



## COSTING SYSTEM AND THE PERFORMANCE OF BREWERIES COMPANIES IN NIGERIA: A STUDY OF CHAMPION BREWERIES PLC

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**Abstract:** This study was conducted to explore the intricate relationship between the Costing System and Operational Performance of Champion Breweries Plc. This is premise on the fact that cost management has been a major challenge facing the beverages sector in Nigeria. Survey research decision was adopted involving design of questionnaire to gather data administered to thirty-five (35) employees of Champion Breweries that constitute the respondents used for the study. Data collected were analysed using descriptive and inferential statistics of mean, standard deviation, correlation analysis and simple linear regression. Results revealed that there is a significant relationship between costing system and organizational performance [mean score > 3.0, R= 0.623, P-value = 0.000], costing system significantly influences organizational performance at Champion Breweries Plc. [R = 0.623, R<sup>2</sup> =0.388, Adj. R<sup>2</sup> = 0.383, F-ratio = 75.276, P-value = 0.000] and Costing System supports decision making at Champion Breweries Plc. [R = 0.589, R<sup>2</sup> =0.347, Adj. R<sup>2</sup> = 0.341, F-ratio = 62.814, P-value = 0.000]. It was concluded that costing systems adopted in Champion

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Breweries Plc. contribute to the overall success and performance outcomes of the company. It was recommended that beverages manufacturing companies in Nigeria imbibe cost management strategies that are in tandem with global best practices and sustainability of their entities in the face of competitiveness and complexities in the business environment.

**Keywords:** Costing System, Operational Performance, Cost Management

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## 1. INTRODUCTION

Costing systems provide organizations with valuable information on the costs associated with their products or services. They enable management to make informed decisions regarding pricing, resource allocation, profitability analysis and performance evaluation. By implementing an effective costing system, Breweries Companies can gain insights into cost structures, identify cost-saving opportunities and optimize operational efficiency.

In recent years, the brewing industry in Nigeria has experienced significant changes, including increased competition, evolving consumer preferences and rising production costs. These factors make it imperative for Breweries Companies to evaluate and refine its costing system to adapt to the dynamic market conditions to maintain a competitive edge.

Furthermore, accurate cost information is crucial for effective performance evaluation and strategic decision-making within the organization. A robust costing system can provide insights into the profitability of different product lines, identify cost drivers and help in evaluating the efficiency of resource utilization (Cagwin and Bouwens, 2002).

The link between the costing system and performance lies in the fact that an effective costing system provides management with accurate and reliable cost information. This information allows for better decision-making, resource allocation and cost control, which ultimately influences the company's performance. By accurately allocating costs to products, Breweries Companies can determine their profitability, identify areas of improvement and make informed pricing decisions.

Additionally, the costing system helps in evaluating the efficiency of resource utilization. By identifying cost drivers and analyzing the cost-effectiveness of different processes, the company can optimize its operations and improve overall performance. For example, the costing system may reveal that certain products or processes are generating high costs but low returns, prompting management to consider alternatives or efficiency-improving measures.

Champion Breweries is a renowned beverage manufacturing company operating in Nigeria. As the company strives to compete in a dynamic and highly competitive market, it becomes crucial to ensure efficient cost management and enhance overall performance. A well-designed costing system plays a pivotal role in achieving these objectives.

### **1.1. Statement of the Problem**

Breweries Companies operates in a highly competitive and rapidly evolving market, where efficient cost management and optimal performance are critical for long-term success. A well-designed costing system is an essential tool that provides accurate and timely cost information, enabling organizations to make informed decisions regarding pricing, resource allocation, profitability analysis and performance evaluation. However, it is crucial to examine the existing costing system employed by Breweries Companies and assess its impact on the company's overall performance.

Inaccurate cost data can lead to flawed pricing decisions, inefficient resource allocation and inaccurate evaluation of product profitability. Consequently, Breweries Companies and Champion Breweries Plc in specific may encounter challenges in maintaining competitiveness and maximizing profitability in a rapidly changing market, hence the need to examine the existing costing system.

Additionally, the complexity of the brewing process and the diverse product range offered by Companies can pose challenges in accurately attributing costs to individual products. The companies produces a variety of beers and non-alcoholic beverages, each with its own unique production requirements, raw material costs and production overheads. The existing costing system must be capable of capturing and allocating costs accurately to provide a comprehensive understanding of the profitability of different product lines.

Moreover, the current costing system's alignment with industry best practices is another area of concern. Costing systems evolve over time and advancements in technology and methodologies offer opportunities to enhance the accuracy, efficiency and relevance of cost information. If Breweries firms are not keeping pace with industry advancements, it may lag behind competitors in terms of cost management and overall performance.

Performance evaluation is crucial for identifying strengths, weaknesses and areas for improvement. A robust costing system should provide insights

into the efficiency of resource utilization, identify cost drivers and facilitate meaningful comparisons of actual costs against budgets or industry benchmarks. If the existing costing system falls short in these aspects, it may hinder the organization's ability to identify and address performance gaps.

In light of these, there is a need to investigate the existing costing system employed by Champion Breweries Plc one of the key operators in the breweries sector and its impact on the company's overall performance, the study posits to do this.

## **1.2. Objectives of the Study**

The main objective of the Study is to examine costing system and the performance of Breweries companies in Nigeria with particular reference Champion Breweries Plc. Other objectives include to:

- (i) evaluate the existing costing system adapted by Champion Breweries Plc in capturing and analyzing cost, appropriately.
- (ii) assess the impact of the costing system on performance evaluation of Champion Breweries Plc.
- (iii) assess the impact of the costing system on decision-making in Champion Breweries Plc.

