

TOTAL QUALITY MANAGEMENT AND ORGANIZATIONAL SUCCESS OF MANUFACTURING FIRMS IN RIVERS STATE

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ABSTRACT

This study has evaluated the connection between Total Quality Management and Organizational success of Manufacturing Firms in Nigeria using primary sourced data as culled via structured questionnaire, using a sample size of 238 respondents out of a population size of 588. This study proceeds to use dimensions such as Product improvement, Process improvement and Customer Focus and measures such as Employee and Customer Satisfaction with an encompassing moderating variable which is Technology towards integrating the unit of measures of employed variables. The study evaluates the activities of the Manufacturing sector in Rivers state. The study discovered that despite the inherent importance of Total Quality management, it has rarely been adopted by the managers, usually as a result of their gender as all sample managers were largely male, and majority of the managers had a strong knack for Process improvement and were mostly weak towards Product improvement which could also be attributed to their marital status as most of the respondent were married and might have maintained a stringent workplace behaviour due to their level of responsibility in and out of their respective workplace. A positive and significant relationship was found amongst employed variables showing that a rise in any of the Total Quality Management is very likely to give birth to a corresponding rise in their Organizational success status. It was thus recommended that managers are to invest in the time and resources to implement TQM programs. This study also signals the importance of ensuring a supportive organizational environment through its technology for the effective implementation of TQM.

Keywords: Total Quality management, Product improvement, Process Improvement, Training, Innovation, Customer Focus, Organizational success, Employee Satisfaction, Customer satisfaction

INTRODUCTION

1.1 Background to the Study

Quality issues have become one of the most important factors in global competition today. Increasing demand by customers for better quality of product in market place has encouraged many companies to provide quality product and services in order to successfully compete in the marketplace. To meet the challenge of this global competition, many businesses have invested substantial resources in adapting and implementing Total Quality Management (TQM) practices in their operations (Musran, 2013). In simpler terms, Shekoufeh and Siavash (2013) explained Total Quality management to be an integrative philosophy of management for continuously improving the quality of products and processes.

Whatever form of quality management approach is implemented, practitioners realize that quality is a sustainable competitive advantage and competence of an organization to keep growing (Yunis et al., 2013). The objective of quality approach is the same, which is to create product quality (goods and services) for customers. So the main quality objective for organizations is the customers.

Total Quality Management (TQM) has been recently very popular for encouraging quality in business and is considered as a new paradigm in management by scholars and practitioners. The basis of Total Quality management is consistent improvement of quality, higher organizational performance and paying attention to process instead of concentration on the result to ensure success (Sanjar et al., 2013). Overtime, the level of increasing change and development in global scale motivates concern and global competition in productivity level leading to unprecedented higher expectancies by consumers. As many organizations conclude that they could not survive and achieve constant productivity unless they satisfy consumer's needs towards outperforming their competitors (Kialiahton 2002, 108).

In today's business world, the success of an organization is viewed as a rudimentary element and is an end that justifies the means employed by an organization overtime, in every endeavor of an organization's operation, the crucial factor in consideration is its performance i.e. whether it succeeds or fail in achieving its predetermined objectives (Aghajary & Senin, 2014). This performance threshold is very significant since it enables comparison amongst industrial players internally or externally as explained by Ferreira *et al.*, (2012). To achieve business success, organizations require an array of skilled, motivated, and flexible workforce that can help develop core competencies towards generating sustainable competitive strategies through the quality of goods produced and services that are rendered as postulated by Levine (1995).

In terms of organizational drive to success, Igili (2010) explained that new competitive strategies have ruptured established management doctrines and rendered conventional methods of products/services development and delivered obsolete. Competition has become so high in all fronts that the time is now when organizations will only survive by making a difference. Increased expectations and demands on the part of customers in every area of organizational life have taken the center stage. The days are gone' when firms could rest on

their laurels and claim to hold franchise to best quality products and services. The continual wave of technological break-through and environmental turbulence have turned several firms into bystanders on the road to the future, and have made their structures, processes and skills become progressively less attuned to the ever-changing realities of the demands and expectations of present day consumers.

Overtime, Business management through quality has grown phenomenally, especially since it was introduced by the pioneering quality teacher such as Deming, Juran, Ishikawa, Feigenbaum, Crosby, Taguchi, Romig and others in 1940 until today as explained by Sihotan and Zebedeus (2013).

Therefore, organizations tend to implement procedures and processes for increasing quality products and services in organization. Today, many issues such as quality management, development of quality performance, ISO, etc. are considered very important in industrial engineering and management (Radmez and Akbarnia 2000). On the other hand, organizational Success is also considered important. On the whole, Success in an organization is measured by how well a company meets the individual objectives of its business plan thus signifying its achievements rate. In the same vein, an organization requires evaluation in order to be aware of the rate of its operation acceptability and quality specifically in dynamic and complicated environments. On the other hand, lacking any surveillance, evaluation and monitoring systems in an organization indicates that the organization has no relations with its internal and external environments resulting in its dotage and eventual death.

Due to the gradual nature of the Total Quality management process, there is therefore a need to pay careful attention to it at all times. Judging by the aforementioned, various literatures still expresses a lack of knowledge as to the stance of the total quality management, which may make the required improvements for development and improvement of organizational operations impossible and its consequence is the death of the organization.

Various studies have been carried in relation to the subject matter, while some studies evaluate the relationship between TQM practice and organizational performance. A case of Terziovski and Samson (1999) examined the effect of total quality management practices on operational performance of a large number of manufacturing companies. The study revealed that the relationship between TQM practice and organizational performance is significant in a cross-sectional sense, but not all of the categories of TQM practice were particularly strong predictors of performance. The categories of leadership, management of people and customer focus were the strongest significant predictors of operational performance. While other studies tested the relationship between TQM practices and company performance (e.g. Terziovski and Samson, 1999; Flynn and Saladin, 2001; Sila and Ibrahimpour, 2005; Lakhali *et al.*, 2006), most researchers found out that a positive relationship exist between TQM practices and performance.

