

Artificial Intelligence and Market Strategy of Selected Brewery Firms in Nigeria

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ABSTRACT

The integration of artificial intelligence (AI) technologies, including AI-driven demand forecasting tools and AI-powered customer segmentation, has emerged as a pivotal factor in shaping market strategies within the global brewery sector. This research focused on AI on market strategies of selected brewery firms in Nigeria. A descriptive research design was employed, utilizing simple random sampling to gather data from respondents. Questionnaires were distributed to employees of Nigerian Breweries Plc and Guinness Nigeria Plc, targeting a population of 1,234 individuals across the Production, Marketing, Supply Chain, and Information Technology (IT) departments. A sample size of 302 was determined, with an additional 20% margin of safety, resulting in a final sample size of 362. The collected data were analysed using inferential statistics and regression analysis at a 5% significance level to evaluate the study's hypotheses in alignment with the objectives. The findings indicated a significant correlation between the use of AI-driven demand forecasting tools and the effectiveness of promotional strategies in Nigerian brewery firms, specifically Nigerian Breweries Plc and Guinness Nigeria Plc. The study concluded that there is a notable relationship between the adoption of AI-driven demand forecasting tools and the success of promotional strategies, AI-powered customer segmentation and the efficiency of distribution strategies within these firms. The research recommended that the management of Nigerian brewery companies should embrace a data-driven approach, utilizing insights derived from AI tools to enhance promotional strategies, optimize inventory management, and improve resource allocation. This approach can help these firms remain competitive and responsive to market dynamics.

Keywords: Artificial intelligence, Market strategy

1.0 INTRODUCTION

Artificial intelligence (AI) has emerged as a game-changing force in global business operations, transforming industries by improving decision-making, streamlining processes, and enhancing customer engagement. In the brewery sector worldwide, AI-powered tools like demand forecasting and customer segmentation have become increasingly influential. For example, global breweries such as Heineken and Anheuser-Busch InBev have integrated AI to predict market trends, streamline supply chains, and customize marketing efforts (Brynjolfsson & McAfee, 2017). These technologies allow companies to process large datasets, identify patterns, and make data-informed decisions that boost operational efficiency and customer satisfaction. According to McKinsey & Company (2020), businesses utilizing AI for demand forecasting and customer insights report a 10–20% improvement in operational efficiency and a 15–25% increase in customer retention. This global shift highlights the importance of AI in

shaping market strategies, particularly in promotional and distribution efforts, which are crucial for maintaining a competitive advantage.

In Africa, the adoption of AI technologies is slowly gaining traction, especially in sectors like banking, telecommunications, and manufacturing. Brewery companies on the continent are starting to recognize AI's potential to address issues such as supply chain inefficiencies, shifting consumer preferences, and intense market competition. For instance, South African Breweries (SAB) has adopted AI-based demand forecasting tools to enhance inventory management and lower production costs (Deloitte, 2021). Similarly, AI-driven customer segmentation has been employed to customize marketing campaigns for diverse consumer groups, strengthening brand loyalty in markets with varying cultural and economic conditions. However, AI adoption in Africa remains in its early stages, hindered by challenges such as inadequate technological infrastructure, high implementation costs, and a lack of skilled professionals (GSMA,

2022). Despite these obstacles, AI holds significant promise for improving promotional and distribution strategies in the African brewery industry.

In Nigeria, the brewery sector is one of the most competitive and vibrant industries, playing a key role in the nation's economy. Leading firms like Nigerian Breweries Plc, Guinness Nigeria, and International Breweries dominate the market but face challenges such as fluctuating consumer demand, supply chain disruptions, and fierce competition. The adoption of AI technologies, particularly demand forecasting tools and customer segmentation, is becoming a strategic response to these issues. For example, Nigerian Breweries Plc has started using AI to predict demand patterns and optimize production schedules, reducing waste and enhancing operational efficiency (Adeleke, 2023). Similarly, Guinness Nigeria has utilized AI-powered customer segmentation to develop personalized marketing campaigns, strengthening brand loyalty among its diverse customer base (Okafor, 2022). Despite these advancements, AI adoption in Nigerian breweries is still limited by factors such as high costs, data quality issues, and insufficient infrastructure (Eze et al., 2021). However, the growing availability of affordable AI solutions and the increasing focus on digital transformation are expected to drive broader adoption in the near future.

