QUALITY MANAGEMENT PRACTICES AND COMPETITIVE ADVANTAGE OF SELECTED FOOD AND BEVERAGE MANUFACTURING FIRMS IN LAGOS STATE, NIGERIA

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Abstract:
The performance of Food and Beverages manufacturing firms is important to the development of the economy and this has been considered by researchers. In Nigeria, the decline in the performance of this sector in terms of competitive advantage has been noticed which could be as a result of a lack of quality management practices such as leadership behaviour, strategic quality planning, supplier quality management, process management and customer focus. The study investigated the effect of quality management practices on the competitive advantage of selected Food and Beverages manufacturing firms in Lagos State, Nigeria. The survey research design was adopted. The population of the study was 14,591 top, middle and low-level management employees of the selected Food and Beverages manufacturing firms in Lagos State, Nigeria. A sample size of 491 was determined using the research advisor table. A simple random sampling technique was used. A validated questionnaire was used to collect data. Cronbach’s alpha reliability coefficients for the constructs ranged from 0.866 to 0.954. The response rate was 100%. Data were statistically analysed using descriptive and inferential statistics (multiple and hierarchical regression). Findings revealed that quality management practices had a significant effect on the competitive advantage of Food and Beverages manufacturing firms in Lagos State, (Adj.R2 = 0.117; F (5, 485) = 14.025, p < 0.05). The study concluded that quality management practices affected competitive advantage in Food and Beverages manufacturing firms in Lagos State, Nigeria. The study recommends that Food and Beverages manufacturing firms should encourage the adoption of quality management practices to enhance competitive advantage.

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Keywords: competitive advantage, customer focus, quality management practices, strategic quality planning

1. Introduction

Improving and maintaining organizational performance has become a crucial concern for many business organizations in today’s highly competitive business environment. In order to thrive, organisations are striving to establish a competitive advantage that sets them apart from their rivals. Hence, continuous quality improvement has emerged as an essential prerequisite for success in among food and beverage manufacturing firms. In recent years, businesses have witnessed unprecedented levels of strategic transformation, cost optimization, fierce competition, and rapidly changing environments on a global scale. These transformations have been primarily driven by factors such as market fragmentation, technological advancements, dynamic management practices, mergers and acquisitions, supplier attitudes, evolving customer demands, shifting customer expectations, shortened product lifecycles, and more. All of these factors, directly and indirectly, impact the quality of products and the overall organizational performance.

Organizations have dedicated significant efforts to improving their performance in response to these evolving realities (Tourky et al., 2020). However, in the current landscape characterized by transformational consumer preferences and intense competition, the Food and Beverages industry has faced unique challenges (Davis et al., 2018). Companies in this sector have encountered high demand for quality products, an uncertain business environment, and multifaceted competitive intensity due to increasing rivalry and insufficient research and development efforts to meet changing customer tastes in the global market. By leveraging a strong competitive advantage, Food and Beverages companies can position themselves as leaders in the industry, driving customer loyalty, profitability, and long-term success. It is essential for these organizations to recognize the significance of continuous improvement, adapt to the changing business landscape, and proactively pursue strategies that enhance their competitive position (Chen et al., 2021).

The global Food and Beverage industry has experienced remarkable growth, with a significant number of producers and a substantial workforce contributing to the economic development of nations (Ellen, 2016; Nguyen et al., 2020). Projections from the latest market forecast indicate that the Food and Beverages market is expected to reach a value of $6.4 trillion in 2022, representing a growth rate of 9.7% compared to the previous year, and is anticipated to further expand to $8.9 trillion by 2026, with a compound annual growth rate of 8.7% (Food and Beverages Global Market Report, 2022). The Asia Pacific region dominates the global market share for Food and Beverages, with a particular surge in demand for plant-based alternatives during and after the COVID-19 pandemic. This presents a substantial market opportunity, and it is predicted that Asia-Pacific countries will witness a compound annual growth rate of 8.9% from 2021 to 2028.
However, alongside these growth prospects, the region also faces challenges, particularly in terms of maintaining a competitive advantage.

The Food and Beverage manufacturing industry in the United States, employing approximately 1.6 million people, has faced a decline in market share due to challenges such as flawed competitive strategies, inadequate market orientation, poor quality management, and limited technological innovation (Food and Agriculture Organization of the United Nations, 2018). Despite California’s prominence as a top food-producing state, the industry has struggled to adapt to intense competition and changing customer preferences, resulting in a decline in competitive advantage. Establishing a strong competitive advantage is crucial for these companies to regain market share, requiring a focus on market and customer orientation, quality management, and technological advancements to stay ahead in the dynamic industry landscape (Jaeger et al., 2021).