To the researchers' knowledge, there is limited number of studies as to the subject matter, which makes it imperative to evaluate the interrelationship between Total Quality management and Organizational as this constitutes the bane of this study.

1.2 Statement of the Problem

Going by existent theoretical and empirical literature (e.g. Terziovski and Samson, 1999; Flynn and Saladin, 2001; Sila and Ibrahimpour, 2005; Lakhali *et al.*, 2006), it can be clearly identified that there exists discrepancies as to the proposed influence of total quality management and organizational performance as some advocate a positive influx while others advocate an inefficient association, and majority of the reviewed study failed to put organizational success factors into consideration and majority shield away from Employee Satisfaction which the study discovered can be captured in qualitative form despite its quantitative forbearing.

Progressively, organizations success has been recently hampered in the Nigerian manufacturing sector which takes the form of rising cost of raw materials which pertains majorly to the manufacturing firms in the nation, accompanying this is the escalated prices of raw materials to about 45% of the previous industrial cost (Hussein and Kachwamba 2011). This has led to difficult quality management antics in the fragile and growing Manufacturing firms of the nation whose raw materials are largely imported (Okorie and Humphrey, 2016).

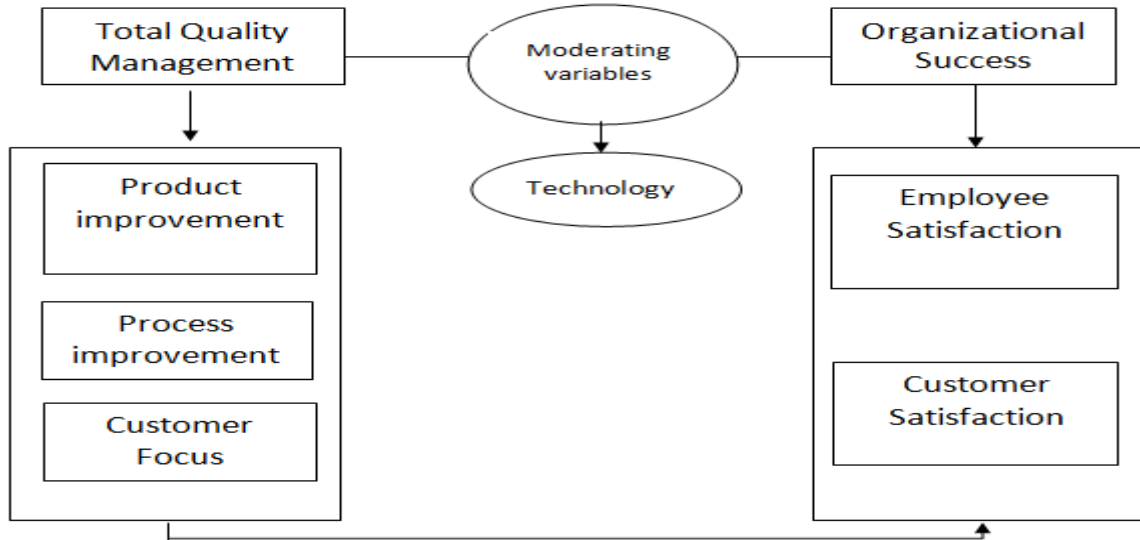
Simultaneously, manufacturing firms are faced with unstable power supply and health and hygiene standards needs coupled with taxation and undue interferences by Local and state and government which needs to be address (Odumodu 2012). These has led to the failure of many manufacturing sector and consequently, majority of these firms incur high tariff rates, amidst being pushed to scout for alternative sources which appears cumbersome (Saunders and Cornett, 2014).

Despite the gained prominence of Total Quality Management, the interrelationship between TQM and Improved performance in organizations has been frequently discussed, to which some researchers and scholars like Eskidson (1994) and Harari (1997) claimed that Total Quality Management Programme are ineffective or not very efficient in most studied organizations. Also, the adoption of TQM by organizations has been hampered due to non-compliance with the procedure and principles of TQM implementation. While some organizations, run TQM like a program which they expect to function and perform the magic by itself, others have used half-hearted approach to it, which has counted for the failure of most organization in meeting their expected target from implementing this ideology (Ugboro and Obeng, 2000).

Judging by the aforementioned, this study therefore stands to update the position as to the interrelationship between total quality management on Organizational success in Nigeria and with regards to the manufacturing firms in Rivers state.

