Artificial Intelligence as a catalyst for the Sustainability of Small and Medium Scale Businesses (SMEs) in Nigeria

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Abstract
Purpose: This study examines the role of AI in small business operations. Specifically, we identified areas where AI could be deployed, barriers to deployment of AI, identified AI tools in business, and ascertained the number of SMEs that consciously use any form of AI in their business operations.

Research Methodology: This study adopted a descriptive design. The population of the study was 27546 small businesses that were registered under the Cooperate Affairs Commission (CAC), and a sample size of 379 was arrived at by adopting Krejcie and Morgan's 1970 sample size determination formula. The source of data was solely primary through interviews, which later formed a stepping stone for the structured questionnaire used for the study. The instrument was validated and tested for reliability. Data analysis was performed using descriptive statistics consisting of frequencies and percentages.

Results: Most SMEs in Nigeria are still operating manually; hence, they do not enjoy the massive potential of AI deployment and remain perpetually small in size.

Limitations: Descriptive statistics for the analysis were used to reduce the inferrability of the findings.

Contribution: Given the increasing dependence on technology and AI, this study highlights the importance of AI not only for big and multinational corporations, but also for SMEs in Nigeria.

Novelty: A study of this nature has not been undertaken in Nigeria, specifically focusing on southeast Nigeria, which has a large number of small businesses in the region.

Keywords: *Artificial Intelligence, Small Business, Technologies, ChatBot and Nigeria*

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1. Introduction

The existence of small businesses in different nations is crucial to their growth and development. Over the years, SMEs have been observed to play a role in the job and employment creation dynamics of countries. This position was highlighted by Bandari (2019), who stated that SMEs are of significant importance in the economy as they make substantial contributions to employment generation, innovation, and overall economic expansion. They frequently serve as primary catalysts for economic expansion within communities, as they generate employment opportunities and offer local citizens avenues for economic advancement. They are also agents of innovation and creativity in many economies, as they respond more swiftly to environmental discontinuities (Bandari, 2019).

The business environment is naturally very hostile and competitive; firms that are not strong-willed are swiftly discarded by customers and clients, while the more aggressive ones, in terms of being

competitive, stand the test of time. Many changes occur in the business environment over time, orchestrated by different elements. Hence, firms are usually faced with disruptions and uncertainties, as Ambulkar, Blackhurst, and Grawe (2015) capture succinctly by stating that in today's uncertain and disruptive environment, every firm is susceptible to disruption. The wind of change sweeping through the business arena presently is technological innovation backed by a new concept in the lips of many people, known as Artificial Intelligence (AI).

Helm et al. (2020) aver that AI is on everyone's lips and will — many authors in theory and practice agree — dominate the coming years of business. It appears new to many people; however, it can be traced back to 1956 at the Dartmouth College United States conference, when it was presented by renowned scholars (Iqbal & Khan, 2021). It has since taken center stage in many fields, including medicine, engineering, and finance. In contemporary times, the domain of AI has emerged as a significant subject of investigation across a wide range of disciplines, including engineering, science, education, medicine, business, accounting, finance, marketing, economics, stock markets, and law (Stefanuk & Zhozhikashvili, 2002).

Many small businesses in Africa seem to view AI as being the exclusive preserve of big businesses that can afford it; they see it as being very expensive and requiring technical maneuvering to delve into it. However, this has been seen to be an incorrect notion, as many small businesses have been applying some aspect of AI to their advantage. Recently, scholars and certain entrepreneurs have refuted the notion that AI is the exclusive preservation of big firms, asserting that even modest enterprises possess the capacity to implement technologies in certain facets of their operations, notwithstanding their inability to create or possess those technologies (Delponte, 2018; Mahidhar & Davenport, 2018). Similarly, Iansiti and Lakhani (2020) posit that numerous entrepreneurs possess convenient access to AI solutions because these solutions have transitioned from futuristic and exclusive breakthroughs to being readily accessible at a reasonably low cost. This suggests that AI technology accessibility is no longer limited to large corporations.

