



Improving Productivity of Small Businesses in Nigeria through Total Quality Management

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Abstract: *This study was on Maximizing Small Businesses in Nigeria through total quality management with special reference to small sized aluminum companies in Enugu State. The study took a critical look at growth and product acceptability trend among small aluminum companies in terms of their customer retention and loyalty strategy. The study explored the impact of quality inspection and assurance in terms of value addition and continuous improvement of work process for the elimination of operational wastes in order to achieve operational efficiency among small aluminum producers in Nigeria. The study adopted a survey design using three small aluminum businesses in Enugu State. Census sampling method was used. The hypotheses were tested using Pearson's Moment Correlation Coefficient. The study concluded that organisations which have decided to continue their quality management journeys towards TQM must give greater importance to their decisions on continuous improvements rather than external pressures. Therefore, it is not enough for management to manifest their commitment verbally; but must be transparent throughout the whole organisation through adequate support, monitoring, coherence, and the priority given to quality. The study then recommended that small businesses should apply more diligence in the allocation of operational activities to enhance improvement; must show a positive attitude towards quality improvement to ensure that there is an organisation-wide commitment to the TQM philosophy and the tools or techniques of quality improvement. Therefore, management should ensure that the expectations of customers in terms of products are met through the maintenance of agreed standards, strict quality control of production process as well as maintenance of work flows, among others.*

Keywords: *Quality control, product quality, continuous improvement, productivity, etc.*

1.0 INTRODUCTION

The success of any organization is completely determined by the quality of services that they produce, especially in competitive market place (Deming, 2000), this therefore bring the relevance of the ideology and practice of Total Quality Management (TQM) into place. Most organizations still believes that the traditional quality control techniques and the way they have always been is still the best and resolve their quality problems, but this however is wrong. Employing move inspectors developing correction repairs and re-work teams doesn't promote quality. Traditionally, quality has been seen as the responsibility of quality control (QC) department and it has still not

been recognized in some organization that many quality problems originate in the marketing , sales service and administrative areas (Crosby, 1979).

The Nigerian market is being flooded with a lot of sub-standard products. Despite efforts made by the government in establishing an enabling Act 56 of December 1971 known as Standard Organization of Nigeria (SON) of which one of its objectives is to make sure that manufacturing firms produce standard products, measurement, materials process and service among others, Nigerian market is still experiencing sub-standard products. According to the Director General of Standard Organization of Nigeria (SON) Mr. Joseph Odumodu in his interview on Monday, 18th March, 2013, to the Daily Sun Newspapers, he said that in the year 2011, the average level of sub-standard product in the country was about 80% but now in 2013, it has been reduced to 40% but they believed, it will be shifted to 30% until it is fully eradicated (Sun, 2013).

The most obvious is when poor quality cause customer dissatisfaction and consequently lack of patronage. There are two major cost element associated with quality, namely: quality control cost and quality failure cost. The quality control cost is made up of prevention cost and appraisal cost while quality failure cost is made up of internal failure cost and external failure cost. Another reason adduced for emphasis on quality is because of the phenomena of globalization and competition. As trading barriers are collapsing all over the world and firms are competing for markets that were previously controlled by monopolist; the issue of satisfying the customer has taken centre stage and companies must seek ways to offer the customer better products at cheaper prices.

Quality is one of the goals and objectives organizations seek to achieve. Unfortunately, often times, this goal is not achieved due to some challenges in the firms. The quality of any organisational product or service determines its position in the market. This is because customers desire to get the best value for their money. The quality of product or service can only be defined by the customer (Deming, 2000); this means that for a firm to be satisfied with the quality of its goods or services, its customers must be satisfied with it. Companies which cannot do this become extinct. The attempt to produce better products at cheaper prices has made the concept of quality imperative as a survival strategy for organizations operating in the 21st century.

