International Journal of Spectrum Research in Social and Management Sciences (IJSRSMS)
1(2), April–June, 2025, Pages 13-29
ISSN: Maiden Edition

https://doi.org/10.5281/zenodo.15328106

ARTIFICIAL INTELLEGENCE (AI) AND SURVIVAL OF SMALL AND MEDIUM SCALE SERVICE FIRMS IN OWERRI, IMO STATE: A STUDY OF SELECTED HOSPITALITY FIRMS IN IMO STATE

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ABSTRACT

Small and medium scale enterprises (SMEs) are substantial in the development of a country, contributing to economic growth, job creation, innovation and social stability. They make a significant contribution to the national gross domestic product (GDP) by stimulating competition, which leads to higher quality products and services, lower prices and more efficient allocation of resources. For efficient and effective operation, they need Artificial Intelligence (AI) solutions which they are hesitant to embrace. This paper aimed at investigating the effect of AI on the survival of small and medium scale service firms in Imo state with reference to hospitality firms. The study adopted a survey design method. The sources of data were from primary and secondary sources. The population of the study was 820 chief executive officers and managers of hotels, restaurants, bars, lodges, and tourist centers, where a sample size of 268 was drawn. The data was analyzed using Regression analysis (SPSS v.20). It is found out that AI technologies have positive impact on customers' service delivery and decision making. It is concluded that AI technologies are relevant in Small and Medium Scale Enterprises (SMEs) especially in the hospitality industry since they help to boost service delivery and enhance effective decisions. It is recommended that AI technology should be applied during decision making process for better and improved accuracy and reduction of errors; and also for efficient and effective customer service delivery.

KEY WORDS: Artificial Intelligence, Small and Medium Scale Enterprises (SMEs), Decision-making, Customer, Service, Survival and Technologies

INTRODUCTION

It is pertinent to pinpoint that small and medium-sized enterprises (SMEs) play major role in the development of any country, contributing to economic growth, job creation, innovation and social stability. Modern economies rely heavily on SMEs (small and medium-sized businesses), and their contribution to economic growth is acknowledged (Abdulhamid, 2024). These types businesses make significant contributions to the national gross domestic product (GDP) by stimulating competition, which leads to higher quality products and services, lower prices and more efficient allocation of resources. SMEs form the basis of economic diversity, providing resilience to external shocks. In addition, they are an important source of jobs, providing employment for a large proportion of the population, reducing poverty and raising living standards. This is especially important in the context of the social and economic development of regions where large companies may be less active (Malgorzata et al, 2024).

The World Bank report (2017) SME accounted for the mainstream of the global businesses and are significant to overall economic development. They account for about 90 percent of businesses and more than 50 percent of employment globally (Itai, Daniel & Uchechukwu, 2024). These companies also play a major role in the development of innovative technologies (as they are more responsive to changing market needs and can experiment with new ideas and technologies). The large share of small and medium-sized enterprises in the national GDP makes the economy more "flexible", which makes it possible to survive various crises and cataclysms with fewer losses. The flexibility and adaptability of SMEs allow them to quickly adjust in response to changes in the economic environment, which helps to stabilize the economy as a whole. In this regard, the development of new approaches to improve the quality of SMEs is relevant, hence, the need for technology like artificial intelligence. Bassey, Brownson & Efi (2025) noted that the current world is characterized by tremendous technological evolution and none appears to have captured the human imagination like Artificial Intelligence. AI is now being implemented in almost all the sectors including farming, self-driving cars, fraud detection, cyber security, healthcare, retail e-commerce, banking, education and even in arts.

With the increase in the availability of relatively cheap AI solutions, SMEs can take advantage of this to effectively improve their operations by applying automation and smart supply chain and making intelligent data driven decisions. These would enable SMEs to grow their business, work in cross-organization translation & localization mechanisms, and compete with large organizations. Moreover, specific advances in artificial intelligence applicable in SMEs contexts, including localized chatbots and specific regional market analysis tools, consider new demands and opportunities. In this case, SMEs need to incorporate AI in their business to work efficiently to cope up with the tight competition and fast-changing technology (Magdalena, 2023).

Statement of the Problem

It is alarming that despite the huge benefits of AI solutions technology, most Nigerian SMEs display attitudes that discourage its best practices and development (Ihesiene, & Akpojaro, 2015). Furthermore, it was speculated that many SMEs in Nigeria are either unwilling or slow at incorporating technology innovations and practices as shown by reduced rate of technology professional engagement, preference for contracting computer based non –professionals to drive technology role as well as infusion of technology units into other departments. This challenge highlights the focus of this study, which is on how to facilitate further integration of AI into the Nigerian SMEs sector. It is observed that majority of small and medium scale enterprises (SMEs) especially service firms like hotels, eateries or restaurants in Owerri are rather hesitant to embrace this new technology. This could be as a result of several factors including lack of knowledge, expertise, resources, infrastructure, food safety, waste reduction, growing costs, and inventory management. Moreover, these service firms also experience poor service delivery, inefficiency in their operations, lack of personalized services, limited innovation and automation, including poor decisions.

Objectives of the Study

The main objective of this study is to determine the effect of artificial intelligence (Ai) on the survival of small and medium scale service firms in Owerri. Other specific objectives included;

i. To determine the impact of AI on customer service delivery.
ii. To find out the effect of AI on effective decision making.

