maintained, packaging sampling and clearance of every batch mix and continuous monitoring at all stages of the production. However, he also pointed out that quality control does not end with the finished product, rather it continuous after the product has been produced until it reaches the consumers, as he said, "we have what we call" "quality assurance". We monitor how the product travel, how they react to different types of storage, their effective shell life, appearance and acceptability. In other words, quality control takes a whole lot of the organizations time and energy, which today is summarized as total quality management.

2.2SOME CONTRIBUTIONS OF (TQM) TOTAL QUALITY MANAGEMENT

The field of TQM is littered with gurus and consultants, each expounding his own philosophy and approach. While each philosophy shares the core set of defining characteristics of TQM, there are important differences and contradictions. Before setting out on the TQM road, it is helpful to gain an understanding of the philosophies of the main gurus.

Edward Denning

Denning was born in America in 1900, obtained his Ph.D in mathematical physics in 1928, then worked in the US government applying statistical process control techniques originated by Walter Shewhart After World War II.

He wrote down some philosophy which was later known as Dennings philosophy of TQM;

- 1.Create consistency of purpose for improvement of product and services.
- 2.Adopt the new philosophy
- 3.End the practice of awarding business on price alone instead minimize total cost by working with single supplier.
- 4.Cease dependence on inspection to achieve quality.
- 5.Adopt and institute leadership.
- 6.Break barriers between staff areas.
- 7.Put everybody in the company to work accomplishment the transformation.
- 8.Remove barriers that rob people of pride of workmanship and eliminate the annual rating or merit system.

9. Institute vigorous programmes of education and training.
10. Eliminate numerical quotas.
11. Drive out fear
12. Eliminate slogans, exhortation and targets for the workforce.
13. Initiate modern methods of training on the job.
14. Consistently and forever improve the system of production and services.

Joseph M. Juran

Juran (1951) black-born American came to prominence in 1951 when his first book quality control hand book was published. His lectures emphasized that quality control should be conducted as an integral part of management control. For instance, Hiram describes a quality trilogy of quality planning, quality controlling and quality improvement and shows how they operate, like financial planning, financial control and profit managers (Juran, 1986).

Dr. Juran's philosophy is based on the belief that quality must be planned. Juran on planning, sets out his current thought on a quality planning.

The nine steps on how to achieve quality as written by Dr. Juran.

1. Identify who the customers are.
2. Determine the customers needs.
3. Translate those needs into term that will be understood by business.
4. Develop a product that can respond to the customer need.
5. Optimize the products features to meet the needs of the business as well as customers needs.
6. Develop a process that is able to manufacture the product.
7. Optimize the process
8. Prove the process under operating condition.
9. Determine to transfer the process to operate like Denning.

Philip Kotler

According to Kotler (1997) quality means the totality of features and characteristics of a product or service that bear its ability to satisfy stated or implied need.

The definition made by Kotler is customer oriented in the sense that whenever a company's products and service are able to meet or exceed customer's expectations, quality is said to have been delivered.

However, the issue of quality concept has become popular and acceptable in modern business because of poor quality culture and the general misconception about quality in a typical traditional production setting.

Obviously, there are three basic defects in quality concept which total quality management is out to correct.

These defects include;

1. Quality determination based on product design and conformity to such design.
2. Quality control based on product/services inspection.
3. Quality control is the exclusive responsibility of the quality control department.

However, it is important to note that the scope of total quality management (TQM) is large which makes it somehow difficult to have one short definition that embraces its scope.

Many scholars have made good attempt to provide definitions that embraces its scope.

According to Koontz and O'Donnel (1977) approach to management which aims at continuous increase in value to customers by designing continuously improving organizational process and systems. In this definition, management entails creating a total quality culture bent on continuously improving the performance of every task and value chain activity.

Ramsey and Robert (1992) defined total quality management as systems that aims of continual increase in customers satisfaction at continually lower real costs. This view was supported by Strickland (1996) when we says that, "Total quality management is all about production of quality goods and delivery of excellent customers services.

2.3 CUSTOMER FOCUS AND SATISFACTION

Customer satisfaction is the driving force that propels organization existence. In considering the extent of customer satisfaction in Total Quality practice, the US department of commerce (1993) quality award criteria examined organizations relationships 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 organization, customer types and product/service features.

