

**African Journal of Management and Administration, Volume 6, Number 2, 2013****SUSTAINABLE DEVELOPMENT OF TOTAL QUALITY MANAGEMENT IN NIGERIA  
ENTREPRENEURSHIP: DEMING'S THEORY APPLICATION.****Mbah Stella Ifeyinwa****Department of Business Administration  
Anambra State University, Igbariam Campus, Nigeria****ABSTRACT**

*There is a continuous increase in the level of importation of goods and services into Nigeria because of the belief that they are of higher quality than the ones produced within the country. This work titled sustainable development of Total Quality Management in Nigeria Entrepreneurship: Deming's theory application seeks to provide a model for quality sustainability among Nigeria entrepreneurs. A selected manufacturing Entrepreneurs in Onitsha was used for the study. While the study adopted descriptive survey method, a sample size of 150 which was determined through a purposive sampling method was chosen. Data generated were presented using tables and simple percentages. The hypotheses were tested using chi-square  $X^2$  statistical tool. The findings showed that entrepreneurs do not plan their course of business actions. Most of them copy what others are doing without minding the outcome. The study recommended that entrepreneurs should plan, Do, Check and Act (PDCA) as proposed by Deming's theory. This will ensure sustainability of Total Quality Management in Nigeria Entrepreneurship. On the other hand, Government should ease the problems of entrepreneurs by providing adequate infrastructural facilities to ensure that quality of products is not compromised.*

**Keywords: Total quality, Entrepreneurship, Economy, Sustainability, Organisation.**

**INTRODUCTION**

The increasing demand and sophistication of customers have virtually modified the rules of competition and forced organizations to focus on quality. (Irechukwu 2000). Rarely would a rational buyer embark on a purchase of a product or service that provides him with little or no value for his money. What underlies competitive advantage is the ability to provide products and services that meet or exceed the needs of customers. This implies that to survive, organizations must devise new management systems based on the tenets of Total Quality and by offering quality products and services. This will not only lower costs but also out perform the products and services of competitors spread across the world. (Nosakhare 2000). This is the driving force behind Total Quality Management.

There is now a world wide interest in stimulating entrepreneurship and fostering growth of small businesses since they are drivers of economic growth. Entrepreneurship generates employment in an economy, improves standard of living, brings about economic independence and improves per capita income. (Mbah 2008). In today's world of increasing business competition, the long term survival of entrepreneurship depends on its continuous ability to satisfy customers' needs and expectations in respect of the quality of the service provided or the product's functionality and performance. Quality is essential for organizational success and competitive advantage and Total Quality Management (TQM) is only one of many possible means to attain quality. Organizations with a high level of quality maturity have been able to integrate the quality management systems into their normal day to day fabric of managing the business. (Karuppusami and Gandhinathan 2011).

**Statement of the Problem**

Presently the Nigerian economy is one of the least competitive globally. Even within the country, our local products are at a competitive disadvantage vis-à-vis imported products (Omodio 2007). This low product makes it difficult for them to compete in a technologically driven, knowledge based and expert oriented globalised economy. Nigerians on the other hand search for products of higher quality from other countries only to end up patronizing lower quality products from other countries thereby encouraging dumping in Nigeria. While the rule of the game today in all industry segments is continuous improvement of processes, systems and skills, many organizations do not possess a keen sense of urgency required to reinvent the needs of the current business model. It is on this note that this study intends to determine how TQM can be sustained in Nigeria Entrepreneurship.

## **Sustainable Development of Total Quality Management in Nigeria Entrepreneurship: Deming's Theory Application.**

### **Objective of the study**

Broadly the objective of this study is to determine how Total Quality Management can be sustained in Nigeria Entrepreneurship. Specifically, the study intends to achieve the following:

1. Determine if education/training is the most critical success factor for the appropriate implementation of Deming's Total Quality Management Theory.
2. Ascertain if adopting durable culture of Total Quality Management in organizations will ensure its sustainability.

### **Research Questions**

1. Is Education/Training the most critical success factor for the appropriate implementation of Deming's Theory in organizations?
2. Does adopting durable Total Quality Management Culture in organization ensure its sustainability?