There are many possibilities for AI in SMEs in Africa, as they can be deployed in many ways in their businesses. SMEs that have taken advantage of AI in some aspects of their business operations have been doing so because they have been observed to confer leverage to them. It has been shown that SMEs that adopt digital technology aided by AI enhance their competitive advantage and productivity (Chan, Teoh, Yeow, & Pan, 2019; L. Chan et al., 2019; Anuj Kumar & Kalse, 2021). It is widely used in business applications, including automation, data analytics, and natural language processing (Kabir, 2020). It can be used to track user habits, provide recommendations, improve customer purchasing decisions and search results, communicate media, raise trade sales, improve organizational performance, and lower costs (Basri, 2020; C. M. Chan et al., 2019; Jabłońska & Pólkowski, 2017; Ulas, 2019; Ulrich, Frank, & Kratt, 2021). AI technologies exhibit superior decision-making capabilities compared with conventional software. The technology's autonomous decision-making capability confers a competitive advantage over alternative technologies and solutions, enabling organizations to undertake progressively intricate daily activities (Kabir, 2020).

Arzikulov (2021) asserts that small businesses are leveraging AI to enhance their customer service, gather data, and identify optimal solutions tailored to their specific requirements. Voice search and built-in ChatBots are widely recognized as prominent AI technologies that are highly favored by customers for their ability to facilitate product discovery, information retrieval, and addressing common inquiries. Firms deploy a range of AI tools and solutions, such as machine learning and deep learning, to improve their forecasting accuracy and detect problems at an early stage (Burian, 2020). Other categories of AI that businesses in Africa could deploy are language recognition and processing, image recognition, and object manipulation. Others include natural language processing (NLP), learning systems, gaming systems, and object detection (Greenberg, 2017).

African and indeed Nigerian small businesses are still at the mercy of big businesses that have embraced AI in their operations; hence, they (SMEs) appear to be incapable of competing evenly. Against this

backdrop, this study seeks to examine the role of AI in small business operations. Specifically, this study aimed to:
1. Identifying areas in which AI can be deployed by SMEs.
2. Examine barriers to AI deployment by small businesses.
3. Identifying AI Tools in Business.
4. To ascertain the number of SMEs that consciously use AI in their business operations.

2. Literature review
2.1. Artificial Intelligence (AI)
Artificial Intelligence (AI) is the ability of machines to do what intelligent humans do. This is a manifestation of the cognitive abilities of machines. In academia, it encompasses the study of how digital computers and algorithms undertake tasks and address intricate problems that typically require human intelligence, reasoning, and predictive capabilities to adapt to dynamic situations (Giuggioli & Pellegrini, 2023). Arakpogun, Elsahn, Olan, and Elsahn (2021) aver that AI is a collection of Information and Communication Technologies that imitate human intelligence. It enables machines to perform cognitive functions previously associated only with human minds (Rai, Constantinides, & Sarker, 2019).

Grover, Kar, and Dwivedi (2022) opine that AI can be defined as the ability of a system to acquire knowledge by evaluating data obtained from its external environment. This acquired knowledge is then utilized to adapt existing plans or generate new ones to effectively respond to changes in the environment. It involves the conceptualization and development of computational systems capable of performing tasks typically associated with human intelligence, such as the recognition of speech, interpretation of visual information, and decision-making processes (Rai et al., 2019). The deployment of AI in businesses includes the utilization of algorithms such as machine learning for text analytics, and predictive models are employed to extract patterns from the data (Sturm et al., 2021). In addition, it entails the implementation of robotic automation and virtual agents to facilitate business processes (Davenport & Ronanki, 2018).

2.2. Forms of AI in Business
Different aspects of AI can be used in both small and big businesses, as identified by researchers and industry experts. Kaplan and Haenlein (2019) aver that research endeavours are focused on several facets, including natural language recognition and processing, picture recognition, and object manipulation. Additionally, AI tools can be classified into different types, including analytical, human-inspired, and humanised. Greenberg (2017) states that AI is viewed mostly as robotics but it has a much larger technology range such as machine learning, natural language processing (NLP), learning systems, gaming systems and object detection.