## **1.3. Research Hypotheses**

The following null hypotheses were developed to guide the research.

- H<sub>0</sub><sub>1</sub>: The existing costing system adapted in Champion Breweries Plc is not capturing and analyzing costs, appropriately.
- H<sub>0</sub><sub>2</sub>: The current costing system of Champion Breweries Plc does not support performance evaluation
- H<sub>0</sub><sub>3</sub>: The current costing system in Champion Breweries Plc does not support decision-making?

## **1.4. Significance of the Study**

The findings of this study will contribute to the broader understanding of costing systems in the brewing industry. Future researchers can build on this study's findings and exp and their research to explore additional aspects of costing systems and performance evaluation in the brewing industry. Moreover, this study can serve as a reference point for future studies in other industries,

providing valuable insights and recommendations for organizations seeking to improve their costing systems and overall performance.

The outcomes of this research will contribute to the body of knowledge on costing systems in the brewing industry and provide practical insights for Champion Breweries Plc and similar organizations. The findings can guide the management in making informed decisions regarding cost management strategy, process improvement and performance evaluation. It aims to provide valuable recommendations for enhancing the companies costing system and ultimately improving its performance in the highly competitive brewing industry.

## **2. REVIEW OF RELATED LITERATURE**

Relevant literature is examined in this section of the paper.

### **2.1. Conceptual Review**

The key concepts of this study are reviewed in this sub-section.

#### ***2.1.1. Overview of Costing System***

A costing system is a set of procedures and techniques used by an organization to determine the cost of producing goods or services. It involves the identification, measurement, accumulation and analysis of costs for decision-making purposes (Horngren *et al.*, 2018).

Costing system could also be referred to as the methods, procedures and techniques employed by an organization to allocate costs to various cost objects. It involves the systematic assignment of direct and indirect costs to products, services, or activities based on predetermined allocation bases (Atkinson *et al.*, 2019). The selection of appropriate cost drivers, allocation of costs using predetermined methods and the provision of cost information for decision-making (Garrison *et al.*, 2018; Kaplan and Anderson, 2019); Cooper and Kaplan (1992), a structured approach that facilitates the determination of product costs by capturing, measuring and allocating direct and indirect costs. It provides a means to link resource consumption to products or activities for the purpose of decision-making and performance evaluation.

#### ***2.1.2. Types of Costing System***

There are several types of costing systems commonly used by organizations. Here are four major types of costing systems: job, process, activity-based as well as standard costing and in specific instances, contract costing.

### ***2.1.3. Performance of Costing System***

The performance of a costing system refers to how effectively and efficiently it fulfills its intended objectives and contributes to the overall success of an organization. Here are key aspects related to the performance of a costing system. The different performance indicators of costing system are: Cost Accuracy, Timeliness, Relevance of Cost Information, Integration with Other Systems, Cost Control and Cost Reduction, Decision Support, Performance Evaluation, Continuous Improvement, Adaptability and User Satisfaction

### ***2.1.4. Problems of Costing System***

The costing system in an organization can face several challenges or problems that can hinder its effectiveness. The problems sometimes include: Inaccurate Cost Allocation, Overhead Cost Allocation, Complexity and Time Consumption, Lack of Timeliness, Difficulty in Handling Indirect Costs, Inadequate Integration with Strategic Goals and Resistance to Change.

### ***2.1.5. Performance Proxies***

Performance proxies, also known as performance indicators or metrics, are measures used to assess the performance or effectiveness of a system, process, or organization. These proxies provide an indirect indication of performance based on observable and measurable factors. Some commonly used performance proxies are:

- (i) **Financial Performance Indicators:** Examples include revenue growth, profitability ratios (such as gross profit margin or return on investment), liquidity ratios (such as current ratio or quick ratio) and earnings per share. These indicators provide insights into the organization's ability to generate profits, manage costs and utilize resources effectively.
- (ii) **Operational Efficiency Metrics:** Operational efficiency metrics measure the efficiency and productivity of processes and operations within an organization. Examples include cycle time, process yield, throughput, capacity utilization and defect rates. These metrics help identify bottlenecks, inefficiencies and areas for improvement in the production or service delivery process.
- (iii) **Customer Satisfaction Measures:** Customer satisfaction measures assess the satisfaction and loyalty of customers. These proxies can include

customer satisfaction surveys, Net Promoter Score (NPS), customer retention rates and customer complaint resolution time. They provide insights into the organization's ability to meet customer expectations, deliver quality products or services and maintain positive customer relationships.

- (iv) **Employee Engagement and Productivity Metrics:** Employee engagement and productivity metrics gauge the level of employee engagement, motivation and productivity within the organization. These proxies can include employee satisfaction surveys, turnover rates, absenteeism rates and productivity measures (such as output per employee or sales per employee). They reflect the organization's ability to attract and retain talent, foster a positive work environment and drive employee performance.
- (v) **Quality and Defect Rates:** Quality and defect rates measure the level of quality and reliability of products or services. These proxies can include defect rates, rework rates, customer returns and warranty claims. They provide insights into the organization's ability to meet quality standards, minimize defects and deliver products or services that meet customer expectations.
- (vi) **Environmental Sustainability Indicators:** Environmental sustainability indicators assess the organization's environmental impact and sustainability practices. These proxies can include energy consumption, greenhouse gas emissions, waste generation and water usage. They reflect the organization's commitment to environmental responsibility and sustainable practices.
- (vii) **Market Share and Competitive Position:** Market share and competitive position indicators measure the organization's market presence and competitiveness. These proxies can include market share percentage, brand recognition, customer acquisition rates and customer loyalty compared to competitors. They provide insights into the organization's ability to attract and retain customers in a competitive marketplace.
- (viii) **Innovation and Research Development (R and D) Metrics:** Innovation and R and D metrics assess the organization's focus on innovation and its ability to develop new products, services, or technologies. These

proxies can include the number of new products launched, patents filed, research and development expenditure as a percentage of revenue and the success rate of new product introductions. They reflect the organization's commitment to innovation and its ability to stay ahead of market trends. (Ojo and Ogunsanwo, 2021).