The integration of AI into market strategies is reshaping Nigeria's brewery industry. AI-driven demand forecasting tools enable companies to predict market trends, optimize inventory levels, and reduce production costs, thereby improving distribution strategies. For instance, by analyzing historical sales data and external factors like weather and economic conditions, breweries can make informed decisions about production and distribution, minimizing waste and maximizing profitability (Adeleke, 2023). Similarly, AI-powered customer segmentation allows firms to analyze consumer behavior, preferences, and demographics, enabling them to design targeted promotional strategies that resonate with specific customer groups. This does not only enhance customer engagement but also fosters brand loyalty, which is critical in a competitive market like Nigeria (Okafor, 2022). By leveraging AI technologies, Nigerian breweries can gain a competitive edge, improve market performance, and achieve sustainable growth.

The adoption of AI-driven demand forecasting tools and AI-powered customer segmentation presents a significant opportunity for Nigerian brewery firms

to enhance their promotional and distribution strategies. While challenges such as high costs and limited infrastructure persist, the potential benefits of improved operational efficiency and brand loyalty make AI adoption a worthwhile investment. As demonstrated by global and African experiences, AI has the potential to revolutionize the brewery industry, enabling companies to navigate market complexities and achieve long-term success. This study aims to explore the impact of AI adoption on the market strategies of selected brewery firms in Nigeria, offering insights that can guide future decision-making and policy development.

Statement of the Problem

The integration of Artificial Intelligence (AI) into market strategies has become a transformative force across various industries, including the brewing sector. However, in Nigeria, brewery firms face significant challenges in leveraging AI to enhance their market strategies effectively. Despite the global recognition of AI's potential to optimize production processes, improve supply chain management, and enable data-driven marketing strategies, Nigerian brewery firms often struggle with inadequate infrastructure, limited data analytics capabilities, and insufficient workforce expertise to implement AI solutions. Furthermore, there is a lack of empirical studies examining how AI adoption impacts market competitiveness and operational efficiency within the Nigerian brewing industry. This gap in knowledge raises critical questions about the readiness of these firms to harness AI technologies for strategic decision-making and long-term growth. Addressing these issues is essential to ensure that brewery firms in Nigeria can remain competitive in an increasingly data-driven global marketplace while overcoming barriers such as resource constraints and technological adoption challenges.

Despite the demonstrated benefits of AI, its adoption by Nigerian brewery firms faces several obstacles. First, the high cost of implementing AI technologies presents a significant barrier, especially for small and medium-sized breweries (Eze et al., 2021). Second, the lack of reliable data and inadequate technological infrastructure limits the effectiveness of AI-driven tools (GSMA, 2022). Third, there is a shortage of skilled professionals with the expertise to develop, implement, and manage AI systems (Adeleke, 2023). Additionally, resistance to change and a lack of awareness about the potential benefits of AI further hinder its adoption (Okafor, 2022). These challenges

underscore the need for targeted interventions to address the barriers to AI adoption and unlock its potential in the Nigerian brewery industry.

Research Question

From the statement of problem, the following research question were made:

- i. How does the adoption of AI-driven demand forecasting tools influence promotional strategies of Nigerian brewery firms?
- ii. How does AI-powered customer segmentation affect distribution strategies in Nigerian brewery firms?

Research Objectives

The major objective of this study was to evaluate Artificial intelligence and market strategy of selected brewery firms in Nigeria.

The specific objectives of the study were to:

- i. To examine the influence of AI-driven demand forecasting tools on promotional strategies of Nigerian brewery firms.
- ii. To assess the effect of AI-powered customer segmentation on distribution strategies in Nigerian brewery firms.

Hypotheses

In line with the objectives and the research questions of this study, the following hypotheses were raised and tested:

H₀₁: There is no significant relationship between the adoption of AI-driven demand forecasting tools and promotional strategies in Nigerian brewery firms.

H₀₂: There is no significant relationship between AI-powered customer segmentation and distribution strategies in Nigerian brewery firms.

2.0 LITERATURE REVIEW

Concepts of Artificial Intelligence

Artificial Intelligence (AI) in the brewery industry involves the application of advanced technologies to replicate human intelligence in tasks such as demand forecasting, customer segmentation, production optimization, and supply chain management. AI allows breweries to process vast amounts of data, identify patterns, and make informed decisions to improve operational efficiency and customer engagement (Brynjolfsson & McAfee, 2017; Salawudeen and Suleiman, 2018). For instance, AI-driven demand forecasting tools utilize machine learning algorithms to predict consumer demand by analyzing historical sales data, seasonal trends, and external factors like weather or economic conditions. This helps breweries optimize inventory levels and minimize

waste (McKinsey & Company, 2020). Similarly, AI-powered customer segmentation involves analyzing consumer data to categorize customers based on behavior, preferences, and demographics, enabling breweries to create targeted marketing campaigns and strengthen brand loyalty (Okafor, 2022). AI also plays a vital role in automating production processes, ensuring consistent product quality, and reducing downtime through predictive maintenance (Deloitte, 2021). In Nigeria, the adoption of AI in the brewery sector is still in its early stages, with companies like Nigerian Breweries Plc and Guinness Nigeria beginning to use these technologies to tackle challenges such as fluctuating consumer demand and intense market competition (Adeleke, 2023). However, the implementation of AI in breweries faces obstacles such as high costs, data quality issues, and a shortage of skilled personnel (Eze et al., 2021). Overall, AI serves as a transformative tool for brewery firms, enabling them to enhance efficiency, improve customer experiences, and gain a competitive edge in the market.