### **Research Hypotheses**

To achieve the objectives of the study, the following hypotheses were formulated;

Ho: 1 Education/Training is not the most critical success factor for the appropriate implementation of Total Quality Management.

Ho: 2 Adopting durable culture of Total Quality Management in organizations will not ensure its sustainability.

### **Brief Review of Related Literature**

#### **The Concept of Total Quality Management**

The concept of Total Quality Management means different things to different people. It is a multifarious term. From whatever perspective one may see it, it is both a philosophy and methodology for managing organizations. It emphasizes satisfaction of customers' requirements.

Scudder (2012) defines Total Quality Management as a set of customer based practices that intend to improve quality and promote process improvement. Total Quality Management is a quality management system which requires the co-operative endeavour of everyone in the organization to produce services or products that look at quality from the customer's perspective (Irechukwu 2000).

Quality may be defined as a measure of the degree to which a particular product satisfies the expectations of customers with respect to certain tangible and intangible attributes inherent in the design of the product or services and its performance under normal use.

These definitions entail that the total quality management means;

1. Intense focus on the organization meeting the customers' requirement by satisfying their stated (expressed) and implied needs. It means placing the customer at the center of everything you do.
2. Total Quality Management shows concern for continual improvement. It is committed to never being satisfied. Quality can always be improved.
3. Total Quality Management uses a broad definition of quality. It relates not only to the final product but how the organization handles deliveries, how politely the phones are answered and the likes.
4. TQM uses statistical technical techniques to measure every critical variable in the organization's operation. These are compared against standards or benchmarks to identify problems, trace them to their roots and eliminate their causes.
5. TQM involves the people on the line in the improvement process. Teams are widely used in TQM programs as empowerment vehicles for finding and solving problems.

#### **Sustainable development of total quality management**

Sustainability is defined as the ability of an organization to adapt to change in the business environment to capture contemporary best practice methods and to achieve and maintain superior competitive performance (Zairi and Liburd 2001).

Quinn(2000) describes sustainability as the development that meets present needs without compromising the ability of future generations to meet their own needs.

Without sustainability, there is little benefits to be gained from Total Quality Management (Curry and Kadasah 2002).

Ahmad and Schroeder (2002) after their studies reported that many organizations jumped on the TQM bandwagon thinking that if they copy the tools and techniques, they will reap the benefits of TQM.

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The findings of their study suggested that the social systems cannot be ignored; rather both social and technical systems need to be developed simultaneously of Total Quality Management.

#### **Deming's theory for sustainable development of TQM.**

It is a well known model for continual process improvement. It teaches organizations to plan an action, do it, check to see how it conforms to the plan and act on what has been learned. This is known as PDCA cycle.

The PDCA cycle has four steps;

#### **Step I: Plan for TQM**

The evolution of TQM into full blown management concept took shape through the works of Crosby (1979), Deming (1986) Feigenbaum (1983) and Turan (1986).

The primary focus of TQM is that making products better is the best way to make them quicker and cheaper. The adoption of TQM in an organization has to start from a strategy for implementation involving the planning preparation of document detailing the way forward (Yusof and Aspinwall 2000a). The preparation of such a document may constitute; (1) creation of a co-ordination body (2) Development of a vision, mission and policy statements. (3) Education for the coordinating body members on total quality principles and philosophy. (4) selection and trial run of the first improvement project and (5) Appraising the company's current level of quality management implementation.

#### **Step II Implement Total Quality Management**

Antony, Leung, Knowels and Gosh (2002) assert that training and education is the most critical success factor for the successful implementation of TQM.

Total Quality Management should not be a flavour of the month but a durable culture that promotes business.

Yusof and Aspinwall (2000b) recommended that in implementing TQM, it must not promise to improve everything rather it must be seen to help them to be better in a short span of time, say three to six months, with a view to long term sustainability.

#### **Step III. Study and measure the level of TQM implementation**

Regardless of which TQM model is adopted, the critical success factors must be operationalized for effective TQM implementation. The measurement of TQM involves selecting a list of Quality related Action Programs (QAPS) to measure each critical success factor, providing a measurement scale for the QAPS and then testing the instrument for reliability and validity.