Research Questions

i. What is the impact of AI on customer service delivery in service firms?
ii. What is the effect of AI on effective decision making in service firms?

Statement of Hypothesis

HOi: AI does not have any impact on customer service delivery in service firms.
HOii: AI does not affect effective decision making in service firms.

LITERATURE REVIEW

Artificial Intelligence (AI)

Artificial intelligence is a complex entity. There are several definitions and many more impressions of what constitutes AI (Bassey, Brownson & Efi, 2025). Udeogu & Okoye (2024) posited that Intelligence is a concept that is usually associated with humans. When people function in ways that bring results, think out of the box and do things that are usually difficult for others to do and proffer solutions to issues, such people are regarded as intelligent people. However, the advent of technology has made it possible to create machines that function in such a way that solving problems is made seamless, effective and efficient, thus, bringing the concept of Artificial intelligence (AI) to bear. AI is the assemblage of ICT techniques, gadgets, software and processes that are capable of imitating the intelligence level of humans; making machines perform tasks that are hitherto performed by people that are regarded as intelligent beings. In support of this position, Arakpogun *et al*., (2021) aver that AI is a collection of ICTs that imitate human intelligence. It enables machines to perform cognitive functions previously only associated with human minds (Rai, Constantinides & Sarker, 2019).

Russell & Norvig (2021) defined Artificial Intelligence as the development of algorithms that enable machines to perform tasks traditionally requiring human intelligence, such as problem-solving and learning from experience. Rouse et al. (2020) defined it as a branch of computer science that focuses on building and managing technology that can learn to autonomously make decisions and carry out actions on behalf of a human being. Simply put, AI is an artificially-intelligent system that can learn on its own (Garnier, 2024). AI is not a single technology; instead, it is an umbrella term that includes any type of software or hardware component that supports machine learning, expert systems, generative AI and certain types of robotics. This is about neural networks from Google's DeepMind, which can make connections and reach meanings without relying on pre-defined behavioural algorithms. True AI can improve on past iterations, getting smarter and more aware, allowing it to enhance its capabilities and its knowledge.

Artificial Intelligence (AI) is a branch of Science which deals with helping machines finding solutions to complex problems in a more human-like fashion. This generally involves borrowing characteristics from human intelligence, and applying them as algorithms in a computer friendly way. A more or less flexible or efficient approach can be taken depending on the requirements established, which influences how artificial the intelligent behaviour appears.

Grover, Kar & Dwivedi (2020) in Udeogu & Okoye (2024) argued that AI is a system's capacity to learn by analysing the data from its external environment and using that knowledge to modify existing plans or create new ones in response to environmental changes. This includes using algorithms (such as machine learning for text analytics, and predictive models) to extract patterns from data as well as using robotic automation and virtual agents to support business processes (Davenport & Ronanki, 2018). It is the theory and creation of computers to carry out operations that ordinarily call for human intelligence, such as voice recognition, visual perception, and decision-making (Rai, Constantinides, & Sarker, 2019). Artificial Intelligence (AI) involves replicating human intelligence in machines, allowing them to perform tasks that usually need human cognition, such as learning, reasoning, problem-solving, and decision-making (Helm et al, 2020). AI systems leverage algorithms and data to identify patterns, make predictions, and enhance their performance over time. It is the simulation of human intelligence by computer-coded heuristics is known as Artificial Intelligence (AI). These days, this code is widely used in a variety of applications, including cloud-based business applications, consumer apps, and even embedded firmware.

Ifejesu (2021), the development of Artificial Intelligence (AI) systems and technologies in what has been referred to as the "4th Industrial Revolution" has ushered in new opportunities and threats to developing countries.1 On the one hand, AI provides opportunities for the "global south" to leapfrog development and attain economic growth and prosperity. While it is forecasted that AI could add over US$15 trillion to the global economy in just 10 years, it is clear that the benefits of this 4th revolution will not be evenly accrued by developing countries and in fact, may bypass them altogether without deliberate policies, strategic action, and collaboration between relevant stakeholders. AI systems are machine-based systems that can, for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing real or virtual environments. AI systems are designed to operate with varying levels of autonomy.3 Throughout this paper I use the umbrella terms 'AI' or 'AI system' to refer to digital and/or data-driven technologies, such as those used for automated decision making, diagnosis, predicting and forecasting, and pattern recognition.

According to the International Finance Corporation, AI is an integral part of the solutions for eradicating poverty and increasing shared prosperity as it lowers the cost of and barriers to providing private sector solutions, has greater reach than traditional solutions, and drives investment opportunities in emerging markets.4 AI technologies are already contributing to resolving various development challenges such as financial inclusion. AI also holds great promise to address other sustainable development goals (SDGs) particularly those faced by individuals at the "bottom of the pyramid" by providing AI-as-service solutions or generating data on micro-levels using mobile phones and other electronic devices (Ifejesu, 2021).

Small & Medium Scale Enterprises in Nigeria

Malgorzata et al (2024) state that Small and medium-sized enterprises (SMEs) are substantial in the development of a country, contributing to economic growth, job creation, innovation and social stability. They make a significant contribution to the national gross domestic product (GDP) by stimulating competition, which leads to higher quality products and services, lower prices and more efficient allocation of resources. SMEs form the basis of economic diversity, providing resilience to external shocks. In addition, they are an important source of jobs, providing employment for a large proportion of the population, reducing poverty and raising living standards. This is especially important in the context of the social and economic development of regions where large companies may be less active. These companies also play a major role in the development of innovative technologies (as they are more responsive to changing market needs and can experiment with new ideas and technologies). The large share of small and medium-sized enterprises in the national GDP makes the economy more "flexible", which makes it possible to survive various crises and cataclysms with fewer losses. The flexibility and adaptability of SMEs allow them to quickly adjust in response to changes in the economic environment, which helps to stabilize the economy as a whole. In this regard, the development of new approaches to improve the quality of SMEs is relevant.