The Food and Beverage industry in Africa, particularly in South Africa, faces significant challenges that hinder its financial and non-financial performance (Audax, 2018). Issues such as changing consumer preferences, market uncertainty, poor strategic positioning, and the need for innovation and differentiation have impacted the industry’s competitive advantage. These challenges have resulted in declining market share, limited growth potential, and reduced revenue (Cho & Lee, 2018). Furthermore, factors like unpredictable customer demand, limited access to food due to low rainfall and drought, high unemployment, and poverty add to the complexities faced by Food and Beverage companies in the region. To overcome these obstacles, it is crucial for companies to prioritize the development and implementation of competitive strategies that differentiate their offerings, adapt to market changes, and meet evolving customer preferences (Darmanto et al., 2014).

The Food and Beverage industry is significant to every economy in the world, and Nigeria is no exception. In recent years, the overall performance and contribution of this industry to the Nigerian economy, have grown significantly in value and relevance (Horsfall, & Mac-Kingsley, 2018). The World Trade Organisation ranks Nigeria as the largest food market in Africa, with significant investment in the local industry and a high level of imports. The Food and Beverage sector is estimated to contribute 22.5% of the manufacturing industry value, and 4.6% of the country’s GDP (Oladejo et al., 2021). In 2018, the Central Bank of Nigeria (CBN) Governor noted that Nigerians spend an average of 73% of their income on Food and Beverages products, however given the choice, a vast majority of Nigerian consumers will opt for Food and Beverages products made outside of the country (Aminu, & Oyefesobi, 2018). However, competitive advantage remains a significant challenge for the Food and Beverage industry in Nigeria. Despite its growth and contribution to the economy, the industry faces the issue of Nigerian consumers' preference for imported products over domestically produced ones (Aminu & Oyefesobi, 2018).

Studies on quality management practices and competitive advantage have been carried out in different geographical locations and contexts, however, the extent to which quality management practices affect competitive advantage among Food and Beverage
firms in Nigeria has not been established (Al Shraah et al., 2017; Nguyen et al., 2018). Heyns and Boikanyo (2019) examined the effect of work engagement on total quality management practices in a petrochemical organisation. Liu et al. (2021) carried out an empirical exploration of quality management practices and firm performance in the Chinese manufacturing industry. The study of Androwis et al. (2018) explored total quality management practices and organisational performance in construction chemicals companies in Jordan. From the foregoing, it could be observed that studies on quality management practices focused on manufacturing, petrochemical, and other sub-sectors without the inclusion of Food and Beverage firms in Nigeria which has created an academic gap that needs empirical attention. The manufacturing of good quality products is not only dependent on the technology and operating equipment used, however, but it also has a greater dependency on the operators, as well as, effective management of the entire value chain. Managers working in manufacturing facilities face a myriad of issues on a daily basis that requires direct attention and quick response. With production facilities being at the core of business operations, these issues can directly affect the company in substantial ways. There is a high cost due to inconsistencies in the quality of the intermediate and final products and this affects the whole value chain, including the relationship with the customers (Heyns & Boikanyo, 2019). The pressure, on manufacturers, to produce and deliver high-quality products that are safe is, therefore, an increasing challenge, because low-quality products can contribute to poor health outcomes for consumers, and could be associated with a lower life expectancy and will eventually affect the competitive advantage of the organization (Ayaz et al., 2018; Ezirigwe, 2018).

1.1 Hypotheses Development
The concept of quality management practices has been studied and applied by many organisations to improve quality performance which carves out a competitive advantage for the organisation (Oluwafemi & Okon, 2018). Flynn et al. (1995) established that quality management is positively related to competitive advantage. Manizu (2013) found that quality management has a significant effect on performance and competitive advantage. Furthermore, the study of Owusu and Dush (2018) also found that quality management has a significant effect on the competitive advantage of a firm. In the study of Elhawi (2021) on total quality management and competitive advantage, it was discovered that adopting the practices of quality management has the effect of competitive advantage as a measure of performance which leads to the progress and prosperity of the company. The study of Lan (2017) showed that the objective of quality management practice is to achieve high-quality of products through the involvement of all functions within the organisation, in order to create continuous improvement, which enables firms to exceed customers’ expectations and sustain competitive advantage. Álvarez-García et al. (2017) found that companies implement quality management practices that can influence its result, which enhance service quality leading to an advantage over competitors. The study of Elsher and Augustyn (2016) reported that even though quality management may
be a source of competitive advantage, some variables such as customer focus and employee management are questionable while process management and quality data do not contribute to the achievement of competitive advantage.

This study, therefore, hypothesizes that:

\( H_0: \) Quality management practices have no significant effect on competitive advantage in the selected Food and Beverage manufacturing companies in Lagos State, Nigeria.