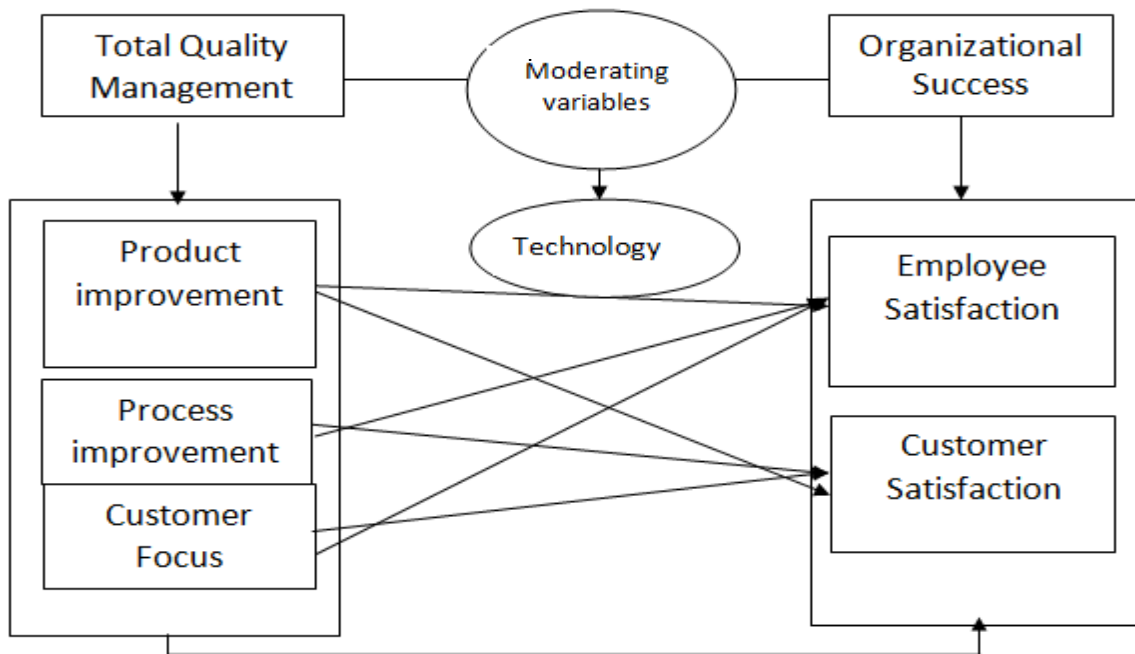
1.3 Conceptual Framework

Figure 1: Conceptual Framework for the study on Total Quality Management and Organizational Success.



Source: Shekoufeh and Siavash (2013); Hsieh, Yang and Fu (2011).

Figure 2: Operational Framework for the study on Total Quality Management and Organizational Success.



Source: Shekoufeh and Siavash (2013); Hsieh, Yang and Fu (2011).

The Dimensions which represents the independent variables (Total Quality Management) were adapted in line with the work of Shekoufeh and Siavash (2013) while the measures

representing the dependent variables (Organizational Success) are adapted in line with the work of Hsieh, Yang and Fu (2011).

1.4 Aim and Objectives of the study

The prime objective/aim of this study is to identify the relationship between Total Quality Management and Organizational Success in manufacturing firms in Rivers State; while the Objectives include:

- i. To determine the relationship between Product improvement and Employee Satisfaction of Manufacturing Organizations in Rivers State.
- ii. To ascertain the relationship between Process improvement and Employee Satisfaction of Manufacturing Organizations in Rivers State.
- iii. To evaluate the relationship between Customer Focus and Employee Satisfaction of Manufacturing Organizations in Rivers State.
- iv. To examine the relationship between Product improvement and Customer Satisfaction of Manufacturing Organizations in Rivers State.
- v. To estimate the relationship between Process improvement and Customer Satisfaction of Manufacturing Organizations in Rivers State.
- vi. To examine the relationship between Customer Focus and Customer Satisfaction of Manufacturing Organizations in Rivers State.
- vii. To ascertain the extent to which Technology moderates the relationship between Total Quality Management and Organizational Success in Rivers state.

1.5 Research Questions

Based on the preceding Research Objective, the following research questions will be formulated.

- i. What is the Relationship between Product improvement and Employee Satisfaction of Manufacturing Organizations in Rivers State?
- ii. What is the Relationship between Process improvement and Employee Satisfaction Manufacturing Organizations in Rivers State?
- iii. What is the Relationship between Customer Focus and Employee Satisfaction Manufacturing Organizations in Rivers State?
- iv. What is the Relationship between Product improvement and Customer Satisfaction Manufacturing Organizations in Rivers State?

- v. What is the Relationship between Process improvement and Customer Satisfaction Manufacturing Organizations in Rivers State?
- vi. What is the Relationship between Customer Focus and Customer Satisfaction Manufacturing Organizations in Rivers State?
- vii. How does technology moderate the association between Total Quality Management and Organizational Success in Rivers State?

1.6 Research Hypotheses

The proposed research work will be guided by the following hypotheses stated in their null form:

- H₀₁:** There is no significant relationship between Product improvement and Employee Satisfaction of Manufacturing Organizations in Rivers State.
- H₀₂:** There is no significant relationship between Process improvement and Employee Satisfaction Manufacturing Organizations in Rivers State.
- H₀₃:** There is no significant relationship between Customer Focus and Employee Satisfaction Manufacturing Organizations in Rivers State.
- H₀₄:** There is no significant relationship between Product improvement and Customer Satisfaction Manufacturing Organizations in Rivers State.
- H₀₅:** There is no significant relationship between Process improvement and Customer Satisfaction Manufacturing Organizations in Rivers State.
- H₀₆:** There is no significant relationship between Customer Focus and Customer Satisfaction Manufacturing Organizations in Rivers State.
- H₀₇:** Technology does not moderate the relationship between Customer Focus and Customer Satisfaction Manufacturing Organizations in Rivers State.

LITERATURE REVIEW

2.1 Theoretical Framework

The baseline theory of this study will be drawn from the Dynamic Capability Theory

2.1.1 Dynamic Capability Theory

In organizational theory, dynamic capability is the capability of an organization to purposefully adapt an organization's resource base. The concept was defined by David Teece, Gary Pisano and Amy Shuen, in their 1997 paper Dynamic Capabilities and Strategic Management, as "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments".

The idea of dynamic capabilities is similar to the previously existing concept of operational capabilities; the latter pertains to the current operations of an organization, whereas the former, by contrast, refers to an organization's capacity to efficiently and responsively change these operations and develop its resources (Helfat et al., 2007).

Dynamic capabilities theory concerns the development of strategies for senior managers of successful companies to adapt to radical discontinuous change, while maintaining minimum capability standards to ensure competitive survival. For example, industries which have traditionally relied on a specific manufacturing process can't always change this process on short notice when a new technology arrives; when this happens, managers need to adapt their own routines to make the most of their existing resources while simultaneously planning for future process changes as the resources depreciate.