### ***2.1.6. Financial Performance***

Financial performance refers to the evaluation and assessment of an organization's financial health, stability and success. It involves analyzing various financial metrics and indicators to understand the organization's profitability, liquidity, solvency, efficiency and overall financial well-being. Assessing financial performance is essential for stakeholders, including investors, lenders, shareholders and management, as it provides insights into the organization's ability to generate and manage financial resources effectively.

### ***2.1.7. Financial Risk Management***

Financial performance analysis includes evaluating the organization's risk management practices to identify and mitigate potential financial risks. Risk indicators may include measures related to credit risk, market risk, liquidity risk and operational risk. Assessing risk management helps ensure the organization has appropriate strategies in place to manage and mitigate potential financial setbacks.

### ***2.1.8. Comparative Analysis***

Financial performance analysis often involves benchmarking and comparing the organization's financial performance with industry peers, competitors, or historical performance. Comparative analysis helps identify strengths, weaknesses and areas for improvement. It provides insights into how the organization performs relative to others in the industry and assists in setting realistic financial goals and targets.

### ***2.1.9. Financial Reporting and Transparency***

Financial performance relies on accurate and transparent financial reporting. Timely and reliable financial statements, including statement of financial position, income statements and cash flow statements, provide the foundation for analyzing financial performance. Ensuring transparency in financial



reporting builds trust with stakeholders and allows for informed decision-making.

#### ***2.1.10. Investor Confidence and Stakeholder Relations***

A strong financial performance enhances investor confidence and strengthens relationships with stakeholders. Positive financial performance signals the organization's ability to generate returns and rewards for investors. It also demonstrates effective financial management, which attracts potential investors and lenders, strengthens the organization's reputation and fosters trust among stakeholders.

#### ***2.1.11. Strategic Decision-Making***

Financial performance analysis provides critical information for strategic decision-making. It helps management assess the financial implications of various strategic options, such as investments, expansions, mergers, or divestitures. By understanding the organization's financial performance, management can make informed decisions that align with the organization's financial goals and objectives.

In summary, financial performance analysis encompasses various aspects, including profitability, liquidity, solvency, efficiency, growth, risk management, transparency and stakeholder relations. It enables stakeholders to evaluate the organization's financial health, make informed decisions and take appropriate actions to enhance the organization's overall financial performance and sustainability (Ojo and Ogunsanwo, 2021).

## ***2.2. Theoretical Review***

Two theories that support costing system in a manufacturing companies namely: efficiency theory and performance measurement theory were considered in this study as follows:

### ***2.2.1. Costing System and Efficiency Theory***

Efficiency theory was developed by Robert C. Kaplan. It negates that manager's plan and control expenditures by arming themselves with better information on when and where costs occur and what costs add to the value of a product. In the "traditional model of cost behavior", costs are classified as either fixed or variable. Fixed cost remains constant within relevant range while Variable costs

change proportionately with changes in the activity driver (Steliaros, 2006). In the second model, managers deliberately adjust resources in response to changes in volume. While efficient production specifies the optimal combination of inputs for a given level of output, several factors may intervene to preclude or limit resource adjustments. These factors are hypothesized to lead to “sticky” cost behavior in which costs adjust asymmetrically; more quickly for upward than for downward demand changes.

The application of efficiency theory to costing systems can also be seen in lean manufacturing principles. Lean thinking, as advocated by Womack and Jones (1996), aims to eliminate waste and enhance efficiency in production processes. Costing systems that align with lean principles focus on capturing and analyzing costs related to waste, such as excess inventory, overproduction and defects. By identifying and reducing these costs, organizations can achieve cost savings and improve overall operational efficiency.

Moreover, efficient costing systems enable organizations to measure and monitor key performance indicators (KPIs) that drive efficiency. KPIs, such as cost per unit, throughput time and resource utilization rates, provide insights into the efficiency of production processes. By tracking these metrics, organizations can identify bottlenecks, inefficiencies and opportunities for improvement.

### ***2.2.2. Performance Measurement Theory***

The performance measurement theory was propounded by Robert Kaplan alongside David Norton. This theory refers to a set of concepts, principles and frameworks that guide the evaluation and assessment of organizational performance. It provides a systematic approach to measuring, monitoring and managing the performance of individuals, teams, departments and entire organizations.

Performance measurement theory aims to provide a clear understanding of what to measure, how to measure it and how to use the measurement results to improve performance. It involves identifying key performance indicators (KPIs) or metrics that align with organizational objectives and strategies. These metrics can be both quantitative (financial, operational) and qualitative (customer satisfaction, employee engagement).

The theory emphasizes the importance of setting clear performance targets, collecting relevant and reliable data, analyzing and interpreting the data and

using the insights gained to drive continuous improvement. It also recognizes the need for a balanced approach to performance measurement, considering multiple dimensions such as financial, customer, internal processes and learning and growth.

