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Quality Management: An Antecedent of Competitive Advantage of Small and Medium Firms in Port Harcourt

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ABSTRACT
Quality management has been known as a method to improve the organizational performance in order to gain a competitive advantage. Several organizations have implemented quality management both in the manufacturing and services companies. Though many studies have been done on quality management and firm performance but no robust work have been done on quality management and competitive advantage most especially in SMEs operating in Port Harcourt. However, this study on quality management and competitive advantage of SMEs in Port Harcourt employed survey research design. According to the results of the study, there is a positive significant relationship between quality management and competitive advantage of selected SMEs in Port Harcourt. Similarly, SMEs in emerging markets numerically account for an overwhelming proportion of all businesses generate 40-50 percent of each country's GDP, and employ 70-85 percent of the total workforce in each economy. Hence, the researcher recommend that Managers and operators of SMEs should evolve business models that will accommodate quality management practices that will promote competitive advantage over other players in the industry.
Keywords: Quality Management, Competitive Advantage, Small and Medium Firms

1. INTRODUCTION

Organizations are frequently appreciative to produce novel items for a competitive advantage in this era of rapid technological advancement. Small and medium-sized enterprises (SMEs) significantly contribute to the worldwide development of the economy both in developed and developing nations of the world. But they bewildered with series of quality challenges which has led to pitfall in the performance of small and medium enterprises in the area competitive advantage (Aigboje, 2021). However, small and medium-sized enterprises (SMEs) are more capable of adapting than large corporations, demonstrating their advanced adaptability to progressions in technologies. They contribute to improvement in income distribution, a stimulant to economic development and productivity. It has also been increasingly recognized that SMEs are not only key to enhancement in income distribution and wealth creation but also they are seen as veritable tools in fostering the entrepreneurship, competition and innovation that leads to sustainable growth and development in areas of competitive advantage within the global sphere
Similarly, SMEs in emerging markets numerically account for an overwhelming proportion of all businesses generate 40-50 percent of each country's GDP, and employ 70-85 percent of the total workforce in each economy (Gülmez, and Yardımcıoğˇ, 2012). According to World Bank Group (2015), there is approximately 365-445 million Micro small and medium enterprises (MSMEs) with 285-345 million belonging to informal enterprises. Even though SMEs provide solution to various economic

problems, they also face challenges that deter their performance in areas of quality management dimension such as poor research and development which has led to dearth in competitive advantage to operators of SMEs.

2. LITERATURE REVIEW

Quality Management

Quality management has been documented as a successful management philosophy in manufacturing and service industries (Giogio, Verbane & Kasren, 2015). Chibba (2017) defined quality management as a management philosophy that purposes to providing customers with products and services that satisfy their needs. Cloud (2017) defined quality management as the degree to which the product or service meets the specifications and the needs of customers. Cloud (2017) added that there are several critical principles for successful quality management practices which among others include top management commitment, customer focus, supplier relationship, teamwork, training and benchmarking. Jones (2018) defines quality management as an embracing philosophy of management which aims at coordinating all functions of organizations that aligned to meet customer expectations and the organization's objectives. However, the definition of Jones (2018) is more robust as it incorporates and coordinates all segments of the organizational activities. Ohikere and Chukwuemeka (2018) see quality management as a philosophy and methodology for managing the operations of companies by utilizing the resources available to enhance performance. Quality may be defined as an acknowledged standard for everything, whether it is a product, a material, or a person. Because of the complexities of today's business environment and results, preventative and customer-focused procedures are required to produce service or an actual quality product from a comprehensive plan of strategy. The approach of total quality management (TQM) explains the quality of the services and procedures of all the individuals required in the development and use of services by businesses, employees, and suppliers, requiring management and customers to continue to meet the expectations of the customers (Solen, 2018). A quality management system is a collection of processes and procedures which ensure your business runs as intended and continuously delivers high-quality products and services that meet regulatory and customer requirements.

Quality is defined as the "degree to which a set of inherent characteristics of an object fulfils requirements" [ISO 9000:2015, 3.6.2]. Going by this definition, a QMS is the mechanism that optimizes the ability of your products and services to meet the expectations of the people that buy and use them. A well-integrated QMS improves communication, collaboration and consistency across your organization, while also reducing waste and promoting continuous improvement. ISO 9001 is one of the world's most widely recognized quality management systems. It helps companies and organizations of all sizes and sectors streamline their core quality management processes, improve performance and demonstrate their commitment to quality. The standard is based on a process approach, which involves planning what to do, doing what was planned, checking the outcomes, and then acting on those findings to make further improvements.

