IMPERATIVES OF EFFECTIVE TOTAL QUALITY MANAGEMENT AS A VERITABLE TOOL FOR CORPORATE SURVIVAL AND GROWTH: AN EMPIRICAL STUDY OF SELECTED ORGANIZATIONS IN DELTA STATE

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Abstract
At the forefront of the drive to improve product quality is a technique known as total quality management. Total quality management focuses on improving the quality of an organization’s products and services and stresses that all of an organizational functional activities should be directed toward this goal. This study was carried out to investigate “total quality management as a veritable tool for corporate survival and growth – a survey of selected manufacturing organizations in Delta state” A set of structured of questionnaire was used as the instrument for data collection and administered on sixty (60) of the organizations under the study randomly selected using yaro – Yamane formula, the sample size from a population of 70 is 60 respondents at 95% confidence level. Data analysis was made using sample percentage tables and the hypothesis were tested using the Pearson product moment correlation co-efficient and the t-test at 0.5% level of significant. The result shows that a positive and significant relationship exits between total quality management and efficient production and distribution of goods and services to meet customer’s specification. Another finding was that significant relationship exists between total quality management and achievement of organizational goals. It was concluded that total quality management is imperative for the development and growth of business organizations in Nigeria. The study, however, recommended adequate supervision and training of staffs, better communication and quality circles, building teams of empowered employees, effective control processes for quality, good motivational schemes for employees and a host of other measures for effective total quality management in manufacturing organizations.

INTRODUCTION
The concept of total quality management (TQM) was formulated in the last century and has been defined variously by several practitioners. Total quality management has been defined as a process designed to focus on customer’s expectations, the prevention of problems, building commitment to continuous improvement in everyone and the promotion of participative
management. TQM is management philosophy and company practices that aim to harness the human and material resources of the organization in the most effective way to achieve the objectives of the organization. Thus, TQM should be planned, timed, quantified and executed and all personnel in the organization need to be involved. Other experts believe that TQM is a customer focused performance enhancing tool which can be applied to any type of organization. It balances the diverse element of business enterprise through leadership, strategic planning, financial management, management in for motion system, human resources development, work process management and marketing by aligning them to achieve results. Total quality management can be summed up as “do the right things right first time and always”.

TQM arose out of the need by the private sector organizations for improvement in the quality of products and services rendered to customers in order to stay ahead of competitors. TQM has its origin from Japanese and American organizations utilized the concept of TQM to sell (market) goods and services to Europe and American at lower prices than the European and American goods and services. labour costs were earlier attributed for differences in prices of products and services.

Total quality management is a people focused management that aims at continuous increase in customer service of continuously lower real cost. There are three ways in which this is typically done. One way is by finding out what customer’s really want and designing goods and services to meet these needs. A second way is by learning how to provide this output as efficiently as possible by eliminating both time and cost. A third is by continuing to improve the process by improvements.

Total quality management encompasses ten core values and concepts (a) customer driven quality (b) leadership (c) continuous improvement (d) full participation (e) rapid response (f) prevention, not detention (g) long range outlook (h) managements by facts (i) partnership development (j) public responsibility. Other steps that are critical to TQM include formulation of organization’s vision of quality, top management support, planning and organizing of the effort and careful implementation of the control process. The primary focus of all TQM efforts is the customer. Thus every TQM strategy is designed to find out what customers wants, how well the firm is providing this output and what the enterprise needs to do to improve its performance and at least match, if not stay ahead, of customer expectations. This is typically done by placing attention on these areas, is beliefs and values, data analysis, cycle time and a host of others. The overriding emphasis of all TQM efforts is to provide the customer with those goods and services that meet and often times exceed the customers needs to the extent entrepreneurial firms accomplish this objective, they will be able to maintain high profitability and service in the face of increasing competition. The achievement revolutionized the concept of business practices and thus, quality becomes the cornerstone of business operations. Subsequently, quality has been accepted as the most potent defense against competition as it ensures customer’s loyalty and allegiance and paves the way to sustained growth and improved earnings.
Statement of the problem

The concept of total quality management (TQM) has received great applause world-wide as a managerial technique for enhance organizational productivity and performance, hence more organizations that hitherto were not total quality management compliant are now embracing it as a change agent to move forward in their operations. TQM encompasses business process re-engineering (BPR) which is all about “changing the changeable”. Some organizations despite available evidence of the role of TQM in strengthening organizational productivity and performance still remain in different to the concept they rather prefer to maintain their status quo, probably because of the fear of the unknown or some other factors. This is, however, not too new as organizational members do not always find it easy to change anything to the desired direction due to either the fear, of eventual reversion to the previous state, likely consequences may result in the organization which may not anticipated or some other negative factors not intended.