Other key excellence indicators for customer satisfaction, according to Ross (1995) are a resolution by management to empower frontline staff, strategic infrastructure support for frontline employees and attention to hiring training, attitude and moral 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/products that will satisfy their requirements. While the researcher agrees to some extent with the propositions of Ross, frontline empowerment and other issues raised are not in themselves sufficient, customer service, system proactive management of relationships with customers, and the use of all listening posts-surveys, product/service follows-ups complaints, turnover of customers and employees should also be adopted as key excellence indicator for customer satisfaction.

Since the quality of a product is not in itself but in what the customer says it is, customer focus and orientation

according to Wilkinson et al (1998) provides a common goal for all organizational activities and members. It incorporates the quality of design and conformance to quality specification. According to Unruh (1996), "even if an organization isn't focused on its customers, its competitors are. And the customers know where to find those competitors". He also believes that "customer focus" is not a one-time-only program. It requires a permanent ongoing commitment of all organizational resources".

For an organization to achieve success in any customer focus initiative, it is crucial that it has an understanding of customers. According to Unruh (1996), customers' needs and values should influence every aspect of the organization, strategy, employee staffing and performance, product and service development, sales and marketing programmes, operational procedures, and information and measurement systems. Customer focus and satisfaction not only enable organizations to know that customers think about them, their products and their competitors, but also to know about the personal lives of their customers.

2.4 THE PRINCIPLES OF TOTAL QUALITY MANAGEMENT

TQM is a business philosophy stressing the need to focus on the customer and obtain immediate profits. Nigeria quality guru Akpari (1996), of Trithel International Consulting, Lagos expanded on the saying "TQM is a customer focused performance enhancing tool which can be applied to any type of organization it balances the diverse elements of business (leadership strategic planning, human resource development and management, work processes, management, employees and stakeholders and aligns them to achieve excellent business results.

To understand nature of this revolutionary management tool that secures for its committed practitioners phenomenal business benefits and organizational excellence, it is appropriate to unveil it by examining the core concept/principles that are behind it. They are;

- 1.Customer focus
- 2.Quality definition
- 3.Do the right things first time and every time
- 4.Process improvement
- 5.Standardization

- 6.Continuous improvement
- 7.Open communication
- 8.Empowerment
- 9.Teamwork

2.5 THE TOOLS FOR TQM

Total quality management involves the use of many basic tools. These tools stress the importance of pursuing on endless cycle of monitoring and correction by detecting excessive variation in performance, they are:-

- Flow chart
- Pareto chart
- Control chart
- Check sheet
- Scatter diagram
- Fishbone diagram

! Flow Chart

This tool graphically displays the sequencing of activities within a process to produce some output. It identifies three fundamental elements, inputs activities and

outputs and reflects their logical relationship with one another.

Inputs are resources (e.g. people, data or money) that a process uses.

Flow chart have three basic symbols although many other ones exists. They include a rectangle to represent an activity, a rhombus for a decision and an arrow to reflect the logical flow of the process. Flow chart can help to identify the sources of the problems.

! Pareto Chart

This chart is based on collecting information to determine significant problems and then displaying them in a histogram. It can help to identify the major causes of a problem and then assist in the development of the appropriate solution. The pareto chart is based on the principles that a small percentages of the causes will contribute to a large percentage of the effects. Hence, the chart identifies the major problems by looking at the largest bars, knowing the true cause helps to fix the problem.

Obtaining data for a Pareto chart is critical in determining the possible causes of a problem, the tasks requires collecting statistics for a time period or reviewing previous performance records.

! Control Chart

This chart detected variations that occur beyond acceptable limits for repetitive processes and for determining cause of deviations. In a control chart, the average rate is recorded at the centre of the chart. The upper and lower control limits the minimum and maximum permissible level of variation are drawn to indicate the acceptable tolerance level of ranges of performance. As the plots are recorded, special attention is paid to the occurrences falling outside of the tolerance levels.

After noting the deviations, the staff efforts should be focused on any variations to improve performance, the idea is to reduce erratic patterns and the conditions sharp spikes the chart.

! Check Sheet

Also known as frequency distribution, a check sheet is nothing more than a blank form recording the number of incidents occurring for internal or category. It is best used to collect samples from a given population to determine a pattern. The data collected from check sheets are reflected as histograms. A histograms contains bars showing the total occurrences for each interval. The tallest bar reflects the highest number of incidents.