AI encompasses several subdomains. In general, branches of AI include natural language processing, robotics, cognitive modelling, machine learning, expert systems, knowledge representation and heuristic problem solving (Weber, Beutter, Weking, Böhm, & Krcmar, 2022). Machine Learning (ML) and Deep Learning (DL) are two prominent techniques in the field. ML involves the use of algorithms, such as supervised, unsupervised, and semi-supervised methods, to train software agents. However, DL relies on artificial neural networks to perform intricate learning tasks (Elavarasan & Pugazhendhi, 2020). Learning algorithms such as artificial neural networks, Bayesian networks, genetic algorithms, and vector support machines employ sophisticated processing skills to perform tasks such as association, classification, grouping, and regression. These tasks were accomplished through the analysis of extensive datasets using AI enablement.

According to the study conducted by Kartal, Oztekin, Gunasekaran, and Cebi (2016), it was found that... Deep Neural Networks (DNNs) integrate multiple machine learning tasks and utilize advanced technologies, such as cloud computing, the Internet of Things, and big data. This integration enables general-purpose machine learning algorithms (GPML) to effectively handle diverse data types (video, audio, and text) and enhance the precision of product demand forecasting through the analysis of customer behavior. Furthermore, with the utilization of GPML technologies and various digital platform

functionalities, small retail enterprises have successfully enhanced their prominence and achieved global expansion (Meltzer, 2018).

2.3. Areas of Operations in SMEs and AI Possibilities

Numerous options are available to SMEs that want to use AI in their operations. Burian (2020) argued that firms deploy a range of AI tools and solutions, such as machine learning and deep learning, to improve their forecast accuracy and detect problems at an early stage. Organizations have the potential to implement other categories of AI systems, such as the use of ChatBots, language recognition and processing, image recognition, and object manipulation. Examples of technologies in the field include natural language processing (NLP), machine learning systems, gaming systems, and object detection (Greenberg, 2017). More options available to SMEs are listed below.

1. **Interaction**: Here, AI-powered ChatBots and virtual assistants can manage consumer inquiries, furnish information, and aid in basic tasks on websites or messaging platforms, thereby enhancing customer service and fostering engagement.
2. **Customer Relationship Management (CRM) Systems**: The integration of AI into CRM systems offers significant benefits for small- and medium-sized enterprises (SMEs) in effectively managing customer data, forecasting customer behavior, tailoring marketing campaigns, and enhancing customer relationship management.
3. **Data Analytics Tools**: The utilization of AI-driven data analytic tools enables SMEs to perform a comprehensive analysis of vast quantities of data, thereby facilitating the identification of patterns, valuable insights, and potential avenues for business expansion. AI-powered features are provided by tools such as Google Analytics, Tableau, and Power BI
4. **Marketing Automation**: This refers to the utilization of AI to streamline and enhance marketing activities, including but not limited to email campaigns, social media scheduling, and content recommendations. AI elements are commonly integrated into tools, such as HubSpot, Mailchimp, and Marketo.
5. **Inventory Management**: The utilization of AI-driven inventory management technologies has the potential to forecast demand, optimize stock levels, and mitigate the likelihood of excessive inventory or stockouts. Consequently, this can result in cost reductions and enhanced customer satisfaction.
6. **Financial Management**: The utilization of AI in financial management has the potential to enhance the efficiency of small businesses in managing their financial affairs. AI-powered financial tools may offer valuable assistance in various tasks such as expense tracking, invoice management, and financial forecasting. By leveraging these tools, SMEs can optimize their financial management processes and achieve greater efficiency in handling their finances.
7. **Human Resources (HR)**: The deployment of AI in the field of HR has the potential to enhance several aspects, such as recruiting, employee engagement, and HR processes. This may be achieved through the automation of monotonous jobs and the provision of valuable insights into workforce trends and performance.
8. **Sales Prediction and Forecasting**: AI algorithms can analyze past sales data to anticipate forthcoming sales patterns. This empowers SMEs to make informed choices regarding inventory management, pricing tactics, and marketing approaches.
9. **Social Media Management**: The field of social media management encompasses the utilization of AI techniques to examine prevailing patterns in social media, arrange the timing of posts, and offer suggestions for materials that effectively engage the intended audience.
10. **Cybersecurity**: The integration of AI into cybersecurity protocols can bolster existing safeguards by promptly detecting and addressing possible attacks, thereby safeguarding sensitive information and maintaining uninterrupted corporate operations.
11. **Language Translation and Localization**: For small businesses that want to enter transactions with international/multinational firms, the utilization of AI-driven translation technologies can serve as a valuable means to overcome language barriers and facilitate the expansion of their market base and presence.
12. **E-commerce Personalization**: The application of AI in e-commerce enables customization of product recommendations, content, and shopping experiences for online consumers, thus enhancing conversion rates and overall customer happiness.