2.0 Review of Related Literature

Quality

Before the early 20th century, the principal focus of mass production had been on quantity, rather than the quality, of goods made. Goods were produced in small volumes, and artisans and skilled craftsmen performed quality control activities (Garvin, 1988). This period in the quality control movement is termed the operator quality control era (Feigenbaum, 1983). At this time quality control was conducted within the product manufacturing field, and was not the responsibility of an independent person. However, during the 1800s, a breakthrough occurred when the rational gauging system was implemented. Under this set-up, a model of a product is kept from use as it serves as a standard for measuring the degree of conformity or subsequent output (Garvin, 1988). Another innovative idea in the field of quality occurred in 1819, when the concept of inspection processes to control product quality were introduced; however, this was not formally adopted in practice nor its value immediately recognised.

Quality is a significant element of production or services in keeping the customers satisfied. There are different definitions and competing views of the term quality by different people and the common element of the business definitions is that the quality of a product or service refers to

the perception of the degree to which the product or service meets the customer's expectations. Crosby, (1979) defined quality as the conformance to requirements or specifications and also suggested that to manage quality adequately; it must be able to be measured. ISO 9000: (2000) (cited in Vorley and Tickle, 2001) defined quality as the degree to which a set of inherent characteristics fulfill requirements.

The American Society of Quality sees quality as being subjective, with different individuals having their own perception of it. To them, quality can be seen as having two meanings – the characteristics of the product or service ability to satisfy a particular need or a product or service devoid of faults. It can be defined as a state of conformance to valid requirements where valid requirements are defined as conditions that meet the needs of customers, measurable and achievable. Peters, (1999) defined quality as a 'magic bullet' which provides lower cost, higher customer service, better products and higher margins. He also explained that 'quality is in the eyes of the beholder', this means it is what the customer says it is.

Kondo, (1997), defined quality as a source of employee's empowerment. To him, a major aim of a company is to make itself attractive to its employees and customers while making profits for its shareholders. George Bernard cited in Stebbing, (1992) noted that two forms of qualities exist in the world, efficiency and inefficiency. To him, efficiency is what every senior manager should strive to achieve and the efficiency in service is what the customers expect to get. He explained that organisations are inefficient because of the inadequate trainings given to employees by the employers or the assignment of task to unqualified workers. Whichever way quality is defined, it is viewed as part of an organisational culture; this should be inclusive of all different facets of production.

Quality Control

The era we operate now is the 'Era of Quality'. In this age of cutthroat competition and large scale production, only that manufacturer can survive who supplies better quality goods and renders service to the consumers. In fact quality control has become major consideration before establishing an industrial undertaking. Proper quality control ensures most effective utilisation of available resources and reduction in cost of production.

The word quality control comprises of two words viz., quality and control. It would be appropriate to explain these two words separately to understand clearly the meaning of quality control. According to Dr. W.K. Spiegel "The quality of a product may be defined as the sum of a number of related characteristics such as shape, dimension, composition, strength, workmanship, adjustment, finish and colour". In the words of John D. McLellan, "Quality is the degree to which a product conforms to specifications and workmanship standards". It is clear from these definitions that quality refers to various characteristics of a product and their excellence. Quality is a relative term and is never absolute depending upon the use of the product and circumstances under which it is used.

To achieve and maintain a satisfactory level of quality of products is a very difficult task.

It involves many steps to be undertaken viz:

- (a) Product must possess a minimum level of quality so that it could be easily sold in the market.
- (b) In order to measure quality, accurate standard measurements must be established.
- (c) Reasonable deviation from the pre-determined standards must be determined.
- (d) Satisfactory level of quality must be achieved with a minimum cost.

Control refers to the use of all the ways and means whereby quality standards could be maintained. Control precisely aims at bringing the product up to predetermined standards by minimising deviations from established and present standards.

According to Henry Fayol, "Control consists in verifying whether everything occurs in conformity with the plan adopted, the instructions issued and principles established. It has objected to point out weaknesses and errors in order to rectify them and prevent recurrence. It operates on everything, things, people and actions. In the absence of effective control over production operations, desired quality in products to be produced cannot be achieved. How it may be pointed out here that words quality and control cannot be studied separately in this context but as 'Quality Control'.

