

THE APPLICATION OF TOTAL QUALITY MANAGEMENT (TQM) APPROACHES AND TOOLS IN ENHANCING GOAL ATTAINMENT IN THE NIGERIAN BREWERY MANUFACTURING FIRMS: A SURVEY OF SELECTED BREWERY ANUFACTURING FIRMS IN NIGERIA

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ABSTRACT

The objective of the study is to determine the Impact of Total Quality Management (TQM) Application both technique/tools and its implementation strategies in enhancing organizational goal attainment in the Brewery Manufacturing Firms in Nigeria. The population of the study comprises three (3) Brewery firms in Nigeria namely, Nigerian Brewery Plc, Guinness Nigeria Plc and Submiller Brewery totaled at 4827. The sample size is 369 and was determined using Taro Yamane formula. Bowley's allocation formula is used in determining company's individual sample size. Both primary and secondary data sources are adopted. Construct validity is determined on TQM tools/techniques such as Benchmarking, outsourcing, speed, quality functional deployment, Taguchi technique, cause and effect diagrams, and statistical quality control amongst others. Bartlett test of sphericity and Kaiser-Meyer-Olkin test is adopted to measure sampling adequacy in which a value of 0.466 was obtained revealing that the sample is adequate. Multiple regression is used in the test of the two (2) formulated hypotheses. The test revealed that TQM tools have significant impact on the attainment of organizational goals such as high market share, profit attainment, customer satisfaction, quality product. The other finding shows that, application of implementation strategies of TQM such as top management commitment, education and retraining employees, adoption of modern supervision methods amongst others will lead to goal attainment. The paper recommends that continuous improvement on quality standards, processes, methodologies, strategies are essential ingredients for TQM and organizational goal attainment. Additionally, Executive Managers should focus on what matters most to customers in order to attain profit goals, market share and customer satisfaction goals amongst others in order to be productive.

Keywords: Total Quality Management, TQM Tools, Goal Attainment, Manufacturing firms, TQM Implementation Strategies.

INTRODUCTION

An important development that has revolutionalized operations and productivity in modern organizations is Total Quality Management (TQM). All around us, in manufacturing industries, oil companies, banks, trading houses and service organizations, we see the results of applying or not applying TQM (Yalokwu, 2000): - Organizations that adopt TQM as a way of life, and not just as a management only, programmes end up being relatively more successful than those that do not incorporate TQM in their system of doing things. More so, increasing level of competition among organizations has brought about rapid innovation and

changes in the modern societies. Organizations that learn to search creativity for the future can transform themselves to advantage when they confront changing competitive environment. Therefore, strategic planners, must be able to identify the cause of changes (be it both technological, social changes and quality improvements etc) that will influence organization performance. Many organizations planners that under estimate the impact of such changes, quality improvements, and their performance will be affected (Eke 2004).

Maiturare (2010) maintains that, the increasing economic globalization of the 1980s, made possible in part by advanced information technologies, created a scenario whereby the U.S manufacturing sector fell prey to more competitive producers, particularly in Japan. In response to massive market share gains achieved by Japanese companies during the late 1970 and 1980, U.S producers scrambled to adopt quality and productivity techniques that might restore their competitiveness. Indeed, Deming's philosophies and systems were finally recognized in the United State, and Deming himself became a highly-sought-after lecturer and author. The "Deming Management Method" became the model for many American corporations eager to improve. Consequently, Total Quality Management (TQM), the phrase applied to quality initiatives proffered by Deming, Juran, Crosby, Feiganbaum, Shewhart, Ishikawa, Taguchi and other management gurus, became a staple of American enterprise by the late 1980s. Since then, the concept has become a global phenomenon being applied by companies in both the developed and the developing world. Over the years, several studies have been undertaken on the application of TQM in Business Organization in Nigeria. In Nigeria, companies especially in the oil sector and the financial service industry attempted to adopt the TQM philosophy in their organizations. Such organizations include Nigerian National Petroleum Corporation (NNPC), Mobil oil Nigeria plc, banking organizations, cement manufacturing industries, pharmaceuticals amongst others. For example, Irechukwu (2010) and Maiturare (2010) conclude that, the level of success among organizations that have implemented TQM in Nigeria is high considering the fact that thirty-two (32) out of thirty five (35) organizations that implemented were successful.

Total Quality Management (TQM) according to Dale Besterfield, Carol Besterfield- Michna, Glen Besterfield and Mary Besterfield-Sacre (2006) is defined as both a philosophy and a set of guiding principles that represents the foundation of a continuously improving organization. It is the application of quantitative methods and human resources to improve all the processes within an organization and exceed customer need now and in the future. TQM integrates fundamental management techniques, existing improvement efforts, and technical tools under a disciplined approach.

Yalokwu (2006) defines Total Quality Management (TQM) as a long term effort by an organization to change its own management approach towards the production of goods and services that continuously meet customers' requirements at the lowest cost possible by releasing the potentials of all organizational resources. TQM is about changing the way things are done thereafter. To improve performance continuously at lowest cost, people need to know what to do, how to do it, have the right tools to do it, be able to measure performance and receive feed-back on current levels of achievement.

To Stoner, Freeman and Gilbert Jnr (2000). Total Quality Management (TQM) means that the organization's 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 processes, resulting in high quality products and

services. TQM provides all this by adhering to a set of general principles (Kanji, 1996), they include: -

- I. Delight the customer (Customer Orientation): – The first principle focuses on customers and asks “what would delight them”? This implies understanding needs – both of product and service, tangible and intangible; agreeing with their requirement and meeting them. Delight here means, being best at what matters most to customers, which usually changes overtime. “The core concepts of TQM that relates to delight the customer are “customer satisfaction” and internal customers are real”.
- II. Management by Facts: - Knowing the current performance levels of our products or services in our customers’ hands and that of all employees is the first stage of being able to improve. If we know where we are starting from we are able to tell we are improving. “The core concept that relates to Management by fact is “all work is a process” and measurement”.
- III. People based Management: - Knowing what to do, how to do it and getting feedback on performance is one part of encouraging people to take responsibility for the quality of their own work; and involvement and commitment to customer satisfaction are the ways to bring this about. This third principle of TQM recognized those good systems, standards, and technology in them will not mean quality. Therefore the role of people is vital and essential. “The core concepts that relate people based management are “teamwork” and people make quality”.
- IV. Continuous Improvement: - Here TQM is seen as not an isolated programme or a project. It is a management process that recognized that however much we may improve, our competitor will continue to improve and our customers will expect more from us. “The core concepts that relates to company’s continuous improvement are “the continuous improvement cycle” and prevention”.
- V. Produce at lowest cost: - This means that quality is built into the products and services at a relatively lower cost than other suppliers. This includes preventing any kind of failure from happening and eliminating financial and time wastage. Lowest cost does not necessary means at the lowest price. It should mean at the lowest cost to the organization as a whole.

David Garvin (1989), a specialist in the area of quality control argues that quality can be used in a strategic way to compete effectively and that an appropriate quality strategy would take into consideration various dimensions of quality. The dimensions are: -

- a) Performance – This involves the various operating characteristics of the product (i.e the primary product characteristics such as the brightness of the picture), sound and longevity of the picture tube in the case of a television set), (Hostage, 1975).
- b) Features – These are the secondary characteristics, added features that are supplemental to the basic operating characteristic. In automobile for example, we have remote control, a stereo CD player would be an additional feature.
- c) Reliability – This refers to consistency of performance over time, average time for the unit to fail. It is the degree of dependability and trustworthiness of the benefit of the product for a long period of time. It addressed the probability that the product will work without interruption or breaking down (Schiller, 1988).
- d) Conformance – The degree to which the product conforms to pre-established specifications. All quality products are expected to precisely meet the set standards.
- e) Durability – Useful life including repairs of the product. Simply it measures the length of time that a product performs before a replacement becomes necessary. The

durability of home appliances such as a washing machine can range from 10 to 15 years (Fins, 1989).