Parvadavarddini, Viyek and Devaddasa (2015) referred to quality management as a concept or terminology that is mostly associated with manufacturing organisations which seek to adopt and implement a set of quality practices that have been successful elsewhere and that will help to identify changes in their environment. Hansson (2017) observed that quality management (QM) is a concept associated with continuous improvement in an organization which assists in promoting the quality of products and services required by the market. Organizations can improve their competitiveness by implementing quality management strategies in their business model (Hossain, Tasnim & Hasan, 2017).

According to Zhang (2017), quality management has turned out to be a key source of maximising the value of firms in the long run. Kumar (2017) believed that quality management is a managers' ability to pilot through theoretical and practical activities to facilitate operations and success. Gadenne and Sharma (2016) observed that quality management is one of the critical factors that sustained organizational competitiveness in the 21st century. Baird, Hu and Reev (2017) and Dauglas, Smith and Ralph (2017) noted that the success of any business is a function of its quality adoption. Hence QM is defined as a

philosophy, operational and engineering concept which has the aim to improve the quality of products and services continuously. Elghamraw and Shibayama (2018) stressed that for an organisation to be sustained, quality management adoption that is associated with the organizational policy should be implemented. Teriyama (2016) observed that organizations that adopt quality management as a way of life end up being relatively more successful than those that do not incorporate quality management into their system.

2.1 Competitive Advantage

Ismail and Foong (2018) defined competitive advantage as something that separates an organization from others and keeps it alive and growing. Hinterhuber (2018) defines competitive advantage as the heart of a company's performance. It reflects a company's ability to offer consumers greater value either using lowering prices or by providing greater benefits and services that justify the higher price. Hossain, Tasnim and Hasan (2017) define competitive advantage as the retention of earnings higher than normal. Zhenji, Yue and Jian (2018) referred to competitive advantage as firms that gain a higher economic profit than the average rate of profit in the same market. Hinterhuber (2018) defined competitive advantage as a condition or situation that put an organisation in a favourable or superior business position

Juan and Silvia (2018) pinpointed that the idea of competitive advantage, directly or indirectly, underpins many business books. He maintained that managers in organizations are under increasing pressure to control costs, as well as seeking to differentiate products and services from those of their competitors. Isabela and Maza (2018) created a shift from the above definition and perceived competitive advantage from the perspective of the sector. The scholars looking at the SMEs sector identified five forces, and it is their joint action which determines SMEs competitiveness. These forces include supplier power, buyer power, the threat of substitutes and the intensity of internal rivalry all acting as barriers to entry. Haoma (2015) emphasized that companies should be positioned to achieve a competitive advantage by building defenses against the competitive forces or looking for positions within the industry where these forces are weaker.

Ashok (2017) stated that the objective of a company's strategic plan is to find a position that allows it to defend itself against these forces better or be able to influence them to its favour. Also, the firm can influence the balance of forces through strategic moves. The author observed that the definition of competitive advantage is associated with two generic strategies leadership or differentiation. The scholar added that the company has to decide whether it serves the entire market or focuses on a specific segment. Depending on the decision taken, a third strategic option arises, which consists of using one of the two generic strategies (costs or differentiation) but in a given segment (Erickson & Jacobson, 2019).

However, a firm is said to have a sustained competitive advantage when it implements a value-creating strategy that is not simultaneously being implemented by any or other market players Rufus (2018). The scholar reiterated that it is a condition that allows a country to produce goods or services of equal value at a lower price or in a more desirable fashion when resource are available. This is probably a way of allowing the entity to generate more sales or superior margin compared to its market rivals. Hinterhuber (2018) argued that competitive advantage stems from the many discrete activities a firm performs ranging from designing, producing, marketing, delivering, and supporting its product. Each of these activities can contribute to a firm's relative cost position and create a basis for differentiation. Juan and Silvia (2018) competitive advantage occurs when an organisation is able to implement a significant strategy that is established in its own unique resources, capabilities and core competencies which other organisations are unable to duplicate or the strategy is too costly to be duplicated. Zhenji, Yue and Jiang (2018) stressed that competitive advantage could be sustainable when firms competing in the same industry gives up plans to imitate the resources of its competitors or when the barriers to imitation are expensive.

Rose (2024) refers to competitive advantage as any characteristic that allows a company to outperform its rivals. This can be achieved through several means, such as offering lower prices, providing superior quality, innovating new products, or delivering exceptional customer service. The ultimate goal is to create a unique and sustainable position in the market that competitors cannot easily replicate. The author added three primary types of competitive advantages. Cost leadership focus here is on becoming the industry's most cost-effective producer. Businesses that attain cost leadership can provide products at the

most competitive prices, appealing to budget-conscious customers in the market. According to Rose (2014) differentiation involves making products or services different from and more attractive than those of the competition. Differentiation can be based on product design, brand image, technology, features, and customer service or dealer network.

