



**ASSESSING QUALITY CONTROL MEASURES AND HOW THEY AFFECT
PERFORMANCE OF SMALL AND MEDIUM SCALE ENTERPRISES IN
ANAMBRA STATE**

NDIFE, CHINELO FRANCA

*Department of Business Administration, Federal Polytechnic Oko,
Anambra State, Nigeria.*

ABSTRACT

This research was a survey which elicited opinions of staff of selected manufacturing companies in Anambra State, Nigeria. The study sought to assess quality control measures and how they affect performance of small and medium scale enterprises in Anambra state. The study used a simple random sample of 300 employees from 20 selected manufacturing companies in Anambra State. The primary source of data which was sourced using questionnaire was employed in the study. The Chi-square test of independence was used in testing the required hypotheses at 5% level of significance. The results reveal that there is significant association between strategic quality planning and customer satisfaction. The result also shows that there is a significant association between customer quality orientation and customer loyalty. It was further found that there is a significant association between top management support and product quality. These results lead to the conclusion that the quality control measures employed by SMEs in the study area have significant association with their performance. This study therefore recommends improved quality control management for enhanced performance of SMEs. The government, stakeholders and policy makers are therefore encouraged to make policies that will influence better quality management by small and medium scale enterprises in the study area.

Keywords: Assessing, Quality Control, Performance, Small and Medium Scale Enterprises, Anambra State.

INTRODUCTION

Quality management (QM) usually referred to as Total Quality Management (TQM) in a broader and more professional context refer to all kinds of quality management principles and philosophies adopted by firms as a strategic management tool used to gain advantage in the market place. Quality is therefore the ability of a product to satisfy stated or implied requirements (Karapetrovic & Willborn, 1997). Total Quality Management (TQM) is to this end, is a concept that focuses on management of the totality of organization to deliver quality to customers and identifies employee involvement, focus on the customer, benchmarking and continuous improvement as the four significant elements of the concept. Quality management generally deals with permanently redirecting a company's operations towards internal and external customers' needs (Wessel and Burcher, 2004).

Organizations are confronting increased pressure to advance their general performance and competitiveness due to changes in competitive trends, level of efficiency, improved quality demands, innovation in high-tech, political and fiscal unpredictability (Gherardini et al., 2017). Total quality management is seen as an organization-wide management philosophy for continuous improvement in all business operation through the concept of total quality from the process of resource acquisition to provision of customer support and after-sales service (Munizu, 2013).

Quality management practices are the strategic tool for businesses that want to meet the expectations of customers at any point in time. In the developing nations, small firms lack the resources to implement quality management even when total quality management has been found to be a strategic tool to improve organizational performance in any part of the world (Fening, 2012).

A survey conducted by Solis, Rao & Ragu-Nathan (2001) in five countries: USA, India, China, Mexico and Taiwan to assess the quality management practices in SMEs found that very high levels of common quality practices exist in terms of top management support, strategic quality planning, customer orientation and quality citizenship. Fulfilling quality requirements of outgoing products has been major challenge of small and medium scale enterprises, especially the emerging ones. Setting standards

and related procedures have been serious issues to existing and emerging SMEs in Nigeria. As a result, new products tend to exhibit varied characteristics and inconsistent qualities at any point in time. This is observed in different batches of the same product having noticeable discrepancies in the final outgoing product qualities. This according to Mukherjee, Chakraborty & Garai (2016), might be as a result of lack of quality control personnel in place, high number of products relative to quality control process, as a result, there is inability to inspect all outgoing products quality, among others. This trend might have caused corresponding variations in customers' satisfaction and loyalty, and in the long run lead to performance issues in such companies. There is therefore the need to assess the quality management practices put in place by SMEs and how they affect performance.

Objectives of the Study

The main objective of this study is to determine the relationship between quality control process and performance of SMEs. The specific objectives include:

1. To determine the relationship between strategic quality planning and customer satisfaction.
2. To ascertain the relationship between customer quality orientation and customer loyalty
3. To find out the influence of top management support on product quality.

