Artificial Intelligence and New Venture Creation in Nigeria

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Abstract

Artificial Intelligence (AI) is reshaping the entrepreneurial landscape globally, offering transformative tools for innovation, efficiency, and scalability. In Nigeria, AI adoption is emerging as a strategic driver for productivity, competitiveness, and market expansion, particularly in fintech, agritech, healthcare, and e-commerce. This study examines the necessity of exploring the relationship between AI into new venture creation in Nigeria, highlighting its potential to stimulate innovation, enhance decision making and promote sustainable business development. Understanding how AI can be applied to Nigerian startups is crucial for addressing pressing socio-economic challenges such as unemployment, low productivity and limited access to market intelligence. Furthermore, the study emphasizes the importance of building digital competencies among entrepreneurs, strengthening institutional frameworks, and creating supportive policies for technology-driven ventures. This study adopts a secondary research methodology, relying on existing literature and empirical studies to analyze the impact of artificial intelligence on new venture creation. Data were obtained from other journals, reports and academic databases. Drawing on conceptual and empirical literature to explore applications, sector-specific use cases, and adoption challenges. Findings reveal that AI enables startups to leverage predictive analytics, natural language processing, and intelligent automation to improve decision-making, personalize services, and reduce operational inefficiencies. However, barriers such as inadequate infrastructure, limited technical skills, high costs, and regulatory uncertainty constrain adoption. The paper recommends targeted policy interventions, capacity-building programs, and public–private partnerships to unlock AI's full potential in the Nigerian entrepreneurial ecosystem.

Keywords: Artificial Intelligence, New Venture Creation, Entrepreneurship, Innovation, Nigerian Startups

1.0   Introduction

The emergence of Artificial Intelligence (AI) is redefining the dynamics of entrepreneurship globally, offering transformative tools for innovation, efficiency and scalability in new venture creation. The Nigerian government launched initiatives like the National Artificial Intelligence Strategy (NAIS) to harness AI for economic growth, social inclusion and technological leadership. Artificial Intelligence is being recognized as a catalyst for overcoming traditional business constraints such as limited access to finance, infrastructure gaps and market inefficiencies Iwu and Osarumwense (2022). Artificial Intelligence technologies, including machine learning, natural language processing and intelligent automation are being integrated into startups in diverse sectors such as agriculture, healthcare, fintech and logistics, enabling data driven decision making, customer personalization and operational efficiency (Adegbite, and Machethe, 2020).

Nigeria's entrepreneurial ecosystem has witnessed a surge in digital innovation, partly driven by the country's increasing mobile penetration and internet connectivity. As new ventures strive

to remain competitive and sustainable in a fast evolving digital economy, AI offers novel pathways to develop products optimize services and respond to market demands with agility Oteh and Idemudia, (2021). However, the adoption of AI in new venture creation is not without challenges. Issues such as inadequate digital infrastructure, insufficient technical skills, regulatory ambiguity and ethical concerns surrounding data privacy which continue to impede the widespread implementation of AI solutions across the country Eneizan, Obadiaru, and Wahab, (2020). Despite these challenges, the potential of AI to revolutionize entrepreneurship in Nigeria remains significant. As government agencies, private sector actors and academic institution begin to prioritize digital transformation, there is an increasing need to explore how AI can be easily harnessed to foster innovation and growth in new ventures. This paper investigates the role of AI in enhancing entrepreneurial development in Nigeria, with a focus on its applications, benefits, challenges and implications for future policy and practice.

2.0 Literature Review

The integration of Artificial Intelligence (AI) into entrepreneurship has attracted growing research attention, particularly regarding its impacts on new venture creation especially in developing economies like Nigeria. The relevant literature is reviewed hereunder.

2.1 Conceptual Review

The conceptual review proceeds to synthesize key conceptual relationships and proposes a framework for understanding how AI can act as an enabler of entrepreneurial development in emerging economies, with special focus on Nigeria's socio-economic context.