Objectives of the study

The two main objectives of the study are;

I. To identify the extent to which total quality management help in efficient production and distribution of goods and services to meet customers’ specification.

II. To find out whether total quality management contribute to the achievement of organizational goals.

Research questions

The following two questions were raised to guide the study.

1) To what extent does total quality management help in efficient production and distribution of goods and services to meet customers’ specification?

2) Does total quality management contribute to the achievement of organizational goals?

Research hypotheses

For the purpose of this study, the following hypotheses are considered relevant.

1) Total quality management significantly helps in efficient production and distribution of goods and services to meet customers’ expectation.

2) Total quality management contributes to the achievement of organizational goals.

Scope of the study

The scope of the study comprised of selected manufacturing organizations in Delta state located in Warri, Asaba, Ughelli and Sapele. The emphasis of the study was on total quality management as a veritable tool for corporate survival and growth.
Literature review

Conceptual framework

Total quality management is a system approach to quality management. It refers to complete commitment to quality in all spheres of the organization. Total quality management is a management approach of organization, centered on quality, based on the participation of all its members and aiming at long term success through customer satisfaction and benefits to the members or organization and society (shanker, 2012). Also, Jones (2011) sees total quality management as a management technique that focuses on improving the quality of an organization’s product and services and stresses that all of an organization’s functional activities should be directed towards this goal. Conceived as an organization wide management programme, total quality management requires the cooperation of managers in every function of an organization if it is to succeed. Total quality management is a business philosophy that embodies the believe that the management process must focus on integrating, the idea of customer-driven quality throughout an organization (Zikmund, 2013). It stresses continuous improvement of product quality and service delivery. Managers improve durability and enhance a product with additional features as the product matures in age. Managers also strive to speed up delivery and improve other services, in order to keep their brands competitive. The philosophy underlying the implementation of a TQM strategy is to see customers and clients as the vital key to organizational success.

As Ndioko (2012), notes that total quality management involves making constant effort to identify what the customer wants from time to time and determining how to cater for them. This is based on the recognition of the facts that customers’ needs, desires and wants normally changes over time in relation with changes which may occur in key aspects of the environment, such as social, political, economic and technological changes. In particular, TQM is a culture of continuous improvement based on continuous learning and adaptation to changes in customer demand and product or operational method.

Features of total quality management

According to Uzor (2011), the important feature of total quality management are (i) quality must be integrated throughout the organization’s activities (ii) There must be employee commitment to continuous improvement (iii) A focus on product improvement from the customers view point, (iv) The goal of customer satisfaction and the systematic and continuous research process related to customers satisfaction, drives total quality management system(v) A recognition that personnel at all level share responsibility for product quality (vi) supplier are partner in the quality management process.

Benefits of Total Quality Management

Egboh (2011) identifies the following benefits of total quality management
Effectiveness: the goal of total quality management system is to improve the effectiveness of the organization in achieving target and to continually improve quality of production and client satisfaction.

Efficient: the total quality management ensure a high efficiency though improving the quality of resource, training input and output without increasing capital volume.

Quality Chain: every member of the staff is a part of quality chain i.e. supplier of product/service to customers. The product of a unit of an organization is an input (raw material) to another unit. Thus, every staff in the quality chains should know his/her customer and supplier expectations.

Quality cost. These costs are an indication of success if they are low. Poor quality costs money.

Failed Attempt at Implementing Total Quality Management Practice

Major factor responsible for these failure, Cole (2010) include early company effort that simplistically grasped at quality circle to provide the whole solution; overall reliance on statistical method; under-reliance on statistical methods; bellowing of top management about quality without any follow-up; whole training of employees without immediate application; unrealistically high expectation of quick results; the bureaucratization of quality efforts; quality zealots who claim quality to be a costless solution and a cure for whatever ails a company; the failure to redesign traditional reward structures and organizational objectives to bring them into the line with the new quality initiative; failure to recognize the strong linkage between quality objectives and increased employee participation; failure to full integrate key functions like marketing into quality improvement activities'; unwillingness to adjust quality initiative to special circumstances relating to nation, industry and firm-level conditions such as length of product life circle and competitive environment; inability to move away from traditional result oriented management style, and failure to build customer expectations and needs into daily organization activities. All these contributed to TQM failure and massive waste of resource.