When making a decision about the adoption of AI tools for a small business, it is important to consider many elements, such as the ease of integration, scalability, cost implications, and specific requirements of the organization. It is vital to ascertain that the selected tools are in accordance with the business objectives and requirements of customers. It is important to also consider that, although AI technologies might provide substantial advantages, they may necessitate training and adaptation to optimize their potential impact on operational processes.

2.4. Implications of AI for Small Business

AI holds great promise for businesses that have deployed it. SMEs are expected to enjoy the adoption of AI in their processes and operations. It helps businesses and individuals work more effectively and efficiently, freeing up humans to perform more intuitive jobs. AI frees time, creativity, and human capital, allowing people to work more humanly and less automatically (Giuggioli & Pellegrini, 2023). Arakpogun et al. (2021) assert that the fundamental objective of implementing AI is to enhance employment opportunities, foster increased efficiency, and stimulate economic advancement. It is employed to ensure the enhancement of technology, products, processes, information, experiences, and organisations (Ferreira, Mueller, & Papa, 2020).

The deployment and utilisation of AI carry significant ramifications for businesses as they navigate the many stages of company development, design, and expansion within the entrepreneurial process (Chalmers, MacKenzie, & Carter, 2021). Similar to every transformative breakthrough, AI has the potential to empower entrepreneurs and facilitate the emergence of novel opportunities. This can be achieved through the entrepreneurial utilization of AI, leading to the introduction of fresh products or services (Obschonka & Audretsch, 2020). Furthermore, its utilization methodologies have the potential to enhance the decision-making systems employed by entrepreneurs, resulting in improved decision quality in terms of both efficacy and efficiency. This, in turn, can enhance operational performance (Kraus, Feuerriegel, & Oztekin, 2020).

AI technology has the capacity to automate several routine and repetitive jobs in nature. This automation process enables the allocation of important time and resources to strategic and creative endeavors. For instance, AI technology has the potential to automate various duties such as data input, customer support, and marketing, enabling people to allocate their efforts to more valuable endeavors. The implementation of this solution has the potential to enhance operational efficiency, minimize expenditures, and enhance the overall productivity of small enterprises (Bandari, 2019). It also has the potential to help small businesses make informed and data-driven decisions (Bandari, 2019). It is a tool for bolstering electronic commerce (e-commerce) (Karimova, 2016); financial operations and information analysis processes for trading operations (Cavalcante, Brasileiro, Souza, Nobrega, & Oliveira, 2016); fraud detection processes in financial operations (West & Bhattacharya, 2016); or textual analysis of financial information (B. S. Kumar & Ravi, 2016; Xing, Cambria, & Welsch, 2018).

2.5. Barriers to AI Adoptions in Nigeria

The adoption of AI by small businesses is most often encumbered by many factors, some of which are incorrect perceptual issues, while others are existential. SMEs often face market failures that pose challenges to their competitive environment and the adoption of innovative ways of doing things, such as limited access to funding, constraints on innovation, and difficulties in complying with environmental regulations (Commission, 2015). They encounter extra challenges in the form of personnel bottlenecks, which exacerbate the time of low return on investment (ROI) resulting from innovation, due to the absence of alternative products or "cash cows" (Pullen, De Weerd-Nederhof, Groen, Song, & Fisscher, 2009). Similarly, they encounter challenges in overcoming structural barriers due to factors such as constrained labor markets, insufficient management and technical expertise, and limited knowledge regarding growth prospects (Commission, 2015). Therefore, we will look at some of the issues that SMEs regard as challenges preventing them from jumping onto the trend of AI adoption. They include:

1. **Cost:** SMEs and their owners in Nigeria most often feel that the cost of deployment or adoption of AI and its numerous technologies are inhibitive in nature in terms of cost. Hence, they tended to stay away from them.