Research Hypothesis

The following alternative hypothesis are formulated for this study

1. H1: there is significant relationship between strategic quality planning and customer satisfaction.
2. H1: there is significant positive relationship between customer quality orientation and customer loyalty
3. H1: top management support has significant influence on product quality SMEs

LITERATURE REVIEW

This study adopts the Resource based View (RVB) by Barney (1991). This theory posits that a firm's sustainable performance advantage is secured through rare resources of unique economic value and cannot easily be imitated, replicated or substituted (Barney, 1991). Total quality management can bring about a unique competitive advantage as it has the ability to energize schedules and rules inside the organization (Tena, Luser & Puig, 2001). This makes it hard for potential imitators to assemble resources for the successful replication such unique procedures. These unique combinations of human, physical and organizational resources bring about unique qualities and improve performance. They also create a competitive advantage for the firm. It has been hypothesized that Quality Management (QM) practices can be a useful tool for create competitive advantage. It has additionally been proven that total quality management (TQM) can lead to sustainability of advantage (Flynn et al., 2007).

Waśniewski (2017) presented a framework of a performance measurement system for SMEs with a practical verification of its assumptions. The study presented a 4- step process of continuous performance measurement for SMEs and practical verification was conducted on the a small legal firm, considering the strategy map and the measures of the set of aims. The construction of a performance measurement system was unique to every enterprise due to its condition, the environment, the business sector and other factors.

Fening (2012) investigated how the implementation of quality management practices affects performance and growth of small and medium sized enterprises (SMEs) in Ghana using quantitative approach and the survey method. A sample of 200 small within Accra was selected and interviewed. The result shows that when quality management practices are implemented, it will have a great impact on the performance and growth of SMEs in Ghana. The study also found that quality management practices improve organizational performance both in large and small businesses and in any part of the world.

Srima, Wannapiroon & Nilsook (2015) design and assessed the Total Quality Management Information System (TQMIS) for model school using a sample of 5 experts selected by purposive sampling. The used means and

standardized deviations to analyze the survey data. The result of the study revealed that the model of Total Quality Management Information System (TQMIS) for model school on best practice consist of 4 key components: the principle of the information system development model, the development of the information system based on System Development Life Cycle (SDLC)'s principles, the information report based on Total Quality Management Information System (TQMIS) for model school on practice and the assessment of information system using Black-Box technique, and 2). The study rated the result of the assessment of Total Quality Management Information System (TQMIS) for model school on practice as absolutely appropriate.

Mukherjee, Chakraborty & Garai (2016) studied quality related problems in SMEs and their solutions. The questionnaire was distributed to the staff of the studied company. The study found that most manufacturing plants produce hundreds or thousands of products daily and as such cannot inspect every product made. The authors posit that this is where scientific sampling comes into play. It is important to have trained individuals in each step of the process. Producing quality products is a team effort requiring the support of the line operators, cleaning and changeover crews and Manufacturing Management.

Sahoo (2019) examined the relationship among Quality Management (QM), innovation capability (IC) and firm performance under both mediation and moderation models using structural equation modeling. The study interviewed senior managers from 134 Indian SMEs using a structured questionnaire. The study found that QM through the firm's IC is indirectly associated with a firm's business performance. The study lays credence to the notion that QM practices encourage the definition of innovation strategies of products and processes within a manufacturing setup, which positively affected different aspects of firm performance. The study recommended that entrepreneurs and executives in manufacturing SMEs in developing economies be well-advised to pursue QM practices and innovation projects to enhance their firm performance.

Mutingi & Mbohwa (2017) presented an investigation of critical success factors (CSFs) for QM practices in SMES, based on a case study in Namibia. The study employed a unique survey-based approach to evaluate the CSFs

as well as the business performance indicators critical to quality (CTQs). The study found that a significant number of SMEs used tools such as root cause analysis, value stream mapping, and the PDCA cycle and that the adoption of modern tools such as Six Sigma and Lean was found to be very low. The study also found that the most influential indicators for gaining customer loyalty were on-time delivery, price satisfaction, and new product development.