- f) Serviceability – This refers to the promptness, courtesy, proficiency and the ease of repair when the product breaks down and is sent for repairs. It is simply resolution of problems and complaints.
- g) Response – Human-to-Human interface, such as the courtesy of the dealer.
- h) Aesthetics – This is the sensory characteristics such as the exterior finish. The aesthetics aspect of a product is comparatively subjective in nature and refers to its impact on the human senses such as how it looks, feels, sounds, tastes depending upon the type of product (Labich, 1989). Automobile companies e.g. Honda, Toyota, Mercedes Benz, Peugeot etc make sure that in addition to the functional quality, their automobiles are all aesthetically attractive.
- i) Perceived Quality – An equally important dimension of quality is the perception of the quality of the product in the minds of the consumer. Example, Honda products, Sony Walkman, and Rolex watches are perceived to be of high quality items by consumers. Adams (1972) identified the following as service quality dimensions. These dimensions are:-
 - 1) Timeliness – performed in promised period of time.
 - 2) Courtesy – performed cheerfully.
 - 3) Consistency – giving all customers similar experience each time.
 - 4) Convenience – accessibility to customers.
 - 5) Completeness – fully serviced, as required.
 - 6) Accuracy – performed correctly each time (Hitt, Ireland and Hoskisson, 2001).

Organizations with extensive and successful quality improvement programs tend to rely on these above product and service dimensions in order to attain their goals with cross-functional work teams and self-directed or empowered work teams put in place; Garvin (1987).

STATEMENT OF THE PROBLEM

In spite of the numerous success recorded by organizations in product production and service delivery (i.e oil companies, cement companies, breweries firms, pharmaceuticals companies, banking firms etc) there are still many companies that attempted a variety of quality improvement efforts by adopting Total Quality Management (TQM) techniques and tools such as benchmarking, outsourcing, speed, Quality function deployment (QFD), Taguchi techniques, flow diagram, Pareto analysis, cause-and-effect diagrams, Statistical Process Control and ISO 9000, but they have not achieved any or most of the expected outcomes of high profit, increased market share amongst others. Some quality experts like Deming's, Juran, and Crosby believed that the most important factor in the success or failure of TQM effort is the genuineness of the organizational commitment. It is therefore imperative to X-ray and see exactly the reason leading to unsatisfactory trends despite quality techniques application by these organizations.

OBJECTIVES OF THE STUDY

- i. To determine the impact of Total Quality Management (TQM) techniques/tools application in attaining the goals of Breweries manufacturing organizations in Nigeria.
- ii. To determine the strategies to be adopted for effective implementation of Total Quality Management (TQM) in order to attain organizational goals.

RESEARCH QUESTIONS

- i. To what extent have the techniques and tools of Total Quality Management (TQM) impacted on goal attainment of Breweries manufacturing organizations?
- ii. To what extent have there been effective implementation of Total Quality Management (TQM) strategies in attainment of organizational goals?

RESEARCH HYPOTHESES

- Ho₁ Total Quality Management (TQM) techniques and tools adopted by Breweries manufacturing organization in Nigeria have not impacted on the attainment of organizational goals.
- Ho₂ Breweries manufacturing organizations in Nigeria have not adopted strategies for effective implementation of Total Quality Management (TQM) to facilitate attainment of organizational goals.

REVIEW OF RELATED LITERATURE

Origin of Total Quality Management (TQM)

Total Quality Management (TQM) as we know it today was introduced in the 1930s by the American Statistician Dr. W. Edwards Deming who developed full systems of quality control in the United States of America (USA). Deming held very strong views on how to achieve excellence in manufacturing while he was still in the USA. But having been ignored for several years, he relocated to Japan where his views on TQM were quickly adopted. In 1948, Deming conducted his first seminar in Japan on TQM. In 1950, the Japanese Standard Association was formed and in the following year, the Deming Award Scheme for Total Quality started. Deming's work in Japan was successful and it contributed greatly to Japan's post World War II technological breakthrough. It was not until the USA government perceived the great success that Deming achieved in Japan that TQM was adopted in the USA and other western countries.

Another contributor to TQM was Dr. Joseph. M. Juran, like Deming, he started his research in America and in 1954 he made his first tour of Japan. In fact, 1950's in Japan were a period of consolidating the home markets, adding value to products and copying ideas from the rest of the world. The low-cost based of the 1960's enabled Japan to export world-wide, continuously adapting to and exploiting markets. The western perception of Japan was still one of poor-quality goods.

In the following twenty years, the perception of Japanese goods and services changed to one of reliability, good value for money, with the result that the economic balance of power had shifted to Japan and the East in such industries as motor vehicles, shipbuilding, electrical appliances, electronic consumer goods, textile, banking and financial services, photography, video, matchmaking and many others.

A parallel course in the United States showed a slow development of conventional quality control techniques with the appearance of quality circles during the mid-1960s. During the period, Philip B. Crosby introduced the Zero-defects concept as a performance standard within the framework of his quality absolutes. It was not until the end of the 1970s that the first fortune 500 companies took on the organization wide quality management processes and

Tom Peters revitalized total quality management concepts through his book, “in search for excellence”.

In the United Kingdom in 1963, the National Productivity council promoted quality management through its forward-looking: “Right first time”.

In 1978, the national strategy or quality was developed based on the government’s notion that £10 (Ten Billion Pound Sterling) was being wasted every year due to bad quality production. The capping went out with the labour government in 1979 but was replaced four years later with the National Quality campaign which since then been the most sustained programme of its kind in UK history.

In countries like Nigeria, TQM as we know it today is a relatively late comer, having taken shape only within the last two decades. For long, emphasis had been on quantity and not quality, hence people often say that Nigeria is a seller market. However, with increasing globalization and dumping of goods from the developed countries into the Nigeria market, the local manufacturers are becoming more responsive towards the improvement of product quality. For example, the West African Milk Company, African timber and plywood industries and Eleganza industries now manufacture products better in quality than their closed substitutes hither to import into Nigeria. Even in the services sector such as banking, education and consultancy, the issue of quality is becoming more recognized than in the past; Yalokwu (2006).

TOTAL QUALITY MANAGEMENT (TQM) TOOLS AND TECHNIQUES

According to Oakland (1990), Total Quality Management (TQM) requires a new-ending process of continuous improvement. The end goal is perfection, which may never be achieved but is always sought. The concept of continuous improvement has become the corner stone of the Japanese use the term “kaizen” to describe the ongoing process of continuous improvement. The concept of continuous improvement and TQM requires a complete overhaul of management philosophy and organizational structure; managers can rely on several specific tools and techniques for improving quality.

Griffins (1997) identify some of the following approaches and methodologies for quality improvement as discussed below;

- a) **Benchmarking:** - This is the process of learning how other firms do exceptionally high quality things. It is the continuous process of comparing a company’s strategy, products and processes with such other similar organizations who are the best in that class in order to learn how they achieved excellence and then setting out with changes in strategies, products and processes to match and then surpass them. A bench mark demonstrates the degree to which the customers of other similar organizations are satisfied. It identifies the highest degree of customer satisfaction (Rogers, 1998). The goal is to beat such an organization in performance.

According to Kotter (1980) some of the best known market leaders in various firms in operations and production bench marked are General motors in (Automobiles), Kodak in (photography), IBM in (Computers), Xerox in (copying) and Procter and Gamble in (consumer package goods).

The benchmarking process usually involves the following steps:-

- i. Identify a critical area in your own organization that needs improvement.