Historically, although some people contend that the earliest beginnings of small-scale theory date back to the writing of Richard Canutillo (1975). Most scholars agreed that there are no serious theoretical studies and formulation of small-scale business until the works of Max Weber and Joseph Schumpeter. Other prominent writers in the field include David McChelland, Le vine Everel Hagen, Edith Pen Rose, Thomas Cochran and others. There have been different accounts or studies of history of Nigerian small scale business industries. Some of the early studies include Schatz and Edokpayi 1962. In their study which was limited to former western Nigeria, they wanted to determine the reactions of Nigeria small scale businessman to government measures to encourage the management and operations of small scale. Although they earned that their study has serious reality problem, in spite of the shortcomings their findings reflect the following;

a. Most Nigerian business believes that inadequate capital is their main problem.
b. Most of their respondents complained about lack of organization and management skill and
c. Five indigenous banks responded that the business misapplied the loans for another purpose.

Ubom (2006) and Olagunju (2008) in Mandah (2012) gave a comprehensive history of small-scale business in Nigeria. According to them, it could be traced to the period of our forefathers who were engaged in local farming and trading. At first, they went into farming in order to satisfy their immediate needs, which is known as subsistence. They did not have to sell any of their produce to others; neither did they have to render any services to others. They consumed all they produced. As the country got populated by more people, and given the divergences in human talents, natural and geographical endowments, coupled with the inability of these farmers to satisfy other needs, they then, diversified into other craft trades to provide their other needs. The resulted to the growth of small business activities

With the coming of the European missionaries and later traders, the scope of and form of indigenous enterprise changed. The activities of the Europeans opened up many places that were not known. This made people to go from place to place to trade and with this, market sprang up. Many organizations sprang up too. They helped in expanding the frontiers of small businesses. Notable among those organizations is United Trading Company (UTC). UTC came to trade and tap resources in the country. In their desire to trade, they entered into trade alliances with indigenous people. This gave the people experience and background to establish enterprises of their own. With the attainment of independence of Nigeria in 1960, the government of the country came to realize the need for accelerated economic development of the country through indigenous participation. This came with the understanding that political independence is not without economic independence. Accordingly, various governments, since independence have fashioned out programmes, polices and laws aimed at encouraging small businesses among the people. Among such efforts is the creation of defunct Nigeria Industrial Development Banks (NIDB) in 1964 to provide loans to entrepreneurs for the development of small businesses.

In 1972, the Nigerian Enterprises Promotion Decree No. 4 of February was promulgated. The decree has the objective of promoting indigenous enterprises and to make Nigerians have greater stake in the economy of the country. The indigenization decree actually brought some developments to small businesses in Nigeria. Many agencies were established to aid the effective implementation of the policy. Example is the defunct Nigeria Bank for Commerce and Industries (NBCI), which had been merged with NIDB to form the new Bank of Industry. However, the policy could not fully realize its objective because of various factors, among which were the political instability in Nigeria, and the problem of bureaucratic bottleneck, which thwarted some government's programmes. Successive governments, having discovered the same problem that led to the birth of the indigenization policy, had been making other efforts towards the promotion of small businesses. In spite of these policies and programmes, the state of the Nigerian economy was not enhanced.

This hopeless state forced the government to introduce the Structural Adjustment Programme (SAP) in 1985. The programme was aimed at saving the economy from total collapse through liberalization of the economy, which allows greater private initiative. The programme wanted to make small businesses to play greater role in the economy than before. Consequently, many enterprises were opened up for private participation. It was this that made small businesses go into various trades like banking, manufacturing, retail trade etc. There has also been increase in government efforts aimed at revamping small businesses. Among were the National Directorate of Employment (NDE), Working for Yourself Programme, Small and Medium Enterprises Development Agency of Nigeria (SMEDAN), the Small and Medium Enterprises Equity Investment Scheme (SMEEIS). All these programmes and schemes are established to promote the development of small businesses in Nigeria. They were adopted to address the lingering problem of inadequate funding of small businesses in the country. These efforts have led to the establishment of many enterprises especially small ones all over the country. For example, the pure water business found in many places today, the phone business, computer business centers, etc.