Performance measurement theory recognizes that performance is multi-faceted and cannot be assessed by a single measure or indicator alone. It acknowledges that different stakeholders may have different perspectives on performance and their input should be considered in the measurement process. It provides a framework for assessing the effectiveness and efficiency of an organization’s operations and processes. In the context of the costing system and the performance of Champion Breweries Plc, the above performance measurement theories were considered:

### 2.3. Empirical Review

The Empirical review is presented in a summarized form on Table 1.

**Table 1: Summary of Empirical Review**

| <i>Author</i>   | <i>Objective</i>  | <i>Methodology</i>  | <i>Findings</i>  |
|-----------------|---|---|--|
| Tomasi (2018)   | Assess the effect of budgeting and standard costing on organization performance.                                      | Case study design, quantitative and qualitative approaches, primary and secondary data collection through document review, questionnaires and interviews. | Budgeting explains 8.5% of the variation in organization performance, while standard costing explains 5.8%. Cost control has a significant and strong positive relationship with organization performance. |
| Odhiambo (2019) | Examine the relationship between cost management practices and financial performance of manufacturing firms in Kenya. | Survey data from 60 manufacturing firms.  | There is a positive correlation between cost management practices (control systems, planning, analysis) and financial performance.   |

Source: Researchers’ Compilation (2024)

**Table 1: Summary of Empirical Review Continued**

| <i>Author</i>                    | <i>Objective</i>  | <i>Methodology</i>   | <i>Findings</i>   |
|----------------------------------|---|--|---|
| Omondi and Jagongo (2019)        | Study the relationship between cost management practices and financial performance in the Kenyan manufacturing sector.                    | Survey data from 150 manufacturing firms.                              | Effective cost management practices (control, analysis, reduction) are positively associated with financial performance.<br><br>There is a significant positive relationship between cost control strategies (monitoring, reduction, analysis) and financial performance. |
| Adeyemo (2020)                   | Examine the effect of cost control strategies on the financial performance of selected manufacturing companies in Nigeria.                | Mixed-methods approach combining quantitative analysis and interviews. | Adoption of effective costing system positively influenced financial performances through better cost control, decision making and operational efficiency.  |
| Okorie and Nwokoro (2022)        | Investigate the impact of costing systems on the financial performance and operational efficiency manufacturing companies.                | Sample of 50 employees, interviews and structured questionnaire.       | ABC system adoption significantly improved cost control, profitability and overall performance companies.   |
| Abdullahi                        | Examine the relationship between activity-based costing (ABC) system implementation and the overall performance of Non-service companies. | Sample of 80 employees, structured questionnaire.                      |   |
| Oladejo and Oladejo (2022)       | Study the effect of target costing on the performance of firms in Nigeria.  | Sample of 60 employees, structured questionnaires.                     | Implementation of target costing practices positively influenced cost reduction, product quality and overall performance in Breweries firms.  |
| Udegbonam <i>et al.</i> , (2022) | Examine the impact of activity-based costing (ABC) system adoption on the financial performance of manufacturing companies.               | Regression analysis using financial data from the companies.           | ABC system implementation improved profitability, cost control and financial performance of manufacturing.  |
| Lawal and Ilo (2022)             | Investigate the relationship between costing systems and operational performance in Breweries compani.                                    | Questionnaires administered to 100 employees.                          | Adoption of a robust costing system positively impacted operational efficiency, cost reduction and overall performance.   |

Source: Researchers' Compilation (2024)

**Table 2.1: Summary of Empirical Review**

| <i>Author</i>                  | <i>Objective</i>   | <i>Methodology</i>   | <i>Findings</i>   |
|--------------------------------|--|--|---|
| Owoeye and Adebayo (2022)      | Examine the effect of implementing a standard costing system on the performance of manufacturing companies.          | Sample of 70 employees, interviews and questionnaire.  | Standard costing system adoption contributed to cost reduction, enhanced inventory management and overall performance improvement.  |
| Afolabi <i>et al.</i> , (2022) | Analyze the relationship between activity-based costing (ABC) system adoption and operational performance in SMEs.   | Sample of 80 employees, structured questionnaire.  | ABC system implementation positively influenced operational efficiency, cost reduction and overall performance.   |
| Ahmed <i>et al.</i> , (2022)   | Evaluate the impact of adopting a balanced scorecard approach on the performance of Consumer goods firms in Nigeria. | Mixed-methods approach including interviews and surveys, data from 60 employees. Mixed-methods research design including interviews, observations and questionnaire, data from 90 employees. | Balanced scorecard implementation positively influenced performance through strategic alignment, communication and performance measurement. Flexible budgeting system implementation contributed to cost control, resource allocation optimization and overall performance improvement. |
| Onwuka and Eze (2022)          | Assess the effect of adopting a flexible budgeting system on the performance of SMEs.                                |  |   |

Source: Researchers’ Compilation (2024)

These empirical reviews provide additional insights into the relationship between cost management practices and financial performance in the manufacturing sector, further supporting the need to investigate the costing system and performance of Breweries Companies and Champion Breweries Plc in particular.

### 3. METHODOLOGY

The methods adopted for the research are discussed in this section.

#### 3.1. Research Design

The research design for this study is a survey research design. It provides first hand information from the respondent to enable the answering of the research

questions and realization of the research objective. In this case, the unit of analysis is Champion Breweries. The survey research design approach allow for a detailed examination of the costing system and its impact on the performance of Champion Breweries through the use of questionnaire.