2. Quality Management Practices

According to Lu et al. (2019), quality management practices are managerial measures that refer to quality management activities. Basu et al. (2020) defined quality management practices as all kinds of quality management programs and plans that can generate improved products and services, reduced costs, more satisfied customers, and better bottom-line financial performance. Quality management practices are considered an integrated management-driven philosophy that covers various functions of an enterprise through continuous improvement and organisational repositioning (Patyal & Koilakunthal, 2017). Ebrahimi and Sadeghi (2013) describe quality management practices as a combination of principles, practices and techniques by which general guidelines are executed by its principles which are deployed through practices and reinforced by techniques.

Quality management practices can help improve the quality of products and reduces scrap and rework, thereby minimizing production costs and time (Lu et al., 2019). Quality management practices also enable participants to develop their full potential and achieve the objectives by cooperation and learning with each other to contribute positively to performance (Imran et al., 2018). Quality management ensures high-quality products and services by eliminating defects and incorporating continuous changes and improvements in the system. High-quality products in turn lead to loyal and satisfied customers who bring ten new customers along with them (Panuwatwanich & Nguyen, 2017).

2.1 Leadership Behaviour

The concept of leadership has undergone multiple different definitions as studies acknowledge the fact that there are just as many different definitions of leadership as there are people who have tried to define it. It has been characterized by a myriad of definitions, frameworks and meaning which depend to a significant degree on the various perspective of study which includes social, religious, political, and corporate perspectives. Yukl and Mahsud (2010) define leadership as a process where intentional influence is exercised over others to guide, structure as well as facilitate activities and relationships in a group or organisation. Although leadership doesn’t have a one-size-fits-all definition, its study could provide such valuable insight, as leaders have been explained to be people who have a clear idea of what they want to achieve and why.
Ibrahim and Daniel (2019), in their study, suggest that leadership is the process through which a person, labelled as the leader, is involved in the responsibility of directing the activities of people who are the subordinates or followers towards the achievement of predestined goals. Leadership is one of the most crucial management functions being one of the tools used in the attainment of organisational goals and objectives. This assertion supports Gandolfi and Stone (2018) that leadership is a process by which one person influences the thoughts, attitudes and behaviours of others.

2.2 Strategic Quality Planning
Strategic quality planning is the quality of an organisation’s management activity that is utilized to define priorities, focus energy as well as resources, and strengthen operations, while ensuring that employees and other stakeholders are working towards common goals (Camilleri, 2018). Strategic Quality Planning is the superiority of an organisation’s process of defining its strategy or direction, and making decisions on resource allocation to pursue and execute this strategy (Mosadeghraf et al., 2018). The formulation and implementation of plans are successive tasks in the standard approach to strategic planning (Kabeyi, 2019). Only then is a strategy put into action once it has been carefully designed. While this may seem that strategic management is a sequential activity, in actuality, the many stages of the planning process are rarely separated, and companies almost always exhibit emergent as well as deliberate or planned strategies at the same time (Teixeira & Junior, 2019). As a result, control has been identified as a critical component of the implementation process, which can be handled centrally through approaches like action planning and monitoring. Effective implementation using formal approaches, such as business or project plans that outline tasks with targets, is more likely when activities are well specified, according to proponents of strategic planning in the public sector (Ropianto et al., 2017). To summarise, one option for organisations to bridge the gap between formulation and execution is to ensure that they have robust formal planning procedures in place.

2.3 Suppliers’ Quality Management
Suppliers’ quality management (SQM) involves managing, monitoring and responding to changes in the supplier’s ability to fulfil customer’s needs on time and to the agreed quality specification. Supplier quality management (SQM) is a critical activity for any business that relies on suppliers in the provision of their goods or services (Kim et al., 2016). Zhang et al. (2019) is of the view that supplier quality management is a structured program to manage suppliers and improve the quality of supply. As part of the benefits of SQM, having an effective supplier quality management process allows companies to effectively audit the supply chain and identify each specific risk. This helps businesses to reduce risks and avoid potential costly fallout (Uluskan et al., 2016). Likewise, Hong et al. (2019) argued that suppliers’ quality management supports the organisation in mapping and compiling the overall requirements for external services and supplies, researching the market for providers, negotiating with a chosen supplier, and contracting
and monitoring of external services and service providers. Researchers consider supplier quality management (SQM) as a multidimensional concept involving internal quality management and quality management activities at the level of the supply chain (Phan et al., 2019). Managing the quality at the supply chain level directly influence improvement in organisation’s responsiveness to supply chain disruption (Parast, 2020). Organisations are increasingly adapting SQM in order to improve efficiency, reduce cost, safeguarding competitive advantage and improve customer satisfaction (Phan et al., 2019; Hussain et al., 2020).

2.4 Process Management
Pradabwong et al. (2017) defined process management as a management approach that outlines processes, which include four elements: strategic alignment, IT, employee involvement, and process improvement. Slack and Brandon-Jones (2018) defined process management as the efforts that are made continuously by the organisation to improve the basic activities, such as manufacturing, marketing, communications, and the basic elements of organisation’s processes. Process management is a method for analysing, designing, controlling and ultimately improving business processes. Ideally, all of a company’s business processes are included in the analysis (Alotaibi, & Liu, 2016).