Artificial Intelligence and Customer Service Delivery

The impact of AI in the transformation of customer experience as it affects the service industry cannot be overemphasized due to the fact that it totally changes the way and approach in which things are done (Mbachukwu, Mwakawaza and Huang, 2024). Automation: AI enhances customer service efficiency through the automation of routine inquiries. Chatbots and virtual assistants manage repetitive questions, ensuring round-the-clock availability and quicker response times. This allows human agents to focus on complex issues that demand empathy, critical thinking, or detailed explanations. The outcome benefits both businesses, with improved operational efficiency, and customers, who receive faster support and personalized attention as necessary (Hoyer et al, 2020; Hossain et al., 2024c)

Enhanced Customer Insights: AI harnesses powerful tools such as sentiment analysis and data mining to interpret customer needs. By analyzing extensive customer data, AI uncovers hidden preferences, understands emotional sentiment, and identifies emerging trends. Picture pinpointing customer frustrations from social media posts or detecting increased demand for a particular product. These valuable insights empower businesses to make informed decisions. They can customize marketing strategies, offer personalized product recommendations, and promptly address customer issues, all aimed at surpassing customer expectations and building stronger brand loyalty

Operational Efficiency: AI operates quietly in the background, orchestrating seamless backend operations. It fine-tunes inventory management by predicting demand and optimizing stock levels to prevent shortages or excess inventory. Supply chains are streamlined into efficient networks, with AI optimizing delivery routes and ensuring timely product distribution. Additionally, AI enhances scheduling by managing resources and deadlines to maximize efficiency, improved operational flow, punctual deliveries, and ultimately, enhanced customer satisfaction. Whether receiving timely products or interacting with a well-stocked online store, AI's subtle influence guarantees a smooth customer experience.

Personalization: AI enhances the customer journey through personalization. Picture receiving product recommendations aligned with your preferences or marketing messages tailored to your needs. By analyzing customer data comprehensively, AI customizes interactions at every touchpoint. Whether suggesting a new book based on your reading history or providing targeted support for your specific issue, AI cultivates deeper connections. This personalized approach leads to heightened customer engagement, satisfaction, and, ultimately, loyalty.

Artificial Intelligence (AI) and Effective Decision Making

Kumar (2024), AI's role in decision-making has evolved significantly over the past few decades. Initially, AI applications were limited to rule-based systems designed to automate repetitive tasks. However, advancements in machine learning and data analytics have expanded AI's capabilities, allowing it to support complex decision-making processes. According to

Brynjolfsson & McAfee (2017), AI has moved from performing narrowly defined tasks to enabling strategic decision-making through predictive analytics and advanced modeling techniques. The future prospects of AI in decision-making are promising, with ongoing advancements in AI technologies expected to further enhance decision-making capabilities. Emerging technologies such as quantum computing hold the potential to exponentially increase the computational power available for AI applications, enabling even more complex and accurate decision-making models (Preskill, 2018). Additionally, the development of explainable AI aims to address the transparency and interpretability challenges associated with current decision-makers will find it simpler to comprehend and believe AI-generated insights thanks to AI systems (Gunning et al., 2019).

Kumar (2024) further stated that AI's role in decision-making processes is transforming how organizations operate, offering significant benefits in terms of efficiency, accuracy, and strategic insight. However, the implementation of AI also presents challenges, including ethical considerations, data quality issues, and the need for substantial technological investments. As AI technologies continue to evolve, they hold the promise of further enhancing decision-making capabilities across various industries, provided that organizations address these challenges and adopt best practices for AI integration.

In Kumar (2024), AI offers numerous benefits in decision-making, primarily through its ability to handle and analyze vast amounts of data quickly and accurately. This capability leads to several key advantages: Enhanced Data Analysis Capabilities: AI systems can process and analyze large datasets far more efficiently than human analysts. This capability is particularly valuable in fields such as finance, where AI algorithms analyze market trends and historical data to inform investment strategies (Bose, 2020). Similarly, in healthcare, AI-driven diagnostic tools analyze medical images and patient records, aiding clinicians in making accurate diagnoses (Topol, 2019).

Improved Accuracy and Reduced Human Error: AI reduces the likelihood of human error by relying on data-driven approaches rather than intuition or experience. For example, in manufacturing, AI-powered quality control systems detect defects with higher accuracy than manual inspections, leading to improved product quality and reduced waste (Lee, Kao & Yang, 2014).

Faster Decision-Making Processes: AI enables organizations to make decisions more rapidly by automating data analysis and generating actionable insights in real-time. In logistics, AI systems optimize supply chain operations by forecasting demand, managing inventory, and optimizing delivery routes, resulting in faster and more efficient operations (Huang & Rust, 2018).

Muhammad & Abdurashidova (2024) identified the following as the advantages of AI in decision making;

- Increased Efficiency and Speed: One of the key advantages of incorporating AI in decision making is the potential for increased efficiency and speed. AI systems can automate decision-making processes, reducing the time and effort required for manual analysis (Brynjolfsson & McAfee, 2014). By leveraging computational power and advanced algorithms, AI can rapidly process vast amounts of data and generate insights at a pace that surpasses human capabilities.
- Enhanced Accuracy and Consistency: AI systems offer the advantage of enhanced accuracy and consistency in decision making. These systems can analyze data objectively, minimizing the influence of human biases and subjective judgments (Srinivasan, 2018). Furthermore, AI algorithms can consistently apply predefined rules or learned patterns, ensuring consistent decision outcomes, which can be particularly beneficial in areas such as risk assessment or quality control.
- Handling Large and Complex Data*:* AI excels at handling large and complex datasets, which can be overwhelming for humans to analyze manually. Through techniques such as

data mining and pattern recognition, AI systems can extract valuable insights from vast amounts of data (Hastie, Tibshirani, & Friedman, 2009). This capability enables decision makers to uncover hidden patterns, trends, and relationships that can inform more informed and data-driven decisions.