! Scatter Chart

This chart also known as a conservative chart illustrates the relationship between two variables (factor) and identifies any variation that occurs. A variation is anything that deviates from the norm, and having been identified necessitates further attention and analysis. Building a scatter chart necessitates having the capacity to acquire reliable and valid data. It requires collecting statistics for a period of time or reviewing previous performance record.

2.6IMPORTANCE OF TOTAL QUALITY MANAGEMENT IN AN ORGANIZATION

- 1.Minimization of waste. The TQM concept focused on zero defects as a way of minimization.
- 2.Quality must be interacted throughout the organization.
- 3.There must be employee commitment to continuous improvement.
- 4.A focus on product improvement from the customers view point.
- 5.The goal of customers satisfaction and the systematic and continuous research process related to customer satisfaction.
- 6.Recognition that personnel at all levels share responsibility for product quality.
- 7.Suppliers are partners in the TQM process.
- 8.Total Quality Management Concept aims to foster the technological advancement.

2.7IMPLEMENTATION OF TOTAL QUALITY MANAGEMENT (TQM) PROGRAMME IN AN ORGANIZATION

As earlier stated, total quality management is a way of meaning to improve the effectiveness efficiency, flexibility and competitiveness of a business as a whole. Quality Management, quality assurance, quality controls are all embodies in total quality management with other activities of management.

Therefore, an organization that wishes to implement total quality management should strictly follow the lay down steps;

- 1.Establish total quality criteria; this entails determination of the standards, criteria for measuring quality.
- 2.Establish people oriented management and intimate all the employees of the quality plan and let every employee understands how this works links with that of the other in achieving the organizations output.
- 3.Establish a plan for resources generation utilization and conservation.
- 4.Details of the process, design, control and improvement should be carefully worked out.

CHAPTER THREE

RESEARCH METHODOLOGY

The research methodology shows the work plan that the researcher adopted in carrying out the study. It defines the sources of data, population of the study, sample size determination, research instruments used, sample techniques and methods of data collection, test of reliability, validity and analysis.

3.1 RESEARCH DESIGN

The research instrument used to carry out these studies is the questionnaire method. Extensive use was made of the questionnaire as the basic tool. Furthermore, multiple choice questions were used in designing the questionnaire in an attempt to exhaust all the possible responses, which the researcher called for.

Sources of Data

Both primary and secondary source of data were utilized in gathering relevant information for the purpose of this study.

Primary Sources

The primary sources of the data consists of the following descriptions:

- 1.Questionnaire
- 2.Oral interview

The researcher decided to employ these techniques because of their attendant advantages.

Secondary Data

The secondary sources of data were also used for reference in order to give the work both theoretical and practical touch. Some of the secondary sources utilized includes textbooks, lecture material, seminar paper and related articles in academic journals and from the internet.

3.2 AREA OF STUDY

The researcher studied the impact of total quality management (TQM) on organizational productivity in Ama brewery, 9th Mile Corner, Enugu.

3.3 POPULATION OF STUDY

For the purpose of this study population has been identified as the entire employees of Ama Brewery with staff made up of 290 employees in the organization.

The experimental population is made up of senior staff and junior members of the total of 290 employees. Among the population, 15 were females, male were 275.

3.4 SAMPLE AND SAMPLE PROCEDURES

For the purpose of this study, the researcher choose to determine the sample size using Yaro Yamani formular:

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

Where

n = Sample size

N = Population size = 290

e = Margin of errors = 5% = 0.05

Hence:

$$\frac{290}{1 + 290(0.05)^2}$$

$$n = \frac{290}{1 + 290(0.0025)}$$

$$n = \frac{290}{1 + 0.725}$$

$$n = \frac{290}{1.725}$$

$$n = 168.1$$

$n = 168$, therefore is the sample size since the sample size used in the survey is 168 as derived from the above formular, it means that the number of questionnaires administered was one hundred and sixty eight.

3.5 INSTRUMENTS OF DATA COLLECTION

For the purpose of this research, the following instruments were used in gathering data.

1.Questionnaire

2.Oral interview

3.6 VALIDITY OF INSTRUMENTS

Basically no interesting aspect of the study was omitted in designing the survey questions coupled with the fact that the oral interview held were cross checked through the questions in the questionnaire as a confirmation of the responses received in either case.

Reliability of Instrument

The questionnaire, which forms the basic instrument used, was developed after the approval of researcher's supervisor and after going through some previous work on impact of total quality management on organizational productivity.