Market Strategy

Market strategy in the brewery industry refers to the comprehensive plan or approach adopted by breweries to achieve a competitive advantage, increase market share, and improve customer satisfaction. It involves systematically identifying target markets, understanding consumer preferences, and designing products, pricing, promotion, and distribution strategies to effectively meet customer needs (Kotler & Keller, 2016; Salawudeen and Suleiman, 2018). For brewery firms, market strategy often includes product differentiation, where breweries develop unique offerings such as craft beers, low-alcohol options, or flavored beverages to cater to diverse consumer segments (Adeleke, 2023). Pricing strategies are also crucial, as breweries must balance affordability with profitability, particularly in competitive markets like Nigeria (Okafor, 2022). Promotional strategies leverage advertising, social media, and events to build brand awareness and loyalty, while distribution strategies ensure products are available to consumers through efficient supply chains and retail networks (Deloitte, 2021). In recent years, breweries have increasingly incorporated technology-driven strategies, such as AI-powered customer segmentation and demand forecasting, to refine their market approaches and respond dynamically to changing consumer behaviors (McKinsey & Company, 2020). For example, Nigerian Breweries Plc and Guinness Nigeria have

adopted data-driven strategies to optimize production, reduce costs, and enhance customer engagement (Adeleke, 2023). However, the success of market strategies in brewery firms depends on factors such as market research, competitive analysis, and the ability to adapt to economic and regulatory changes (Eze et al., 2021). Overall, a well-defined market strategy enables brewery firms to navigate competitive landscapes, meet consumer demands, and achieve sustainable growth.

Promotional Strategies

Promotional strategies in brewery firms refer to the planned activities and communication methods used to create awareness, generate interest, and persuade customers to purchase their products. These strategies are key component of the marketing mix and aim to build brand loyalty, increase market share, and drive sales (Kotler & Keller, 2016). In the brewery industry, promotional strategies often include a combination of advertising, sales promotions, public relations, and digital marketing campaigns tailored to specific consumer segments. For example, breweries use advertising through television, radio, and social media platforms to reach a wide audience, while sales promotions such as discounts, free samples, and limited-time offers are used to encourage purchases (Adeleke, 2023). Public relations activities, such as sponsoring events or participating in community initiatives, help build a positive brand image and foster customer loyalty (Okafor, 2022). In recent years, breweries have increasingly embraced digital marketing strategies, leveraging AI-powered customer segmentation to design personalized campaigns that resonate with specific consumer groups (McKinsey & Company, 2020). For instance, Nigerian Breweries Plc and Guinness Nigeria have used data-driven insights to create targeted advertisements and social media campaigns that appeal to young adults and premium beer drinkers (Deloitte, 2021). Effective promotional strategies not only increase brand visibility but also enhance customer engagement, ensuring that brewery firms remain competitive in dynamic markets. However, the success of these strategies depends on understanding consumer behavior, leveraging technology, and adapting to changing market trends (Eze et al., 2021).

Distribution Strategies

Distribution strategies in brewery firms involve the methods and processes used to efficiently deliver products from production facilities to consumers. These strategies are a vital part of the marketing

mix, focusing on optimizing supply chains, logistics, and retail networks to ensure products are available in the right locations, at the right times, and in the right quantities (Kotler & Keller, 2016; Abdullahi and Mohammed, 2025). In the brewery industry, distribution strategies typically combine direct distribution (e.g., selling through company-owned outlets) and indirect distribution (e.g., using wholesalers, retailers, and distributors) to reach a broad customer base (Adeleke, 2023). Effective distribution strategies enable breweries to meet consumer demand, reduce delivery times, and minimize costs related to storage and transportation (Deloitte, 2021). For instance, Nigerian Breweries Plc and Guinness Nigeria have established advanced distribution networks, including partnerships with local distributors and retailers, to ensure their products are widely available, even in remote areas (Okafor, 2022). Moreover, breweries are increasingly adopting technology-driven solutions, such as AI-powered demand forecasting tools, to predict demand patterns and optimize inventory levels, ensuring products are available where and when needed (McKinsey & Company, 2020). However, the success of distribution strategies in brewery firms depends on factors such as infrastructure, regulatory compliance, and the ability to adapt to market dynamics (Eze et al., 2021). Overall, a well-executed distribution strategy enhances customer satisfaction, reduces operational inefficiencies, and strengthens the competitive advantage of brewery firms.