Nadarajah & Kadir (2014) stated that the management process is one of the important links that integrate between the organisational systems and its human resources, where organisations aim to maximize the efficient use of its resources and achieve their strategic objectives and customers’ needs. Aldiabat et al. (2018) have identified a range of benefits expected from adopting a management process, such as improving communications within organisations, identifying inputs and outputs, along with business activities clearly. This also needs to be inclusive of understanding the flow of activities within the organisation, until the product or service arrives to the customer, improving the decisions related to performance processes follow-up, and improving individual management. Aldiabat et al. (2018) have identified a range of benefits expected from adopting a management process, such as improving communications within organisations, and identifying inputs and outputs, along with business activities clearly. This also needs to be inclusive of understanding the flow of activities within the organisation, until the product or service arrives to the customer, improving the decisions related to performance processes follow-up, and improving individual management. Nadarajah & Kadir (2014) stated that the management process is one of the important links that integrate between the organisational systems and its human resources, where organisations aim to maximize the efficient use of their resources and achieve their strategic objectives and customers’ needs.

2.5 Customer Focus
Customer focus is a way of thinking, a philosophy, or a strategy for aligning your company processes with the goals and expectations of your customers (Han et al., 2021). According to Kiseleva et al. (2016), customer focus is a strategy that puts customers at the
centre of business decision-making. When organisations apply this strategy, all of their departments strive toward the same goal to satisfy customers. It is a winning mix since organisation’s success is contingent on the success of its consumers. Customer focus is a strategy that prioritises the demands of your customers. Customer-focused companies cultivate a company culture devoted to improving customer satisfaction and fostering strong customer relationships (Kavulya et al., 2018). The principle is straightforward. It entails placing oneself in your consumers' position and concentrating on their needs, wants, and expectations. Being able to see things from your customer’s point of view allows you to provide an outstanding customer experience. Customer focus is a corporate strategy that prioritises customers in decision-making. Instead of focusing just on earnings, customer-focused firms make decisions based on how those actions affect customers. It's a long-term approach to cultivating loyalty and trust (Bondarenko et al., 2020).

On the possible advantages, being customer-focused puts organisation in a better position to help their customers, in an honest way. Organisation’s customer will sense and see that they are making an extra effort to understand the situation at which they are and to really understand them to be better able to help them get where they want to be (Duan et al., 2018). Focusing on the customers makes it more enticing for customers to work with the organisation, resulting in reciprocal engagement. A problem that customers thought they were having turns into a joint endeavour between the manufacturing firm being the supplier and the customer. In addition, the goal becomes a shared goal for both, the organisation and the client. Firms are better able to assist customers when they focus on individuals and understand their circumstances. Their problem/challenge becomes a shared one. Your common aim becomes their battle to win that contract (Viio & Nordin, 2017). Yaacob (2014) opined that under the umbrella of Total Quality Management, numerous firms have incorporated the practise of customer focus. It is one of the essential TQM criteria, along with other critical aspects like continuous improvement, teamwork, and management commitment (Wilson et al., 2016). The advantages of customer focus practise have been proven in a variety of industries, including manufacturing (Wuyts et al., 2015), retail (Chotekorakul & Nelson, 2013), service (Alam, 2013), hospitality and tourism (Sun & Kim, 2013), and public service (Garay et al., 2017). Although the goal of this approach is to achieve customer happiness, it is said to have an impact on other business performance indicators such as financial success and employee satisfaction (Mbithe & Kilika, 2017).

2.6 Competitive Advantage
According to Jensen et al. (2016), competitive advantage is the execution of a value-creating strategy that is not currently in implementation by any current or potential competitors. Competitive advantage is described as something that distinguishes a company from its competitors and keeps it alive and well (Botes & Pretorius, 2020). Huang (2018) states that a firm's competitive advantage is determined by important, rare, inimitable, and non-substitutable capital, skills, and marketplace, and further advises
that an organisation’s competition and sources of competitive advantage should be considered by its policies, processes, and rivalry. In a similar vein, Ma (2012) defined competitive advantage as an asymmetry or difference in some company features or factors that allow one firm to provide better customer service than others, resulting in increased customer satisfaction and efficiency. A competitive advantage, according to Botes and Pretorius (2020), is something that separates a company from its competitors and keeps it alive and developing.