Teece refers to successful implementation of these three stages as developing "corporate agility". Dynamic capability is "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments" (David J. Teece, Gary Pisano, and Amy Shuen).

Dynamic capabilities can be distinguished from operational capabilities, which pertain to the current operations of an organization. Dynamic capabilities, by contrast, refer to "the capacity of an organization to purposefully create, extend, or modify its resource base" (Helfat et al., 2007). The basic assumption of the dynamic capabilities framework is that core competencies should be used to modify short-term competitive positions that can be used to build longer-term competitive advantage.

Processes: Three dynamic capabilities are necessary in order to meet new challenges. Organizations and their employees need the capability to learn quickly and to build strategic assets. New strategic assets such as capability, technology, and customer feedback have to be integrated within the company. Existing strategic assets have to be transformed or reconfigured.

Teece's concept of dynamic capabilities essentially says that what matters for business is corporate agility: the capacity to (1) sense and shape opportunities and threats, (2) seize opportunities, and (3) maintain competitiveness through enhancing, combining, protecting, and, when necessary, reconfiguring the business enterprise's intangible and tangible assets.

Learning: The first stage, learning, requires employees and managers to reorganize their routines to promote interactions that lead to successful solutions to particular problems, to recognize and avoid dysfunctional activity and strategic blind spots, and to make appropriate use of alliance and acquisition to bring new strategic assets into the firm from external sources. A practical example of this is provided by Jean-Pierre Jeannot and Hein Schreuder, in their book *From Coal to Biotech*, which lays out how the Dutch company DSM transformed itself twice using 'strategic learning cycles. Learning requires common codes of communication and coordinated search procedures. The organizational knowledge generated resides in new patterns of activity, in "routines," or a new logic of organization. Routines are patterns of interactions that represent successful solutions to

particular problems. These patterns of interaction are resident in group behavior, and certain sub-routines may be resident in individual behavior. Collaborations and partnerships can be a source for new organizational learning, which helps firms to recognize dysfunctional routines and prevent strategic blind spots. Similar to learning, building strategic assets is another dynamic capability. For example, alliance and acquisition routines can enable firms to bring new strategic assets into the firm from external sources.

New assets: The effective and efficient internal coordination or integration of strategic assets may also determine a firm's performance. According to Garvin (1988), quality performance is driven by special organizational routines for gathering and processing information, linking customer experiences with engineering design choices, and coordinating factories and component suppliers. Increasingly, competitive advantage also requires the integration of external activities and technologies: for example, in the form of alliances and the virtual corporation. Zahra and Nielsen (2002) show that internal and external human resources and technological resources are related to technology commercialization. In his 1988 book *Managing Quality*, David A. Garvin states that quality performance depends on organisational routines for gathering and processing information, for linking customer experiences with engineering design choices and for coordinating factories and component suppliers. Increasingly competitive advantage also requires the integration of external activities and technologies through alliances and partnerships

Transformation of existing assets: Economists Amit and Schoemaker pointed out in 1993 that success in fast changing markets depends on reconfiguring the firm's asset structure to accomplish rapid internal and external transformation. Firms must develop processes to make changes inexpensively while accomplishing reconfiguration and transformation ahead of the competition. This can be supported by decentralization, local autonomy and strategic alliances.

Fast-changing markets require the ability to reconfigure the firm's asset structure and accomplish the necessary internal and external transformation (Amit and Schoemaker, 1993). Change is costly, and so firms must develop processes to find high-payoff changes at low costs. The capability to change depends on the ability to scan the environment, evaluate markets, and quickly accomplish reconfiguration and transformation ahead of the competition. This can be supported by decentralization, local autonomy, and strategic alliances.

Co-specialization: Another "dynamic capabilities" concept is co-specialization. For example, the physical assets, human resources and the intellectual property of a company, having developed together over time, are more valuable in combination than separately, and give a firm a sustainable competitive advantage. Over time, a firm's assets may become co-specialized, meaning that they are uniquely valuable in combination. An example is where the physical assets (e.g., plants), human resources (e.g., researchers), and intellectual property (e.g., patents and tacit knowledge) of a company provide a synergistic combination of complementary assets. Such co-specialized assets are therefore more valuable in combination

than in isolation. The combination gives a firm a more sustainable competitive advantage (Teece, 2009; Douma and Schreuder, 2013).

Asset orchestration: If capabilities are dependent on co-specialized assets, it makes the coordination task of management particularly difficult. Managerial decisions should take the optimal configuration of assets into account. Asset orchestration refers to the managerial search, selection, and configuration of resources and capabilities. The term intends to convey that, in an optimal configuration of assets, the whole is more valuable than the sum of the parts.

Transformation of existing assets: This as a core aim of Total Quality Management, Economists Amit and Schoemaker pointed out in 1993 that success in fast changing markets depends on reconfiguring the firm's asset structure to accomplish rapid internal and external transformation. Firms must develop processes to make changes inexpensively while accomplishing reconfiguration and transformation ahead of the competition. This can be supported by decentralization, local autonomy and strategic alliances.