2.1.1 Artificial Intelligence (AI)

According to the National Artificial Intelligence Strategy (NAIS, 2024), AI is regarded as a multi-purpose technology capable of transforming production, economic growth and public service delivery with a focus on human-centered, ethical design and social inclusion. Artificial intelligence is defined as the system that can interpret external data (such as agricultural, medical, financial), learn patterns and make decisions to accomplish goals efficiently.

The rapid advancement of Artificial Intelligence (AI) is transforming how new ventures are conceived, launched and scaled across the globe. AI technologies such as machine learning, predictive analytics and natural language processing enable entrepreneurs to recognize opportunities, improve decision-making and innovate business models more efficiently than ever before. In Nigeria AI is emerging as a key driver of digital entrepreneurship and economic diversification, offering solutions to persistent challenges in productivity, access to markets and business efficiency.

AI automates labour-intensive tasks-fraud detection in fintech, diagnostics in healthcare, or agritech advisory, enhancing productivity and access. According to Kaplan and Haenlein (2019) AI is a system's ability to correctly interpret external data, to learn from such data and to use those leanings to achieve specific goals and tasks through flexible adaptation. Nigeria is projected to rank among the top AI adopting economies in Africa, with AI potentially contributing up to $15 billion to GDP by 2030 in local sectors like fintech, agriculture and healthcare.AI is seen as a strategic lever to accelerate inclusive growth and digital leadership in Nigeria.

2.1.2 New Venture Creation

New venture creation is the process of identifying a business opportunity, mobilizing resources and launching a new business enterprise. It involves opportunity recognition, planning,

acquiring financial and human capital and managing the startup. New venture creation within the Nigerian context, is understood as the process by which individuals initiate and develop new enterprises to exploit business opportunities in the Nigerian economy. (Onuma, 2016; Ihugba, Odii, and Njoku 2013) There are key aspects of new venture creation in Nigeria like the entrepreneurial environment where Nigeria has large youthful population and a growing digital economy, making it a fertile ground for new venture creation. However, entrepreneurs face challenges such as poor infrastructure, limited access to finance, unstable electricity supply and bureaucratic regulatory processes (Obaji and Olugu, 2014). Government programmes aimed at supporting new ventures include; Small and Medium Enterprise Development Agency of Nigeria (SMEDAN), National Economic Sustainability Plan (NESP) and Bank of Industry (BOI).

2.1.3 Artificial intelligence as a catalyst for Innovation in New Ventures

Artificial Intelligence (AI) is becoming a transformative force in the Nigerian entrepreneurial ecosystem, serving as a catalyst for innovation and competitiveness in new venture creation. As Nigerian startups confront systemic challenges such as limited access to finance, infrastructure deficits, and a fast changing market environment, AI provides tools and techniques that drive innovation, enhance operational efficiency and improve customer engagement (Iwu, and Osarumwense, 2022).

In Nigeria, AI is enabling entrepreneurs to build smarter data driven businesses across key sectors such as agriculture, Fintech, e-commerce and healthcare. Digital intelligence enables small business owners to predict market behavior and consumer patterns, which in turn enhances strategic decision making. For example, agritech startups use AI powered platforms to provide farmers with real-time weather updates, crop disease predictions and yield optimization strategies. Similarly, fintech startups leverage machine learning algorithms to detect fraud, assess creditworthiness and personalize financial services, thereby enhancing access to digital financial inclusion (Oteh and Idemudia, 2021). AI fosters innovation by reducing the time and cost involved in product development. Through AI powered simulation and modeling, entrepreneurs can rapidly prototype, test and refine products in virtual environments before going to market. According to Ademola and Abimbola (2020), early stage Nigerian startups using AI tools were more agile in pivoting business models in response to changing market demands. This is particularly beneficial in Nigeria's high risk startup environment, where cost efficiency is crucial for survival. Adegbite and Machethe (2020) noted that AI allows entrepreneurs to innovate without the need for extensive Research and Development budgets, thereby democratizing access to cutting edge innovation tools.