#### **Step IV Take necessary actions to improve the less developed programs of TQM.**

The audits and assessments keep organizations with alert on the gaps between its internal satisfaction with existing system and the changing external demands in relation to externally defined systems (Van Der wiele and Brown 2002). Business organizations should monitor the quality of their products and services in order to maintain their strategic and financial position. They should also know exactly when, where and how much adjustments are needed in their existing total quality program activities in order to maintain and possibly enhance their strategic advantage.

#### **Methodology**

##### **Research Design**

The survey method was deemed suitable for the study since it studies people or objects, their attitudes, belief systems, opinions and other behavioural manifestations.

##### **Population of the Study**

The population of study is made up of all the entrepreneurs in Onitsha metropolis which is above one thousand (1000).

##### **Sample and sampling Technique**

A sample size of one hundred and fifty (150) was used for the study.

The purposive sampling Technique was used. This was done in order that the researcher would be equipped with the ability to ensure unbiased research process.

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### Instrument for the Study

One hundred and fifty (150) copies of questionnaire were distributed to the respondents by the researcher and two research assistants.

### Method of Data Analysis

The data collected was presented on frequency distribution table. Further more, a chi-square ( $X^2$ ) statistical tool was used to test the hypotheses formulated. The formula for chi-square ( $X^2$ ) is

$$X^2 = \frac{\sum (Fo - Fe)^2}{Fe}$$

Where  $X^2$  = chi-square

Fo = observed frequency

Fe = expected frequency

$\Sigma$  = summation

### Decision Rule

If the calculated chi-square  $X^2_c$  is greater than the critical value  $X^2_t$ , the null hypothesis is rejected and the alternative hypothesis accepted, but if the calculated chi-square is less than the critical value, the null hypothesis will be accepted and the alternative hypothesis rejected.

### Data Presentation and Analysis

**Table 1**

Questionnaire Distribution	Frequency	Percentage (%)
No Retrieved	135	90
No unretrieved	15	10
Total Distributed	150	100

Out of the 150 copies of questionnaire distributed, 135 copies were found relevant for the study.

**Table II**

#### Age distribution of Respondents

Responses	Frequency	Percentage
Below 25 years	26	19
26-35 years	52	39
36-40 years	46	34
41 years & above	11	8
Total	135	100

Source: field survey 2012

From the table above, 19% of the respondents are below the age of 25 years. 39% of the respondents are between the ages of 26-35 years, 34% are between the ages of 36-40 years while 8% are either 41 years or above.

**Table III**

#### Respondents' opinion on the quality of products made by Nigeria entrepreneurs in relation to their foreign counterparts.

Responses	Frequency	Percentage
High	59	44
Poor	76	56
Total	135	100

Source: field survey 2012

44% has indicated that the quality of Nigerian products when compared with foreign ones is low while 56% indicated that the quality is high.

**African Journal of Management and Administration, Volume 6, Number 2, 2013.****Table IV****Respondents' opinion on lack of proper planning and adhering to set standard as a major cause of lack of total quality management among Nigerian Entrepreneurs.**

Responses	frequency	Percentage
Yes	101	75
No	34	25
Total	135	100

The table above shows that 75% of the respondents are of the opinion that lack of proper planning and adhering to set standards is a major cause of poor quality management among Nigeria entrepreneurs while 25% said no.

**Table V****Respondents' opinion on Poor Infrastructural facilities as a contributor to non adhering to quality by Entrepreneurs.**

Responses	frequency	Percentage
Yes	96	71
No	39	29
Total	135	100

Source: Research survey 2012

**Table VI****Respondents' opinion on Education/Training as the critical success factor for the appropriate implementation of Deming's TQM theory among entrepreneurs.**

Responses	Frequency	Percentage
Yes	86	64
No	49	36
Total	135	100

Source: Field survey 2012

64% of the respondents agree that Education/Training is the most critical factor for the appropriate implementation of Deming's TQM theory among Nigeria entrepreneurs. However 36% said it is not.

**Table VII****Respondents Opinion on adopting culture of TQM by entrepreneurs as a way of ensuring its sustainability.**

Responses	Frequency	Percentage
Yes	101	75
No	20	15
No idea	14	10
Total	135	100

75% of the respondents agreed that adopting durable TQM culture among entrepreneurs will ensure its sustainability. 15% said no while 10% had no idea.