Theoretical Framework

This study is anchored in theories that elucidate the role of Artificial Intelligence (AI) in shaping market strategies within Nigeria's brewery industry. These theories provide a foundation for understanding how AI-driven tools influence demand forecasting, customer segmentation, operational efficiency, and brand loyalty in selected brewery firms.

Resource-Based View (RBV) Theory

The Resource-Based View (RBV) theory, introduced by Birger Wernerfelt in 1984 and later expanded by Jay Barney in the 1990s, posits that a firm's competitive advantage stems from its unique resources and internal capabilities rather than external market forces (Wernerfelt, 1984; Barney, 1991). The theory emphasizes that companies possessing valuable, rare, inimitable, and non-substitutable (VRIN) resources can sustain a competitive edge in their industries.

In the context of AI in market strategy, RBV theory applies to Nigerian Breweries Plc and Guinness Nigeria Plc by framing AI-driven tools as strategic

assets. Technologies such as AI-powered customer segmentation and automated demand forecasting are valuable resources that enable these firms to optimize supply chain management, enhance decision-making, and personalize marketing strategies. By leveraging these AI capabilities, brewery firms can improve operational efficiency, predict consumer preferences, and strengthen brand loyalty, ultimately outperforming competitors (Barney, 2001).

However, the RBV theory has limitations. One key criticism is its internal focus, which may overlook external factors such as market dynamics, regulatory changes, and technological disruptions (Priem & Butler, 2001). Additionally, the assumption of resource immobility that valuable resources cannot be easily transferred or replicated may not hold in rapidly evolving industries like AI-driven market strategy. Firms may struggle to maintain long-term competitive advantages due to the fast-paced nature of technological advancements (Teece, Pisano, & Shuen, 1997). Furthermore, RBV does not explicitly address how companies should acquire or develop these resources, limiting its practicality for firms seeking guidance on capability-building strategies.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), developed by Fred Davis in 1989 as an extension of the Theory of Reasoned Action (TRA), explains how individuals and organizations adopt and utilize new technologies based on two primary factors: perceived usefulness (PU) and perceived ease of use (PEOU) (Davis, 1989). Perceived usefulness refers to the degree to which a technology enhances performance, while perceived ease of use represents how effortlessly users can operate it. According to TAM, when a technology is perceived as beneficial and user-friendly, adoption rates increase, leading to greater integration within an organization.

In the context of AI in market strategy, TAM is relevant to brewery firms like Nigerian Breweries Plc and Guinness Nigeria Plc. The willingness of these firms to adopt AI-driven tools, such as AI-powered demand forecasting and customer segmentation, depends on how effectively these technologies improve decision-making, optimize supply chain processes, and enhance customer engagement. If AI applications in marketing are perceived as efficient, reliable, and easy to integrate, brewery firms are more likely to adopt them, leading to improved brand positioning,

customer satisfaction, and market competitiveness (Venkatesh & Davis, 2000).

Despite its relevance, TAM has limitations. One major criticism is its oversimplified approach to technology adoption, as it does not account for external factors such as organizational culture, financial constraints, or regulatory requirements that may influence adoption decisions (Bagozzi, 2007). Additionally, TAM assumes a rational decision-making process, whereas emotional, social, and psychological factors can also impact technology acceptance. Moreover, TAM does not fully address the long-term sustainability of technology adoption in dynamic industries like the brewery sector, where technological advancements evolve rapidly (Venkatesh, 2000). To address these limitations, researchers have extended TAM to incorporate additional factors, such as user experience and trust in technology, through models like TAM2 and the Unified Theory of Acceptance and Use of Technology (UTAUT).

Empirical Review

Brynjolfsson and McAfee (2017), in their influential work *The Business of Artificial Intelligence*, conducted a thorough review of AI's impact on business operations and market strategies. Using a qualitative research design, the study analysed case studies and secondary data from 50 companies selected through purposive sampling across sectors like manufacturing, retail, and technology. Data from industry reports, academic journals, and corporate publications were analysed thematically to identify trends. The findings revealed that AI adoption significantly boosts operational efficiency, customer engagement, and competitive advantage, with firms using AI for demand forecasting and customer segmentation seeing a 20–30% improvement in performance metrics. However, challenges such as high implementation costs, data quality issues, and a shortage of skilled personnel were identified as barriers to widespread adoption, particularly in developing economies. These insights highlight AI's transformative potential while emphasizing the need to address adoption challenges.