- Automation of Repetitive Tasks- AI can automate repetitive tasks involved in decision making, freeing up human resources for more complex and strategic activities (Bettayeb & Balbaa, 2023). By automating routine and mundane tasks, AI systems can reduce the likelihood of errors and enable employees to focus on higher-value tasks that require creativity and critical thinking (Bughin, Manyika & Woetzel, 2017).
- Improved Predictive Analytics*:* AI techniques, particularly machine learning algorithms, excel in predictive analytics. These algorithms can analyze historical data to identify patterns and trends, enabling accurate predictions of future outcomes (Provost & Fawcett, 2013). Improved predictive analytics can support decision makers in various domains, including finance, marketing, and healthcare, by providing insights into customer behavior, market trends, and disease prognosis.

Despite its advantages, AI in decision-making is occupied with ethical challenges, particularly concerning bias and fairness. AI systems are only as unbiased as the data they are trained on. If the training data contains biases, the AI system can perpetuate and even amplify these biases.

Bias in AI Algorithms: Bias in AI can arise from various sources, including biased training data, algorithmic design, and implementation practices. For example, if an AI hiring system is trained on historical hiring data that reflects existing gender or racial biases, it may continue to favor certain demographic groups over others, leading to discriminatory outcomes (O'Neil, 2016).

Ethical Implications: The ethical implications of biased AI are profound, as they can affect fairness, accountability, and transparency in decision-making processes. Addressing these issues requires a multifaceted approach, including diversifying training data, designing algorithms that mitigate bias, and implementing robust oversight mechanisms to ensure ethical standards are upheld (Floridi et al., 2018). Muhammad & Abdurashidova (2024) identified the challenges of AI in decision making to include;

Data Quality and Bias: One of the significant challenges in AI-based decision making is ensuring data quality and addressing biases. AI systems heavily rely on data for training and decision making, and if the data is incomplete, inaccurate, or biased, it can lead to erroneous outcomes (O'Neil, 2016). Data preprocessing techniques, rigorous data validation, and bias mitigation strategies are essential to mitigate these challenges and ensure the reliability and fairness of AI-driven decision-making processes.

Interpretability and Explainability: AI models often operate as black boxes, making it challenging to understand how they arrive at specific decisions or recommendations. The lack of interpretability and explainability can hinder trust and acceptance of AI systems in decision making (Rudin, 2019). Researchers are actively exploring methods to improve the interpretability and explainability of AI models, such as developing rule-based explanations or using model-agnostic techniques to generate post-hoc explanations.

Ethical Considerations: The integration of AI in decision making raises important ethical considerations. AI systems must adhere to ethical principles, such as fairness, transparency, and accountability (Floridi et al., 2018). Addressing issues related to algorithmic bias, privacy protection, and ensuring that AI systems align with societal values are critical for responsible and ethical AI-driven decision making.

Adoption and Implementation Challenges*:* The adoption and implementation of AI in decision making may face various challenges, including organizational resistance, lack of technical expertise, and the need for significant infrastructure and resource investments (Brynjolfsson & McAfee, 2014). Successful integration of AI requires addressing these challenges through effective change management strategies, upskilling employees, and developing robust governance frameworks.

Human-ai collaboration*:* Achieving effective collaboration between humans and AI systems in decision making is a complex challenge. Striking the right balance between human judgment and AI-driven insights is crucial to leverage the strengths of both (Davenport & Ronanki, 2018). Ensuring human oversight, leveraging AI as decision support rather than replacement, and fostering human-AI collaboration can lead to optimal decision outcomes.

Theoretical Framework

This scholarly work anchors on the Resource Based View (Barney 1986). This theory suggests that firms with valuable, rare, inimitable and non-substitutable resources (like AI capabilities) are more likely to achieve success. Resource Based View (RBV) analyzes and interprets resources of the organizations to understand how organizations achieve sustainable competitive advantage. The RBV focuses on the concept of difficult-to-imitate attributes of the firm as sources of superior performance and competitive advantage (Barney, 1986; Hamel and Prahalad, 1996). Resources that cannot be easily transferred or purchased, that require an extended learning curve or a major change in the organization climate and culture, are more likely to be unique to the organization and, therefore, more difficult to imitate by competitors. According to Conner, performance variance between firms depends on its possession of unique inputs and capabilities.

The RBV takes an 'inside-out' view or firm-specific perspective on why organizations succeed or fail in the market place. Resources that are valuable, rare, inimitable and non substitutable (Barney, 1991) make it possible for businesses to develop and maintain competitive advantages, to utilize these resources and competitive advantages for superior performance According to RBV, an organization can be considered as a collection of physical resources, human resources and organizational resources. Resources of organizations that are valuable, rare, imperfectly imitable and imperfectly substitutable are main source of sustainable competitive advantage for sustained superior performance (Barney, 1991)

A resource must fulfill 'VRIN' criteria in order to provide competitive advantage and sustainable performance. A 'VRIN' criterion is explained below.

1. Valuable (V): Resources are valuable if it provides strategic value to the firm. Resources provide value if it helps firms in exploiting market opportunities or helps in reducing market threats. There is no advantage of possessing a resource if it does not add or enhance value of the firm;

2. Rare (R): Resources must be difficult to find among the existing and potential competitors of the firm. Hence resources must be rare or unique to offer competitive advantages. Resources that are possessed by a several firms in the market place cannot provide competitive advantage, as they cannot design and execute a unique business strategy in comparison with other competitors;

3. Imperfect Imitability (I): Imperfect imitability means making copy or imitate the resources will not be feasible. Bottlenecks for imperfect imitability can be many viz., difficulties in acquiring resource, ambiguous relationship between capability and competitive advantage or complexity of resources. Resources can be basis of sustained competitive advantage only if firms that do not hold these resources cannot acquire them;

4. Non-Substitutability (N): Non-substitutability of resources implies that resources can't be substituted by another alternative resource. Here, competitor can't achieve same performance by replacing resources with other alternative resources.