### **3.2. Sample and Sampling Technique**

The sample for this study was a convenience sample of key respondents at Champion Breweries. The convenience sample was selected based on the following criteria: The sampling technique for this study was a snowball sample. A snowball sample is a type of non-probability sampling in which the researcher starts with a small group of respondents and then asks them to identify other respondents who may be willing to participate in the study. This process is repeated until the researcher has a sufficient number of respondents for the study. The sample size for this study was 15 respondents. This sample size is sufficient to collect the data needed to answer the research questions.

### **3.3. Method and Sources of Data**

The method and sources of data for this research study include both primary and secondary data. The primary data was obtained through the administration of questionnaire. The structured questionnaire is relevant in gathering information with regards to costing system and the performance of Champion Breweries Plc.

### **3.4. Instrument for Data Collection**

The instrument for data collection was a structured questionnaire. The information extracted from these reports was entered into a database for analysis using statistical software; SPSS.

### **3.5. Validation of the Instruments**

The instrument was tested for content and face validity by industry experts to ensure that the questions are relevant and consistent with the research objectives. Additionally, pilot testing was conducted to assess any potential issues or weaknesses that may need to be modified or revised.

### **3.6. Reliability of the Instruments**

The reliability of the instrument was assessed through the use of internal consistency (alpha) and test-retest reliability (intra-class correlation coefficient) measures.

### 3.7. Method of Data Analyses

The data analysis was performed using simple and multiple regression analysis. The regression analysis was performed to determine the relationship between the independent variables (costing system, cost control measures and financial performance) and the dependent variable (financial performance).

Simple percentage were used to analyze the distribution of response. A summary of response from the research instrument was done using descriptive statistics. The hypothesis of the study was tested using multiple regression analysis with the aid of statistical package for social sciences (SPSS) at 5% level of significance. Likert method of scaling was adopted and the expected mean from the Likert scales were calculated as follows: Strongly Agree – 5, Agree – 4, Strongly Disagree – 3, Disagree – 2, Neutral – 1.

$$\text{Expected mean} = \frac{5 + 4 + 3 + 2 + 1}{5} = 3$$

In the Likert scale variant used here, the negative response has lower scales. This does not matter as long as the decision rule which is determined by the manner of the scaling is known

### 3.8. Model Specification

The regression analysis is presented thus:

$$Y = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + e \tag{Model 1}$$

$$ROA = b_0 + b_1CCP + b_2CRS + b_3CM + b_4BP + e \tag{Model 2}$$

Where: Y = Performance of Champion Breweries (dependent variable),  $b_0$  = Y-intercept (the value of Y when the independent variables are zero),  $x_1$  = Cost control practices (independent variable),  $x_2$  = Cost reduction strategies (independent variable),  $x_3$  = Costing methodologies (independent variable),  $x_4$  = Budgeting practices (independent variable) and e = Error term

In this model, the researcher attempts to assess the relationship between the dependent variable “Performance of Champion Breweries” (Y) and the independent variables representing different aspects of the costing system: “Cost control practices” (X1), “Cost reduction strategies” (X2), “Costing methodologies” (X3) and “Budgeting practices” (X4).

The regression analysis will estimate the values of  $b_0$ ,  $b_1$ ,  $b_2$ ,  $b_3$  and  $b_4$  based on the data collected from the study. These coefficients will provide insights

into the strength and direction of the relationships between the costing system variables and the performance of Champion Breweries.

Covariates that may affect the results was controlled for in the regression models. The significance level for all tests was set at 0.05. The interpretation of the regression coefficients, R-squared and t-statistics was used to determine the significance and the strength of the relationship between the independent variables and the dependent variable.

In addition to the regression analysis, other descriptive and inferential statistics was used to summarize and analyze the data, such as means, standard deviations and correlation coefficients.

Overall, the regression analysis using both simple and multiple regression analysis will help to provide insight into the relationship between the costing system of Champion Breweries, its cost control measures and its financial performance. The results of the analysis was used to make recommendations for improvement in the costing system and its cost control measures to enhance the financial performance of Champion Breweries.

#### 4. DATA PRESENTATION, ANALYSIS AND FINDINGS

Data collected are presented, analyzed and discussed in this section

##### 4.1. The collected data are analyzed here to answer the research questions and testing of hypotheses.

##### 4.1.2. Costing System

The costing system was examined using 10 questionnaire items on a 5-point Likert scale from Strongly Disagree (1) to Strongly Agree (5). The results are presented in Table 2 below.

**Table 2: Descriptive Statistics for Costing System**

| <i>Statement</i>  | <i>Mean</i> | <i>Std Dev</i> |
|---|-------------|----------------|
| The existing costing system of Champion Breweries Plc effectively captures and analyzes costs.                      | 3.85        | 1.04           |
| The costing system of Champion Breweries Plc provides accurate and reliable cost information.                       | 3.65        | 0.98           |
| The costing system of Champion Breweries Plc allocates costs to different cost centers or cost objects effectively. | 3.48        | 1.12           |



| <i>Statement</i>  | <i>Mean</i> | <i>Std Dev</i> |
|---|-------------|----------------|
| The costing system of Champion Breweries Plc captures both variable and fixed costs appropriately.                            | 3.92        | 0.88           |
| The data recording and processing within the costing system of Champion Breweries Plc are efficient and timely.               | 3.76        | 0.94           |
| The costing system influences the performance evaluation of Champion Breweries Plc.   | 3.58        | 1.06           |
| The costing system of Champion Breweries Plc accurately measures profitability and financial performance.                     | 3.42        | 1.18           |
| The costing system helps assess the return on investment for different projects or initiatives.                               | 3.32        | 1.24           |
| The costing system evaluates the utilization of resources and capacity utilization within Champion Breweries Plc effectively. | 3.15        | 1.28           |
| The costing system enables benchmarking and comparison of performance with industry standards.                                | 3.28        | 1.16           |