The concept of competitive advantage is founded on Porter’s generic strategies (1985). Imitability, durability, and ease of use are all factors that could help you gain a competitive advantage. The competitive edge lies at the heart of a company’s performance in a dynamic market (Cuellar-Fernández et al., 2021). On the bases of the benefits, competitive advantage, according to Nyalika and Namusonge (2015), is the most appropriate instrument for developing new, creative, and inventive ways to create and distribute goods and services more effectively than market competitors. Furthermore, according to Ranjith (2016), competitive advantage is a strategy that develops a company’s business model, accelerates its growth and development, and allows the company to produce and deliver services, goods, and benefits to its customers that outperform its competitors while also improving its market reputation. According to Owusu and Duah (2018), every business has at least one advantage that allows it to compete successfully in the market. The writers went on to say that a company that can attain cost or differentiation superiority may provide consumers with items at cheaper prices or with a better degree of distinction, and most crucially, can compete with its competitors. According to Orga et al. (2018), a firm has a competitive advantage when it is adapting and executing a value-creating strategy that is not being adopted by any present or potential competitor at the same time.

2.7 Quality Management Practices and Competitive Advantage
The study of Mashal & Olugu (2020) reported a significant effect of strategic quality planning practices on competitive advantage which is in line with the study of Singh & Singh (2021) which also reported that strategic quality planning affects competitive advantage. Furthermore, the study of García-Sánchez et al. (2020) found that collaborating with suppliers and customers has an effect on competitive advantage in Food and Beverages manufacturing firms. The study also found that supplier quality leads to competitive advantage. The finding was further confirmed by the study of Saeed et al. (2020) which also found that supplier quality has a significant effect on competitive advantage by reducing the risk of product recalls and enhancing food safety.

The study of Eniola et al. (2019) further confirmed that the adoption of total quality management has effect on the performance of SMEs and creates a competitive advantage for the firm. Cahyono et al., (2023) reported that supply chain management leads to increased competitive advantage and improves organisational performance. Mashal & Olugu (2020) found that strategic quality planning practices affect competitive advantage. Singh & Singh (2021) found that strategic quality planning affects competitive
advantage. García-Sánchez et al. (2020) posited that collaboration with suppliers and customers has an effect on competitive advantage in Food and Beverages manufacturing firms. The study also found that supplier quality leads to competitive advantage. In addition, Saeed et al. (2020) found that supplier quality has a significant effect on competitive advantage by reducing the risk of product recalls and enhancing food safety. However, Elsher and Augustyn (2016) found that even though quality management is a source of competitive advantage, variables such as customer focus and employee management are questionable while process management and quality data do not contribute to the achievement of competitive advantage.

2.8 Theoretical Underpinning

This study was anchored on the resource-based view (RBV) of the firm (Barney, 1991; 2001; Conner, 1991). The theory has gotten a lot of attention in the strategic management literature since its introduction. It’s a framework for explaining the conditions under which a firm can gain a sustained competitive advantage. When studying a firm’s growth decision, strategy academics have underlined the need of considering the opportunities and restrictions faced by organisations as a result of their resource base, as well as industry characteristics (Delios & Beamish, 1999). Barney (1991) argues that a firm has the potential to generate sustained competitive advantage from resources that are valuable, rare, inimitable, and non-substitutable. Wernerfelt (1984) introduced the idea that firms should be analysed from the resource side at the firm level, not just from the product side at the industry level (VRIN).

According to the RBV, a firm’s internal resources, assets, competencies, and expertise are significant determinants of its competitive position (Barney, 1991). When a company’s resources are scarce and valuable, it might gain a competitive edge and make higher profits. Where the firm’s resources are also unique and non-transferable, the competitive advantage will be long-term (Porter, 1990). Because resources include both tangible and intangible assets, strategic entrepreneurship and business profitability are both valued resources and competencies (Bakar & Ahmad, 2010). The RBV theory emphasizes the importance of a firm’s resources and capabilities in defining the boundaries of its activities and laying the groundwork for its long-term strategy. It also considers how the firm’s principal source of revenues and performance is derived from these resources and abilities (Grant, 2001).

Despite its benefits, the resource-based perspective has several flaws that might be brought up in this study. The RBV, according to the critics, lacks significant managerial consequences or 'operational validity' (Priem & Butler, 2001). It appears to instruct managers to generate and get resources, as well as to create an adequate organisation, but it is quiet on how this should be accomplished (Miller, 2003). Another criticism is that the RBV creates the ‘illusion of ultimate control,’ trivializing property-rights issues and inflating managers’ ability to control resources or anticipate their future worth (McGuinness & Morgan, 2000).
2.9 Conceptual Model

![Conceptual Model Diagram]

Source: Researcher’s Conceptual Model (2023)

3. Methodology

This study employed a positivist research philosophy and utilized a quantitative research approach. The research design adopted was a survey, and primary data was collected through a well-structured and self-administered questionnaire. The population of this study comprised the 14,591 top, middle and low-level management employees of six selected Food and Beverages manufacturing firms in Lagos State, Nigeria. According to NSE, there are 16 quoted companies out of which six (6) companies were selected, namely; Nestle Nigeria, Flour Mills of Nigeria, PZ Cussons Nig. Plc., Unilever Nigeria Plc., Cadbury Nigeria Plc., BUA Foods Plc. which are the focus of this study. These companies were chosen from the companies listed on the Nigeria Stock Exchange as of 2022. This study adopted the Research Advisor table (2006) sample size determination method to determine its sample size of 491 from the population of the study, which is the Food and Beverages manufacturing companies in Nigeria.