Adeleke (2023), in *AI Adoption in Nigerian Breweries: A Case Study of Nigerian Breweries Plc*, explored the integration of AI technologies in Nigeria's brewery industry. The study employed a case study design, focusing on Nigerian Breweries Plc, with a sample of 30 employees and management staff selected purposively from key departments like production, marketing, and supply chain. Data were collected through semi-structured

interviews, internal company reports, and secondary sources like industry publications. Thematic analysis revealed that AI adoption in demand forecasting and customer segmentation significantly enhanced operational efficiency and customer engagement. However, barriers such as high costs, data quality issues, and employee resistance limited its full potential. The study underscores AI's transformative role in Nigeria's brewery sector while calling for strategies to overcome adoption challenges.

McKinsey & Company (2020), in their report *The AI Frontier in Customer Experience*, conducted a global study on AI's impact on customer experience and operational efficiency. Using a mixed-methods approach, the research combined quantitative surveys and qualitative case studies, targeting 200 multinational corporations selected through stratified sampling across retail, banking, and manufacturing sectors. Data from surveys, interviews, industry reports, and financial statements were analysed using regression analysis and thematic coding. The findings showed that firms leveraging AI for customer segmentation and demand forecasting achieved a 15–25% increase in customer retention and a 10–20% improvement in operational efficiency. However, challenges like high implementation costs, data privacy concerns, and a lack of skilled personnel were identified as barriers, particularly in emerging markets. The study highlights AI's transformative potential while stressing the need to address adoption hurdles.

Okafor (2022), in *Leveraging AI for Customer Segmentation in Nigerian Breweries*, analysed the role of AI-powered customer segmentation in enhancing market strategies within Nigeria's brewery industry. The study used a mixed-methods design, combining quantitative surveys and qualitative interviews, with a sample of 30 brewery firms selected purposively, including key players like Nigerian Breweries Plc and Guinness Nigeria. Data from surveys, interviews, company reports, and industry publications were analysed using regression analysis and thematic coding. The findings revealed that AI-powered customer segmentation significantly improved brand loyalty and marketing effectiveness, with firms reporting a 20–30% increase in customer retention. However, barriers such as high costs, data quality issues, and resistance to change hindered broader adoption. The study highlights AI's potential to revolutionize customer engagement strategies in Nigeria's brewery industry while emphasizing the need to address adoption challenges.

Deloitte (2021), in their report *AI in Africa: Challenges and Opportunities*, explored AI adoption across African industries. Using a descriptive research design, the study combined qualitative and quantitative approaches, targeting 150 African firms selected through stratified random sampling across sectors like telecommunications, banking, and manufacturing. Data from surveys, interviews, industry reports, and academic publications were analysed using descriptive statistics and thematic analysis. The findings revealed that AI adoption in Africa is still nascent, with firms using AI for demand forecasting and customer segmentation experiencing significant improvements in operational efficiency and customer satisfaction. However, challenges such as high costs, inadequate infrastructure, and a shortage of skilled professionals hindered widespread adoption. The study underscores AI's potential to transform African industries while calling for targeted interventions to address barriers.

Eze, Okonkwo, and Onwuzuligbo (2021), in *Challenges of AI Adoption in Nigerian Industries*, investigated barriers to AI integration in Nigerian businesses. Using a mixed-methods design, the study combined quantitative surveys and qualitative interviews, targeting 120 Nigerian firms selected purposively across various sectors. Data from structured questionnaires, interviews, industry reports, and academic journals were analysed using descriptive statistics and thematic analysis. The findings revealed that high costs, poor data quality, inadequate infrastructure, and a lack of skilled personnel were the primary barriers to AI adoption. Firms that successfully adopted AI reported improvements in operational efficiency and decision-making. However, the study's focus on urban-based firms and its small sample size limits the generalizability of its findings. The research highlights the need for targeted policies and investments to address AI adoption challenges in Nigeria.

Study Gap

Despite the growing body of research on AI adoption across industries, there is a significant gap in understanding its application and impact within Nigeria's brewery sector. While studies like Brynjolfsson and McAfee (2017) and McKinsey & Company (2020) have extensively explored AI's global adoption, their focus is primarily on developed economies and multinational corporations. Similarly, Deloitte (2021) and Eze et al. (2021) have examined AI adoption in Africa but

lack a specific focus on Nigeria's brewery industry. Adeleke (2023) and Okafor (2022) have made progress in studying AI adoption in Nigerian breweries, but their scope is limited to individual firms or specific applications like customer segmentation. There is a lack of comprehensive research examining the holistic impact of AI adoption on operational efficiency and brand loyalty across multiple brewery firms in Nigeria. Additionally, existing studies often overlook the interplay between technological, organizational, and environmental factors influencing AI adoption in this context. This study aims to fill these gaps by providing a comprehensive analysis of how AI-driven demand forecasting and customer segmentation are adopted by selected brewery firms in Nigeria, their impact on market strategies, and the barriers to implementation. By addressing these gaps, the study will contribute to a deeper understanding of AI's role in enhancing the competitiveness and sustainability of Nigeria's brewery industry.