According to Barney valuable resource 'must enable a firm to do things and behave in ways that lead to high sales, low costs, high margins, or in others ways add financial value to the firm' (1986, 658). Barney also emphasized that 'resources are valuable when they enable a firm to conceive of or implement strategies that improve its efficiency and effectiveness. RBV helps managers of firms to understand why competences can be perceived as a firms' most important asset and, at the same time, to appreciate how those assets can be used to improve business performance. RBV of the firm accepts that attributes related to past experiences, organizational culture and competences are critical for the success of the firm.

Empirical Review

Omemgbeoji & Ofor (2024) examined the influence of Artificial Intelligence in Accounting on firm effectiveness among manufacturing companies in Nigeria. The specific objective was to assess the influence of machine learning automation and robotic process automation on firm effectiveness of manufacturing companies in Nigeria. The study employed a descriptive survey design targeting all the staff that worked in manufacturing companies in Nigeria. A sample size of 271 respondents from manufacturing companies across Nigeria was drawn. Primary data for the study were collected using structured questionnaire administered on the respondents. . Descriptive analysis technique, including frequency distribution, was used to summarize the research questions and present an overview of the respondents' perspectives. Spearman Ranked Order correlation was employed to test the hypotheses. The findings showed that: Machine Learning Automation has a positive influence on the firm effectiveness of manufacturing companies in Nigeria (Correlation Coefficient = 0.586, p-value = 0.000); Robotic Process Automation has a positive influence on the firm effectiveness of manufacturing companies in Nigeria (Correlation Coefficient = 0.504, p-value = 0.000). It concluded that firms boost their performance and competitiveness by integrating these advanced automation technologies which offer a promising avenue for achieving operational excellence and sustained growth. It recommended that Operations Managers and Accounting Department Heads should deploy Robotic Process Automation tools to automate repetitive tasks such as data entry and transaction processing in order to reduce manual errors, increase efficiency, and allow employees to focus on more strategic activities, thereby enhancing firm effectiveness.

Bassey, Brownson & Efi (2025) examined the effect of Artificial Intelligence (AI) on entrepreneurial success of Small and Medium Enterprises (SMEs), Eket, Akwa Ibom State. The specific objectives were to examine the effect of AI rarity and AI utilization efficiency on entrepreneurial success of SMEs, Eket, Akwa Ibom State. The study adopted a survey research design and utilized primary data collected from a pre-selected population which included SMEs that had already integrated or were in the process of integrating AI technologies in their business operations, in Eket, Akwa Ibom State. The data collected were analyzed using descriptive statistics, analysis of variance and multiple regression analysis via SPSS 25.0 statistical package. The findings revealed that AI rarity has a significant positive effect on entrepreneurial success of SMEs in Eket, Akwa Ibom State while AI utilization efficiency has a significant positive effect on entrepreneurial success of SMEs in Eket, Akwa Ibom State. It was thus concluded that AI power exerts a significant effect on entrepreneurial success of SMEs in Eket, Akwa Ibom State at 5% level of significance. It recommended that the SMEs in Eket should ensure that they take the time to do the research and educate themselves on how to properly use AI technologies to provide services or create value in ways that make them stand out from the competition.

Oguche, Agbo & okoko (2024) examined the application of artificial intelligence (AI) in small and medium-sized enterprises (SMEs) in Southwest Nigeria. Specifically, the study assessed the level of awareness and understanding of Artificial Intelligence (AI) among the SMEs operators including the factors hindering the adoption and implementation of AI technologies in SMEs operations in the study area. Primary data was used for the study with the aid of a questionnaire on 355 respondents. The data gathered was analyzed using percentage, mean and standard deviation, while hypothesis was tested using t-test inferential statistics. The findings revealed that 75% of respondents are aware of AI technologies, but only 55-63% deeply understands industry-specific applications. It was also revealed that the major barriers to the adoption included financial constraints, inadequate technological infrastructure, insufficient technical manpower skills, cultural and organizational resistance, regulatory challenges, data privacy and security concerns. The study recommended tha targeted educational initiatives, financial support, and improved infrastructure were to key to bridge the knowledge gap and enhance AI integration. It also revealed that organizational culture, leadership openness, and employee readiness are crucial for successful AI adoption. Therefore the creation and implementation of comprehensive educational programs, financial incentives and policies to create a supportive environment for AI technologies should highly encouraged by all stakeholders.

Atinuke, Hadir & Omoseni (2024) investigated how the performance of SMEs in Ogun State was affected by the use of emerging technologies, such as digital marketing, the Internet of Things, and service automation. The research was carried out in the Ogun State metropolis of Abeokuta using a survey research design. One hundred and seven supermarket owners answered a structured questionnaire. SPSS was used to analyze the acquired data. The results showed a correlation between SMEs' performance and emerging technology adoption. As a result, the alternative hypothesis is accepted and the null hypothesis is rejected. As a result, the study suggested that supermarket operators implement cutting-edge technologies to lower expenses and waste while also improving their dependability of correspondence in business. The results also suggested that the government encourage store operators to heavily utilize emerging technologies in their operations and provide support for the adoption of these technologies in the grocery industry. Therefore, the study recommended that supermarket owners should adopt emerging technologies to reduce cost and wastage and to also increase the reliability of business communication. The result also recommended that the government should give support to emerging technology adoption in the supermarket business and to also encourage supermarket owners to intensively use if emerging technologies in business.