Sahran, Zeinalnezhad & Mukhtar (2010) explored current implementation of management tools and advanced improvement techniques within selected Malaysian SMEs. The study found that the most frequently applied management tools among Malaysian SMEs are customer survey, quality assurance, benchmarking and management training. The study also found that quality assurance, management training, customer survey and quality auditing program were the most effective management tools in the respondents' viewpoint. The study concluded that the majority of Malaysian firms have not given due attention for developing their quality aspects in the past and recommended sustaining the competitiveness of SMEs by embracing quality management techniques efficiently, as large organizations need assurance of high quality goods and services from SMEs.

Pfeifer, Šarlija & Sušac (2013) investigated entrepreneurial self efficacy of students in Croatia and how it is influenced by the particular entrepreneurship program or by the level of education. The result of the study revealed that the entrepreneurial self efficacy is higher for those who have higher personal aspirations or attitude to entrepreneurship and more positive reinforcement from close friends. The study also found an interaction effect between level of education and self-efficacy. The study further found that students with no previous and personal exposure to business formal educational program seem to have positive impact. The study also found that the self efficacy of major students without experience is higher than those of undergraduates without experience. The study concluded that while there is interaction between educational program and Entrepreneurial self-efficacy, there is still much to learn about the entrepreneurship programs designs and effectiveness.

Agbola & Ankrah (2013) examined the relationship between total quality management (TQM) practices and the performance and profitability of SMEs in Ghana using mixed research method consisting of descriptive and inferential statistics. The results of the study revealed that differences exist between SMEs in relation to TQM awareness, managerial education level, use of new technology, managerial commitment to TQM principles of continuous improvement, enforcement of quality practices and putting the customer first, effective supervision. The study also found a significant association between the implementation of TQM and the SMEs' performance. The study recommended that the government of Ghana should pursue policies aimed at encouraging training and improvement of managerial skills of SME owner/managers as well as creating the enabling environment for the development of improved modern technologies to transform the business processes of these vital industries.

Knol, et al (2018) examined the extent to which success factors are critical for various degrees of lean practice implementation using multiple-respondent self-assessments questionnaire from 33 Dutch manufacturing SMEs and a Necessary Condition Analysis. The result of the study revealed that the criticality of success factors is progression dependent and that in the initial stages of the lean journey that SMEs could improve their lean practices in a bottom-up manner through local factors such as improvement training, support congruence and a learning focus. The study concluded that in more advanced lean practices; some company-wide factors must be present: a shared improvement vision, a supplier link and top management support.

Osuolale, Tijani & Bakare (2018) examined the relationship between Quality Control and performance of Small and Medium Sized Enterprises (SMEs) in Southwestern Nigeria using the survey method and data obtained through primary source which was collected through the administration of structured questionnaire to sales managers, quality control personnel and production managers, selected from the products and services industries. A sample of 400 SMEs was drawn using the Yamane (1967) formula. Both descriptive and inferential statistics was adopted in the study. The results of the study revealed a significant relationship between quality control and the performance of SMEs in southwestern Nigeria (Chi-Square 241.207, $P < 0.05$). The study recommended that

commitment to total quality control must be backed by action and legislation.

RESEARCH METHOD

This research was a survey which elicited opinions of staff of selected manufacturing company in Anambra State, Nigeria. The study used a simple random sample of 300 employees from 20 selected manufacturing companies in Anambra State. The convenience sampling method was used in selecting the companies. The primary source of data which was sourced using questionnaire and divided into two sections was employed in the study. Questions on the relationship between quality management and how they affect performance as well as demographic information of the respondents were asked. The Chi-square test of independence was used in testing the required hypotheses at 5% level of significance.

RESULTS AND DISCUSSION OF FINDINGS

The results of the hypotheses in this study are presented in this section. 300 valid questionnaires returned by respondents were used in this study. The correlation coefficient an associated test of significance was used in this study. The results of the hypotheses are presented in subsequent sections.