Methodology

All the manufacturing organization in Nigeria constituted the population of the study. The number of somewhat infinite. Therefore the researcher decided to limit the target population to selected manufacturing organization in warri, asaba, sapele, and ughelli in delta state. A sample size of 60 was from a population of 70 using the yaro yaremeni `s formula which is given as:

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

Where

n=sample size sought
e=level of significances =0.05 or 95%

N=population size=70

\[ n= \frac{70}{1+70(0.05)} = \frac{70}{1+0.25} = \frac{70}{1.27} \]

=60 respondents

Applying the formula the sample size from a population of 70 is 60 respondents at 5% confidence level. The simple random sampling method was used to select the respondents. The researcher made use of survey design. The data used in this study were obtained from both primary and secondary sources of data. The instrument of primary data collected was through the questionnaire and face-to-face interview. The questionnaire was pre-tested before use, to suit the respondents’ level of understand. Secondary data were collated from textbooks and publications on total quality management. Data were collected and analyzed using percentages. In addition, the hypotheses formulated were tested using the Pearson product moment correlation co-efficient and the t-test at 0.05 level of significance.

**Findings and Discussions**

The tables presented below contain the analytical details relating to the finding from the respondents.

**Table 1**

<table>
<thead>
<tr>
<th>SN</th>
<th>Organizations</th>
<th>No. of Respondent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Eternit Plc, Sapele</td>
<td>18</td>
</tr>
<tr>
<td>2.</td>
<td>Delta Steel Plc, Aladja</td>
<td>22</td>
</tr>
<tr>
<td>3.</td>
<td>Asaba Textile mll Plc</td>
<td>1</td>
</tr>
<tr>
<td>4.</td>
<td>Mix and Baker Plc, Warri</td>
<td>10</td>
</tr>
<tr>
<td>5.</td>
<td>Beta Glass Plc Ughelli</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>70</td>
</tr>
</tbody>
</table>

Source: field survey, 2014

HO$_1$: Total quality management does not significantly help in efficient production and distribution of goods and services to meet customers’ expectation

A 5-point likert scale was used with the following responses categories

Strongly Agree (SA) = 5 point
Agree (A) = 4 point
Undecided (UD) = 3 point
Strongly Disagree (SD) = 2 point
Disagree = 1 point

The formula for the Pearson product moment correlation is
\[ r = \frac{N \sum XY - \sum X \sum Y}{\sqrt{[N \sum X^2(\sum X)^2 - (\sum X)^2(N \sum Y^2 - \sum Y^2)]}} \]

<table>
<thead>
<tr>
<th>Options</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>5</td>
<td>30</td>
<td>150</td>
<td>25</td>
</tr>
<tr>
<td>Agree</td>
<td>4</td>
<td>25</td>
<td>100</td>
<td>16</td>
</tr>
<tr>
<td>Undecided</td>
<td>3</td>
<td>2</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Disagree</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>60</td>
<td>260</td>
<td>55</td>
</tr>
</tbody>
</table>

Source: Field work, 2015

\[ r = \frac{5(260)-(15)(60)}{\sqrt{(5 \times 55)-(15)^2(5 \times 1534)-(60)^2}} \]

\[ r = \frac{1300-900}{\sqrt{275-225}(7670-3600)} \]

\[ r = 0.8867 \]

The above result shows that total management has significantly helped in efficient production and distribution of goods and services to meet customers’ expectations. But there is a greater need to test further in order to justify the hypothesis. In doing so, test of significance will be employed.

\[ T_{cal} = \frac{r}{\sqrt{\frac{1-r^2}{n-2}}} \]

\[ T_{cal} = \sqrt{\frac{0.8867}{1-0.8867^2}} \]

\[ T_{cal} = 2.7122 \]

\[ t_{tab} = df \alpha 0.05 \]
\[ t_{\text{tab}}=n-2, \alpha 0.05=5-2, \alpha 0.05 \]

\[ t_{\text{tab}}=2.35 \]

The decision rule here is to reject \( H_0 \) if \( t_{\text{cal}} > t_{\text{tab}} \). Since \( t_{\text{cal}} > t_{\text{tab}} \), \( H_0 \) is rejected which means that there is positive and significant relationship between total quality management and efficient production and distribution of goods and services to meet customers’ expectations. This finding was supported by the views of Khurran (2010) and Mullins (2011) which saw total quality management as a philosophy that seeks to integrate all organization functions (marketing, finance, engineering, and production, customer service, etc) to focus on meeting customers’ needs and organizational objectives.