2. **Lack of internal infrastructure:** Managers and owners of small businesses feel that they lack the infrastructure needed to deploy AI in their business operations; hence, they shy away from it.
3. **Skills:** The deployment of AI requires some form of skills to effectively and efficiently utilize it; however, most small businesses lack these skills requirements and lack the financial resources to attract human resources that can handle it.
4. **Resistance to change:** the notion of "this is how we used to do it" has prevented businesses, especially those that may be regarded as small in size in terms of human or material resources in Nigeria from adopting technology and AI in their business operations. They are afraid to change old ways, sometimes for fear of the unknown and uncertainties that might result from accepting AI.
5. **Fear of job loss:** Some SMEs in Nigeria refuse to adopt AI for emotional reasons, such as making people not lose their jobs. They believe that when technologies are adopted in business, those who traditionally did their jobs before will have to make way, thereby losing their source of livelihood.
6. **Ethical/religious issues:** Some business owners in Nigeria and Africa refuse to adopt technology citing ethical and religious issues. They say that it is not ethical to allow machines to interact with their customers, while others believe that AI is associated with end-time manifestations; hence, they would not have anything to do with it.
7. **Regulations:** Some SMEs are mindful of the regulations surrounding the use of AI, especially as they relate to using customer-sensitive data that may be made available by AI. Therefore, for fear of not running the afoul of the law, they decide to stay away, at least for now.
8. **Nature/size of businesses:** Another challenging issue concerning the deployment of AI by SMEs is the notion that AI exclusively preserves massive firms with international clout. Hence, they believe their businesses are still in their infancy stage and, therefore, cannot compete with the already established businesses in AI deployment dynamics.
9. **Awareness issues:** At the center point of SMEs' perceived lag in the deployment of AI in Nigeria is knowledge deficit. They are either unaware of the existence of AI or completely lost in the area where AI is adopted or deployed. This is one of the most important challenges SMEs face in the adoption of AI for their businesses in Nigeria.
10. **Poor national infrastructure:** To operate efficiently, some infrastructure outside the control of small businesses must be in place. Infrastructure such as fiber optic cables for internet penetration and electricity negatively affects small businesses that would want to adopt AI.
11. **Lack of digital strategy/agility:** The lack of a digital strategy is a reason why few companies can implement their DT plans. Most small businesses in Africa and Nigeria lack the strategies and policies that support delving into technologies and AI for their business operations (Hess, Matt, Benlian, & Wiesböck, 2016).

2.6. Empirical Review
In their study, A. Kumar, Pandey, Pujari, and Arora (2023) conducted research to examine the potential impact of AI and e-commerce on enhancing the marketing performance of small and medium-sized enterprises (SMEs). The research technique involved conducting a comprehensive evaluation of the existing literature and research on the characteristics of AI and e-commerce that have the potential to enhance various aspects of SME marketing processes. The research findings indicate that the integration of AI in SMEs has resulted in enhancements in various areas such as the development of intelligent content and innovative business models, predictive modelling, automated decision-making processes, real-time customer insights, and advancements in product and service innovations. Additionally, AI adoption has facilitated the identification of optimal promotional strategies and has improved the accuracy of demand and cash flow forecasting. The adoption of e-commerce has facilitated the growth by enabling them to explore new markets, expand their customer base, and cultivate customer loyalty.

Lian (2023) carried out a study aimed at exploring the factors influencing digital technology adoption in green supply chain innovation of social enterprises in Malaysia. Through the quantitative method, the survey approach through a personally administered questionnaire survey was used as a data collection instrument. The samples were obtained from 410 social enterprises located in five states of Malaysia. Structural equation modelling (SEM) was used to analyze the collected data. The findings reveal that performance expectancy, effort expectancy, and cost of use have a significant positive

influence on digital technology adoption. Facilitating conditions have no significant influence on digital technology adoption.