Quality control is concerned with the control of quality of the product during the process of production. It aims at achieving the predetermined level of quality in a product. In other words quality control is concerned with controlling those negative variances which ultimately affect the excellence of a manufacturer in producing the products.

Objectives of quality control:

1. To establish the desired quality standards which are acceptable to the customers?
2. To discover flaws or variations in the raw materials and the manufacturing processes in order to ensure smooth and uninterrupted production.
3. To evaluate the methods and processes of production and suggest further improvements in their functioning.
4. To study and determine the extent of quality deviation in a product during the manufacturing process.
5. To analyse in detail the causes responsible for such deviation.
6. To undertake such steps which are helpful in achieving the desired quality of the product.

ISO Quality Control Standards and Specifications

Many inspection firms, like AQF, conduct inspections following the ISO Quality Control 9001 Standard. However, sometimes there are requests from organisations for other ISO specifications, like ISO 16949 for the automobile industry. But what is the exact difference between Standards and Specifications?

ISO standards are developed according to strict rules to ensure that they are transparent and fair. This requires a lot of negotiation before all 162 national members can reach a consensus that represents the state of the art; In fact, an international Standard requires 75% member approval. To ensure that ISO standards stay up to date, they are reviewed every five years. Technical experts can then decide whether a certain standard is still valid.

However, this obviously takes significant time, while some industries are so fast-moving that the experts are already thinking about the next version when one is being published. Technology changes quickly, and some specifications are needed faster than others. Therefore, to meet such needs, ISO has developed different categories of specifications, allowing ratification at an intermediate stage of development before full consensus: Technical Specifications can pass with only 67% approval.

There are 715 different ISO Technical Specifications. These Specifications can conflict, as long as they do not conflict with the Standards. Eventually, the aim of Technical Specifications is still to become Standards, but as they are reviewed regularly (no later than 3 years after their publication), they are quite unstable. While newer Specifications may indeed be a bit more au courant, there is no guarantee that it will still be standing come year's end. Thus, this is why AQF and many other firms generally inspect on the basis of the ISO 9001 Standard.

AQF also uses its years of experience in QC to constantly improve our audits. We update our audit template every month to keep up to date on the newest important issues. That being said, ISO 9001 is the base for every audit and is a critical standard to be followed

Quality management

Quality management is an integrated approach which integrates the organizational functions to focus on meeting customer needs and organizational objectives (Abbas, 2018). Cloud (2017) defined quality management as the degree to which the product or service meets the specifications and the needs of customers. Cloud (2017) added that there are several critical principles for successful quality management practices which among others include top management commitment, customer focus, supplier relationship, teamwork, training, and benchmarking. Jones (2018) defines quality management as an embracing philosophy of management which aims at coordinating all functions of organizations that aligned to meet customer expectations and the organization's objectives. However, the definition of Jones (2018) is more robust as it incorporates and coordinates all segments of the organizational activities. Ohikere and Chukwuemeka (2018) see quality management as a philosophy and methodology for managing companies' operations by utilizing the resources available to enhance performance. According to Zhang (2017), quality management has turned out to be a key source of maximizing firms' value in the long run.

Dimensions of Quality Management

Continuous improvement according to Chang (2018), is the process that aims to optimize information, physical flows and products to control production costs and quality. It is a culture of improvement premised on the elimination of waste in all systems and processes of an organization (Michelle, 2014). Alex (2018) defined continuous improvement as a systematic effort to seek out and apply a new way of doing work. Fabiane and Toledo (2016) conceived continuous improvement (CI) as a collection of activities that constitute a process intended to achieve performance improvement.

Continuous improvement is the most important part of organizational services that involved searching for never-ending improvements and developing processes to find new or improved methods in the process of converting inputs into useful outputs (Mile, 2013). Neale (2016) outline a shift from the above definition by looking at the continuous improvement from the perspective of three fundamental principles, customer focus, employee involvement and process involvement. Saurabh (2015) observed that for successful implementation of continuous improvement in manufacturing businesses in line with customer focus and employee involvement management commitment is essential for product improvement practice.