Furthermore, AI supports strategic decision making by providing predictive insights based on real time data. Startups can anticipate consumer behavior, market trends and operational risks, enabling them to adapt quickly and stay competitive. In a volatile Nigerian market, this level of responsiveness is critical for new ventures seeking to establish and grow their presence. However, despite these potentials, several barriers hinder the full utilization of AI in new ventures in Nigeria. These include a lack of skilled AI professionals, limited digital infrastructure and high costs of AI integration. Regulatory gaps and data privacy concerns also pose challenges for AI driven entrepreneurship (Eneizan, Obadiaru, and Wahab, 2020). Addressing these issues through targeted investment in AI education, supportive innovation policies and public private partnerships is essential to foster an enabling environment.

2.1.4 Sectorial Applications of Artificial Intelligence in Nigeria

AI is shaping new ventures across multiple sectors in Nigeria. In the Agricultural sector (agritech) AI driven farming tools are helping smallholders optimize planting and harvesting

times. According to Nairametrics (2021), startups like Thrive Agric offers agronomy advisory services, pre and post-harvest storage, and logistics support to small holder farmers, potentially utilizing technology like imagery learning. Drone technology and machine learning algorithms are helping farmers monitor farm health and optimize resource use. According to CTA Spore article (2019), startups like Zenvus use AI to collect and analyze soil data for precision farming. AI is also used for pest and disease detection and soil health monitoring, improving yields and supporting food security.

In the Healthcare, the first phase of AI driven vaccination intervention optimizer (ADVISER) has been piloted to Oyo state targeting low income families and leveraging data from HelpMum's vaccination tracking system to optimize interventions. Machine learning recommendation systems are emerging to help Nigerians compare and select health insurance plans based on affordability and coverage. AI tools are also assisting diagnostics, patient triage and administrative support via virtual assistants and medical imaging analysis, although at a relatively early stage.

In the financial sector, Nigerian have widely adopted AI powered chatbots, enhancing customer support, transaction queries and routine services via platforms like WhatsApp and Telegram. AI systems monitor transactions in real time, detect suspicious activity and flag potential fraud, also machine learning models are used to assess credit worthiness and customer risk profiles. Olufemi and Salawu (2021) emphasize that AI significantly reduces fraud risk by enabling banks and fintechs to monitor vast amounts of transaction data instantaneously. AI enables startups to develop credit scoring models based on non-traditional data. AI also facilitates digital micro lending platforms targeting the unbanked and underbanked population. AI is used by investment startups to provide robo-advisory services, predictive analytics which help investors identify trends and manage risks. According to Okonkwo and Fagbohun (2022), Nigerian fintech startups are increasingly leveraging AI to democratize access to wealth management tools. AI is enabling fintech startups that serve informal economies, it's also a venture that develops financial literacy bots or automated tax tools.

AI lowers entry barriers for new ventures by reducing manual workload, enhancing regulatory compliance and enabling real time decision making.

In the transportation sector, AI is used in intelligent traffic management routine planning. Ojo and Adetunji (2020) highlight the role of AI powered traffic management systems piloted in Lagos to reduce congestion and travel time in urban centers. AI is also used in logistics optimization that enhances last mile delivery efficiency by optimizing dispatch routes, reducing delivery time and minimizing fuel consumption.AI can also be used in licensing plate recognition and cargo scheduling, and also improving efficiency in urban and rural settings. Pilot applications for smart city elements such as automated waste collection routing and predictive policing are under exploration. According to Iwu and Osarumwense (2022), the use of AI in these sectors enables better decision making, reduces operational friction and enhances the overall entrepreneurial ecosystem in Nigeria.