2.2 Operational Framework

2.2.1 Concept of Total Quality Management

Total quality management involves an organizational cultural commitment to satisfying customers through the use of an integrated system of tools, techniques and training. It is geared towards increasing the production of better products and services at progressively more competitive prices. It involves the continuous improvement of organizational processes, resulting in high-products and services. It is thus primarily a change in an organization's technology, its way of doing work. In the human services, this means the way clients are processed, the service delivery methods applied to them and the ancillary organizational processes such as paperwork, procurement processes, and other procedures. It is also a change in an organization's culture, its norms, values, and belief systems about how organizations function. In addition, it is a change in an organization's political system, decision making processes and power bases. Kanter (2008) asserts that for substantive change to occur, changes in these three dimensions must be aligned. Total quality management as a technological change will not be successful unless cultural and political dimensions are attended to as well. TQM results in a radical change in the culture and the way of work in an organization. A system of TQM directs the efforts of an entire firm towards higher customer satisfaction, continuous improvement, and employee involvement. Many quality management principles are therefore, expressed in terms of changing individuals' attitudes and the organization culture. Lawal (2006) suggests that Total Quality Management is 90 percent attitude, specifically the attitude of listening to customers. TQM is a business philosophy, orientation or practice that embodies that belief that the management process must focus on the idea of customer-given quality through an organisation. Continuous improvement of product quality and service delivery is the optimum of the TQM. However, since every successful practitioner of TQM comes from a different culture, there seems to be no set path to it. Choppins (2005) observes that success with TQM may stem from developing a unique TQM model which reflects the business ethnics and purpose of business so that distress

would be reduced to the barest minimum. It considers and rewards the effects of those directly involved both inside and outside the organization. TQM involves a system of management that involves all people in an organization delivering products or services that meet or exceed customer requirements. Carter (2003) asserts that TQM is a preventive, proactive approach to doing business and as such it reflects strategic leadership, common sense, data-driven approaches to problem solving and decision making, employee involvement, and sound management practice. TQM has a strong focus on process measurement and controls as means of continuous improvement. TQM is a quality initiative.

2.2.1.1 Product improvement: This is defined as a procedure or set of procedures intended to ensure that a product or service under development (before work is complete, as opposed to afterwards) meets specified requirements. QA is sometimes expressed together with QC as a single expression, quality assurance and control (QA/QC). Fening et al., (2013) explained that for organizations to avoid breakdown, a key part of any total quality strategy is the management of the processes which is focused on managing the manufacturing process so that it operates as expected. Process management involves precisely defining and documenting process management procedures with instructions for machine operation and set-up posted at each workstation to minimize the likelihood of operator error. The methods which are used for process control and improvement are problem solving methods, statistical process control, failure mode effects analysis, fool proofing, sampling and inspection (Flynn et al., 1994).

2.2.1.2 Process improvement: This is the proactive task of identifying, analyzing and improving upon existing business processes within an organization for optimization and to meet new quotas or standards of quality. The employees in an organization may acquire new knowledge and skills by participating in TQM. As they participate, it leads to lasting changes in behavior which results in quality improvement (Juran & Gryna, 1993). Some of the advantages of participation are that, it can change some employees' negative attitudes, reduce conflict stemming from the working environment, instill in them a better understanding of the importance of product quality and contribute to the establishment of an organization-wide quality culture. TQM will do little to improve the performance of an organization unless all employees embrace it, and this often requires a change in an organization's culture.

2.2.1.3 Closer Customer Focus: The customer today dictates the market. The primary focus of TQM is the customer. It is aimed at satisfying customer needs. Demirbag, Tatoglu, Tekinkus, and Zaim (2006) have indicated that customer satisfaction is increased by the participation of all employees in TQM. A successful organization recognizes the need to put the customer first in every decision made. In product design and during the development process, the customer should be closely involved and should provide inputs at every stage of the process, so as to avoid waste, defects and quality problems (Flynn, Schroeder, & Sakakibaba, 1994). It has also been concluded by Ugboro and Obeng (2000) that TQM is an approach used in directing organizational efforts toward the goal of customer satisfaction.

Consumers demand high quality levels of products or services at reasonable prices to achieve value and customer satisfaction.

2.2.2 Concept of Organizational Success and Performance

One of the main elements to achieve an effective organisational management processes is the performance measurement. The performance of one organisation can be directly related to its ability to achieve their strategic and financial objectives (Li et al., 2006). The performance of organizations was largely neglected in past research, whereas some other (Katou, 2008) who were discussing the organizational performance with reference to the financial performance only. Stock et al. (2000) were also discussing the organizational performance through measuring both financial and market harmonic performance which includes the return on investment measures (ROI), sales profit and growth and market share progress.

One fact must be also mentioned here is that the organizational performance could be measured either depending on operational performance which is referring to the whole performance of one organization that includes financial performance, customer satisfaction and effectiveness of product quality (Brah et al.,2000).Whereas the operational performance of one organization is directly handled with the enhanced delivery performance, flexibility, minimizing costs and errors and enhancing process productivity(Nunnally, 1978).

2.2.2.1 Employee Satisfaction

Any analysis of Employee Satisfaction and sustainability is sometimes limited (incorrectly) to accounting or quantitative data. This is generally because the ‘money’ side of our organization’s operations is relatively more easily measurable (dollar values) and there are generally accepted accounting principles and standards. Money is only one input resource – there are many other input resources that drive viability and sustainability.

However, it is well to remember that accounting is transactions-based and studying financial reports is akin to solely studying the ‘droppings’ of a horse rather than assessing the environment, mission, conditions, etc. of the horse and cart, Viability and sustainability looks to assessing the ‘horse and cart’ in total – and not merely the accounting ‘droppings’. Viability and sustainability is largely based on maintaining stakeholders’ reasonable expectations, forecasts and confidence in the future.

Financially robust organizations have effective financial systems and processes to maintain the Employee Satisfaction and sustainability required to deliver high quality results for people and communities. Achieving financial outcomes requires an organization to accurately balance its expenditure within the limitations of its income stream. Effective governance and financial operational management - to forecast income and expenditure and monitor and highlight emerging financial issues - is essential. Financial plans and budgets must be flexible enough to allow for spending patterns to be adjusted as needed and be fully aligned to the organization’s strategic and service planning. Financially robust organizations also pay careful attention to these five elements:

- Effective asset management

- Active management of financial liabilities
- Maintaining a healthy level of liquidity
- Implementing a financial risk strategy
- Investing in insurance

2.2.2.2 Customer Satisfaction

Rai (2013) defined satisfaction as “a buyer’s emotional or cognitive response post-subjective assessment and comparison of pre-purchase expectations and actual performance subsequent to the consumption of the product or service, meanwhile evaluating the costs incurred and benefits reaped in a specific purchase even or over time in course of transacting with an organization”.