2.3 Quality Improvement Theory

Quality improvement theory was propounded by Williams Edward Deming 1940s. He argued that the manufacturing process is not a series of unrelated processes, but is an entire system; and when viewed as an entire system, opportunities to improve efficiencies are more easily identified. However, Deming claims that all the feature of quality management doctrine for manufacturing organisations is squarely at the door of top management. He based the theory on the assumption that continuous improvement helps to increase quality while decreasing cost. Also, the management is responsible for the systems, and that it is the system that generates 80 per cent of the problems in firms (Sabahatti & Faruk, 2014).

The theory assumed that continuous improvement promotes improved product quality, while reducing production costs. Similarly, the feature of quality management policy for manufacturing organizations must be coordinated squarely by management in order to avoid waste and poor product quality. Again working environment must be conducive and comfortably free of fault-finding. Nonetheless, Deming noted that no quality management system could succeed without top management commitment since it is the management that invests in the processes, creates corporate culture and also selects suppliers and develops long-term relationships.

Among the supporters are Dedy et al. (2016); Giogio, Verbane and Karen (2015) who argued that quality improvement theory focused on quality associated with the creation of an organisational system that fosters cooperation and learning that facilitate the implementation of process and practices, which in turn leads to performance. The scholars claimed that the responsibilities of top management should take the lead in changing processes and systems.

2.4 Empirical Review

Quality Management and Competitive Advantage

The discourse on quality management and competitive advantage has received a lot of research attention with mixed results and outcomes Juan and Silver (2018) discovered a significant relationship between quality management and competitive advantage. The competitive position of the industry depends on five forces such as a barrier to entry, supplier power, buyer power, the threat of substitute and the intensity of internal rivalry; and it is their joint action that determines the relationship between quality management and competitive advantage. Furthermore, Ismail and Foongm (2018) found a significant positive relationship between quality management and competitive advantage. They emphasized further that the share of R&D expenditure in the gross domestic product (GDP) affects economic growth which positively elevates the competitive advantage of organisations; thereby giving them an opportunity to improve their performance level.

The study of Isabela and Maza (2018) indicates that quality management and its dimensions have a significant positive relationship on the competitive advantage of firms used in their studies. Lucy, Shu, Ta and Chien (2017) initiated a study and found a positive relationship. Erickson and Jacobson (2019) revealed a positive relationship between quality management and organiational competitive advantage. Some other findings corroborate the findings of Isabela & Maza, 2018; Hossain, Tasnim, & Hasan, 2017. Ray, Nanda and Ota (2016) found a positive relationship between quality management and competitive advantage. Mustran (2018) utilizes data from 17 OECD countries in various sectors and found a positive relationship between quality management and competitive advantage. The discourse on quality management and competitive advantage of firms found differing results. For instance, Freire-Seren (2001); Sarac (2009) found no positive association between quality management and competitive advantage. Their argument is on the information that firms without quality management practice can as well perform if only leaders are committed to their various responsibilities. Also, Hinterhuber (2018) saw no relationship as he found that cost position and differentiation are not always beneficial to companies

considering that differentiation is better than cost strategy. Furthermore, Boje and Winson (2017); Taylor and Wright (2016) observed a negative relationship between quality management dimensions on competitive advantage. Despite the divergencies observed between quality management and competitive advantage, the study will use a competitive advantage as a measure of performance.

3. METHODOLOGY

The researcher employed a cross sectional research design and 844 employees from 24 registered SMES operating in Port Harcourt. Total enumeration was exploited to determine the sample size. The justification for the usage of total enumeration is hinged on the fact that the population of the study is small. A validated questionnaire of 6 point likert scale structured from very high to very low was employed and a multiple regression analysis was utilized to test the hypothesis. Similarly, SPSS version 2.6 was used to analyses the descriptive and inferential statistics. The questionnaire was designed on a six-point Likert scale, the respondents were requested to rate their perception of various items about quality management dimensions and competitive advantage of selected manufacturing SMEs in Port Harcourt. These points formed the weights for calculating the score for each item. The results of descriptive statistics on quality management dimensions were presented on the above.