\( H_0_2 \): Total quality management does not significantly contribute to the achievement of organizational goals.

**Table 3:** calculation of Pearson product moment correlation coefficient

<table>
<thead>
<tr>
<th>Options</th>
<th>X points</th>
<th>Y responses</th>
<th>XY</th>
<th>X^2</th>
<th>Y^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>5</td>
<td>31</td>
<td>155</td>
<td>2</td>
<td>961</td>
</tr>
<tr>
<td>Agree</td>
<td>4</td>
<td>24</td>
<td>96</td>
<td>1</td>
<td>576</td>
</tr>
<tr>
<td>Undecided</td>
<td>3</td>
<td>2</td>
<td>6</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Disagree</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>60</td>
<td>261</td>
<td>5</td>
<td>1546</td>
</tr>
</tbody>
</table>

Source: Field work, 2015

\[ \Sigma X=15, \Sigma Y=60, \Sigma XY=261, \Sigma X^2=55, \Sigma Y^2=1546 \]

\[
\begin{align*}
 r & = \frac{5(261)-(15)(60)}{\sqrt{(5 \times 55)-(15)^2} (5 \times 1546)-(60)^2} \\
 & = 0.89124
\end{align*}
\]

From the above analysis, the result implies that there is significant relationship between total quality management and its contribution to organizational goals or success. But there is also the need to test further so as to justify the stated hypothesis. In doing so, test of significance is employed.

\[
T_{\text{cal}} = \sqrt{\frac{r}{1-r^2}} \sqrt{n-2}
\]
\[ T_{cal} = \sqrt{\frac{0.89124}{1-0.89124^2}} \]

\[ T_{cal} = 3.40375 \]

\[ t_{tab} = n-2, \alpha 0.05 = 5-2, \alpha 0.05 = 3 \alpha 0.05 \]

\[ t_{tab} = 2.35 \]

Reject \( H_0 \) if \( t_{cal} \) is > \( t_{tab} \). Since \( t_{cal} \) is > \( t_{tab} \), \( H_0 \) is rejected which means that there is significant relationship between total management and its contribution to the achievement of organizational goals. This is supported by Stumberger (2011) who stressed that total quality management fosters effective management of change within the organization to bring about the achievement of organizational goals and describes total quality management as a business process re-engineering which is all about change implementation wherever such is deemed necessary within the organization to achieve set goals of the organization.

**Conclusion**

The study examined total quality management as a veritable tool for corporate survival and growth – a survey of selected firms in Delta state. The study revealed that there is positive and significant relationship between total quality management in helping in efficient production and distribution of goods and services to meet customers’ expectation. There is also a significant relationship between total quality management in contributing to the achievement of organizational goals.

To conclude, total quality management is imperative for the development and growth of manufacturing organizations in Nigeria.

**Recommendations**

In view of the findings and the conclusion of the study, the following recommendations were proposed for effective implementation of total quality management in manufacturing organizations.

1. Supervision and training. Adoption of modern methods of supervision and training praise efforts and achievements.
2. Better communication and quality circles. Elimination of barriers between departments by improving communication, this would improve integration of the process. It will help in building network, without which TQM is certain to collapse. Better communication and openness is needed for inciting suggestions for undergoing improvement. Quality Circle, in which workers participate to find to find solution to their work-related problems is effective in identifying and solving problems.
3. Building teams of empowered employees. Employees must be empowered to produce and service for perfect quality.
4. Control processes for quality. The production processes must be controlled to ensure quality in terms that are produced.
5. Goals and performance management. Employees must be encouraged to measure their performance and should look at the benchmark and improve.
6. Motivational schemes, regular training and educational schemes should be a regular affair to sustain interest in total quality management endeavors.
7. People’s satisfaction should be the first priority. A satisfied person is motivated to do work in a better way.
8. Effective strategic planning and information management should be put in place.
9. Working closely with suppliers. A major cause of poor-quality finished goods is poor-quality component parts. To decrease product defects, managers must work closely with suppliers to improve the quality of the parts they supply.

References