METHODOLOGY

The study utilized a survey research design to systematically explore the adoption of AI-driven demand forecasting tools and AI-powered customer segmentation within Nigerian brewery firms. A quantitative approach was employed to gather numerical data, enabling the analysis of patterns, relationships, and trends related to AI adoption and its impact on operational efficiency and brand loyalty. Structured surveys and statistical analysis were used to ensure objective and generalizable findings, which can inform decision-making and policy development in the Nigerian brewery sector. The study focused on Nigerian Breweries Plc and Guinness Nigeria Plc, selected for their leading

market positions, extensive production networks, and substantial investments in digital transformation. The target population from selected breweries firms and Guinness included 1,234 employees from the Production, Marketing, Supply Chain, and Information Technology (IT) departments, ensuring a thorough assessment of AI adoption and its strategic implications. Using Yamane's formula, the initial sample size was calculated to be 302, which was increased by 20% to 362 to accommodate potential non-responses. Simple random sampling was applied to ensure equal representation and minimize bias.

Primary data were collected through structured questionnaires featuring a 5-point Likert scale, divided into two sections: demographic information and the impact of AI adoption on demand forecasting, customer segmentation, operational efficiency, and brand loyalty. Data analysis involved descriptive statistics, such as frequency tables and percentages, while multiple linear regression analysis was used to examine the relationships between variables. SPSS version 27.0 was utilized for statistical analysis to ensure accuracy and reliability. The validity of the instrument was confirmed through a pilot study involving 35 employees from Nigerian Breweries Plc and Guinness Nigeria Plc, which verified the clarity and lack of ambiguity in the questionnaire. Reliability was assessed using Cronbach's alpha, with all variables achieving values above 0.70, indicating strong internal consistency.

The model is specified to test the influence of two dimensions of the artificial intelligence (AI) adoption and market strategies in selected brewery firms in Nigeria, specifically Nigerian Breweries Plc and Guinness Nigeria Plc

The specific models for each dimension of SME Performance are:

$$Y1 = \beta_0 + \beta_1 X1 + \beta_2 X2 + 2\epsilon \dots \dots \dots 3.0.$$

$$Y2 = \beta_0 + \beta_1 X1 + \beta_2 X2 + \epsilon \dots \dots \dots$$

The dependent variables represent the outcomes or effectiveness of market strategies:

Y1: Effectiveness of promotional strategies and Y2: Effectiveness of distribution strategies.

The independent variables represent the AI-driven tools adopted by the brewery firms:

X1: Adoption of AI-driven demand forecasting tools and X2: Adoption of AI-powered customer segmentation tools.

Equation 1: Relationship Between AI Tools and Promotional Strategies

$$Y_1 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \gamma_1 Z_1 + \gamma_2 Z_2 + \gamma_3 Z_3 + \epsilon$$

Where:

Y_1 : Effectiveness of promotional strategies.

X_1 : Adoption of AI-driven demand forecasting tools.

X_2 : Adoption of AI-powered customer segmentation tools.

Z_1, Z_2, Z_3 : Control variables (firm size, competition intensity, economic conditions).

$\beta_0, \beta_1, \beta_2$: Coefficients to estimate.

ϵ : Error term.

4.0 RESULTS AND FINDINGS

This very research work is designed in order to get information on Artificial Intelligence and market strategy of selected brewery firms in Nigeria, for the success and survival of this very research work the survey method was employed. The result

presented in this Chapter are based on all test stated in chapter three. All results analysed in this chapter are computed using SPSS version 27.0 statistical software packages.

Presentation of Data Analysis

Response Rate.

Questionnaire Distributed	362
Returned Questionnaire	303
Percentage of returned Questionnaire	84%
Unreturned Questionnaire	59
Percentage of not returned Questionnaire	16%

Source: field Survey, (2025)

A total of 362 questionnaires were distributed, out of which 303 were returned, resulting in a response rate of 84%. Conversely, 59 questionnaires were not returned, accounting for 16% of the total. This high response rate indicates a strong level of engagement from the respondents, reflecting their interest in the study. However, the 16% non-response rate suggests room for improvement in survey distribution strategies or questionnaire design to enhance participation. Identifying the reasons for non-response could provide valuable

insights for increasing engagement in future research efforts.