Customer focus is the orientation of an organization towards serving its clients' needs (Zulnaidi, 2014). Organizations should be quality conscious since quality is what initiate customer's expectation. Rhonda (2019) defined customer focus as the organizational approach to evaluate the customer needs and take action to meet the needs and resolve them. Added that how well we treat customers is quickly taking precedence over how great the product or service is. Moreover, having a great quality product is important to customers, but it is just not the most important thing as it is a bonus point to companies that excel in customer focused culture and offer a great service which invariably result to high business success. Mercel (2018) emphasized that enhancing and improving the customer experience continues to be a top management priority in both big and small organization as customers today want to feel special and be appreciated first and foremost as they desire the company to have a customer focused culture. Customer focus help to promote improved quality of the product, which is said to positively increase firm performance (Mokhtar, 2013).

Leadership commitment is the capabilities to motivate and inspire individuals or group of individuals to make a willing and voluntary obligation for the purposes of fulfilling or surpassing the organizational goals (Nascimento, 2016). According to Jonathan (2017), defined leadership commitment is the degree to which the leaders feel devoted to their organization. Javed (2015) refer to leadership commitment as the most important factors that facilitate the successful implementation of quality management principles. Leaders had to create and maintain an enabling environment that required the involvement of all employees to achieve the quality objectives of the organization.

Sabahatti, Faruk and Tastan (2014) suggest that leadership commitment has been put at the apex of the list by most quality models for the purposes of effective quality management implementation. The majority of QM literature has highlighted the important role leadership commitment play in the manufacturing of product quality in an organization as they are critical factors for organizational competitiveness.

Employee commitment to quality has been defined and measured in different ways. In fact, the lack of consensus in defining this term greatly contributed to its treatment as a multidimensional construct. Dixit and Bhati (2012) defined employee commitment to quality as employees who faithfully labor with his total emotional attachment to the organization by performing their jobs independently. Evaluating effective commitment to quality, sluggishness in reporting to work and the level of absenteeism must be avoided. The chances that employees will remain committed to quality; the organization must be prepared to support them in term of remuneration benefit. Danica (2016) defined employees' commitment to quality as the degree to which the employee feels devoted to organizational sustainability. He further stressed that commitment to quality will be heightened when workers are consulted and allow to participate in decision making. In such situations the level of commitment to quality and productivity will amplified.

Quality Inspection

Inspection quality control may be the first formally introduced concept that was directly linked to TQM. In the early 1900s, Fredrick W Taylor gave this concept more credence by advocating it as a task for bosses to manage their businesses effectively (Garvin, 1988). In 1922, G.S Radford further developed Taylor's idea by clearly stating the direct link between inspection activity and quality control. These contributions have further encouraged a formal link between the concept of inspection and quality control, and their connection with management. Prior to this it was performed on an independent basis (Feigenbaum, 1983).

According to (ISO 8402, 1986) inspection can be defined as 'activities such as measuring, examining, testing, gauging one or more characteristics of a product or service and comparing these with specified requirements to determine conformity'. It involves the examination, measurement and testing of the characteristics of a product or service and the comparison to specified requirement and to access if the characteristics conform to specified requirement (Dale et al. (b) 1994). Inspection is an efficient and effective way of discovering defects in services and products. According to Deming (1986), 'inspection with the aim of finding bad product and throwing them out is too late, ineffective and costly'. Quality to him comes from the improvement in the process rather than inspection.

Quality Control

Quality control is a conventional way that businesses have used to manage quality. Quality control is concerned with checking and reviewing work that has been done. This is mainly done by inspection of products and services (checking to make sure that what's being produced is meeting the required standard) take place during and at the end of the operations process. Juran (1988) defined quality control as the regulatory process through which we measure that actual quality performance, compare it with standards, and act on the difference. It is a more sophisticated

management tool aims at preventing goods and services which do not conform to basic requirements from getting to the final consumer. Quality controls are operational techniques and activities that are used to fulfil quality requirement (ISO 8402, 1994). As a measure of quality, quality control however is costly when viewed in terms of tangible and intangible variable cost. It could also result in the production of substandard goods and services when conducted late in the process of production. Due to the problems associated with quality control, businesses now focus on other avenues or means through which quality could be managed effectively. Dale, Boaden and, Lascelles (1994), noted that the solving of a problem after a non conformance issue has been created is not an effective route towards eliminating the root cause of a problem.