Udeogu, & Okoye (2024) investigated the relationship between Artificial Intelligence and Competitive Advantage of Micro, Small and Medium Enterprises (MSMEs) in Anambra State. The study made use of a Survey Research Design, and the population was 1399 MSMEs from the state. Krejcie and Morgan's 1970 sample size determination formula was used to get a sample size of 301. The analysis for the study was carried out using both descriptive and inferential statistics and the hypotheses were tested at a 5% level of significance. The study revealed that there is a statistically significant positive relationship between data-driven targeted online adverts and increase quality. The study concluded that using data-driven targeted adverts will lead to generating quality that need little effort on converting to paying customers. It recommended that the MSMEs in Anambra state should to rely on data in decision-making, especially in running adverts to boost their competitive advantage over their rivals

Prabu et al (2024) carried out a research to find out Application of Artificial Intelligence in Business Operations and its impact on Organisational Performance. A Sample of 214 people from different departments of business organization were interviewed on the application of artificial intelligence in business operations and its impact on organizational performance. Convenient sampling method was used to collect the primary data and multiple linear regression was applied to get the results. The study concludes that the performance of organizations is being greatly impacted by artificial intelligence (AI), which is revolutionizing commercial operations in India. It also found out that more productivity, efficiency, and decision-making ability resulted from the integration of AI technologies across multiple industries, and that AI technologies are boosting creativity and competitive advantage by automating repetitive operations and delivering insightful information through data analysis.

Muktar, Ufua and Okorie (2024) examined the relationship between Artificial Intelligence (AI), innovation, employment and growth of SMEs in Nigeria. Principal component analysis (PCA) and the structural equation model (SEM) were used to examine the role of AI on SMEs growth in Soutwest, Nigeria. The population of the study focused on SMEs firms engaging in manufacturing, hospitality, information and communication and administrative and support services sectors. A sample size of 322 was adopted using Krejcie and Morgan method. Results of study showed that AI innovation indicators have positive relationship with SMEs growth. It was also observed that AI employment indicators exert a direct relationship with the latent factor. Overall results showed that applications of AI construct indicators remain (direct, indirect and total effect) strong on SMEs growth. Implications of the research results will offer a deeper insight for owners of SMEs, entrepreneurs, academic researchers and stakeholders to promote economic growth and development.

RESEARCH METHODOLOGY

The study is descriptive research and a survey design adopted. The sources of data are Primary Data and Secondary Data. Primary data sources are firsthand data from the field with the use of personal interview, questionnaire, and observation. Secondary data sources are from existing literatures from textbooks, journals, newspapers, and conference papers on the subject matter.

Population of the Study

The population of the study is made up of Chief Executive Officers and the Senior Managers of the hospitality firms in Imo State, specifically within Owerri Urban. The nature of the business includes Hotels, Restaurants, Bars and Lodges. It is summed up Eight Hundred and Twenty (820).

Table 1

S/N	NATURE OF BUSINESS	NUMBER OF RESPONDENTS
1.	Hotels	**270**
2.	Restuarants	**194**
3.	Bars	**176**
4.	Lodges	**105**
5.	Tourism	**75**
TOTAL		**820**

Field Survey, 2025

Sample Size Determination and Sampling Technique

The sample size is determined using Taro Yameni Formula

Where, n = $\frac{N}{1+N\,(e^2)}$

$$\frac{820}{1 + 820\,(0.05)^2}$$

$$\frac{820}{1 + 820\,(0.0025)}$$

$$\frac{820}{3.05}$$

$$= 268$$

Sampling Technique

The sampling technique that adopted in this study is stratified random sampling which ensured that each subgroup of the population was adequately represented within the whole sample population of this research. Also using Bowley’s sample proportion formula as viz,

$$nh = \frac{Nh}{N} x\ n$$

Where,

nh	=	Number allocated to each business.
n	=	Sample size
Nh	=	Population of each type of business
N	=	Total population of the study

Hotels $= \frac{270}{820} \times \frac{268}{1} = 88$

Restaurant $= \frac{194}{820} \times \frac{268}{1} = 63$

Bars $= \frac{176}{820} \times \frac{268}{1} = 57$

Lodges $= \frac{105}{820} \times \frac{268}{1} = 34$

Tourism $= \frac{75}{820} \times \frac{268}{1} = 25$

Metl

The data collected from the respondents was tabulated and analyzed using descriptive statistics table of mean and standard deviation. The hypotheses were tested using pearson product moment correlation and regression analysis aided by SPSS.