- ii. Identify some other organization which excels in quality in that area.
 - iii. That organization would then become your benchmark for that area for improvement. Study the organization carefully and especially its benchmark activity.
 - iv. Analyze the data so gathered from the benchmark organization and compare it with your own activity.
 - v. Improve the critical area at your own organization.
- b) Outsourcing: - This is the process of subcontracting services and operations to other firms that can do them cheaper or better (or both). If a business performs each and every one of its own administrative and business services and operations, it is almost certain to be doing at least some of them in an inefficient and/or low quality manner. If those areas can be identified and outsourced, the firm will save money and realize a higher-quality service or operations. For example, almost all multinational corporations operating in Nigeria outsource recruitment service to Auther Anderson consulting firm, KPMG and Pricewaterhouse.
- c) Speed: - Speed refers to time needed by the organization to get something accomplished without sacrificing its quality. An organization which produces faster distributes faster and adapts to new ways of doing things faster will be ahead of competition. A good illustration of the power of speed comes from General Electric. At one point the firm needed six plants and three weeks to produce and deliver customer-made industrial circuit-breaker boxes. By making speed a priority, the same product can now be delivered in three days and only a single plant is involved.
- d) ISO 9000: - This is a useful technique for improving quality. ISO 9000 refers to a set of quality standards created by the international organization for standardization. There are five set of standards covering areas such as product testing, employee training, record keeping, supplier relations, and repair policies and procedures. Firms that want to meet these standards apply for certification and are audited by a firm chosen by the organizations domestic affiliate (in the United States, this is the American National Standards Institute). These auditors review every aspect of the firms' business operations in relation to the standards.
- e) Statistical Quality Control (SQC):- SQC is primarily concerned with managing quality. It is a set of specific statistical techniques that can be used to monitor quality. Acceptance sampling involves sampling finished goods to ensure that quality standard has been met. Acceptance sampling is effective only when the correct percentage of products that should be tested (for example, 2.5 or 25 percent) is determined. This decision is especially important when the test renders the product useless. Another SQC method is in-process sampling. In-process sampling involves evaluating products during production so that needed changes can be made. For example, the painting department of a furniture company might periodically check the tint of the paint it is using. The company can then adjust the color as necessary to conform to customers standards. The advantage of in-processes sampling is that, it allows problems to be detected before they accumulate (Kanji and Asher, 1993).
- f) Quality Function Deployment (QFD): - The Quality function deployment defines the relationship between the customer's desire and the products supplied. Defining the relationship clearly is the first step in building a world-class production system. Then the products and processes can be built with features desired by the customers.
- g) Taguchi Technique: - Named after a Japanese engineer, Genichi Taguchi. This approach is built around three concepts, namely, quality robustness, quality loss factor and target oriented quality.

“Quality robust” products would continue to retain their quality even in adverse manufacturing and environmental conditions. Taguchi’s idea is to remove the “effects” of adverse conditions instead of removing the causes. Removing causes can sometimes be very costly and time consuming, and hence it may be cheaper and faster to remove such effects. The “quality loss functions” (QLF) identifies all costs connected with poor quality including the costs of customer dissatisfaction, warranties service scraps, waste and repairs and possibly some social costs. The quality loss function is defined as:-

$$L = D^2 C$$

L = Loss

D = Deviations from the target value

C = Cost of avoiding the deviations

D^2 Shows that the further the product is from the target value, the more severe the loss. “Target-Oriented quality” is a philosophy of continuous improvement to bring the product up to the most realistic but high quality target.

h) Flow Diagrams: - A flow diagram serves as a visual representation of a system or a process and it allows one to see the flow of steps in a process from the beginning to the end, and serves as a kind of a road map for locating and solving problems for improving quality.

i) Pareto Analysis: - Wilfred Pareto, a nineteenth century economist suggested that 80 percent of the problems are the result of only 20 percent of the causes. Pareto Analysis organized errors, problems or defects so that attention can be focused on the most important problems according to the degree of their important problem area. The idea is to classify these problems according to the degree of their importance so that the most important problems can be resolved first. The 80-20 rule, as stated above, suggests that by removing 20 percent of the causes, 80 percent of the errors can be removed. For example, if 80 percent of the machine breakdown from 20 percent of the machines, then attention should be focused on these 20 percent machine.

j) Cause-and-Effect Diagrams: - The cause-and-effect diagrams offer a structured approach to problem solving. (See diagram 1-1a). These are also known as “fish bone diagrams” because of their shape. The diagrams help to organize problem solving efforts by providing several layers of categories that may be factors in causing problems. The four main such categories are methods, manpower, materials and machines. Each category can then provide more information about specific causes of problems in that category. A sample fish bone diagram is shown below (diagram 1-1a).

Figure 1-1a – cause and effect diagrams

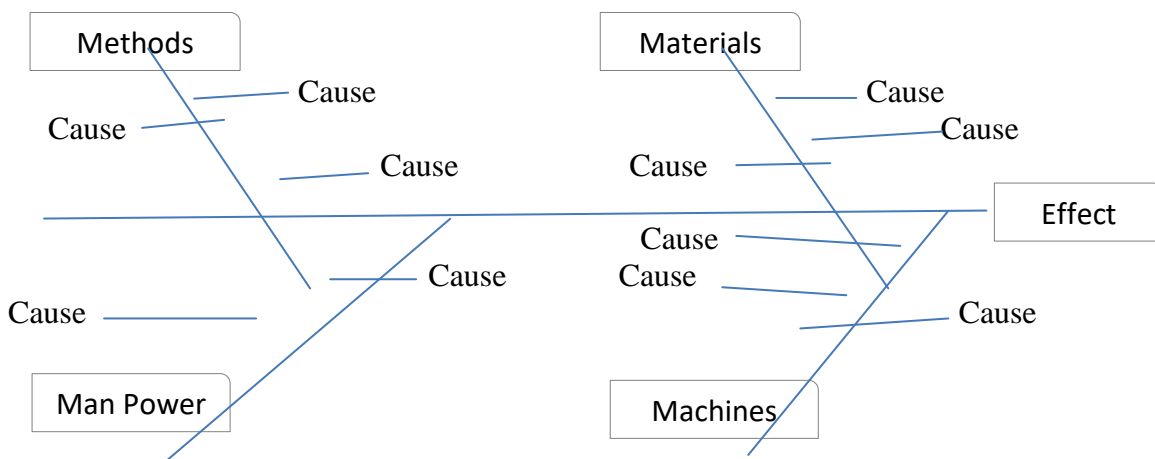
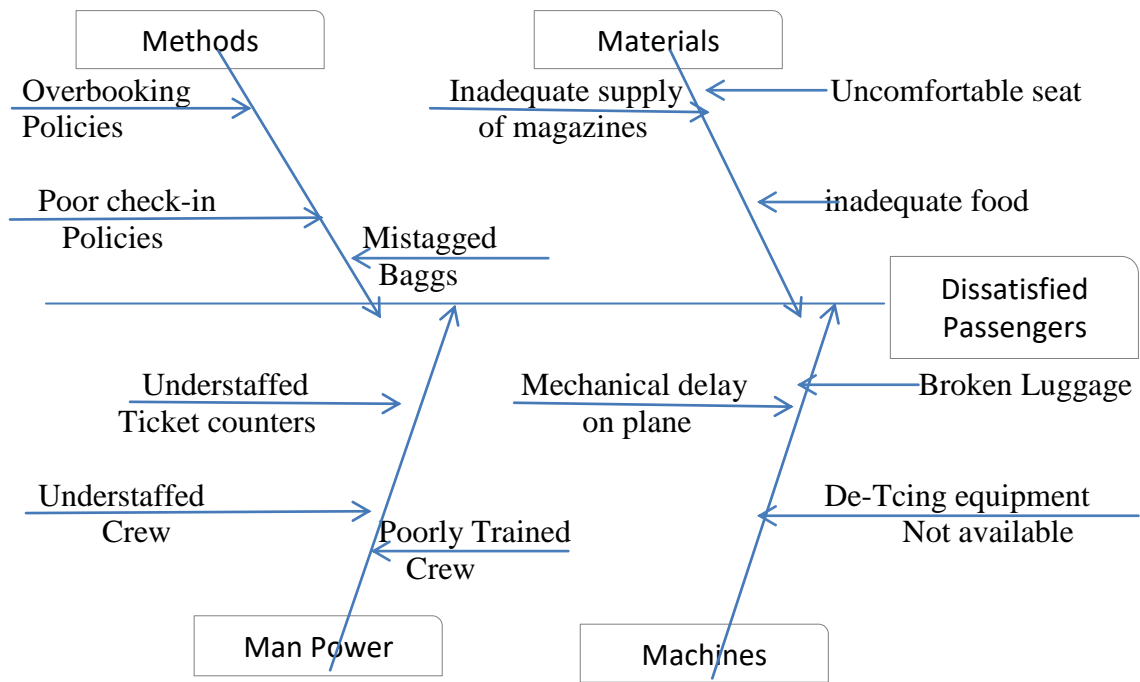