Table 1 Descriptive Statistics of Competitive Advantage

Statements	**Level of Agreement (n=844)**								
	Strongly Agree	**Agree**	**Partially Agree**	**Partially Disagree**	**Disagree**	**Strongly Disagree**	**Missing**	**Mean**	**Std. Deviation**
We have an edge over our competitors	68.8%	26.3%	2.3%	0.0%	0.0%	0.0%	2.6%	5.53	1.040
We have price advantages	46.0%	50.2%	1.2%	0.0%	0.0%	0.0%	2.6%	5.32	1.013
Our company out-performed competitors on product unique	46.1%	48.2%	2.7%	0.0%	0.0%	0.0%	3.0%	5.28	1.074
Our company resources are unmatched by competitors	46.4%	48.6%	2.3%	0.0%	0.0%	0.0%	2.7%	5.30	1.039
Our product differentiation capacity is supportive	49.9%	45.2%	2.3%	0.0%	0.0%	0.0%	2.6%	5.35	1.029

Source: **Researcher's Field Survey, 2024**

The above table presents the results of descriptive analysis of competitive advantage. The results of the descriptive analysis revealed that 68.8% of the respondents strongly agree that they have an edge over their competitors, 26.3% of the respondents agree, 2.3% indicated partially agree and 2.6% was missing. On average, the respondents strongly agree that they have an edge over their competitors (mean = 5.53, STD = 1.040). Further, 46% of the respondents strongly agree that they have price advantages, 50.2% agree, 1.2% partially agree and 2.6% was missing. On average, the respondents agree that they have price advantages (mean = 5.32, STD = 1.013). With regards to whether the company out-performed competitors on product unique, 46.1% strongly agree, 48.2% agree, 2.7% partially agree and 3% was missing. On average, the respondents agree that their company out-performed competitors on product unique (mean = 5.28, STD = 1.074). With regards to our company resources are unmatched by competitors, 46.4% strongly agree, 48.6% agree, 2.3% partially agree and 2.7% was missing. On average, the respondents agree that their company resources are unmatched by competitors (mean = 5.30, STD = 1.039). Finally, 49.9% strongly agree that their product differentiation capacity is supportive, 45.2% agree, 2.3% partially agree and 2.6% was missing. On average, the respondents agree that their product differentiation capacity is supportive (mean = 5.35, STD = 1.029). The average score of the statements is 5.36 with a standard deviation of 1.039 which means that on average the respondents agree with the

statements under competitive advantage, with variations in some statements responses as revealed by the grand standard deviation of 1.039 which confirms the divergence in respondents' opinions towards the mean. Looking at the result, quality management and competitive advantage have the same pattern of increase. The findings revealed that quality management may improve the competitive advantage of selected manufacturing SMEs in Port Harcourt.. This provides answer to research question of the study and enables the researcher to the research hypotheses that there is significant relationship between quality management and competitive advantage

Test of Hypothesis

Quality management has no significant relationship on competitive advantage of selected manufacturing SMEs in Port Harcourt.

To test the hypothesis of this study, Pearson product correlation analysis was adopted. The independent variable was quality management, while the dependent variable competitive advantage. The result is presented below

Summary Results of Correlation Analysis of Competitive Advantage on Quality Management of the selected manufacturing SMEs in Port Harcourt.

Variables		**Competitive Advantages**
****. Correlation is significant at the 0.01 level (2-tailed).**		
***. Correlation is significant at the 0.05 level (2-tailed).**		
Competitive Advantages	Pearson Correlation	1

Source: Researcher's Field Survey, (2025)

The relationship between quality management and competitive advantage was investigated in selected manufacturing SMEs in Port Harcourt using Pearson's product-moment correlation coefficient. The results show that there is positive relationship between competitive advantage and quality management with a correlation coefficients of .653**. The results show that there is a strong, positive and significant relationship between quality management and competitive advantage. Therefore, at a level of significance 0.05 the F statistics is 54.864 while the p- value is 0000 which is less than 0.05% level of significance adopted. Hence the study rejected the null hypothesis which means that quality management has significant relationship with competitive advantage of selected manufacturing SMEs in Port Harcourt

5. CONCLUSION AND RECOMMENDATION

According to the results of the study, there is a positive significant relationship between quality management and competitive advantage of selected manufacturing SMEs in Port Harcourt. Similarly, SMEs in emerging markets numerically account for an overwhelming proportion of all businesses generate 40-50 percent of each country's GDP, and employ 70-85 percent of the total workforce in each economy. According to World Bank Group (2015), there are approximately 365-445 million Micro small and medium enterprises (MSMEs) with 285-345 million belonging to informal enterprises. Even though SMEs provide solution to various economic problems, they also face challenges that deter their performance in areas of quality management dimension such as unimpressive quality management system

which has led to dearth in competitive advantage to operators of SMEs. Therefore, the researcher recommend that Managers and operators of manufacturing SMEs should evolve business models that will accommodate quality management practices that will promote competitive advantage over other players in the industry

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