Amesho, Edoun, Naidoo, and Pooe (2022) sought to examine the influence of technology and innovation systems on service delivery in South Africa and whether there were any obvious gaps in maintaining sustainable competitive advantage (SCA). Utilizing a secondary research analysis approach, this study examined relevant and easily accessible literature to assess the study's goals and research questions. The findings showed that managing technology and innovation for SCA is not a method of achieving an aim in and of itself, but rather a collection of instruments and tactics to ensure effective service delivery to people and communities.

Mohammad (2022) investigated how business intelligence is used to develop business operations in SMEs, as well as the elements that influence business intelligence adoption in Jordan. A total of 232 samples were collected following the sample verification procedure. SEM software was used to process all data acquired during the research investigation. The study's findings show that the Technology, Organization, and Environment (TOE) framework has a significant effect on SMEs' adoption of business intelligence solutions.

Yulia and Wamba (2022) increased knowledge of how AI shapes business resilience to supply chain disturbances, which in turn improves firm performance in Europe. They conceptualized AI use in this way as a dynamic information processing capability with three components: coordination/integration, learning, and strategic competitive response capability, as a precursor of firm resilience to supply chain disruptions, and as a mediating factor between AI use and firm performance. The study discovered that AI usage has a direct influence on business resilience and that firm resilience completely mediates the link between AI use and firm performance by analyzing the data collected from 107 organizations in Europe using a two-stage survey.

Bandari (2019) empirically investigates the effects of AI applications on the revenue growth of small firms in developing nations. Multiple regression analyses were performed to assess the association between AI applications and revenue growth, using data from 391 small enterprises. AI-based customer service, marketing and advertising, sales forecasting, inventory management, employee management, cybersecurity, financial planning and management, and lead generation were the independent factors in this study. All independent factors were found to be statistically significant, with the exception of AI-based employee management and cybersecurity. The findings also indicate that statistically significant effects on revenue growth were caused by AI applications in customer service, marketing and advertising, sales forecasting, inventory management, financial planning and management, and lead generation.

3. Research methodology
This study used a descriptive design. The study area is the southeast region of Nigeria, which is made up of five states (Abia, Anambra, Ebonyi, Enugu, and Imo). This area was chosen because of the existence of hundreds of thousands of SMEs, as the people of the zone are known for their industriousness and entrepreneurial tendencies. The study population was 27546 small businesses registered under the Cooperate Affairs Commission (CAC). A sample size of 379 was obtained by adopting Krejcie and Morgan's 1970 sample size determination formula. The source of data was solely primary, through interviews, which later formed a stepping stone for the structured questionnaire used for the study. The instrument was validated by experts to ensure that it measured what it intended to measure and was also subjected to a reliability test using the test-retest technique to ensure that it elicited consistent results. Data analysis was performed using descriptive statistics, consisting of frequencies, percentages, and charts.

4. Results and discussions
4.1. Data Presentation and Analysis

Out of a total of 379 copies of the questionnaire distributed to respondents, 349 were returned, while 333 were used for the analysis because 16 of the collected copies of the questionnaire were either not responded to correctly or filled completely. To ascertain the number of SMEs that consciously use AI in their business operations.

Table 1. Distribution of responses for the number of SMEs in southeast Nigeria that use any form of AI in their business operations

S/N	Do you use AI in your Business	Yes (%)	No (%)
1	I use AI to generate content for my business.	48 (15)	285 (85)
2	I use AI to run adverts.	44 (13)	289 (87)
3	I make use of AI to respond to customers.	40 (12)	293 (88)
4	I use ChatBots for chatting with customers.	59 (18)	274 (82)
5	I use Image technology to manipulate pictures for my business.	74 (22)	259 (78)
6	I keep records for my business using AI.	26 (8)	307 (92)
7	I analyze customer data with AI.	30 (9)	303 (91)
8	I manage my inventory with the help of AI.	27 (8)	306 (92)
9	I have automated some of my processes using robot.	3(1)	330 (99)
10	I do market research using AI.	32 (10)	301 (90)