Most recent studies emphasize the importance of customer satisfaction, like Asikhia (2010); Kassim & Abdullah (2010), who showed that the customer satisfaction is a vital trend to develop the organizational performance, Fotopoulos and Psomas’s (2010) study also reflects that customer focus and satisfaction are positively and significantly related to the performance of the organization, while Chen et al.(2012) confirmed that well-established relationship with customers can increase both financial and nonfinancial performance. Dadfar *et al.*, (2013) reveals that it is important to build a strong relationship with the customer and service provider in order to be able to have an efficient co-production together.

RESEARCH METHODOLOGY

3.1 Research Design

Parahoo (1997) describes a research design as a plan that describes how, when and where data are to be collected and analyzed it represents the Blue print of the study. For the purpose of this study, The Cross-Sectional Survey design will be utilized which is an aspect of the Quasi-experimental research design as it seeks to evaluate multiple variables at a single time period.

3.2 Population for the Study

A research population is generally a large collection of individuals or objects that is the main focus of a scientific query. It is for the benefit of the population that researches are done (Explorable, 2009). The Accessible population will comprise of top, middle and lower level managers totaling 588.

3.3 Sampling Technique and Sample Size Determination

This study will adopt the purposive sampling technique as predicated on the author’s convenience. The sample size will be determined using the Taro Yamane formula at a 0.05 level of significance I.e. 95% confidence level.

The sample size will stem from the following Manufacturing industries which includes Lucky Fibres PLC, Sky Point Merchandise Resources Limited, Bejafta Group Nigeria Limited, Aluminum Company and Ehcuyeko Consolidated Limited. These firms were selected based on their accessibility and efficient performance, as they are basically rated and recommended in Rivers State. And it is estimated to house managers and workers numbering up to 588 cumulatively. Therefore, using the Taro Yamene Formula, 238 questionnaires will be distributed.

3.4 Data Collection Method

This study will be utilizing both primary sources of data which will be gotten from the respondents via a carefully structured questionnaire. The main instrument for data collection in this study will be the questionnaire. The questionnaire is designed in a manner that all the questions will be structured; that is using close ended questions. The questionnaire will be divided into two (2) sections (A&B). Section A will elicit information on the demographic data of the respondents while section B will obtain information on the subject matter under investigation. The response rate will be scaled in a five (5) points Likert's scales which will range from (1) strongly disagree (SD), (2) Disagree (D), (3) Neutral (N), (4) Agree (A) and (5) Strongly Agree (SA). Due to the nature of the study, the same proportion of questionnaires given to employees of the firm who are actively engaged in the Quality management process will also be issued to customers based on their satisfaction level.

3.5 Operational Measures of Variables

According to Sekaran (2003) it is very important in statistics to know how a set of observation is measured because this will affect the method of analysis in other words. Baridam (2001) observed that no signal operationalization of research production will satisfy everyone; inevitably matters of judgement and preference often intrude as to compound the problem of measurement.

Independent Variable: The independent variable in this study is Total Quality Management be used in this study will includes Product improvement, Process improvement and Customer Focus which were based on the study of Hsieh et al., (2011). The study will utilize five items to capture each dimension.

Dependent Variable: The dependent variable for this study is Organizational sustainability. The measures of Organizational sustainability for this study will be based on the earlier study of Hettiararchchi and Jayarathna (2014), this includes Employee Satisfaction and Customer satisfaction and the study will utilize five items to capture each measure.

3.6 Data Analysis Technique

This refers to the statistical tools to be utilized in the analyses and interpretation of the questionnaire as regards the hypotheses. The Spearman's rank order correlation coefficient will be used to analyse the data obtained from the questionnaire which will enable the researcher examine the relationship between Total Quality Management and Organizational

Success. All Statistical analysis will be carried out using the Statistical Package for Social Sciences (SPSS) version 22.

Decision Criteria: for Spearman's rank order correlation coefficient is:

Reject null hypothesis if Spearman's rho coefficient is greater than critical value (CV)

Reject null hypothesis if Spearman's rho coefficient is smaller or equals to critical value

DATA PRESENTATION AND DISCUSSION

4.1 Test of Hypotheses

A total of four hypothesized bivariate associations were postulated in the study; all stated in the null form of no association. Data in this section is analyzed using the spearman rank order correlation coefficient at a 95% confidence interval. Analysis is based on a significant criterion of 0.05 for the acceptance ($p > 0.05$) or rejection ($p < 0.05$) of the null hypotheses.

Table 1 Spearman Correlation Matrix

		Correlations				
		Product improvement	Process improvement	Customer Focus	Employee Satisfaction	Customer Satisfaction
Product improvement	Correlation Coefficient	1.000	.889**	.617**	.898**	.801**
	Sig. (2-tailed)	.	.000	.000	.000	.000
	N	201	201	201	201	201
Process improvement	Correlation Coefficient	.889**	1.000	.849**	.957**	.936**
	Sig. (2-tailed)	.000	.	.000	.000	.000
	N	201	201	201	201	201
Customer Focus	Correlation Coefficient	.617**	.849**	1.000	.814**	.841**
	Sig. (2-tailed)	.000	.000	.	.000	.000
	N	201	201	201	201	201
Employee Satisfaction	Correlation Coefficient	.898**	.957**	.814**	1.000	.913**
	Sig. (2-tailed)	.000	.000	.000	.	.000
	N	201	201	201	201	201
Customer Satisfaction	Correlation Coefficient	.801**	.936**	.841**	.913**	1.000
	Sig. (2-tailed)	.000	.000	.000	.000	.
	N	201	201	201	201	201

** . Correlation is significant at the 0.05 level (2-tailed).

Source: Research data, 2017 (SPSS-22 output)

Hypothesis One

H₀₁: There exists no significant relationship between Product improvement and Employee Satisfaction of Manufacturing Firms in Nigeria.