**Test of hypotheses****Hypothesis One**

H0: Education/Training is not the most critical success factor for the appropriate implementation of Total Quality Management.

Responses from table VI was used for the hypothesis testing;

Expected Frequency =  $\frac{\text{All observed Frequencies}}{\text{Number of observations}}$

$$= \frac{135}{2} = 67.5$$

Fo	Fe	Fo-Fe	(Fo-Fe) <sup>2</sup>	(Fo-Fe) <sup>2</sup> /Fe
86	67.5	18.5	342.25	5.07
49	67.5	-18.5	342.25	5.07

$$X^2_c = 10.14$$

For table value ( $X^2_t$ )

Df = k-1 at 0.05 significance level

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Where df = degree of freedom

K = no of cases

1 = constant

Df = 2-1

Therefore  $X^2_t = 3.894$

### Decision Rule

Null hypothesis ( $H_0$ ) should be rejected and alternative hypothesis ( $H_1$ ) accepted if the calculated value of chi-square is greater than table value of chi-square.

If  $X^2_c < X^2_t$ , the null hypothesis should be accepted and alternative rejected. In this instance,  $X^2_c$  (10.14) is  $> X^2_t$  (3.894). Therefore the null hypothesis is rejected while alternative hypothesis ( $H_1$ ) be accepted. We can conclude that Education/Training is the most critical success factor for the appropriate implementation of Deming's TQM theory.

### Hypothesis Two

$H_0$ : Adopting durable TQM culture by entrepreneurs does not ensure its sustainability.

The hypothesis was tested using Table VII

Expected Frequency =  $\frac{\text{All observed Frequencies}}{\text{Number of observations}}$

$135/3 = 45$

Fo	Fe	Fo-Fe	(Fo-Fe) <sup>2</sup>	(Fo-Fe) <sup>2</sup> /Fe
101	45	56	3,136	70
20	45	-25	625	14
14	45	-31	961	21
				105

$X^2_c = 105$

For table value ( $X^2_t$ )

Df = K-1 at 0.05 significance level

Where df = degree of freedom

K= no of cases

1= constant

Df = 3-1= 2

Therefore  $X^2_t = 5.99$

In hypothesis two;  $X^2_c$  is 105 and it is  $> X^2_t$  (5.99). Therefore the null hypothesis ( $H_0$ ) is rejected while the alternative hypothesis is accepted. This follows then that adopting durable TQM culture by entrepreneurs ensures its sustainability.

### Discussion of Findings

Total Quality Management increases productivity and patronage of the output of entrepreneurs. It also reduces operating expenses in organizations.

The study showed that Total Quality Management (TQM) implementation requires proper creation of awareness, education and training so that entrepreneurs will realize the immense benefits of TQM.

There is the need to emphasize on the need for proper planning which will reflect the principles of TQM in every organization. After the planning, implementation of the change follows, then comes review of implementation, analysis of results and identification of learnings. Finally take action, based on what was learnt.

Apart from education of entrepreneurs, there is need also to adopt a durable culture of TQM for a short period of time, observe how it works and make some changes if there is need.

TQM culture should be part of every entrepreneurial organization.

### CONCLUSION

The study has shown that in every organization, the framework to total quality management and continuous improvement should be adopted and implemented.

This framework should be made to be flexible and capable of making Nigeria entrepreneurs meet the business needs and requirements of the customers in the global competitive world.

**African Journal of Management and Administration, Volume 6, Number 2, 2013.****RECOMMENDATIONS**

Organizations should develop a total quality management sustainability methodology that clearly defines the steps to be taken by the organizations for effective long term implementation of TQM.

There is need to plan for TQM and not just jumping into copying other peoples' techniques.

The Deming's plan-Do-Check-Act (PDCA) cycle approach is unique and can be customized to suit the requirements of individual entrepreneur as the case may be. It will also enable Nigeria entrepreneurs to increase competitiveness of Nigerian products in the global market.

Quality consciousness among the entrepreneurs will protect our industries and firms. This in turn ensures a path to sustainable economic growth and private sector prosperity.

Government has a role to play in TQM sustainability. They should provide adequate infrastructural facilities like electricity, good roads, potable water and conducive business environment to assist entrepreneurs maintain total quality management culture.

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