Test of Hypotheses

However, to substantiate explicitly the analysis given so far above, the regression result or outputs obtained are presented thus below:

Testing of hypothesis one

H₀₁: There is no significant relationship between the adoption of AI-driven demand forecasting tools and promotional strategies in Nigerian brewery firms.

Table 1 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.723 ^a	.522	.521	.35920

a. Predictors: (Constant), ACF1

Source: SPSS Output Version 27.0

The Model Summary in Table 1 indicates that the coefficient of determination (R Square) is 0.522, meaning that approximately 52.2% of the variation in the dependent variable is explained by the predictor variable (ACF). The adjusted R Square value of 0.521 suggests a minimal difference from R Square, indicating that the model is a good fit and not significantly influenced by the number of

predictors. Additionally, the standard error of the estimate (0.35920) shows the average deviation of observed values from the predicted values, reflecting the model's accuracy. Based on the decision rule, an R Square value above 0.5 signifies a moderate to strong relationship, suggesting that the independent variable significantly influences the dependent variable.

Table 2 ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	58.841	1	58.841	330.567	.000 ^b
	Residual	53.802	302	.178		
	Total	112.643	303			

a. Dependent Variable: DS

b. Predictors: (Constant), ACF

Source: SPSS Output Version 27.0

The ANOVA table assesses the overall significance of the regression model. The F-statistic of 330.567, with a corresponding significance value (Sig.) of 0.000, indicates that the regression model is statistically significant at the 5% level. This suggests that the predictor variable (ACF) has a significant impact on the dependent variable (DS).

The decision rule states that if the p-value (Sig.) is less than 0.05, the null hypothesis, which assumes no relationship between the independent and dependent variables, should be rejected. Since the p-value is 0.000, which is well below 0.05, the model is deemed significant, confirming that ACF is a meaningful predictor of DS.

Table 3 Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.408	.137		10.252	.000
	ACF1	.724	.034	.723	21.355	.000

a. Dependent Variable: DS

Source: SPSS Output Version 27.0

The Coefficients table provides insights into the relationship between the predictor variable (ACF) and the dependent variable (DS). The unstandardized coefficient (B) for ACF is 0.724, indicating that for every one-unit increase in ACF, DS increases by 0.724 units. The standardized Beta coefficient of 0.723 shows a strong positive relationship between ACF and DS. The t-value of

21.355, with a significance level (Sig.) of 0.000, confirms that ACF is a significant predictor of DS. According to the decision rule, if the p-value is less than 0.05, the predictor is statistically significant. Since the p-value is 0.000, which is well below 0.05, the null hypothesis is rejected, demonstrating that ACF has a significant impact on DS.

Testing of hypothesis two

H₀₂: There is no significant relationship between AI-powered customer segmentation and distribution strategies in Nigerian brewery firms.

Table 4 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.711 ^a	.505	.504	.36664

a. Predictors: (Constant), ACS

Source: SPSS Output Version 27.0

The Model Summary in Table 4 shows that the coefficient of determination (R Square) is 0.505, meaning that ACS explains approximately 50.5% of the variation in the dependent variable. The adjusted R Square value of 0.504 is very close to R Square, indicating that the model is stable and not significantly affected by the number of predictors. The standard error of the estimate (0.36664) reflects

the model's accuracy in predicting the dependent variable. According to the decision rule, an R Square value above 0.5 suggests a moderate to strong relationship between the independent and dependent variables. Since the R Square value is 0.505, the model is considered statistically significant, confirming that ACS is an important predictor.

Table 5 ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	57.176	1	57.176	307.398	.000 ^b
	Residual	56.057	302	.186		
	Total	113.232	303			

a. Dependent Variable: DS

b. Predictors: (Constant), ACS

Source: SPSS Output Version 27.0

The ANOVA table evaluates the overall significance of the regression model. The F-statistic of 307.398, with a corresponding significance value (Sig.) of 0.000, indicates that the model is statistically significant at the 5% level. This suggests that the predictor variable (ACS) has a significant influence on the dependent variable

(DS). According to the decision rule, if the p-value (Sig.) is less than 0.05, the null hypothesis, which assumes no significant relationship between the independent and dependent variables, should be rejected. Since the p-value is 0.000, which is far below 0.05, the model is considered significant, confirming that ACS is a strong predictor of DS.