3.7 METHODS OF DATA COLLECTION

The researcher made several visits and collected information using the following techniques,

1. Holding oral interview with some management consultants and developers.
2. Distributing the questionnaire to one hundred and sixty eight, who were randomly chosen.

The questionnaires were distributed to the respondents chosen by the researcher and explanations were made where necessary. The questionnaires were later collected after some months. This was to allow the respondents enough time to fill the questionnaires at their own discretion and convenience.

Multiple-choice questions were seldom used in designing the questionnaire, close-ended approach was however used. This means that dichotomous (two ended) approach was frequently used i.e. "the Yes and No type". Furthermore, other data's were gathered externally from both published and unpublished materials.

3.7 METHODS OF DATA ANALYSIS

These sections specified the statistical tools used for data analysis. The description statistic such as percentages are used in analyzing research questions, below is the formular for percentages.

$$\text{Percentages (\%)} = \frac{F}{N} \times \frac{100}{1}$$

Where

F = Total numbers of frequencies

N = Total number of respondents

Differential statistic like chi-square in testing hypotheses.

Formular for chi-square is given as:

$$N = \frac{\sum (O_i - E_i)^2}{E_i}$$

Where

O_i = Observed frequencies

E_i = Expected frequencies

N = No of categories considered

The computed value will be compared against the value from the table. The value from the table is given by t, to obtain the expected frequency multiply row total by column total and divided by grand total i.e.

$$\frac{\text{Row Total} \times \text{Column Total}}{\text{Grand Total}}$$

To obtain the degree of freedom (d.f) for different types of contingency table is equal to (r-1): M is the number of parameter to be estimated.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

In this chapter, data obtained from the field of investigation are presented and analyzed. This is the data collected through the questionnaire administered to the staff of Nigeria Breweries at 9th Mile Corner, Enugu.

For the analysis, hypothesis earlier formulated will be tested and analyzed with the already stated test tools so as to find out if it is accepted or not.

4.1 DATA PRESENTATION

From the table, it can be seen that out of the 168 questionnaires distributed, 140 were returned while 28 were not returned. This represented 83% and 17% respectively.

General Analysis of Questionnaire

	Number	Percentage
Total number administered	168	100
Total number returned	140	83
Non response rate	20	17

Source: Field Survey, 2012.

4.2 PRESENTATION AND ANALYSIS

Question 1

Do TQM implementation affect the organizational productivity?

Table 1

Details	Number of Respondents	Percentage
Yes	130	93
No	10	7
Total	140	100

Source: Field Survey, 2012.

From the above table 130 of the respondent representing 93% said Yes that TQM affect the organizational productivity. While 10 of the respondents representing 7% gave a contrary feedback.

Question 2

In what ways (if any) does all management levels involvement in implementation of TQM affect productivity in Ama Brewery.

Table 2

Details	Number of Respondents	Percentage
Through quality attainment	100	71
Through cohesive teamwork	25	18
Through effective communication	15	11
Total	140	100

Source: Field Survey, 2012.

The above table revealed that 100 of the respondents representing 71% said that involvement of all management levels in TQM implementation affect productivity through quality attainment while 25 respondents representing 18% said that it is through cohesive teamwork. 15 respondents representing 11% said that it is through effective communication.

Question 3

Do some challenges disrupt the TQM implementation in the organization?

Table 3

Details	Number of Respondents	Percentage
Yes	128	91
No	12	9
Total	140	100

Source: Field Survey, 2012.

From the above table, it can be seen that 128 of the respondents representing 91% said that some challenges disrupt the TQM implementation in the organization while 12 respondents representing 9% stated that no challenges disrupt the TQM implementation in the organization.

Question 4

In what way does the failure to organize frequent employee training affect the TQM implementation.

Table 4

Details	Number of Respondents	Percentage
Low productivity	60	43
Poor material control	25	18
Poor quality	30	21
Excessive scrap and waste	25	18
Total	140	100

Source: Field Survey, 2012.

The table above revealed that 60 of the respondents representing 43% stated that failure to organize frequent employee training causes low productivity while 25 respondents representing 18% each stated that it causes poor material control and excessive scrap and waste. 30 respondents representing was of the view that it causes poor quality productivity which dissatisfies customers.

Question 5

In what ways does the failure to apply all TQM principles during its implementation affect the organization.