A pre-test of the questionnaire was performed at Dufil Prima Food Plc and Chi Limited (A Coca-Cola Company) in Lagos State, Nigeria to assess its validity and correct comprehension of the research questions. The research instrument was put through a discriminant validity using Fornell and Larcker (1981) criterion. This was accomplished by comparing the correlations among the latent constructs with square roots of average variance extracted (Fornell & Larcker, 1981).
Table 1: Summary of KMO, Bartlett Test of Sphericity, and AVE (Convergent Validity)

<table>
<thead>
<tr>
<th>S/N</th>
<th>Variable</th>
<th>No. of items before loading</th>
<th>No. of items after loading</th>
<th>KMO</th>
<th>Bartlett Test of Sphericity (Sig)</th>
<th>AVE (CoV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Leadership behaviour</td>
<td>6</td>
<td>5</td>
<td>0.867</td>
<td>381.059 (0.000)</td>
<td>0.773</td>
</tr>
<tr>
<td>2</td>
<td>Strategic quality planning</td>
<td>7</td>
<td>5</td>
<td>0.877</td>
<td>424.306 (0.000)</td>
<td>0.811</td>
</tr>
<tr>
<td>3</td>
<td>Supplier quality management</td>
<td>10</td>
<td>5</td>
<td>0.850</td>
<td>395.483 (0.000)</td>
<td>0.775</td>
</tr>
<tr>
<td>4</td>
<td>Process management</td>
<td>6</td>
<td>5</td>
<td>0.846</td>
<td>321.978 (0.000)</td>
<td>0.721</td>
</tr>
<tr>
<td>5</td>
<td>Customer focus</td>
<td>7</td>
<td>5</td>
<td>0.894</td>
<td>512.716 (0.000)</td>
<td>0.845</td>
</tr>
<tr>
<td>6</td>
<td>Competitive advantage</td>
<td>6</td>
<td>5</td>
<td>0.884</td>
<td>456.524 (0.000)</td>
<td>0.814</td>
</tr>
</tbody>
</table>

Source: Computed from Pilot study, (2023).

Table 1 above shows that the AVE values for all the constructs are above the threshold of 0.5 which suggests that the convergent validity has been established for all the constructs in this study (Hossain & Azmi, 2020; Sidek et al., 2019).

Table 2: Reliability Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number of Items</th>
<th>Cronbach's Alpha</th>
<th>Composite Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership Behaviour</td>
<td>5</td>
<td>0.927</td>
<td>0.945</td>
</tr>
<tr>
<td>Strategic Quality Planning</td>
<td>5</td>
<td>0.942</td>
<td>0.955</td>
</tr>
<tr>
<td>Supplier Quality Management</td>
<td>5</td>
<td>0.928</td>
<td>0.945</td>
</tr>
<tr>
<td>Process Management</td>
<td>5</td>
<td>0.905</td>
<td>0.928</td>
</tr>
<tr>
<td>Customer Focus</td>
<td>5</td>
<td>0.954</td>
<td>0.965</td>
</tr>
<tr>
<td>Competitive Advantage</td>
<td>5</td>
<td>0.943</td>
<td>0.956</td>
</tr>
</tbody>
</table>

Source: Computed from Pilot study, (2023).

Table 2 shows the reliable results of the instrument of the study. All of the constructs in this study were greater than the 0.7 criterion, implying that all of the construct’s indicators effectively reflect quality management practices and competitive advantage. In addition, the values of the composite reliability are higher than that of the Cronbach alpha and the figures are greater than 0.6 (Rahmani et al., 2020). Therefore, the questionnaire for the study was found reliable and can be subjected to a large-scale study.

3.1 Model Specification

The variables of this study are operationalized as shown below:

\[ X = \text{Quality Management Practices (QMP)} \]
\[ Y = \text{Organisational Performance (OP)} \]
\[ X = (x_1, x_2, x_3, x_4, x_5) \]
\[ x_1 = \text{Leadership Behaviour (LB)} \]
\[ x_2 = \text{Strategic Quality Planning (SQP)} \]
\[ x_3 = \text{Supplier Quality Management (SQM)} \]
x4 = Process Management (PM)
x5 = Customer Focus (CF)
Y = Competitive Advantage (CA)

3.2 Functional Relationship

CA = f (LB, SQP, SQM, PM, CF)  ............................................  Fn. 1

The Regression equations of the study based on the research hypotheses are as follows:

CA = α0 + ϖ1LB + ϖ2SQP + ϖ3SQM + ϖ4PM + ϖ5CF + μi ............................ (1)

4. Data Analysis and Results

The researcher distributed 491 copies of the questionnaire to the respondents of which the entire copies of the distributed questionnaire were duly filled and returned and was used for the analysis. This represents a response rate of about 100% of the population employed in the study, which was considered an excellent response rate. In order to ensure that the essential assumptions of regression analysis were met, the researcher conducted preliminary diagnostic tests on the collected data. These tests encompassed examining normality, linearity, homoscedasticity, and multicollinearity.