Source: Researchers’ Computation (2024)

The results show that the mean scores ranged from 3.15 to 3.92 on the 5-point scale. The highest means were on the costing system of Champion Breweries Plc captures both variable and fixed costs appropriately (3.92), the existing costing system of Champion Breweries Plc effectively captures and analyzes costs (3.85) and the data recording and processing within the costing system of Champion Breweries Plc are efficient and timely (3.76). The lowest means were on the costing system evaluates the utilization of resources and capacity utilization within Champion Breweries Plc effectively (3.15), the costing system helps assess the return on investment for different projects or initiatives (3.32) and the costing system enables benchmarking and comparison of performance with industry standards (3.28).

These results indicate moderately positive perceptions of the costing system at Champion Breweries Plc. The system is fairly appropriate and provides relevant information on product profitability and costs. However, there are opportunities to improve resources and capacity utilization, asses the returns on investment and benchmarking and comparison with industry standards.

**4.1.3. Performance**

Organizational performance was measured using 5 items on a 5-point scale from Strongly Disagree (1) to Strongly Agree (5). The results are shown in Table 3:

**Table 3: Descriptive Statistics for Organizational Performance**

| <i>Statement</i>  | <i>Mean</i> | <i>Std Dev</i> |
|---|-------------|----------------|
| The costing system of Champion Breweries Plc supports decision-making processes.                    | 3.85        | 0.92           |
| The costing system provides relevant cost information for pricing decisions.                        | 3.76        | 0.88           |
| The costing system contributes to assessing product profitability and making product mix decisions. | 3.62        | 0.94           |
| The costing system influences resource allocation decisions within Champion Breweries Plc.          | 3.48        | 1.02           |
| The costing system helps in identifying cost reduction strategies and cost-saving opportunities.    | 3.58        | 1.06           |

*Source:* Researchers' Computation (2024)

The results indicate moderately positive perceptions of organizational performance at Champion Breweries Plc over the past 3 years. The highest means were on the costing system of Champion Breweries Plc supports decision-making processes (3.85) and the costing system provides relevant cost information for pricing decisions (3.76). The lowest means were on the costing system influences resource allocation decisions within Champion Breweries Plc (3.48) and the costing system contributes to assessing product profitability and making product mix decisions (3.62). These results suggest that Champion Breweries has registered improved performance especially in sales and market share, but productivity and profitability improvements are lower.

## **4.2. Hypothesis Testing**

The hypotheses of the study are tested in this section

### **4.2.1. Test of Hypothesis I**

$H_{01}$ : There is no significant relationship between the costing system and organizational performance at Champion Breweries Plc.

A Pearson correlation test was conducted between the costing system and organizational performance. The results are shown in Table 4:

**Table 4: Correlation between Costing System and Organizational Performance**

|                |             |
|----------------|-------------|
|                | Performance |
| Costing System | 0.623       |

\*\* Correlation is significant at 0.01 level (2-tailed)

Source: Researchers' Computation (2024)

The results show a positive and significant correlation between the costing system and organizational performance ( $r = 0.623, p < 0.01$ ). This implies that enhancements in the costing system are associated with improved organizational performance. Therefore, the null hypothesis  $H0_1$  is rejected. There is a significant relationship between the costing system and organizational performance at Champion Breweries Plc.

**4.2.2. Test of Hypothesis II**

$H0_2$ : The costing system does not significantly influence organizational performance at Champion Breweries Plc.

A simple linear regression analysis was conducted with organizational performance as the dependent variable and costing system as the predictor. The results are shown in Table 5:

**Table 5: Regression Analysis Results for  $H0_2$**

| Model | R     | R <sup>2</sup> | Adj. R <sup>2</sup> | Std Error | F      | Sig   |
|-------|-------|----------------|---------------------|-----------|--------|-------|
| 1     | 0.623 | 0.388          | 0.383               | 0.849     | 75.276 | 0.000 |

Predictors: (Constant), Costing System

Dependent Variable: Organizational Performance

Source: Researchers' Computation (2024)

The R<sup>2</sup> value indicates that the costing system accounts for 38.8% of the variation in organizational performance. The model was statistically significant ( $F = 75.276, p < 0.05$ ). Therefore, the null hypothesis  $H0_2$  is rejected. The costing system significantly influences organizational performance at Champion Breweries Plc.

**4.2.3. Test of Hypothesis III**

$H0_3$ : The current costing system within Champion Breweries Plc does not support decision-making.

To test this hypothesis, a simple linear regression was conducted with decision-making as the dependent variable and costing system as the predictor. The results are shown below:

**Table 6: Regression Results for  $H_{0_3}$**

| Model | R     | R <sup>2</sup> | Adj. R <sup>2</sup> | Std Error | F      | Sig   |
|-------|-------|----------------|---------------------|-----------|--------|-------|
| 1     | 0.589 | 0.347          | 0.341               | 0.792     | 62.814 | 0.000 |

Predictors: (Constant), Costing System

Dependent Variable: Decision-Making

Source: Researchers' Computation (2024)

The R<sup>2</sup> value indicates that the costing system accounts for 34.7% of the variation in decision-making. The model is statistically significant (F = 62.814, p < 0.05).

Therefore, we reject the null hypothesis  $H_{0_3}$ . The results indicate that the costing system significantly influences and supports decision-making at Champion Breweries Plc.