Table 5

Details	Number of Respondents	Percentage
Low customer focus	15	11
Low quality definition	40	28
Time waisting	15	11
Slow improvement	50	36
No cohesive teamwork	20	14
Total	140	100

Source: Field Survey, 2012.

The table above revealed that 15 respondents representing 11% stated that the failure to apply all the TQM principles during its implementation can cause low customer focus, while 40 respondents representing 28% stated that it causes low quality definition. 15 respondents representing 11% stated that it causes time waisting. While 50

respondents representing 36% were of the view that it slows improvement. 20 respondent representing 14% stated that it creates room for lack of cohesive teamwork.

4.3 TESTING OF HYPOTHESIS

The data gathered in the course of this research study which the analysis and presentation appeared in this chapter will be tested based on the validity of some of the hypothesis put forward in this study.

In testing for hypotheses, chi-square method is used.

4.3.1 Response of Management to Whether TQM Have an Impact in the Organizational Productivity

Ho:The implementation of TQM have no impact in the organizational productivity.,

Hi:The implementation of TQM have impact in the organizational productivity.

Response	O _i	e _i	o _i - e _i	(o _i - e _i) ²	$\frac{(o_i - e_i)^2}{e_i}$
Yes	130	70.0	60	3.600	51.429
No	10	70.0	-60	3,600	51.429
Total	140	140	-0-	7,200	102.858

The statistical test is

$$X^2 = \frac{\sum^n (o_i - e_i)^2}{e_i}$$

The level of significance used is 5% i.e. $\alpha = 0.05$

Therefore D.f = (K - 1)

Where

K = number of rows or columns
 = (2 - 1) (4 - 1) = 1 x 3 = 3

by $X^2 = 102.858$

$\chi = \%102.858$

$\chi = 10.14$

Comparing the test statistics with the critical value,

= 102.858 > 10.14

Decision Rule

Since the calculated value of X^2 is greater than the critical or table value, we reject the null hypothesis and accept the alternative. The computed value of $102.858 >$ the critical value 10.14 , we therefore reject null hypothesis and accept the alternative hypothesis which states that TQM implementation have impact in the organizational productivity.

4.3.2 Response to whether the levels of all management involvement have an affect in the TQM implementation in Ama Brewery.

Response	O _i	e _i	oi - ei	(oi - ei) ²	$\frac{(oi - ei)^2}{ei}$
Through quality attainment	100	46.66	53.34	2,845.2	60.98
Cohesive teamwork	25	46.66	-21.66	469.2	10.06
Effective communication	15	46.66	-31.66	1,0002.4	21.489
Total	140	140	-0-	4,316.8	92.52

Source: Chi-square Computation Table.

The statistical test is

$$\chi^2 = \frac{\sum^n (oi - ei)^2}{ei}$$

The level of significance used is 5% i.e. $\alpha = 0.05$

D.f is given by $(r - 1) (k - 1)$

$$\begin{aligned} \text{d.f} &= (r - 1) (k - 1) \\ &= (3 - 1) (4 - 1) \\ &= 2 \times 3 = 6 \end{aligned}$$

The critical value is given by

$$\text{by } \chi^2 = 92.52$$

$$\alpha = 0.05$$

$$\text{Critical value} = \chi^2_{0.05, 6} = 9.619$$

Comparing the test statistics with the critical value,

$$= 92.52 > 9.619$$

Decision Rule

Since the calculated value of χ^2 is greater than the critical or table value, we reject the null hypotheses and accept the alternative. The computed value of 92.52 is greater than the critical value 9.619, we therefore, reject the null hypotheses and accept the alternative which states that the

levels of all management involvement in TQM implementation have an affect on its organizational productivity.

4.3.3 Response to whether some challenges disrupt TQM implementation in the organization.

Response	O _i	e _i	oi - ei	(oi - ei) ²	$\frac{(oi - ei)^2}{ei}$
Yes	128	70	58	3,364	48.06
No	12	70	-58	3,364	48.06
Total	140	140	-0-	6,728	96.12

Source: Chi-square Computation Table.