Figure 1-1b – cause -and -effect diagrams

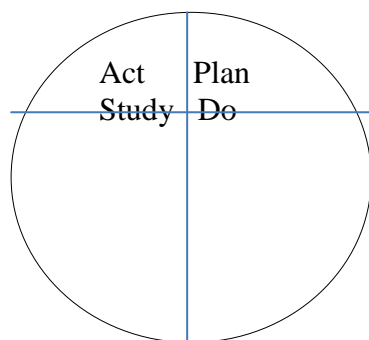


Let us take an example of the problem of a dissatisfied airline passenger to illustrate these technique. Each bone in the fishbone structure represents a possible source of error. When such a chart is properly built and with enough detail, then the possible quality, problems are highlighted and proper steps can be taken to solve these problems to the customers' satisfaction.

**TOTAL QUALITY MANAGEMENT (TQM) GURUS
WALTER SHEWHART**

Walter. A. Shewhart Ph.D., spent his professional career at Western Electric and Bell Telephone Laboratories, both division of AT & T. He developed control chart theory with control limits, assignable and chance causes of variation, and rational subgroups. In 1931, he authored economic control of quality of manufactured product, which is regarded as a complete and thorough work of the basic principles of quality control. He also developed the PDSA cycle for learning and improvement. The PDSA cycle is the basic plan-do-study-Act cycle. It was first developed by Shewhart and then modified by Deming. It is an effective improvement technique.

Figure 1.0 illustrates the cycle.



The four steps in the cycle are exactly as stated. First, plan carefully what is to be done. Next, carry out the plan (do it). Third, study the results did the plan work as intended or were the result different finally, act on the results by identifying what worked out as planned and what

didn't. Using the knowledge learned, develop an improved plan and repeat the cycle. The PDSA cycle is a simple adaptation of the more elaborate problem solving technique to enhance quality of product and services of organizations.

- i. The first phase of it is to identify the opportunities for improvement.
- ii. The second phase you analyses the current process.
- iii. In the third you develop the optional solutions to improve the process.
- iv. In the fourth phase the objective is to prepare the implementation plan, obtaining approval and implementing the process improvements.
- v. In phase five, you study the results. This entails monitoring and evaluating the changes by tracking and studying the effectiveness of the improvements efforts through data collection and review of progress.
- vi. In phase six, you standardize the solution: Once the team is satisfied with the change, it must be institutionalized by positive control of process, process certification and operator certification.
- vii. In phase seven, plan for the future: This phase have the objective of achieving improved levels of process performance. Regardless of how successful initial improvement efforts are, the improvement process continues.

EDWARD DEMING

Edward Deming, Ph.D, was a protégé of Shewhart. In 1950, he taught statistical process control and the importance of quality in the leading CEOs of Japanese industries. He is credited with providing the foundation for the Japanese quality miracle and resurgence as an economic power. Deming is the best known quality expert in the world. His fourteen points provides a theory for management to improving quality, productivity and competitive position. The Demings 14 points for management of quality are:

- 1) Create and publish to all employees a statement of the aims and purposes of the company or other organization. The management must demonstrate constantly their commitment to this statement.
- 2) Learn the new philosophy, top management and everybody.
- 3) Understand the purpose of inspection, for improvement of processes and reduction of cost.
- 4) End the practice of awarding business on the basis of price tag alone.
- 5) Improve constantly and forever the system of production and service.
- 6) Institute training.
- 7) Teach and institute leadership.
- 8) Drive out fear: - Create trust: Create a climate of innovation.
- 9) Optimize toward the aims and purposes of the company, the efforts of teams, groups, and staff areas.
- 10) Eliminate exhortation for the workforce.
- 11) a) Eliminate numerical quotas for production instead, learn and institute methods for improvement.
b) Eliminate MBO (Management by Objectives), instead, learn the capabilities of process and how to improve them.
- 12) Remove barriers for that rob people of pride of workmanship.
- 13) Encourage education and self-improvement for everyone.
- 14) Take action to accomplish transformation.

He has authored a number of books including "Out of the crisis and Quality, productivity and competitive position" as well as 161 scholarly studies: (Deming, 1982).

JOSEPH JURAN

Joseph. M. Juran, Ph.D, worked at Western Electric from 1924 to 1941. There he was exposed to the concepts of Shewhart. Juran travelled to Japan in 1954 to teach quality management. He emphasized the necessity for management at all levels to be committed to the quality effort with hands-on involvement. He recommended achieving breakthrough results. The Juran Trilogy for managing quality is carried out by the three inter-related processes of planning, control and improvement.

- i. Quality planning is the process for preparing to meet quality goals.
- ii. Quality control is the process for meeting quality goals during operations.
- iii. Quality improvement is the process for breaking through to unprecedented levels of performance.

In 1951, the first edition of Juran's quality control hand book was published.

ARMAND FEIGANBAUM

Armand. V. Feiganbaum, Ph.D, argues that total quality control is necessary to achieve productivity, market penetration, and competitive advantage. Quality begins by identifying the customers' requirements and ends with a product or service in the hands of a satisfied customer. In addition to customer satisfaction, some of Feiganbaum's quality principles are genuine management involvement, employee involvement, first line supervision leadership, and company's wide quality control. In 1951, he anchored Total Quality control.

KAORU ISHIKAWA

Kaoru Ishikawa, Ph.D, studied under Deming, Juran and Feiganbaum. He borrowed the total quality control concept and adapted it for the Japanese. In addition, he authored SPC texts in Japanese and in English. Ishikawa is best known for the development of the cause and effect diagram which is sometimes called an Ishikawa diagram. He developed the quality circle concept in Japan whereby work groups, including their supervisor, were trained in SPC concepts. The groups then met to identify and solve the problem in their work environment, (Ishikawa, 1985).

PHILIP CROSBY

Authored his first book, "Quality is free", in 1971, which was translated into 15 languages. It sold 1.5 million copies and changed the way management looked at quality. He argued that "doing it right the first time" is less expensive than the cost of detecting and correcting nonconformities'. In 1984, he authored quality without tears which contained his four absolutes of quality management. The absolutes are: -

- Quality means conformance to requirements not elegance: Crosby dispels the myth that quality is simple a feeling of excellence. "Requirements must be clearly stated so that they cannot be misunderstood.
- There is no such thing as a quality problem: Problem must be identified by the individuals or departments that cause them. There are accounting problems, manufacturing problems, design problems, front desk problems and so on. Quality originates in functional department, not in the quality department and the burden of responsibility for such problems lies with the functional departments. The quality department should measure conformance, report results and lead the drive to develop positive attitude toward quality improvement.

- There is no such thing as the Economics of quality: It is always cheaper to do the job right the first time. Crosby supports the premise that “economist of quality” has no meaning. Quality is free. What costs money are all the action that involve not doing jobs right the first time.
- The only performance standard is Zero Defects (ZD). Zero defects is a performance standard of craft person regardless of his or her assignment. The point of ZD is do it right the first time. That means concentrating on preventing defects rather than just finding and fixing them.