Quality Assurance

This is a principle based on the designing of the business process of production with a view to minimising the chances of producing substandard goods. According to Dale et al, ((a) 1994), quality assurance is a prevention based system, which improves product and service quality with increased productivity by placing the emphasis on product, service and process design. Quality assurance emphasis on defect prevention, unlike quality control that focuses on defect detection once the item is produced.

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

The quality assurance philosophy opined that quality is created in the design stage and not the control stage and that problems associated with quality are caused by poor process design. According to Lockwood et al, (1996), 'to be effective, quality assurance must involve the development of a new operating philosophy and approach that looks to be proactive rather than reactive, that includes motivating and involving people in the process across normal departmental barriers'. Oakland (1995) defined quality assurance as broadly prevention of quality problems through planned and systematic activities, which include documentation.

Total Quality Management (TQM)

Total Quality management is an aged concept. According to Jung and Wang (2006), Total Quality Management has received great attention in the last two decades. A literature review of the previous studies on TQM evolved that researchers and academicians have defined TQM practices in different ways although they are complementary to each other (Prajogo and Sohal, 2003). In this regard, Sohal et al. (2010) identified five elements such as customer focus, management commitment, total participation, statistical quality control and systematic problem solving. Understanding the first element, Padhi (2016) stressed that total quality is a description of the culture, attitude and organization of a company that strives to provide customers with products and services that satisfy their needs.

According to Zairi (2009), TQM can be defined as the agreed company-wide and plant-wide operating work structure, documented in effective, integrated technical and managerial procedures, for guiding the coordinated actions of the people, the machines, and the information of the company and plant in the best and most practical ways to assure customer quality satisfaction and economical costs of quality. Pfau (2007) stated that TQM is an approach for continuously improving the quality of goods and services delivered through the participation of all levels and functions of the organization. Tobin (2004) views TQM as the totally integrated effort for gaining competitive advantage by continuously improving every facet of organizational culture.

From the various view points of the authors, it could be depicted that TQM practice focuses on man, process and output; and these might have probably led authors into dimensioning TQM.

Dimensions of Total Quality Management

Price and Gaskill (2005) identified three dimensions of TQM as:

1. The product and service dimension: The degree to which the customer is satisfied with the product or service supplied. This involves the product reliability, durability and conformity.
2. The people dimension: The degree to which the customer is satisfied with the relationship with the people in the supplying organizations;
3. The process dimension: The degree to which the supplier is satisfied with the internal work processes, which are used to develop the products and services supplied to the customers.

3.0 Methodology

A descriptive survey was adopted. Descriptive research was used to obtain information concerning the current status of the phenomena and to describe "what exists" concerning variables or conditions in a situation. The target population for this study comprised all managers and staff in selected aluminum manufacturing companies in Enugu State Nigeria. However, three (3) aluminum manufacturing companies were selected from Enugu State. Therefore, the study adopted a census sampling techniques. Therefore, the sample size adopted for this study wastwenty-two (22). The study used primary data, and the instrument for the data collection was a structured questionnaire by the researcher; this questionnaire was designed and sent to the respondents physically.

A structured questionnaire was designed because it is an instrument for gathering, collecting and analysing data to answer specific questions that will be convenient for the researcher. It consists of close-ended items for respondents to choose their responses from the answers provided. The structured questionnaire was built on a four-point scale: Strongly Agree () Agree () Disagree () Strongly Disagree (). The instrument consists of two sections, A and B. Section A deals with the demographic/background information of the respondents. Section B contains items that dwell on specific objectives and research questions. Data collected for the study were analysed using percentages, mean scores and frequencies.