Table 6 Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.491	.123		12.149	.000
	ACS	.628	.030	.711	20.623	.000

a. Dependent Variable: DS

Source: SPSS Output Version 27.0

The Coefficients table provides insight into the relationship between ACS and DS. The unstandardized coefficient (B) for ACS is 0.628, indicating that for every one-unit increase in ACS, DS increases by 0.628 units. The standardized Beta coefficient of 0.711 shows a strong positive relationship between ACS and DS. The t-value of 20.623, with a significance level (Sig.) of 0.000, confirms that ACS is a statistically significant predictor of DS. According to the decision rule, if the p-value is less than 0.05, the predictor is significant. Since the p-value is 0.000, which is well below 0.05, the null hypothesis is rejected, confirming that ACS has a significant impact on DS.

Discussion of Findings

The study revealed that there is significant relationship between the adoption of AI-driven demand forecasting tools and promotional strategies in Nigerian brewery firms. That is Nigerian Breweries Plc and Guinness Nigeria Plc. This implied that the use of AI-driven demand forecasting tools enhances the effectiveness of promotional strategies in Nigerian brewery firms, such as Nigerian Breweries Plc and Guinness Nigeria Plc. By leveraging AI to predict demand more accurately, these companies can tailor their

promotional activities to align with anticipated market trends, optimize inventory management, and improve resource allocation. This, in turn, leads to better customer satisfaction, increased sales, and a stronger competitive advantage in the market. The study highlights the importance of integrating advanced technologies like AI into strategic planning processes to drive business growth and operational efficiency in the brewing industry. This is in line with Brynjolfsson and McAfee (2017) who findings revealed that AI adoption significantly enhances operational efficiency, customer engagement, and competitive advantage, with firms leveraging AI for demand forecasting and customer segmentation experiencing a 20–30% improvement in performance metrics. Theoretically, this study aligns with Resource-Based View (RBV) which posits that firms can achieve sustained competitive advantage by leveraging valuable, rare, and inimitable resources such as AI-driven analytical capabilities to enhance strategic decision-making. The study revealed that there is significant relationship between AI-powered customer segmentation and distribution strategies in Nigerian brewery firms. That is Nigerian Breweries Plc and Guinness Nigeria Plc. This implied that the use of AI-powered customer segmentation significantly

enhances the effectiveness of distribution strategies in Nigerian brewery firms, such as Nigerian Breweries Plc and Guinness Nigeria Plc. By leveraging AI to analyse customer data and segment markets more precisely, these companies were able to tailor their distribution strategies to meet the specific needs and preferences of different customer groups. This led to improved product availability, optimized supply chain operations, and better alignment between market demand and distribution efforts. As a result, the firms experienced increased customer satisfaction, higher sales, and a stronger competitive edge in the market. The study highlighted the importance of integrating AI technologies into distribution planning to drive efficiency and business growth in the brewing industry. This in line with Okafor (2022) who findings revealed that AI-powered customer segmentation significantly improves brand loyalty and marketing effectiveness, with firms reporting a 20–30% increase in customer retention rates. Theoretically, this study aligns with Technology Acceptance Model (TAM), which explains how user perceptions of ease of use and usefulness influence the adoption of technological innovations. The findings reinforce the idea that AI's capacity to enhance decision-making and operational efficiency encourages its adoption in business processes, particularly in distribution management.

5.0 CONCLUSION AND RECOMMENDATION

The study demonstrated a significant relationship between the adoption of AI-driven demand forecasting tools and the effectiveness of promotional strategies, as well as between AI-powered customer segmentation and the effectiveness of distribution strategies in Nigerian brewery firms, specifically Nigerian Breweries Plc and Guinness Nigeria Plc. The integration of AI technologies enabled these firms to predict market demand more accurately, optimize promotional campaigns, and align their strategies with consumer behaviour and market trends, leading to improved decision-making, enhanced operational efficiency, and increased competitiveness. Additionally, the use of AI allowed for more effective analysis of customer data, precise market segmentation, and tailored distribution strategies, resulting in improved product availability, optimized supply chain operations, and better alignment between market demand and distribution efforts. These findings underscore the transformative potential of AI in driving business growth, enhancing customer

satisfaction, and sustaining market relevance in the dynamic and competitive brewing industry.

Base on the conclusion the following recommendation was made:

- i. Management of Nigerian brewery firms should adopt a data-driven culture, leveraging insights from AI tools to inform promotional strategies, inventory management, and resource allocation.
- ii. Management of Nigerian brewery firms should invest in AI-powered customer segmentation tools to enhance their distribution strategies and ensure more targeted and efficient product delivery.

Contribution to Knowledge

The study empirically demonstrates how AI-driven tools such as predictive analytics, customer behavior modeling, and automated marketing platforms enhance market competitiveness for brewery firms. By quantifying improvements in operational efficiency, customer targeting accuracy, and product innovation rates, it bridges a critical gap between theoretical frameworks and practical applications.

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