Source: Field Survey, 2023

Table 1 shows the distribution of responses for the number of SMEs in southeast Nigeria that use any form of AI in their business operations. From the Table, it is seen that 15% of the 333 SMEs involved in the study said they use AI to generate content for their businesses while 85% said no. On whether they use AI to run adverts, 13% were in the affirmative while 87% were in the negative. When they were asked if they make use of AI to respond to customers, 12% agreed and said yes, while 88% said no. On the question that asked if they use ChatBots for chatting with customers, 18% of the respondents said no while 82 said yes. On using image technology to manipulate pictures for their business, 22% said yes while 78% said no. When asked if they keep records of their business using AI, 8% of the 333 respondents said yes while 92% said no. On whether they analyse customer data with AI, 9% said yes while 91% said no. 8% of the respondents answered yes when asked if they manage their inventory with the help of AI while 92% said no. On whether they have automated some of their processes using robots, just 1% of the respondents said yes while the rest 99% said no. When they were asked if they do market research using AI, 10% of the respondents said yes while 90 said no. On the whole, it can be seen that a greater percentage (89%) of the respondents (295) do not use AI in their businesses while very little percentage (11%) of the respondents (38) use AI in their business. This is shown on figure 1 below:
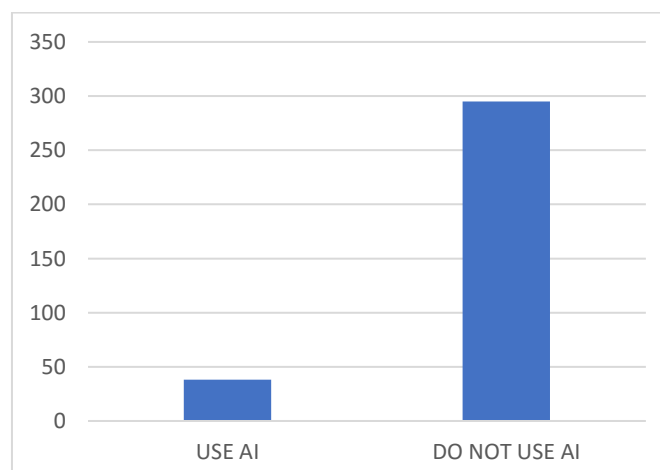
Figure 1: Column Chart for AI Usage

Figure 1 is a column chart representing the number of SMEs in southeast that use AI. From the chart, it is seen that 295 of the SMEs do not use AI while only 38 SMEs use AI in their businesses.

5. Conclusions

The prospects of AI are enormous when deployed in the right way and used properly. However, small businesses in Nigeria still appear to be shying away from it as a result of the apparent perception that the cost is inhibitive and that they might lack the expertise to properly deploy AI, given the small nature of their business. There are also some SMEs that are completely ignorant about the possibilities of AI and its potential to improve their efficiency, sustainability, and profitability. This is probably the reason that most SMEs in Nigeria still execute their businesses in old ways. The study concludes that most SMEs in Nigeria are still operating manually, and hence, do not enjoy the massive potential of AI deployment; hence, they remain perpetually small in size with limited expansion potential.

5.1. Limitation

Using inferential statistics for the analysis would have increased the generalizability of the study; however, given the nature of the study, only descriptive statistics were used; hence, the inference ability of the study was greatly reduced.

5.2. Suggestions

The following recommendations are proposed:
1. For SMEs to grow and become competitive enough to challenge larger firms, some aspects of AI that are not costly, such as using ChatBot and AI target audience adverts, need to be deployed.
2. The government, in a bid to promote SMEs and make them sustainable, might carry out awareness and training programs to let the SMEs know about the existence of certain AI technologies and their usage in their business so as to encourage them to embrace it for their businesses.
3. For AI, which may be costly like robotics, SMEs may have to come together to contribute and purchase it for their common usage. The government may also subsidize AI technologies to encourage them to embrace technology in their business.

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