Table 1 illustrates the analysis for the association between Product improvement and Employee Satisfaction in selected Manufacturing Organizations in Port Harcourt. Where rho

= .898 and $p = 0.000$. The findings show a very positive and significant association between both variables (where ** implies significance at 0.01 and $p < 0.05$); therefore based on the criterion for null hypothetical statement rejection of $p < 0.05$, we reject the null and restate that there is a significant relationship between Product improvement and Employee Satisfaction of Manufacturing Firms in Nigeria.

Hypothesis Two

H₀₂: There is no significant relationship between Process improvement and Employee Satisfaction of Manufacturing Firms in Nigeria.

Table 1 illustrates the analysis for the association between Process improvement and Employee Satisfaction in selected Manufacturing Organizations in Port Harcourt. Where $\rho = .957$ and $p = 0.000$. The findings show a very positive and significant association between both variables (where ** implies significance at 0.01 and $p < 0.05$); therefore based on the criterion for null hypothetical statement rejection of $p < 0.05$, we reject the null and restate that there is a significant relationship between Process improvement and Employee Satisfaction of Manufacturing Firms in Nigeria.

Hypothesis Three

H₀₃: There is no significant relationship between Customer Focus and Employee Satisfaction of Manufacturing Firms in Nigeria.

Table 1 illustrates the analysis for the association between Customer Focus and Employee Satisfaction in selected Manufacturing Organizations in Port Harcourt. Where $\rho = .814$ and $p = 0.000$. The findings show a very positive and significant association between both variables (where ** implies significance at 0.01 and $p < 0.05$); therefore based on the criterion for null hypothetical statement rejection of $p < 0.05$, we reject the null and restate that there is a significant relationship between Customer Focus and Employee Satisfaction of Manufacturing Firms in Nigeria.

Hypothesis Four

H₀₄: There is no significant relationship between Product improvement and Customer Satisfaction of Manufacturing Firms in Nigeria.

Table 1 illustrates the analysis for the association between Product improvement and Customer Satisfaction in selected Manufacturing Organizations in Port Harcourt Where $\rho = .801$ and $p = 0.000$. The findings show a very positive and significant association between both variables (where ** implies significance at 0.01 and $p < 0.05$); therefore based on the criterion for null hypothetical statement rejection of $p < 0.05$, we reject the null and restate that there is a significant relationship between Product improvement and Customer Satisfaction of Manufacturing Firms in Nigeria.

Hypothesis Five

H₀₅: There is no significant relationship between Process improvement and Customer Satisfaction of Manufacturing Firms in Nigeria.

Table 1 illustrates the analysis for the association between Process improvement and Customer Satisfaction in selected Manufacturing Organizations in Port Harcourt Where rho = .936 and p = 0.000. The findings show a very positive and significant association between both variables (where ** implies significance at 0.01 and p < 0.05); therefore based on the criterion for null hypothetical statement rejection of p < 0.05, we reject the null and restate that there is a significant relationship between Process improvement and Customer Satisfaction of Manufacturing Firms in Nigeria.

Hypothesis Six

H₀₆: There is no significant relationship between Customer Focus and Customer Satisfaction of Manufacturing Firms in Nigeria.

Table 1 illustrates the analysis for the association between Customer Focus and Customer Satisfaction in selected Manufacturing Organizations in Port Harcourt Where rho = .841 and p = 0.000. The findings show a very positive and significant association between both variables (where ** implies significance at 0.01 and p < 0.05); therefore based on the criterion for null hypothetical statement rejection of p < 0.05, we reject the null and restate that there is a significant relationship between Customer Focus and Customer Satisfaction of Manufacturing Firms in Nigeria.

Hypothesis Seven

H₀₇: There is no significant influence of Technology on the association between Total Quality Management and Organizational Success of Manufacturing firms in Rivers state.

Table 2 Partial Correlation (Moderating Role of Technology)

			Correlations	
Control Variables			Organizational Success	Total Quality Management
Technology	Organizational Success	Correlation	1.000	-.074
		Significance (2-tailed)	.	.488
		df	0	88
	Total Quality Management	Correlation	-.074	1.000
		Significance (2-tailed)	.488	.
		df	88	0

Source: Research data, 2017.

Judging by the output in table 2 above, it could be derived that Technology exhibits no moderating influence on the relationship between Total Quality Management and Organizational Success in the employed institution based on the correlation coefficient of -0.074 at a probability level of 0.488 which is greater than the significance level of $0.05(5\%)$, therefore we do not reject the null hypothesis and conclude that There is no significant influence of Technology on the association between Total Quality Management and Organizational Success of Manufacturing firms in Rivers state.

4.4 Summary of Findings

In summary, this study discovered that:

- i. Product improvement, a proxy for Total Quality Management displays a positive and significant relationship with Employee Satisfaction as a measure for Organizational Success in Manufacturing Organizations in Port Harcourt.
- ii. Process improvement displays a positive and significant relationship with Employee Satisfaction of Organizations in Port Harcourt.
- iii. Customer focus shows a positive and significant relationship with Employee Satisfaction of Organizations in Port Harcourt.
- iv. Product improvement illustrates a positive and significant relationship with Customer Satisfaction of Organizations in Port Harcourt.
- v. Process improvement demonstrates a positive and significant relationship with Customer Satisfaction of Organizations in Port Harcourt.
- vi. Customer Focus shows a positive and significant relationship with Customer Satisfaction of Organizations in Port Harcourt.
- vii. Technology does not moderate the relationship between Total Quality Management and Organizational success in organizations.