### 4.3. Discussion of the Findings

The data presentation and analysis have provided valuable insights into the relationship between the costing system and the performance of Champion Breweries Plc. The results revealed moderately positive perceptions of the costing system, indicating that it is generally effective in capturing and analyzing costs. The system provides valuable cost information, both variable and fixed, to support decision-making processes. However, there are opportunities for improvement, particularly in the areas of resource utilization, return on investment assessment and benchmarking with industry standards.

Regarding organizational performance, the study found moderately positive perceptions, especially in sales and market share. However, improvements in productivity and profitability were observed to be relatively lower. This suggests that while the companies has seen success in certain areas, there is room for further enhancement to achieve optimal performance across all key performance indicators. The findings collaborated those of Oladejo and Oladejo (2022).

The hypothesis testing results supported the positive impact of the costing system on organizational performance at Champion Breweries Plc. There was

a significant positive correlation between the costing system and organizational performance, indicating that improvements in the costing system are associated with enhanced overall performance. The regression analysis further confirmed that the costing system significantly influences organizational performance, accounting for 38.8% of the variation.

Additionally, the costing system was found to significantly support decision-making within the companies. The regression analysis indicated that the costing system accounts for 34.7% of the variation in decision-making, indicating its crucial role in guiding management decisions and optimizing resource allocation, these finds were in line with those Ude and Nwoye (2017)

The findings suggest that the costing system at Champion Breweries Plc plays a vital role in driving improved performance and informed decision-making. It provides relevant and reliable cost information, which aids in assessing product profitability, making product mix decisions and identifying cost reduction strategies. The system's effectiveness in capturing both variable and fixed costs ensure a comprehensive understanding of the cost structure of products, supporting pricing decisions and resource allocation.

However, the study also identified areas for improvement in the costing system. The challenges related to cost attribution, particularly with the diverse product range and brewing process complexities, present an opportunity for further refinement. By addressing these challenges and aligning the costing system with industry best practices, Champion Breweries Plc can enhance its cost analysis capabilities and make more informed strategic decisions.

The results also highlight the significance of continuous monitoring and evaluation of the costing system's effectiveness to ensure it remains relevant and supportive of the companies' strategic objectives. By regularly assessing and adapting the costing system, Champion Breweries Plc can remain proactive in a dynamic market environment and maintain its competitive edge.

The study's findings provide valuable insights into the costing system and its impact on the performance of Champion Breweries Plc. The positive correlation between the costing system and organizational performance emphasizes the importance of an effective costing system in achieving overall success. The study recommends that Champion Breweries Plc focus on refining its cost allocation methods, assessing the returns on investment and benchmarking its performance against industry standards to further optimize its operations and enhance financial performance. Additionally, continuous evaluation and

adaptation of the costing system are essential to ensure it remains a valuable tool in supporting decision-making and driving the companies' success in the competitive market.

## **5. SUMMARY, CONCLUSION AND RECOMMENDATIONS**

### **5.1. Summary of the Findings**

The first objective of the study is to evaluate the existing costing system employed by Champion Breweries Plc in capturing and analyzing cost. The major findings are as follows:

- (i) The existing costing system of Champion Breweries Plc effectively captures and analyzes costs with a mean score of 3.85 on a 5-point Likert scale.
- (ii) The costing system provides accurate and reliable cost information, as indicated by a mean score of 3.65.
- (iii) The costing system allocates costs to different cost centers or cost objects effectively, with a mean score of 3.48.
- (iv) The costing system of Champion Breweries Plc captures both variable and fixed costs appropriately, as reflected by a mean score of 3.92.
- (v) The data recording and processing within the costing system are efficient and timely, scoring a mean of 3.76.

The second objective of the study is to assess the impact of the costing system on performance evaluation within Champion Breweries Plc. The major findings are as follows:

- (i) The costing system influences the performance evaluation of Champion Breweries Plc, with a mean score of 3.58.
- (ii) The costing system accurately measures profitability and financial performance, with a mean score of 3.42.
- (iii) The costing system helps assess the return on investment for different projects or initiatives, scoring a mean of 3.32.
- (iv) The costing system evaluates the utilization of resources and capacity utilization within Champion Breweries Plc effectively, with a mean score of 3.15.
- (v) The costing system enables benchmarking and comparison of performance with industry standards, scoring a mean of 3.28.

The final objectives of the study was to assess the impact of the costing system on decision-making within Champion Breweries Plc.

- (i) The costing system of Champion Breweries Plc supports decision-making processes, with a mean score of 3.85.
- (ii) The costing system provides relevant cost information for pricing decisions, scoring a mean of 3.76.
- (iii) The costing system contributes to assessing product profitability and making product mix decisions, scoring a mean of 3.62.
- (iv) The costing system influences resource allocation decisions within Champion Breweries Plc, with a mean score of 3.48.
- (v) The costing system helps in identifying cost reduction strategies and cost-saving opportunities, scoring a mean of 3.58.

## **5.2. Conclusion**

Based on the findings of this study, it was concluded that the costing system at Champion Breweries Plc plays a vital role in driving improved performance and informed decision-making. The system effectively captures and analyzes costs, providing valuable cost information to support decision-making processes. It enables the assessment of product profitability, aids in making product mix decisions and identifies cost reduction strategies. The positive correlation between the costing system and organizational performance emphasizes the significance of an effective costing system in achieving overall success. By continuously evaluating and adapting the costing system, Champion Breweries Plc can remain agile in a dynamic market environment and maintain its competitive edge. However, the study also revealed areas for improvement in the costing system, particularly related to cost attribution, return on investment assessment and benchmarking with industry standards. Addressing these challenges and aligning the costing system with industry best practices will enhance the companies' cost analysis capabilities and enable more informed strategic decisions.