GENICHI TAGUCHI

Genichi Taguchi, Ph.D, developed his loss function concept that combines cost, target, and variations into one metric. Because the loss function is reactive, he developed the signal to noise ratio as a proactive equivalent. The cornerstone of Taguchi’s philosophy is the robust design of parameters and tolerances. It is built on the simplification and use of traditional design of requirements. (Taguchi, 1986).

STRATEGIES FOR IMPLEMENTATION OF TOTAL QUALITY MANAGEMENT (TQM)

As noted by Oakland (1995), the vehicle for achieving a solid and vigorous organization is Total Quality Management. It covers the entire organization, all the people and all the functions, including external organization and suppliers. The task of implementing TQM must be taken with all seriousness. The core of TQM must be customer-supplier interfaces, both internally and externally, and the fact is that at interface there are processes to convert inputs to outputs. Clearly, there must be commitment to building in quality through management of the inputs and processes.

Berry (1991) and Dale (1994) maintains that top management of organization be helped to understand the needs to be totally committed to quality and implement the vision consistently. Some American and Japanese “Gurus” of quality have each set down a number of points or absolutes – words of wisdom in management and leadership – and many organizations are using these to establish a policy based on quality. The strategies adopted by organization for quality implementations are:

- a) The organization needs long term commitment to constant improvement.
- b) Adopt the philosophy of Zero-errors/defects to change the culture to right first time.
- c) Train the people to understand the customer-supplier relationships.
- d) Do not buy products or services on the bases of price alone, look at the total cost.
- e) Recognize that improvement of the systems needs to be managed.
- f) Adopt modern methods of supervision and training to eliminate fear.
- g) Eliminate barriers between departments by managing the process, improve communications.
- h) Constantly educate and retrain develop the experts in the business.
- i) Develop a systematic approach to manage the implementation of TQM.
- j) Empower workers sincerely and completely.
- k) Establish mutual trust.
- l) Do not ignore middle management.
- m) Provide employees with business information.
- n) Ensure that employees are capable.
- o) Commitment and policy.

- p) Creating or changing the culture/: That is the beliefs, behaviors, norms, dominant value, rules and climate of the organization.
- q) Effective leadership is necessary: This starts with CEO vision and develops into strategy for implementation.
- r) Senior management that focuses on needs of customers and promotes the mission, vision and values of the company throughout the organization is necessary. Critical processes that need attention and improvement must be identified and the resources and trade off are made available for TQM implementation.
- s) Union/Management Relations: This is a major stumbling block in implementing TQM which is traditional adversarial relationship between unions and management and then to educate its members as to how cooperation will affect the organization. This includes what its members can expect and how working conditions and job security might change. Labour must carefully select members for such a programme and have a positive attitude. TQM programme must be separated from collective bargaining. One can state unequivocally that TQM has come to stay in work organizations in both developed and developing countries because of its usefulness to all organizational stakeholders. Still, for TQM to be successful, all organizational members including top management, other managers and workers have to be fully involved. The need for committed leadership and fellowship through team work is considered as essential ingredients for success and excellent performance.

OBSTACLES FOR TQM IMPLEMENTATION

Once an organization embarks on TQM, there will be obstacle to its successful implementation. The first common nine (9) obstacles identified by Nwachukwu (2000) include;

- a) Lack of management commitment.
- b) Inability to change organizational culture.
- c) Improper planning.
- d) Lack of continuous training and education.
- e) Incompatible organizational structure and isolated individual and departments.
- f) Ineffective measurement techniques and lack of access of data and results.
- g) Paying inadequate attention to internal and external customers.
- h) Inadequate use of empowerment and teamwork.
- i) Failure to continually improve.

GOAL OF AN ORGANISATION

According to Etzioni (1964), the goal of an organization is an expectation. It is something the organization is trying to accomplish. The goals of an organization will determine the nature of its inputs and outputs, the series of activities through which the outputs are achieved and the interaction with its external environment. Examples of organizational goals include; market share goals, profit goals, product goals, sales goals, inventory goals, production goals, formal goals, and informal goals, satisfaction of interest, consumer goals, and investment in organizational viability amongst others. Some of the functions of goals include;

- a) Goals provide a standard of performance.
- b) Goals serve as basis for planning and management control related to the activities of that organization.
- c) Goals serve as guidelines for decision making and justification of action taken.

- d) Goals influence the structure of the organization and help determine the nature of technology employed.
- e) Goals help mobilize commitment of individuals and groups for the activities of the organization.
- f) Goals give an indication of what the organization is really like.
- g) Goals serve as basis for the evaluation of change and organizational development.
- h) Goals are the basis for the objectives and policies of the organization.

METHODOLOGICAL FRAMEWORK

For this study, the researcher adopted a quasi-experimental or survey research design. This design is suitable in the sense that, there are no real experiments carried out with human beings who are the study subjects in this case. The design suitability is seen in fact that it involves taking a sample of elements from a population of interest which is measured at a single point in time (Baridam, 2001: 57).

The population for this study comprises of selected Breweries companies in Nigeria namely Nigeria Breweries plc Iganmu, Lagos with total employee population of 3195, Guinness Breweries Nigeria plc Ikeja with total employee population of 1332, Submiller plc Hero large Beer, Anambra State Nigerian with total employee population of 300. This altogether makes a total staff population size of 4827.

The selection of the firms bordered on factors such as size of employee, scope of operation, age, assets base and quality. This will enable us to establish the impact of application of Total Quality Management (TQM) approaches and tools in enhancing goal attainment (i.e profit attainment, high market share, consumer satisfaction goals, product goals, sales goals, inventory goals, production goals, formal goals, and informal goals, amongst others) in the three (3) breweries firm in Nigeria. The choice of the breweries employed judgmental sampling techniques. Primary source of data collection especially questionnaire will be administered to obtain viable information on the subject matter of TQM using 5- point Likert rating scale of Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D) and Strongly Disagree (SD).

To scientifically generate a sample size, the Yamane's formula (1964) was applied. According to Baridam (2001), this formula can be used for a homogeneous population like the one in this study. The formula is stated below: -

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

Where n = Sample size
e = level of significance
N = Population size
1 = Constant value

A total population size of 4827 obtained from three (3) Breweries firms under study at 0.05 level of significance as shown below;

$$n = \frac{4827}{1 + 4827(0.05)^2}$$

$$n = \frac{4827}{1 + 4827(0.0025)}$$

$$n = \frac{4827}{1+12.0675}$$

$$= \frac{4827}{13.0675}$$

$$n = 369.389$$

From the total sample size, the individual company's sample size was calculated. The formula applied were Bowley's population allocation formula (1964) in Nzelibe, (1992: 201) as shown below;

$$nh = \frac{nNh}{N}$$

Where nh = The number of units allocated to each company.

n = the total sample size

Nh = The number of employees in each company.

N = The population size

Following the Bowley's allocation formula, the individual company's sample size is derived as follows.

Source: Company's record and field survey (2016)

S/NO	Name of Company	Company's Population	Total Sample Size
1.	Nigeria Breweries Plc Iganmu, Lagos	3195	244
2.	Guinness Breweries plc Ikeja Lagos	1332	102
3.	Submiller plc Hero Large Beer, Anambra State	300	23
	TOTAL	4827	369

i. For Nigeria Breweries Plc , Lagos, $nh_1 = \frac{369 \times 3195}{4827}$
 $= \frac{1178955}{4827} = 244.24 = 244$

ii. For Guinness Breweries plc, Lagos; $nh_2 = \frac{369 \times 1332}{4827}$
 $= \frac{491508}{4827} = 101.824 = 102$

iii. For Submiller Breweries Anambra State; $nh_3 = \frac{369 \times 300}{4827}$
 $= \frac{110700}{4827} = 22.933 = 23$

To ascertain the validity and reliability of the measuring instrument for the research, factor analysis was applied in determining the construct validity while Cronbach Alpha is used for determining the reliability of the instruments. Pilot test was conducted and the input variable factors used in this study were subjected to exploratory factors analysis to investigate whether the construct as described fits the factors from the factor analysis. Bartlett's Test of Sphericity and Kaiser-Meyer-Olkin Measure of sampling adequacy are applied in determining the construct validity.