4.5 Discussion of findings

Based on the above findings, the study realizes

Despite the inherent importance of Total Quality management, it has rarely been adopted by the managers, usually as a result of their gender as all sample managers were largely male, and majority of the managers had a strong knack for Process improvement and were mostly weak towards Product improvement which could also be attributed to their marital status as most of the respondent were married and might have maintained a stringent workplace behaviour due to their level of responsibility in and out of their respective workplace, A positive and significant relationship was found amongst employed variables showing that a rise in any of the Total Quality Management is very likely to give birth to a corresponding rise in their Organizational success status and a drop in the Total Quality management is more likely to result to a decreased level of Organizational success as verified by the analytical result based on the employed instrument (questionnaire), in this light, it can be seen

that managers as attached to the Respondents for the sake of this study gave little to no room for a wide range of quality management and carefully averted it due to the inherent managerial problem attached to being too loose with the employees while the few who strongly took to quality management displayed a lower degree of Organizational success.

This study bears credence to similar work like Lee (2010), Savage (2007), Field (2009), Zeynep (2014), Brian and Vivona, 2014 who similarly found a positive and significant relationship between Total Quality Management and Organizational success, although it has a resemblance of Mkenzie (2009) work who found a significant relationship, but unlike this that study, this study only found a poor level of Total Quality Management in employed institutions within the geographical terrain of the study.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

This study has added to the wealth of evidence in the connection between Total Quality Management and Organizational success of Manufacturing Firms in Nigeria, utilizing Dimensions such as Product improvement, Process improvement and Customer Focus and measures such as Employee and Customer Satisfaction with an encompassing moderating variable which is Technology towards integrating the unit of measures of employed variables.

As a restatement of the objectives, the study attempted to: examine the relationship between Product improvement and Employee Satisfaction of Manufacturing Firms in Nigeria, determine the Relationship between Process improvement and Employee Satisfaction of Manufacturing Firms in Nigeria, access the Relationship between Customer Focus and Employee Satisfaction of Manufacturing Firms in Nigeria, investigate the Relationship between Product improvement and Customer Satisfaction of Manufacturing Firms in Nigeria, examine the Relationship between Process improvement and Customer Satisfaction of Manufacturing Firms in Nigeria, access the Relationship between Customer Focus and Customer Satisfaction of Manufacturing Firms in Nigeria, investigate the moderating role of Technology on the association between Total Quality Management and Organizational Success of Manufacturing firms in Rivers state.

The first chapter introduces the study, identifying relevant problems that stimulated the study and precisely stated the study objectives, research question and hypothesis and highlighted the study significance and research scope while stating the organization of the study and definition of vital terms.

The second chapter reviewed the theoretical underpinnings of the study as it identifies also identified the Dimensions and measures of the study variables while establishing the conceptual relationship amongst employed variables, reviewing related literatures and outlining the identified Gap in reviewed literatures.

The third chapter, exposed the methodology, a combination of the research design, population and sampling technique employed in the study after which, the models were succinctly stated in accordance to dominant research works, theories and objective of the study, followed by the apriori expectation and research tools employed in determining the stationarity, short run and long run relationship of variables. The fourth chapter presented the data and its individual analysis starting from the descriptive (univariate) to the more complex analysis (Bivariate/Multivariate) analysis after which findings were discussed.

The fifth chapter summarizes the study, makes adequate conclusion, recommendation and stating the contribution of the study to knowledge.

5.2 Conclusions

Based on the well-documented standing of Total Quality Management, recent organizational success as seen in the workplace, and the implications of prior theory and research, and after a careful access of several indicators of organizational performance and success factors, it becomes vital to bear in mind that organizational success outcomes are significantly impacted by interactions that occur between workplace quality management. In particular, firms are likely to experience relatively low levels of success in the achievement of goals when organizational total quality management levels are equally low, but are likely to experience relatively high levels of strain when coworker and employee quality management levels are dissimilar. In contrast to employee strain outcomes, results of the current study reveal that employee performance outcomes are significantly and positively impacted by coworker quality management alone; suggesting that all employees can benefit (at least in terms of their performance) from exposure to coworkers who use positive Total Quality management.

Taken together, results of this study foster a greater understanding of how firms are impacted by their respective existent total quality management and, more generally, illuminate the significance of positive quality management in the workplace. Further, not only do these findings add substantially to several bodies of research, but they also serve to inform scholars and practitioners in matters related to numerous human resource functions. Finally, Managers might approach the concept of a learning organization from a variety of perspectives, but improved TQM, continuous improvement, and performance measurement are frequent goals.

5.3 Recommendations

From the findings of the study, it is therefore recommended that:

- i. First, findings from this study motivate managers (and provides a justification) to invest in the time and resources to implement TQM programs. Based on the results of this study, the implementation of TQM practices is associated with enhanced organization success/performance.
- ii. Second, this study signals the importance of ensuring a supportive organizational environment through its technology for the effective implementation of TQM. Evidence from this study suggests that organizations should develop an environment or “technology”, which includes orientation, fostering of technical support among co-

workers, also, for the effective implementation of TQM. If employees do not feel there is sufficient acknowledgement and support from the organization and from colleagues with whom they work, then firms may not reap the benefits of TQM programs.

- iii. The idea is that the most consistent and logical strategy for achieving continuous improvement is to constantly upgrade employee talent, skill, and knowledge. As organizations that wholeheartedly embrace this approach believe that only by constant learning by employees can continuous improvement really occur.
- iv. Manufacturing firm employees should routinely attend training programs, seminars, and related activities towards learning the latest information they need to contribute more effectively to the firm.
- v. Employees' seminars should cover a wider range of topics such as; time management, the implications of the Americans with Disabilities Act, balancing work and family demands, and international trade theory, among others.
- vi. Future research could employ longitudinal research methods to the underlying subject matter and in other sectors.

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