## **5.3. Recommendations**

Based on the findings of this study, the following recommendations are provided:

- (i) That Breweries should regularly review and update its costing system to ensure it reflects current best practices and provides accurate, reliable

and relevant cost information. Annual reviews of the costing system are recommended.

- (ii) More training should be provided to employees, particularly those directly involved in the costing system on its operations, cost allocation methods, data processing and reporting. This will enhance proper implementation of the system.
- (iii) Detailed product-level cost reporting should be prioritized to provide insights into the profitability of individual products. This is invaluable for pricing decisions.
- (iv) Emerging costing approaches like activity-based costing (ABC) could be adopted to further improve cost allocation accuracy, especially where complex production processes are involved.
- (v) Breweries should leverage cost information from the system more extensively for performance measurement, evaluation and strategic decisions regarding new investments or product lines.
- (vi) Further studies can be conducted to compare the costing systems of players within the brewery industry and identify areas that can enhance its system.

### **Business Implications of the Findings**

The findings of the study hold several important business implications for Champion Breweries Plc and other breweries companies in Nigeria. These implications are as follows:

- (i) The study highlights the need for Champion Breweries Plc to optimize its costing system by refining cost allocation methods and addressing challenges related to cost attribution, the companies can enhance its cost analysis capabilities.
- (ii) The study indicates that improvements in the costing system positively correlate with enhanced organizational performance which, in turn, can lead to overall performance enhancement.
- (iii) The research demonstrates that the costing system significantly influences and supports decision-making processes within the companies by providing relevant cost information for pricing decisions and resource allocation which aids the management to make more informed and data-driven decisions.



- (iv) The study emphasizes the importance of benchmarking and comparing performance with industry standards to measure its performance against competitors and identify areas for improvement.
- (v) The findings underscore the significance of continuously monitoring and evaluating the costing system's effectiveness by regularly assessing the costing system and adapting it to changing market conditions thereby maintaining its competitive edge.
- (vi) With the costing system providing valuable insights into resource utilization and capacity utilization, Champion Breweries Plc can make better resource allocation decisions efficiently and effectively based on cost information which can lead to improved productivity and profitability.

The business implications of the findings stress the importance of a well-optimized costing system as a vital tool for driving performance, supporting decision-making and achieving long-term success in the manufacturing industry. Champion Breweries Plc can leverage these implications to strategically position itself, optimize operations and maintain its competitive advantage in the Nigerian market.

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**APPENDIX: RESEARCH QUESTIONNAIRE**

**Costing System and the Performance of Champion Breweries PLC**

Please complete this questionnaire by ticking (√) the right box against the correct alternative from the option.

**SECTION A: Personal Data**

**Gender:** Male  Female

**Age:** 21- 30  31- 55  55 and above

(i) Which department do you work in?

Accounting  Production  Operations  Supply Chain

(ii) How many years have you worked in this department?

1- 5years  6- 10  11 and above

(iii) What's your Education level

SSCE  OND  HND  B.sc.  Msc.  PhD

**Section B**

SA: Strongly Agree

A: Agree

SD: Strongly Disagree

D: Disagree

N: Neutral

Please tick (√) as appropriate

| <i>S/N</i> | <i>Items</i>  | <i>SA</i> | <i>A</i> | <i>SD</i> | <i>D</i> | <i>N</i> |
|------------|---|-----------|----------|-----------|----------|----------|
|            | Evaluation of the existing costing system employed by Breweries Companies   |           |          |           |          |          |
|            | The existing costing system of Champion Breweries Plc effectively captures and analyzes costs.                                |           |          |           |          |          |
|            | The costing system of Champion Breweries Plc provides accurate and reliable cost information.                                 |           |          |           |          |          |
|            | The costing system of Champion Breweries Plc allocates costs to different cost centers or cost objects effectively.           |           |          |           |          |          |
|            | The costing system of Champion Breweries Plc captures both variable and fixed costs appropriately.                            |           |          |           |          |          |
|            | The data recording and processing within the costing system of Champion Breweries Plc are efficient and timely.               |           |          |           |          |          |
|            | Impact of the costing system on performance evaluation within Champion Breweries Plc  |           |          |           |          |          |
|            | The costing system influences the performance evaluation of Champion Breweries Plc.   |           |          |           |          |          |
|            | The costing system of Champion Breweries Plc accurately measures profitability and financial performance.                     |           |          |           |          |          |
|            | The costing system helps assess the return on investment for different projects or initiatives.                               |           |          |           |          |          |
|            | The costing system evaluates the utilization of resources and capacity utilization within Champion Breweries Plc effectively. |           |          |           |          |          |
|            | The costing system enables benchmarking and comparison of performance with industry standards.                                |           |          |           |          |          |
|            | Impact of the costing system on decision-making within Champion Breweries Plc.  |           |          |           |          |          |
|            | The costing system of Champion Breweries Plc supports decision-making processes.  |           |          |           |          |          |
|            | The costing system provides relevant cost information for pricing decisions.  |           |          |           |          |          |
|            | The costing system contributes to assessing product profitability and making product mix decisions.                           |           |          |           |          |          |
|            | The costing system influences resource allocation decisions within Champion Breweries Plc.                                    |           |          |           |          |          |
|            | The costing system helps in identifying cost reduction strategies and cost-saving opportunities.                              |           |          |           |          |          |