In the Security and Surveillance sector, AI in security and surveillance has become increasingly important in Nigeria, given the country's challenges with crime, terrorism and infrastructural vulnerabilities. As digital technologies evolve, AI driven startups are emerging to address safety concerns using advanced surveillance tools, facial recognition systems, predictive policing and threat detection algorithms. AI powered systems are now used in facial recognition for identifying suspects at banks and airport. They are also used in behavioral analytics to detect unusual activity patterns in public places. Ojo and Adetunji (2020) noted that AI enabled surveillance could significantly improve Nigeria's ability to predict and respond to security

threats, particularly in urban areas like Lagos, Abuja and Port Harcourt. Several Nigerian startups are leveraging AI in security services like Versa Intelligent, Dragnet Solutions and Aicrowd.ng, these ventures aim to reduce manual surveillance cost, increase response times and support proactive crime prevention strategies. According to Akinbami and Olowookere (2021), startups operating in the AI security intersection have received growing interest from banks, logistics firms, and state governments seeking to enhance protection infrastructure. While security remains largely under government control, there is growing private sector participation in public-private surveillance projects in Lagos state, Smart city development initiatives involving AI-enhanced monitoring systems, collaboration with tech hubs and incubators to fund AI driven security solutions. Okonkwo and Fagbohun (2022) argued that for AI security startups to scale, policy support and data sharing partnerships with public agencies are essential. AI startups in Nigeria can create smart home and estate surveillance tools for gated communities. It can also develop AI driven panic alert and emergency response apps, design fraud detection models for online and mobile banking security

Table 1.0: Sectorial Application of Artificial Intelligence

Sector	AI Applications	Example Startups	Benefits	Key Challenges
Agriculture	Crop disease detection, precision farming, yield prediction	Thrive Agric, Zenvus	Higher yields, reduced losses	Connectivity, training gaps
Healthcare	Predictive diagnosis, vaccination optimization	ADVISER, HelpMum	Faster diagnosis, targeted interventions	Data availability, ethics
Fintech	Fraud detection, credit scoring, robo-advisory	PiggyVest, Carbon	Financial inclusion, risk reduction	Data privacy, regulation
Transport & Logistics	Traffic optimization, route planning	MAX.ng, Kobo360	Reduced congestion, cost efficiency	Infrastructure limits
Security	Facial recognition, threat detection	Versa Intelligent, Dragnet	Crime prevention, faster response	Public trust, data sharing

Source: Researchers' Compilation

2.1.5 Challenges Facing AI Adoption in Nigerian Startups

Despite the growing relevance of AI, there are significant challenges faced in adopting artificial intelligence in Nigeria. Unreliable electricity and internet connectivity in rural and semi urban areas make it hard to deploy AI tools that depend on continuous power and real time data exchange, many areas lack modern data centers or cloud infrastructure needed to compute intensive AI workload. AI thrives on large high quality datasets which are often unavailable or fragmented in Nigeria. Obielumani and Adebayo (2022) argue that the absence of centralized, digitized and clean datasets hampers the development of effective AI models. Okonkwo and Fagbohun (2022) identified poor internet infrastructure as a major challenge affecting small and medium-sized enterprises (SMEs) and startups in Nigeria. Their study found that unreliable

internet connectivity disrupted AI driven services, especially in logistics, e-commerce and health tech ventures.

One of the most critical barriers of AI adoption in new venture creation in Nigeria is the high cost of tools, infrastructure and services. Many startups and early stage entrepreneurs operate on tight budgets and lack the capital required to invest in advanced technologies. Akinbami and Olowookere (2021) observed that while awareness of AI among tech startups is relatively high, only 45% of startups surveyed had adopted AI and most of them were limited to basic applications. The major limiting factor identified was cost, both of software licenses and the infrastructure needed to support AI systems.

There is a clear deficit of trained AI professionals locally, especially in data science, machine learning, model engineering and infrastructure optimization, also many AI trained Nigerian professionals emigrate, worsening the talent gap, AI systems require significant investment in software, hardware and training, which many startups cannot afford due to limited capital (Onyeaghala and Osasere 2020,). Olufemi and Salawu (2021) emphasized that many entrepreneurs do not possess the required knowledge to implement AI, and there is a lack of accessible, affordable training programs, this skills gap hinders startups from fully leveraging AI for opportunity identification or product development.