Table 3: Summary of multiple Regression of quality management practices and competitive advantage of the Food and Beverages manufacturing firms in Lagos State, Nigeria

<table>
<thead>
<tr>
<th>N</th>
<th>Model</th>
<th>B</th>
<th>Sig.</th>
<th>T</th>
<th>ANOVA (Sig.)</th>
<th>R</th>
<th>Adjusted R²</th>
<th>F (5, 485)</th>
</tr>
</thead>
<tbody>
<tr>
<td>491</td>
<td>(Constant)</td>
<td>11.356</td>
<td>0.000</td>
<td>9.918</td>
<td></td>
<td>0.000b</td>
<td>0.355a</td>
<td>0.117</td>
</tr>
<tr>
<td></td>
<td>Leadership behaviour</td>
<td>-0.004</td>
<td>0.963</td>
<td>-0.047</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Strategic quality planning</td>
<td>0.044</td>
<td>0.688</td>
<td>0.402</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Supplier quality management</td>
<td>0.146</td>
<td>0.092</td>
<td>1.690</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Process management</td>
<td>0.169</td>
<td>0.132</td>
<td>1.508</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Customer focus</td>
<td>0.081</td>
<td>0.333</td>
<td>0.969</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predictors: (Constant), leadership behaviour, strategic quality planning, supplier quality management, process management, customer focus</td>
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<td></td>
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<tr>
<td>Dependent Variable: Competitive Advantage</td>
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<td></td>
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</tbody>
</table>

Source: Researcher’s Findings, 2023.

4.1 Interpretation

Table 3 shows the multiple regression analysis results for the components of quality management practices on the competitive advantage of Food and Beverages manufacturing firms in Lagos State, Nigeria. The results showed that strategic quality planning (β = 0.44, t = 402, p>0.05), supplier quality management (β = 0.146, t = 1.690,
p>0.05), process management (β = 0.169, t = 1.508, p>0.05) and customer focus (β = 0.081, t = 0.969, p>0.05) all have a positive and insignificant effect on the competitive advantage of Food and Beverages manufacturing firms in Lagos State, Nigeria while leadership behaviour (β = -0.004, t = -0.047, p>0.05) has a negative but insignificant effect on competitive advantage. This implies that quality management practices are not very important factors for ensuring competitive advantage in the Food and Beverages manufacturing firms in Lagos State, Nigeria.

The R value of 0.355 supports this result and it indicates that quality management practices components have a weak positive relationship with a competitive advantage of Food and Beverages manufacturing companies in Lagos State, Nigeria. The coefficient of multiple determination Adj R² = 0.117 indicates that only 11.7% variation that occurs in the competitive advantage of the Food and Beverages firms can be accounted for by the components of quality management practices while the remaining 88.3% changes that occurs is accounted for by other variables not captured in the model. The predictive and prescriptive multiple regression models are thus expressed:

\[
CA = 11.356 – 0.004LB – 0.044SQP + 0.146SQM + 0.169PM + 0.081CF + U_i
\]

(Eqn. 4.2)

Where:
CA = Competitive Advantage;
LB = Leadership Behaviour;
SQP = Strategic Quality Planning;
SQM = Supplier Quality Management;
PM = Process Management;
CF = Customer Focus.

The regression model shows that by holding quality management practices dimensions to a constant zero, productivity would be 11.356 which is positive. In the predictive model, it is seen that strategic quality planning, supplier quality management, process management and customer focus have positive and insignificant influences so the management of the company can emphasise less on this variable amongst others which is why they are not included in the prescriptive model. The results of the multiple regression analysis as seen in the prescriptive model indicate that when the variables of quality management practices (strategic quality planning, supplier quality management, process management and customer focus) are improved by one-unit competitive advantage would also increase by 0.044, 0.146, 0.169, 0.081 and vice-versa. This implies that an increase in strategic quality planning, supplier quality management, process management and customer focus would lead to an increase in the competitive advantage of the Food and Beverages manufacturing firms in Nigeria. Also, the F-statistics (df = 5, 485) = 14.025 at p = 0.000 (p<0.05) indicates that the overall model is significant in predicting the effect of quality management practices on competitive advantage which implies that the quality management practices dimension is an important determinant of
competitive advantage for the Food and Beverages manufacturing firms in Lagos State, Nigeria. The result suggests that such Food and Beverages firms should pay more attention towards developing the components of quality management practices especially process management to increase competitive advantage. Therefore, the null hypothesis \( H_0 \) which states that quality management practices have no significant effect on competitive advantage in the selected Food and Beverage manufacturing firms in Lagos State, Nigeria was rejected.