For reliability of research instrument, it measures the consistency or precision of the measure. Gay (1996), states that reliability of research means dependability or trustworthiness and that any reliable measure yields the same results anytime it is administered. Cronbach Alpha was used in determining the reliability of the instruments in the pilot test as shown below:

Table 1.0 Factor and Reliability Analysis for techniques/tools of Total Quality Management (TQM) and adopted strategies for its effective implementation: -

S/NO	Techniques and Tools of Total Quality Management (TQM)	Factor Loading	Cronbach Alpha	Number of Items
	Benchmarking		0.839	5
1.	Benchmarking tool compare organizations to learn how other firms do exceptionally high quality things.	0.819		
2.	Firm compare their strategies, products, processes, methodologies, with other organization best in that class. Idea behind benchmarking is to match and surpass excellent firms.	0.772		
3.	Critical areas of organization that needs improvement are benchmarked.	0.874		
4.	Analysis of data gathered from benchmark firms are compared with deficient own organization.	0.908		
5.		0.866		
	Outsourcing.		0.818	5
1.	Outsourcing involves subcontracting services and operations to others firms that can do them cheaper and better.	0.868		
2.	Higher quality service and operations improvement are derived from outsourcing. There is access to talents. It is a catalyst to change.	0.762		
3.	It enhances innovation.	0.775		
4.		0.822		
5.		0.811		

S/NO	Quality Function Deployment (QFD)		0.842	2
1.	Customer's desire is taken into consideration in building a world-class production system.	0.802		
2.	Products and processes can be built with features desired by the customers.	0.856		
	Taguchi Technique		0.809	4

1.	It considers three (3) factors as quality robustness, quality loss factor and target oriented quality.	0.822		
2.	Quality robustness products would continue to retain their quality even in adverse manufacturing and environmental conditions.	0.819		
3.	Quality loss factor (QLF), all cost connected with poor quality including cost of customer dissatisfaction, waste and repairs, service scrap, social cost identified.	0.803		
4.	Target oriented quality continuous improvement to bring the product up to the most realistic but high quality target is the concern of this philosophy.	0.788		
	Cause -and -Effect Diagrams		0.788	3
1.	It offers a structured approach to problem solving.	0.798		
2.	It diagrammatically helps to organize problem solving efforts by providing layers of categories that may be factors in causing firms problems.	0.803		
3.	Methods, manpower, material and machines with specific causes of problems information are provided.	0.811		

S/NO	Statistical Quality Control (SQC)		0.794	2
1.	Acceptance sampling statistical technique is applied for sampling finished goods to ensure that quality standards have been met.	0.789		
2.	In process sampling is applied to evaluate products during production so that changes can be made.	0.865		
	Speed		0.821	3
1.	Organization that produces faster, distribute faster and adopts new ways of doing things faster will be ahead of competition.	0.843		
2.	Effective teams can work better for quality results.	0.826		
3.	Integrating speed into organizational culture will lead to competitive advantage.	0.780		
	ISO 900		0.768	4

1.	It involves quality standard, created by international organizations for standardization.	0.833		
2.	Five set of standards covering areas as product testing, employee training, recording keeping, supplier relations and repair policies and procedures are considered.	0.792		
3.	Firms are audited based on these standards and certificates are issued to them.	0.798		
4.	Auditors review every aspect of the firms' business operations in relations to standards.	0.809		

S/NO	Flow Diagrams		0.855	2
1.	It is a visual representation of a system or process to improve quality.	0.813		
2.	It depicts flow of steps in a process from beginning to end and serve as road map for locating and solving problems to improve quality.	0.844		
	Pareto Analysis		0.831	2
1.	Pareto analysis organizes errors, problem or defects so that attention can be focused on most important problem areas.	0.822		
2.	The idea is to classify these problems according to the degree of their importance so that most important problems can be resolved.	0.819		
	Strategies for Effective Implementation of TQM		0.779	3
1.	Total commitment to quality goal and implementation of the vision consistently is important.	0.775		
2.	Top management of organization is made to understand this desire.	0.815		
3.	Proper integration of strategies by Deming, Juran, Crosby, Feiganbaum, Shewhart, Taguchi, Ishikawa are pertinent in attainment of TQM goal.	0.835		

Table 2.0 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.466
Bartlett's Test of Sphericity	Approx. Chi-Square	12.232
	df	34
	Sig.	0.001
Overall Reliability Statistics : Cronbach's Alpha		0.813

KMO & Bartlett's Test of Sphericity is a measure of sampling adequacy that is recommended to check the case to variable ratio for the analysis being conducted. Also, the Bartlett's Test of Sphericity relates to the significance of the study and thereby shows the validity and suitability of the responses collected to the problem being addressed through the study. We can see that we have good values for all variables for the MSA but the overall value is a bit low at 0.466, however Bartlett's Test of Sphericity has an associated P value (sig in the table) of < 0.05 as by default SPSS reports p values of less than 0.05 as 0.001, So from the above results we know that we can now continue and perform a valid factor analysis. It can also be seen that benchmarking, outsourcing, speed, Quality Function Deployment (QFD), Taguchi techniques, flow diagram, Pareto analysis, cause-and-effect diagrams, Statistical Process Control and ISO 9000 amongst others were subjected to reliability test using Cronbach's Alpha but in all cases it was high.

The SPSS analysis gives us Cronbach's Alpha values for benchmarking, outsourcing, speed, Quality Function Deployment (QFD), Taguchi techniques, flow diagram, Pareto analysis, cause-and-effect diagrams, statistical process control and ISO 9000 amongst others as shown in the above table. This is an indication that our instruments are reliable. According to Everitte (2006), an alpha value of less than 0.60 is unacceptable; 0.60-0.65 is undesirable, 0.65-0.70 is minimally acceptable; 0.70-0.80 is respectable; 0.80-0.90 is very good and more than 0.90 means consider shortening the scale by reducing the number of items. At it is for all the Breweries companies appraised it shows that, the instrument is very reliable, hence our overall reliability statistics: Cronbach Alpha is **0.813**

DATA PRESENTATION AND ANALYSIS

This section deals with the descriptive statistics where the presentation of data and analyses is carried out with the testing of formulated hypotheses. A total of 369 questionnaires were distributed to top, middle and lower level employees of the three (3) Breweries firms in Nigeria, namely Nigeria Breweries plc. Lagos, 244 questionnaires, Guinness Breweries Nigerian plc. Lagos, 102 questionnaires and Submiller Breweries Hero Beer producer in Anambra State, 23 questionnaires. The entire questionnaires were filled and returned by the respondents. Multiple Regression test is used in the test of the two (2) formulated hypotheses.

Table 4.1: - Respondent view concerning adopting of TQM tools/techniques in production and services delivery by Breweries organizations (benchmarking, outsourcing, ISO 9000, speed, Statistical Process Control, Quality Function Deployment (QFD), Taguchi techniques, flow diagram, Pareto analysis, cause-and-effect diagrams.)