4.0 Data Analysis

This chapter deals with the presentation, analysis and interpretation of data obtained from the self-administered structural questionnaire concerning the research title "Maximizing productivity of small businesses in Nigeria through Total Quality Management". Since the study adopted a descriptive survey, the study distributed twenty-two (22) copies of questionnaire administered to managers, operation managers and staff of the three selected aluminum companies in Enugu States, Nigeria. The companies sampled were EnyiomaAluminum, Elshaddai Aluminum and First man Aluminum, totaling three (3) aluminum companies. Twenty one (21) responses were obtained from the Google form. The questionnaires were made up of two sections, which are Section A and Section B. Section A was demographic characteristics. In contrast, section B contains four (4) research questions and ten (10) items, each as a tentative statement given a total of forty items (40) to get possible responses from the respondents; this is to enable the researcher to analyse and make drawn conclusion, make interpretation and decision as stated in chapter three through their responses.

Data Presentation, Analysis and Interpretations

Section A of the questionnaire, which deals with the respondents' demographic data, will take the highest percentage (%) of respondents as the decision rule. In contrast, sections will be represented in graphs and charts, while section B's decision rule was based on mean cut-off points of 2.5, which will be the lowest actual unit of the Agree Category. A mean of 2.5 and above is regarded as acceptable. It positively affects production management indicators and utility maximisation in selected Edo and Delta State, Nigeria, manufacturing companies. In contrast, a mean cut-off point below 3.0 is considered unacceptable. As stated in the previous chapter, to enable proper decision output and interpretations of the questions from the respondents in the structural self-administered questionnaire.

Demographic Variable Analysis of Section A

Gender		
Variable	Frequency	Percentage
Male	18	86
Female	3	14
Total	21	100
Categories		
Staff	14	67
Field Work	7	33
Others	0	0
Total	21	100
Educational Qualification		
Ph.D./M.Sc and Equivalent	2	10
B.Sc/HND/Equivalent	12	57
WASC and equivalent	7	33
Total	21	100
Length of time in business		
1-5 Years	2	10
6 - 10 Years	13	62
11 - 15 Years	3	14
15Years and above	3	14
Total	21	100

Source: Field Survey, 2024

Interpretation

Table 1 represents the distribution of gender of the respondents; 86% were male, while 14% were female (because Production industries have a higher male workforce than female).

The table above indicates the categories of employees who responded to the structurally administered questionnaire. Out of the 21 retrieved, 14(67%) were staff, 7 (33%) were Field workers,

The table above signifies the academic qualifications of the respondents: 2 (10%) had degrees higher than first-degrees, 12(57%) of the respondents had first degrees and equivalent and 7(33%) of the respondents had O' level and equivalent.

The table above signifies the duration in business of the respondents: 1 - 5 years are 2 (10%), 6 - 10 years are 13(62%), while 11 - 15 years 3(14%), while 15years and above 3(14%) of the respondent.

SECTION B: Analysis and Presentation of Data

Question 1) How does quality inspection affect productivity of manufacturing organisations?

S/N	Items	SA	A	UD	D	SD	Mean	Remark
1.	Pre-product inspection	11 (52.4%)	8 (38%)	0 (0%)	2 (9.5%)	0 (0)	4.33	Accept
2.	Product reblending	9 (42.86%)	9 (42.86%)	0 (0%)	0 (0%)	3 (14.29%)	4.00	Accept
3.	Product grading	13 (61.9%)	7 (33.3%)	1 (4.8%)	0 (0%)	0 (0%)	4.57	Accept
4.	Product sorting	14 (66.67%)	7 (33.3%)	0 (0%)	0 (0%)	0 (0%)	4.67	Reject
5.	Raw materials inspection	11 (52.4%)	8 (38%)	0 (0%)	0(0%)	2 (9.5%)	4.24	Accept
6.	Pre shipment inspection	15 (71.43%)	6 (28.57%)	0 (0%)	0 (0%)	0 (0%)	4.71	Accept
	TOTAL						26.52	
	GRAND MEAN						4.42	Accept

Source: Field Survey, 2024

Interpretation

The table above represents the question and items from research question 1. It was observed that the mean value obtained from direct and indirect responses was 4.42, which is above the 3.0 mean value decision rule; it, therefore, implies that direct and indirect response as a variable of product inspection influences productivity of aluminum companies. Notably, the grand mean for the table was 4.42 which is above 3.00 mean value decision rule, this implies that the question "How does quality inspection influence organizational productivity?" is valid.