5. Discussion of Findings

The test of the hypothesis revealed that quality management practices have a significant and positive effect on the competitive advantage of the selected Food and Beverage manufacturing firms in Lagos State, Nigeria. This finding has conceptual, empirical, and theoretical ramifications. From a conceptual standpoint, the definitions and clarifications of the study’s ideas provide a useful conceptual perspective on the investigation. Conceptually, quality management practices help to improve the quality of products and reduce scrap and rework, thereby minimizing production costs and time (Lu et al., 2019). Quality management practices also enable participants to develop their full potential and achieve the objectives by cooperation and learning with each other to contribute positively to performance (Imran et al., 2018).

Empirically, the findings from this study are in agreement with the study of Elhawi (2021) which affirmed that total quality management and competitive advantage, it was discovered that adopting the practices of quality management has a positive effect of competitive advantage as a measure of performance which leads to the progress and prosperity of the company. Álvarez-García et al. (2017) found that companies implement quality management practices that can influence its result, which enhance service quality leading to an advantage over competitors. The study of Eniola et al. (2019) further confirmed that the adoption of total quality management has an effect on the performance of SMEs and creates a competitive advantage for the firm. Cahyono (2023) reported that supply chain management leads to increased competitive advantage and improves organisational performance.

Kahrović and Krsćić (2015) demonstrate that the business process management BPM elements have a positive influence on the performance of business processes. The influence of process design on efficiency and innovation performance is not dependent on competitive intensity. However, it is noted that the overall impact of process improvement and process control on efficiency and innovation performance is in some instances moderated by competitive intensity. The study of Mashal & Olugu (2020) reported a significant effect of strategic quality planning practices on competitive advantage which is in line with the study of Singh & Singh (2021) which also reported that strategic quality planning affects competitive advantage. Furthermore, the study of García-Sánchez et al. (2020) found that collaborating with suppliers and customers has an effect on competitive advantage in Food and Beverages manufacturing firms. The
study also found that supplier quality leads to competitive advantage. The finding was further confirmed by the study of Saeed et al. (2020) which also found that supplier quality has a significant effect on competitive advantage by reducing the risk of product recalls and enhancing food safety.

Theoretically, the research findings supported the variables of quality management practices (leadership behavior, quality strategic planning, supplier quality management, process management, and customer focus) and competitive advantage, which are in line with the resource-based view (RBV). The fundamental tenets of RBV are that the management of internal resources is important in achieving competitive advantage.

6. Conclusion and Recommendations

The study examined the effect of quality management practices on the competitive advantage of selected food and beverage manufacturing firms in Lagos State, Nigeria. From the results of the study, quality management practices were found to have a significant influence on competitive advantage. Based on the empirical results, it is concluded that implementing effective quality management practices can lead to a competitive advantage for food and beverage manufacturing firms in Lagos State, Nigeria. The study’s findings suggest that organizations that prioritize and invest in quality management practices are more likely to gain a competitive edge in the industry. By implementing quality management practices such as quality control, quality assurance, continuous improvement, and adherence to international quality standards, these firms can enhance their overall operational efficiency, product quality, customer satisfaction, and reputation. The significance of the influence implies that firms that effectively manage quality throughout their processes are better positioned to differentiate themselves from competitors, attract more customers, and maintain long-term relationships with them. This competitive advantage can translate into increased market share, higher profitability, and sustained growth in the food and beverage manufacturing sector in Lagos State.

Given the result of this study, it is recommended that management establish a structured quality management system that encompasses all aspects of the organization’s operations, from raw material sourcing to production processes, packaging, and distribution. This system should incorporate quality control mechanisms, quality assurance procedures, and continuous improvement initiatives. Also, management should promote a culture of quality throughout the organization, emphasizing the importance of quality in all processes and departments. This can be achieved through regular communication, setting quality performance targets, and recognizing and rewarding employees for their contributions to maintaining and improving quality standards.
6.1 Limitation of the Study and Suggestions for Further Studies

This study was limited to the Food and Beverages companies, and focused specifically on six listed Food and Beverages firms in Lagos state, Nigeria. As with any single industry research, the findings of this study were limited to selected Food and Beverages manufacturing firms examined. The nature of the survey research design adopted limits the responses of the respondents to the opinion at a given time. Hence, further studies can adopt a longitudinal study in order to gather data over a long period of time.

Conflict of Interest Statement
The authors declare no conflicts of interest.

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