Statement	Respondent category	Degree of Response					
		SA	A	U	D	SD	Total
The most common Total Quality Management (TQM) tools and techniques adopted and applied by Nigerian Breweries plc, Guinness Breweries plc and Submiller Breweries (producers of Hero larger Beer) includes Benchmarking, Outsourcing, ISO 9000, Speed, Statistical Process Control, Quality Function Deployment (QFD), Taguchi techniques, flow diagram, Pareto analysis, cause-and-effect diagrams to attain goals of organization).	Top level Managers	39	13	0	2	1	55
	Middle level Managers	71	36	2	2	2	113
	Lower level Managers	141	53	2	2	3	201
	Total	251	102	4	6	6	369

Source: Field survey (2016)

There has been an overwhelming view among the respondents as indicated in table 4.1 on the subject matter of common techniques and tools of Total Quality Management (TQM) adopted and applied by Nigerian Breweries plc Lagos, Guinness Breweries plc Lagos and Submiller Breweries (producers of Hero larger Beer) in Anambra State. These tools are Benchmarking, Outsourcing, ISO 9000, Speed, Statistical Process Control, Quality Function Deployment (QFD), Taguchi techniques, flow diagram, Pareto analysis, cause-and-effect diagrams to attain goals of organization such as profit attainment, increase market share, customer satisfaction, increase sales goals, quality product goal amongst others. In fact 251 of 369 (or 68.02%) strongly agree on the assertion that these techniques and tools are adopted and applied for quality improvements consistently. 102 out of 369 (27.64%) also agree on this position. Only 16 out of 369 (4.33%) exhibited a contrary opinion on this subject matter.

Table 4.2: - Respondent view pertaining Breweries firms in Nigeria regarding adopting implementation strategies of Total Quality Management (TQM) to enhance goal attainment of profit, increase market share, customer satisfaction etc.

Statement	Respondent category	Degree of Response					
		SA	A	U	D	SD	Total
Breweries firms in Nigeria (i.e. Nigerian Breweries plc Lagos, Guinness Breweries plc Lagos and Submiller Breweries (producers of Hero larger Beer) in Anambra State adopt implementation strategies of Total Quality Management (TQM) to enhance goal attainment of profit maximization, increased market share, customer satisfaction, increase sales amongst others.	Top level Managers	45	13	1	2	2	63
	Middle level Managers	65	37	2	2	2	108
	Lower level Managers	131	58	2	3	4	198
	Total	241	108	5	7	8	369

Source: Field survey (2016).

With regards to the opinion of respondents on the adoption of implementation strategies by Breweries firms to enhance goal attainment of profit maximization, increased market share, customer satisfaction, increase sales amongst others, about 241 of 369 (or 65.31%) respondents strongly agree on this notion. 108 out of 369 (29.26%) also agree on this subject matter. Only 20 out of 369 respondents (or 5.42%) felt otherwise. These strategies include long term commitment to constant improvement, adopting philosophy of zero-errors/defects to change the culture of training the people to understand the customer-supplier relationship, adopting modern methods of supervision and training, constant education and retraining.

Table 4.3: - Respondent views on Top management commitment to strategies for quality improvement and implementing the organization vision consistently to attain goals organization is pertinent.

Statement	Respondent category	Degree of Response					
		SA	A	U	D	SD	Total
Top management commitment to strategies for quality improvement and implementation the organizations vision consistently to attain goals organization is pertinent.	Top level Managers	44	15	2	1	2	64
	Middle level Managers	66	37	2	2	4	111
	Lower level Managers	129	58	3	2	2	194
	Total	239	110	7	5	8	369

Source: Field survey (2016).

The overwhelming majority of 239 out of 369 representing 64.76% strongly agree on this subject matter. 110 out of 369 (29.81%) also agree on this notion. Only 20 out of 369 respondents (or 5.42%) had a contrary opinion on this matter. This is revealing that, top management commitment to strategies for quality improvement and implementing vision of organizations consistently is essential for actualization of goals in organization.

HYPOTHESIS 1

H0₁: Total Quality Management (TQM) techniques and tools adopted by Breweries manufacturing organization in Nigeria have not impacted on the attainment of organizational goals.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.951 ^a	.905	.875	.677

The value of 0.951 indicates that Total Quality Management (TQM) techniques and tools adopted by Breweries manufacturing organization in Nigeria have significantly impacted on the attainment of organizational goals. The R square is the coefficient of determination which is 0.905 with 90.5% proportion of variance in the dependent variable.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	109.279	8	13.660	29.809	.000 ^b
	Residual	11.456	25	.458		
	Total	120.735	33			

The table shows that the independent variables are statistically significantly, $F(8, 25) = 29.809$, $P < 0.05$. We reject the hypothesis which states that the Total Quality Management (TQM) techniques and tools adopted by Breweries manufacturing organization in Nigeria do not affect the attainment of organizational goals.

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.527	2.453		.623	.039
	Benchmarking	.025	.020	.107	1.241	.026
	Outsourcing	.474	.113	.447	4.206	.000
	ISO9000	.257	.138	.259	1.859	.075
	Speed	.059	.117	.065	.503	.019
	SQC	.023	.017	.110	1.316	.200
	Taguchi Technique	.358	.131	.351	2.743	.011
	Flow Diagram	.164	.133	.140	1.227	.031
	Pareto Analysis	.054	.082	.883	10.385	.000

Dependent Variable: TQM Tools

Interpretation.

$y = X_1 + X_2 + X_3 + X_4 + X_5 + X_6 + X_7 + X_8$ where C is the constant.

Predicted y = $0.025X_1 + 0.474X_2 + 0.257X_3 + 0.059X_4 + 0.023X_5 + 0.358X_6 + 0.164X_7 + 0.054X_8 + 1.527$

Total Quality Management (TQM) techniques and tools adopted by Breweries manufacturing organization in Nigeria have a positive relationship on the attainment of organizational goals.

HYPOTHESIS 2

H0₂: Breweries manufacturing organizations in Nigeria have not adopted strategies for effective implementation of Total Quality Management (TQM) to facilitate attainment of organizational goals.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.708 ^a	.502	.413	1.401

The value of 0.708 indicates Breweries manufacturing organizations in Nigeria have adopted strategies for effective implementation of Total Quality Management (TQM) have significantly impacted on the attainment of organizational goals. The R square is the

coefficient of determination which is 0.502 with 50.2% proportion of variance in the dependent variable.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	55.312	5	11.062	5.637	.001 ^b
	Residual	54.953	28	1.963		
	Total	110.265	33			

The table shows that the independent variables are statistically significantly, $F(5, 28) = 5.639$, $P < 0.05$. We reject the hypothesis which states that Breweries manufacturing organizations in Nigeria have not adopted strategies for effective implementation of Total Quality Management (TQM) do not affect the attainment of organizational goals.

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.756	4.106		1.889	.019
	Profit attainment	.035	.040	.151	.875	.039
	Market share	.481	.180	.475	2.665	.013
	Customer satisfaction	.252	.216	.272	1.170	.052
	Increase sale	.024	.190	.028	.127	.000
	Quality product	.018	.031	.091	.566	.016

a. Dependent Variable: TQM

Interpretation.

$y = X_1 + X_2 + X_3 + X_4 + X_5$ where C is the constant.

Predicted $y = 0.035X_1 + 0.481X_2 + 0.252X_3 + 0.024X_4 + 0.018X_5 + 7.756$

Breweries manufacturing organizations in Nigeria have not adopted strategies for effective implementation of Total Quality Management (TQM) have a positive relationship the attainment of organizational goals.

DISCUSSION OF FINDINGS

The findings from the test of formulated hypothesis revealed interesting results as follows;

For Hypothesis one (1), it was found that the application of Total Quality Management (TQM) techniques and tools adopted by Breweries manufacturing organization in Nigeria have significantly impacted on the attainment of organizational goals. These techniques include Benchmarking, Outsourcing, ISO 9000, Speed, Statistical Process Control, Quality Functional Deployment, Taguchi techniques, flow diagram, Pareto analysis, cause-and-effect diagrams. The application of these techniques and tools have impacted on organizational goal attainment such as increase market share, high profit attainment, growth, survival, continuity, high quality product goal, sales goals, amongst others. This agrees with the view of Robbins (1998) who confirms that TQM programs seek to achieve continuous process improvements so that variability is constantly reduced. When you eliminate variations, you increase the uniformity of the product or service. This in turn results in lower costs and higher quality.