Data Presentation, Analysis and Interpretation

Table 2. Distribution/Return of Questionnaire

S/N	No Of Questionnaire. Distributed	No of Questionnaire Returned
Hotels	**88**	**82**
Restaurant	**63**	**60**
Bars	**57**	**48**
Lodges	**34**	**34**
Tourism	**25**	**25**
TOTAL	**268**	**249**

Source; Field Survey, 2025

Table 3. Data Presentation

S/N	AI adoption and application	SA 5	A 4	UD 3	D 2	SD 1	$\bar{X}$	N
1	You are aware of AI technology	98	60	46	19	26	3.743	249
2	Much cost is involved to apply AI technologies in business.	156	70	-	6	17	4.373	249
3	Do you consider AI technologies important in your	11	55	48	1	20	3.97	249

	business	1			5		2	
4	Do you prefer AI to other technologies in business operations	74	100	10	46	19	3.659	249
5	AI technology is now necessary in every type business	96	87	30	23	13	3.924	249
	Customer Service Delivery							
4	Less customer complaints are recorded due to AI application	98	85	21	-	45	3.767	249
5	Customers are more satisfied now than before	45	102	61	29	12	3.558	249
6	There is improvement on the quality of service rendered to customers.	88	67	51	2	41	3.639	249
7	The firm has recorded more customer patronage and loyalty	75	95	40	22	17	3.759	249
8	The customer waiting time is minimized and low with AI	98	46	60	20	25	3.691	249
	Effective Decision Making							
9	Do you agree that AI encourage effective decision making	110	51	42	22	24	3.807	249
10	The choice of your decision depends on the use of AI technology	44	50	11	78	66	2.711	249
11	Decision errors are reduced with the use of AI	110	67	9	57	24	4.116	249
12	There is fast and smooth decision making when AI is applied	89	56	26	33	45	3.445	249
13	The cost of decision making is low when AI is used	70	86	44	38	11	3.666	249

Source: Field Survey, 2025.

Testing of Hypothesis

HOi: AI does not encourage efficient customer service delivery in hospitality firms.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.969[a]	.938	.918	.02502	1.468

a. Predictors: (Constant), AI_application_Adoption
b. Dependent Variable: Customer_Service_Delivery

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.029	1	.029	45.635	.007[b]
	Residual	.002	3	.001		
	Total	.030	4			

a. Dependent Variable: Customer_Service_Delivery
b. Predictors: (Constant), AI_application_Adoption

HOiii: AI does not encourage effective decision making in hospitality firms.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.680[a]	.897	.896	.03340	.897	1.974	1

a. Predictors: (Constant), AI_application_Adoption

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.0272	1	.027	42.97	.0055[b]
	Residual	.003	3	.002		
	Total	0.36	4			

a. Dependent Variable: Effective_Decision_Making
b. Predictors: (Constant), AI_application_Adoption

RESULTS AND DISCUSSION

From the test of hypothesis 1, the Regression analysis significant value of 0.007 which is less than the P-value of 0.05 (significant value by default) shows that the relationship between AI adoption and application and effective customer service delivery is positive. The R Square value of 0.938 shows that AI adoption and application counts for about 93% variations in effective customer service delivery in hospitality firms. The remaining 7% may be due to other factors. Hence the Null Hypothesis is rejected and the Alternate hypothesis (H_i) which states that AI adoption and application encourage effective customer service delivery in the hospitality firms.

From the test of hypothesis 2, the Analysis of Vairaince (ANOVA) significant value of 0.0055 shows that the relationship between AI adoption and application and effective decision making is positive. Since the R Square value is 0.896 it means that AI adoption and application accounts for about 89% variations in effective decision making. The remaining 11% may be due to other factors. Hence the Null Hypothesis is rejected and the Alternate hypothesis (H_i) which states that AI adoption and application encourage effective decision making in the hospitality firms.

CONCLUSION

No doubt, small and medium-sized enterprises (SMEs) play major role in the development of any country, contributing to economic growth, job creation, innovation and social stability. It has been discovered that modern economies rely heavily on SMEs (small and medium-sized businesses), and their contribution to economic growth is acknowledged. These types businesses make significant contributions to the national gross domestic product (GDP) by stimulating competition, which leads to higher quality products and services, lower prices and more efficient allocation of resources. SMEs form the basis of economic diversity, providing resilience to external shocks. In addition, they are an important source of jobs, providing employment for a large proportion of the population, reducing poverty and raising living standards. This is especially important in the context of the social and economic development of regions where big companies may be less operational.

In this modern time, the peoples' needs are changing, competition also experiencing bottleneck, production process and service delivery becoming more complicated. Moreover, the economic activities of these businesses need to be boosted and made easier. This can be done through the use of latest technologies such as the artificial intelligence. However, the impact of AI in the transformation of customer experience as it affects the service industry cannot be overemphasized due to the fact that it totally changes the way and approach in which things are done. The impact of AI is very much significant in small and medium scale enterprises success. It helps to improve efficiency and speed, enhance accuracy and consistency; helps in handling large and complex data; encourages automation of repetitive tasks and improve predictive analytics. It is concluded that AI technologies are relevant in Small and Medium Scale Enterprises (SMEs) especially in the hospitality industry. It will help to boost their service delivery and make effective decisions.

RECOMMENDATIONS

Based on the findings and conclusion, the following recommendations are made;

- Small and medium scale enterprises should adopt and apply AI technologies for efficient and effective operations.
- Efficient service delivery requires the application of AI technologies; hence the hospitality firms should rather embrace it.
- The small and medium scale enterprises should involve experts for collaboration.
- Better and improved accuracy is enhanced through AI technology and should be applied during decision making.
- During decision making, human errors are imminent. Using AI reduces such challenge.
- The enterprises should constantly monitor and evaluate AI technologies to ensure they meet business both short and long term goals.

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