The statistical test is

$$X^2 = \frac{\sum^n (oi - ei)^2}{ei}$$

The level of significance used is 5% i.e. X = 0.05

$$\begin{aligned} D.f &= (2 - 1) (4 - 1) \\ &= 1 \times 3 = 3 \end{aligned}$$

Therefore the critical value is given by

$$X^2 = 96.12$$

$$X = 9.80$$

$$X = 9.80$$

Comparing the test statistics with the critical value,

$$96.2 > 9.80$$

Decision Rule

Since the calculated value of X^2 is greater than critical value, we reject the null hypothesis and accept the alternative. The computed value of 96.12 is greater than the critical value of 9.80, we therefore reject the null hypotheses and accept the alternative which states that there are some challenges disrupting TQM implementation in the organization.

4.3.4 Response to whether the failure to organize frequent employee training have affect in the TQM implementation.

Response	O_i	e_i	oi - ei	(oi - ei)²	$\frac{(oi - ei)^2}{ei}$
Low productivity	60	35	25	625	17.86
Poor material control	25	35	-10	100	2.86
Poor quality	30	35	-5	25	0.71
Excessive scrap & waste	25	35	-10	100	2.86
Total	140	140	-0-	850	24.29

Source: Chi-square Computation Table.

The statistical test is

$$\chi^2 = \frac{\sum^n (oi - ei)^2}{ei}$$

D.f is given by (r - 1) (k - 1)

$$\begin{aligned} & (4 - 1) (4 - 1) \\ & = 3 \times 3 = 9 \end{aligned}$$

The critical value is given by

$$\chi^2 = 24.29$$

$$\chi = \sqrt{24.29}$$

Critical value = 4.93

Comparing the test statistics with the critical value,

$$= 24.29 > 4.93$$

Decision Rule

Since the calculated value of χ^2 is greater than the critical or table value, we reject the null hypotheses and accept the alternative. The computed value of 24.29 is greater than the critical value of 4.93, we therefore reject the null hypotheses and accept the alternative which states that the failure to organize frequent employee training have affect in the TQM implementation.

4.3.5 Response to whether the failure to apply all TQM principles during its implementation affect the organization.

Response	O _i	e _i	oi - ei	(oi - ei) ²	$\frac{(oi - ei)^2}{ei}$
Low customer focus	15	28	-13	169	6.04
Low quality definition	40	28	12	144	5.14
Time waisting	15	28	-13	169	6.04
Slow improvement	50	28	22	484	17.29
No cohesive teamwork	20	28	-8	64	2.29
Total	140	140	-0-	1,030	36.8

Source: Chi-square Computation Table.

The statistical test is

$$\chi^2 = \frac{\sum^n (oi - ei)^2}{ei}$$

$$\begin{aligned} D.f &= (5 - 1) (4 - 1) \\ &= 4 \times 3 = 12 \end{aligned}$$

The critical value is given by

$$\chi^2 = 36.8$$

$$\chi = \%36.8$$

$$\chi = 6.07$$

Comparing the test statistics with the critical value,

$$= 36.8 > 6.07$$

Decision Rule

Since the calculated value of χ^2 is greater than the critical value, we reject the null hypothesis and accept the alternative. The computed value of 36.8 is greater than the critical value of 6.07, we therefore reject the null hypotheses and accept the alternative which states that the failure to apply all TQM principles during its implementation affect the organization.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 SUMMARY OF FINDINGS

Based on the analysis made after the data have been presented in a logical and sequential manner, the following findings were made;

- 1.The aforementioned organization agreed that implementation of TQM have an impact in the organizational productivity.
- 2.The failure of all management levels involvement in Total Quality Management (TQM) implementation affect productivity in Ama Brewery. Not all their management levels are involved in TQM implementation.
- 3.Some management challenges disrupt the TQM implementation in the Organization.
- 4.The failure to organize frequent employee training affects the TQM implementation effectively in Ama brewery.
- 5.The failure to apply all TQM principles during implementation affect the organization.

5.2 CONCLUSION

- 1.The increase in demand of quality products and sophistication of customers have virtually re-written the rules of competition and forced organizations to focus on quality.
- 2.All management levels involvement in the implementation of TQM in an organization increases cohesive teamwork, effective communication and quality attainment and other things.
- 3.Management challenges disrupting the TQM implementation should be tackled by the management team and not by individual alone.
- 4.Frequent employee training will help management in various ways like,
 - a)It will help in acquisition of new knowledge and technology that will aid better performance in the organization.
 - b)It will help increase the level of individual and organizational competence.

c)It will help to reconcile the gap between what should happen and what is happening between desired targets or standards and actual level of work performance.

d)To improve quality

5.Application of all TQM principles is necessary in the TQM implementation.