The search for never ending improvement in quality production and service delivery requires a circular approach rather than a linear one. This requires that management plan-Do-check-Act (PDCA). In this case, Management plans a change, does it, checks results and depending on the outcome, acts to standardize the change or begin the cycle of improvement of products and services again with new information. This cycle treats all organizational processes as being in a constant state of improvement. This continuous improvement has helped increased productivity.

Mcshane and Gilnow (2000) maintain that taking TQM decisions regarding the techniques and tools may require employee improvement. This is particularly true for complex decision where employees possess relevant information. Employees are closer to customers and production activities, so they often know where the company can save money, improve products or service quality and realized unused opportunities. They may come up with the right technique or tool to be adopted to enhance quality of product and service. This can lead to a more accurate definition of the problem. Identify more and better solutions and more likely to select the best option to facilitate goal attainment in organization by adopting the more suitable TQM technique or tool.

The implication of the above position is that the Breweries firms should set up a competent team to diagnose consistently to know the type of TQM technique or tool to be adopted at a particular time to improve product and service quality in order to attain organizational goal as desired. Having a budget for this noble task is essential as well.

Akpeyi (1996:8) presents TQM approach as the current “bride” of management which must be wooed by all entrepreneurs in Nigeria, who value profitability, effectiveness, employee loyalty, suitable growth and development as well as continued existence and relevance. According to Arene (1995), Nigeria believe that they can practice TQM provided that the culture of discipline, resolute commitment and refusal to be swayed by the first difficulties that may be encountered are overcome, establishing a reliable data and information base and role model behavior is imbibed.

Gatiss (1996:44) also confirms that, the introduction of TQM in the operations of Royal mail considerably improved the financial earnings of the firms. Eke (2004) also confirms that Total Quality Management in Nigeria Breweries Plc was introduced in order;

- To take care of increasing customers demand
- To maintain competitive advantage
- To manage more effectively and increase its productivity and profitability.
- To actualize the company vision of being the world class beverage manufacturing company

The outcome attained from this was high market share, high profit and customer satisfaction. For Hypothesis two (2) it was found that pertinent strategies for effective implementation of TQM to facilitate attainment of organizational goal is adopted by Brewery firms in Nigeria. Some of these strategies: include; long term commitment to constant improvement, adoption of modern methods of supervision and training to eliminate fear, educating and retraining employees, providing information on business to employees amongst others. This confirms the views of Aluko, Odugbesan, Gbadamosi, and Osuagwu (2007) who confirms that major factors are responsible to failure of organization in an attempt to implementing Total Quality Management (TQM) strategies; these include;

- i. Failure to build customer expectation and needs into daily organizational activities.
- ii. Inability to move away from traditional results-oriented management style,

- iii. Failure to fully integrate key functions like marketing into quality improvement activities.
- iv. Unrealistically high expectation of quick results
- v. The bureaucratization of quality efforts
- vi. Failure to redesign traditional reward structures and organizational objectives to bring them into line with the new quality initiative.
- vii. Failure to recognize a strong linkage between quality objectives and increased employee population amongst others.

The implication of the above scenario is that for successful performance of TQM, the following element of success be applied;

- i. A decentralization of decision making responsibility to a well-trained problem solving labour force (i.e. employee participation in decision making).
- ii. A linkage of reward and measurement system, both formal and informal to support these new directions.
- iii. A reasonable focus and in building organizational routines that link as many units and level in the firms as possible by identifying and meeting customer's needs, wants, desires and expectation.
- iv. Sustained top management leadership for total quality practice and active use of their own daily management operations.
- v. Methodologically improving the quality of all business processes and strategies from an internal and external customer perspective, amongst other.

Cole (1993) maintains that a successful approach to implementing Total Quality Management (TQM) in organization is guided by the industry, size, technology, length of product cycle, competitive environment, and type of customers and unique history of a given organization amongst others.

CONCLUSION AND RECOMMENDATION

Total Quality Management (TQM) culture has come to stay. Organization that seeks for sustainable competitive advantage should endeavor to adopt TQM principle of customer orientation, management by facts; people based management, continuous improvement and producing at lower cost. A TQM team to determine which technique and tool to be adopted at a particular time be put in place to ensure focus and realization of organizational goals. Top management commitment and leaderships on a daily basis by organization is also crucial. Based on the above, the paper recommendations are as follows;

- a) What matters most to customers i.e. customer orientation should be seriously taken into consideration when making TQM decisions that require the application of its techniques or tools such as benchmarking, outsourcing, statistical quality control (SQC), speed etc by the organization's management. This is so because the products are meant to be consumed by the customers; thereby they should be treated as the "King". Quality is defined by the customers or client and customers' requirement should be the ultimate purpose.
- b) Employee involvement on issues relating to sharing information, knowledge, rewards i.e participate management to guarantee sound and effective decision making to yield quality products and services delivery in Breweries manufacturing firms is important. Hence this will lead to goal attainment of high market share, high profit attainment, growth and customer satisfaction amongst others. Organizations' management should consider this with all seriousness.
- c) Breweries manufacturing firms in Nigeria should endeavor to constitute self-directed work teams with autonomy over the execution of tasks and to control key variance in

- the work process that will hinder high quality attainment in product and service delivery. Adopted procedure for discharging tasks should not be compromised by them in order to enhance organizational effectiveness.
- d) Sustain top management leadership for total quality practice and commitment is essential for quality goal attainment by Breweries manufacturing firms.
 - e) Training and retraining of employees to update their knowledge and skills in order to enhance improvements through strategies on consistent basis is essential for effective management of Breweries firms.
 - f) Management of breweries firms should be totally committed to the total quality policy or strategies guidelines.
 - g) Employees should aim to ensure that TQM system is the prevention of errors, not their detection and corrections.
 - h) Quality assurance departments to be constituted to review and measure performance indices, including the quality process involved, as well as the delivery of final product or service.
 - i) Periodic evaluation (i.e biannually, quarterly) of the quality standards, processes in line with the perceptions of the consumers is important to enhance sustainability of the organization.
 - j) Continuous improvement of quality standards, processes, methodologies, strategies is an essential ingredient for TQM and organizational goal attainment.

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Appendix Research Questionnaire

Department of Business Management
Faculty of Management Sciences
Benue State University
Makurdi
14th September, 2016

Dear Sir/Madam,

Here is a questionnaire on: The application of Total Quality Management (TQM) approaches and tools in enhancing goal attainment in the Nigerian Manufacturing Firms. A Survey of selected Breweries organization in Nigeria.

You have been chosen as one of the respondents in this study. You are therefore humbly requested to supply honesty and sincere answers and responses to questions by ticking as appropriately as you can in the boxes/spaces provided.

1. Your Brewery organizations adopts Total Quality Management (TQM) techniques/tools in production and services deliver (i.e. benchmarking, outsourcing, ISO 9000, speed, Statistical Process Control, Quality Function Deployment (QFD), Taguchi techniques, etc)
 - a) Strongly Agree (SA) []
 - b) Agree (A) []
 - c) Undecided (U) []
 - d) Disagree (D) []
 - e) Strongly Disagree (SD) []

2. Breweries firms in Nigeria have adopted implementation strategies of TQM to enhance goal attainment of improved market share, profit goal, customer satisfaction etc.
 - a) Strongly Agree (SA) []
 - b) Agree (A) []
 - c) Undecided (U) []
 - d) Disagree (D) []
 - e) Strongly Disagree (SD) []

3. Top management commitment to strategies for quality improvement and implementation the organizations vision consistently to attain goals organization is necessary.
 - f) Strongly Agree (SA) []
 - g) Agree (A) []
 - h) Undecided (U) []
 - i) Disagree (D) []
 - j) Strongly Disagree (SD) []