HYPOTHESIS 1

H0: there is no significant association between strategic quality planning and customer satisfaction.

H1: there is significant association between strategic quality planning and customer satisfaction.

Hypothesis 1 tests the null hypothesis that there is no significant association between strategic quality planning and customer satisfaction. The results of hypothesis 1 are presented in tables 1a and 1b.

Table 1a: Chi-Square Tests of Strategic Quality Planning and Customer Satisfaction

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	58.36 ^a	12	.000
Likelihood Ratio	.512	12	.000
N of Valid Cases	300		

Table 1a presents the Chi-square test of independence between strategic quality planning and customer satisfaction. The result shows that there is significant association between strategic quality planning and customer satisfaction.

Table 1b: Contingency Table of Strategic Quality Planning And Customer Satisfaction

		Value	Asymp. Std. Error ^a	Approx. T ^b	Approx. Sig.
Nominal by Nominal	Contingency Coefficient	.415			.000
N of Valid Cases		300			

Table 1b presents the contingency coefficient of the association between strategic quality planning and customer satisfaction. The contingency coefficient of 0.415, shows that 41.5% association exists between strategic quality planning and customer satisfaction. This suggests that 41.5% change in customers' satisfaction is attributable to government policies.

HYPOTHESIS 2

H0: there is no significant positive relationship between customer quality orientation and customer loyalty

H1: there is significant positive relationship between customer quality orientation and customer loyalty

Hypothesis 2 is tested at 5% level of significance and the results are presented below.

Table 2a: Chi-Square Tests Of The Customer Quality Orientation And Customer Loyalty

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	49.38 ^a	12	.000
Likelihood Ratio	38.82	12	.000
N of Valid Cases	300		

The results of hypothesis 2 are presented in tables 2a and 2b. The Chi-square test of independence between customer quality orientation and customer loyalty in table 2a shows that there is a significant association between customer quality orientation and customer loyalty.

Table 2b: Contingency Analysis of Customer Quality Orientation and Customer Loyalty

		Value	Asymp. Std. Error ^a	Approx. T ^b	Approx. Sig.
Nominal by Nominal	Contingency Coefficient	.329			.000
N of Valid Cases		300			

The contingency analysis of customer quality orientation and customer loyalty is presented in table in 2b. The result shows that 32.9% association exists between customer quality orientation and customer loyalty. This suggests that 32.9% of the change in customers loyalty is attributable to customers quality orientation..

HYPOTHESIS 3:

H0: top management support has no significant influence on product quality SMEs

H1: top management support has significant influence on product quality SMEs

Hypothesis 3 tests the hypothesis that top management support has no significant influence on product quality. The test is carried out at 5% level of significance and the results are presented below.

Table 3a: Chi-Square Tests of association between top management support and product quality SMEs

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	44.16 ^a	12	.000
Likelihood Ratio	48.270	12	.000
N of Valid Cases	300		

Table 3a presents the result of Chi-square test of Independence between top management support and product quality. The result shows that there is a significant association between top management support and product quality.

Table 3b: contingency analysis of top management support and product quality.

		Value	Asymp. Std. Error ^a	Approx. T ^b	Approx. Sig.
Nominal by Nominal	Contingency Coefficient	.453			.000
N of Valid Cases		300			

Table 3b presents the contingency result of the association between top management support and product quality. The result also shows that 45.3% association exists between top management support and product quality in the study area. This means that 45.3% of the changes in product quality is attributable to top management support.

CONCLUSION AND RECOMMENDATION

The results of the hypotheses in this study have been presented. The results reveal that there is significant association between strategic quality planning and customer satisfaction. The result also shows that there is a significant association between customer quality orientation and customer loyalty. It was further found that there is a significant association between top management support and product quality. In line with Fening (2012), these results lead to the conclusion that the quality control measures employed by SMEs in the study area have significant association with their performance. This study therefore recommends improved quality control management for enhanced performance of SMEs. The government, stakeholders and policy makers are therefore encouraged to make policies that will influence better quality management by small and medium scale enterprises in the study area.

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