Question 2) what is the effect of quality assurance on productivity?

S/N	Items	SA	A	UD	D	SD	Mean	Remark
1.	Quality system development	14 (66.67%)	7 (33.3%)	0 (0%)	0 (0%)	0 (0%)	4.67	Accept
2.	Advanced quality planning	11 (52.4%)	8 (38%)	0 (0%)	0(0%)	2 (9.5%)	4.24	Accept
3.	Continuous improvement	15 (71.43%)	6 (28.57%)	0 (0%)	0 (0%)	0 (0%)	4.71	Accept
4.	Involvement of non production operation	8 (38%)	11(52.4%)	2 (9.5%)	0(0%)	0(0%)	4.24	Accept
5.	Analysis of quality system	7(33.3%)	10 (47.62%)	1(4.76%)	0(0%)	3 (14.29%)	3.86	Accept
6.	Efficient machine checks	9 (42.86%)	9 (42.86%)	0 (0%)	0 (0%)	3 (14.29%)	4.00	Accept
	TOTAL						25.72	
	GRAND MEAN						4.29	Accept

Source: Field Survey, 2024

Interpretation

The table above represents the question and items from research question 2. It was observed that the mean value obtained from quality assurance and its influence on productivity was 4.29 which is above the 3.0 mean value decision rule, it therefore implies that development of quality system; advanced quality planning; continuous improvement; involvement of non production operation; analysis of quality system

in place as well as efficient machine checks are factors that affect organization productivity especially in the aluminum companies in Enugu State. Notably, the grand mean for the table was 4.29 which is above 3.0 mean value decision rule, this implies that the question “What is the effect of quality assurance on organizational productivity?” is valid.

Discussion of findings

Table 1 of the study represent question 1 and items which reveals that product quality inspection has influence on productivity of aluminum company as the grand mean obtained was 4.4 which is well above the benchmark is 3.0 mean value. This is in agreement with Deming (1986) that inspection with the aim of finding bad product and throwing them out is too late, ineffective and costly. Quality to him comes from the improvement in the process rather than inspection.

Table 2 was also within judgment as the grand mean was 4.29 on effect of quality assurance on productivity of Aluminium Company. This is in line with Dale, Boaden and Lascelles (1994) that quality assurance is a prevention based system, which improves product and service quality with increased productivity by placing the emphasis on product, service and process design.

5.0 Conclusions and Recommendations

Quality issues must be taken seriously by organisations in order to remain competitive, as the maintenance and consistency of high quality service will ensure that customers continue to patronize based on the trust built over time. It must be noted that the gains of a total quality culture far out-weighs the cost of implementation as seen in the research and the competitive nature of the industry calls for the organization to refocus its strategies to suit the market demands. In this case, it would require an ideology which supports this strategic thinking to meet up with the challenges.

Summarily, meeting up to the challenge posed by competition in the industry, will require a change in organization culture by imbibing the TQM ideology and its principles, this will ensure that the organisations are focused on satisfying their customers and not only concerned about profits. If adequately deployed, the principle brings about added value to an organization in terms of efficiency in operation, employee satisfaction, customer satisfaction, and even profitability.

Therefore, management of organizations and indeed all staff must have a positive attitude towards quality improvement to ensure that there is an organisation-wide commitment to the TQM philosophy and the tools or techniques of quality improvement. This implies that responsibility quality inspection is not assigned just to a specialised quality department or person, but rather that everyone in the organisation must integrate and take ownership of the TQM philosophy within their day-to-day activities and decision-making. Also, that management of small businesses should undertake on a continuous basis, a systematic application of Deming's 'Plan-Do-Check-Act' as a useful technique to monitor and problem-solve for continuous improvement. This will go a long way to aid the implementation of total quality management.

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