5.3 RECOMMENDATION

- 1.Organization should see TQM as a continuous project which should not be ignored.
- 2.Management at all levels should join hand in the implementation of TQM in the organization inorder to achieve their goal target and satisfy its customers.
- 3.All management challenges should be treated by teams of the employees and not be individual self solution.
- 4.Ama brewery organization should engage in frequent employee training inorder to foster its quality attainment.
- 5.All the TQM principles must be implemented in order to achieve organizational goal targets.

BIBLIOGRAPHY

Barrida, E.C. (1990), *Research Methods in Administration*, South-Western, Cincinnati.

Crosby, E. and Philip, B. (1979), *Quality is Free*. New York, New American Library.

Crosby, E. and Philip, B. (1984), *Quality Without Tears*, New York: McGraw. The Art of Hassle-Free Management.

Denning, W.E. (1986), *Quality and Productivity and Competitive Position*. Cambridge, Center for Advance Engineering Study.

Denning, W.E. (1989), *Out of Crisis*. Cambridge, Centre for Advanced Engineering Study.

Dule, J. (1994), *Quality Improvement Through Standards*. Elliborough House England. Throne Publishers Ltd.

Enwurum, U.J.F. (2001), *Total Quality Management*, Enugu: Unpublished Paper Presented Workshop Organized by Health System Fund.

Evans, R., James R. and William, M. (1999), *The Management and Control of Quality*. 4th Edition. South-West, by Cincinnati Publishers.

Fiegenbaum, A.V. (1996), *Total Quality the Strategic and Competitive Edge*. New York: Free Press.

Garvin, B. and David, A. (1987), Competing on the Eight Dimensions of Quality. *Harvard Business Review*.

Garvin, B. and David A. (1988), Managing Quality. New York by Free Press.

Goetsch E., David L. and Stanley, D. (1995), *Implementation Total Quality*. Upper Saddle River by N.J. Prentice hall Pub.

Hall C. and Robert (1986), *Attaining Manufacturing Excellence*. Burr Ridge. Dow-Jones Irwin Publishers.

Juran, E. and Joseph, M. (1986), *"The Quality Trilogy" Quality Progress*. New York: Free Press.

Juran, E. and Joseph M. (1988), *Planning for Quality*. New York: Free Press.

Kitazawa, S. and Sarkis, J. (2000), The Relationship Between 15014001 and Continuous Source Reduction Programs. *Journal of Operations and Production*.

Rosenberg, J. (1996), *"Five Myths About Customer Satisfaction"* New York: Quality Progress Publishers.

Zimmerman, R.E. and Steinmann, F. (1996), *"Designing Customer Surveys that Work"*. New York: Free Press.

APPENDIX

School of Postgraduate Studies
Department of Management
University of Nigeria
Enugu Campus

9th April 2012

Dear Respondents,

I am a Postgraduate MBA student of the above mentioned institution. Presently, I am carrying out a research work title "Impact of Total Quality Management on Organizational Productivity (A Case Study of Ama Brewery, 9th Mile Corner, Enugu).

Please you are requested to fill the questionnaire attached to this letter to the best of your personal assessment. All information disclosed by you will be treated with utmost confidence and entirely used for the purpose of this research work.

Thank you in anticipation for your cooperation.

Yours faithfully,

Nechi Ndubuisi H.

QUESTIONNAIRE

Please tick (%) where appropriate

1. Do TQM implementation affect the organizational productivity?

- a) Yes ☐
- b) No ☐

2. In what ways (if any) does all management levels involvement in implementation of TQM affect productivity in Ama Brewery.

- a) Through quality attainment ☐
- b) Through cohesive teamwork ☐
- c) Through effective communication ☐

3. Do some challenges disrupt the TQM implementation in the organization?

- a) Yes ☐
- b) No ☐

4. In what way does the failure to organize frequent employee training affect the TQM implementation.

- a) Low productivity ☐
- b) Poor material control ☐
- c) Poor quality ☐
- d) Excessive scrap and waste ☐

5. In what ways does the failure to apply all TQM principles during its implementation affect the organization.

- a) Low customer focus ☐
- b) Low quality definition ☐
- c) Time waisting ☐
- d) Slow improvement ☐
- e) No cohesive teamwork ☐