Many startup founders lack awareness of AI's practical applications and some misconceptions that AI is only suitable for large technology companies, they view AI as a luxury reserved for multinationals or tech giants, rather than a tool that can be scaled for small and medium enterprises (SMES). Okonkwo and Fagbohun (2022) noted that the perception of AI being "too complex" or "unaffordable" discourages adoption even when open-source or AI tools exist. Most Nigerian startups outside the ICT sector do not possess in house technical expertise to understand or implement AI, as a result they depend heavily on external consultants which is expensive. They also limit their innovation to manual or semi-automated solutions. According to Oladipo and Udechukwu (2023), awareness campaigns and education on AI benefits are minimal, limiting adoption, they also stated that startups in sectors like agriculture, retail and logistics often perceive AI as "too advanced" or "irrelevant" due to poor exposure to digital tools in general.

Change resistance, fear of job loss and unfamiliarity with new technologies make organizations hesitant to adopt AI tools. Many Nigerian workers, particularly in traditional industries believe that AI will replace human labor especially in sectors like customer service, finance, logistics and retail. This fear often extends to small business owners and startup founders, discouraging them from exploring AI based solutions. Oladipo and Udechukwu (2023) emphasized that AI adoption in Nigeria is constrained by the perception that automation will lead to mass unemployment, creating resistance among employees and even investors wary of public backlash. Adebiyi et al. (2020) argue that internal resistance to digital transformation is a key barrier, particularly in traditional sectors like agriculture and retail.

Another critical barrier to the effective deployment of Artificial intelligence (AI) in Nigeria's startup ecosystem is the lack of a clear regulatory and policy uncertainty which creates ambiguity around data use, intellectual property, privacy, liability and ethical issues. Akinbami and Olowookere (2021) identified regulatory uncertainty as one of the top systemic challenges limiting AI adoption among Nigerian tech startups. They noted that the lack of government policy direction and legal clarity discourages AI experimentation and expansion, particularly for startups attempting to scale or attract foreign investment. Technology is evolving rapidly, but Nigeria's regulatory institutions have been slow to adapt. While some digital economy policies exist, they do not directly address AI ethics and governance, AI based automation and

employment displacement, the role of AI in national innovation systems. This leaves startups operating in a legal grey area, often forced to self-regulate or follow international standards that may not align with local realities.

2.1.6 Strategies on How to Curb These Challenges

AI holds transformative potential for entrepreneurship in Nigeria, but adoption has been slow due to systemic, infrastructure and socio-cultural barriers. The following strategies, backed by recent research, can help mitigate these challenges and foster a thriving AI driven startup ecosystem.

To overcome the barrier of limited AI knowledge and fear of job displacement, there must be widespread investment in technical and non-technical AI training, integration of AI curricula in tertiary institutions, Digital skill development for youth and entrepreneurs. Olufemi and Salawu (2021) emphasized the importance of building AI related human capital through accessible education to encourage AI entrepreneurship. All startups need affordable and reliable infrastructure like access to high speed internet and cloud computing platforms, Renewable energy support to mitigate power instability, AI-as-a-Service (AIaaS) models to reduce cost barriers. Akinbami and Olowookere (2021) recommend public-private partnerships to invest in scalable infrastructure tailored to tech startups. Nigeria needs clear, supportive policies for ethical and inclusive AI deployment in order to establish a national AI strategy aligned with startup needs, implement data protection and governance laws, Incentivize ethical AI use through tax breaks or grants. Oladipo and Udechukwu (2023) argue that a clear AI policy roadmap would enhance investor confidence and reduce uncertainty for founders.

One of the most pressing challenges for AI driven entrepreneurship in Nigeria is lack of affordable and reliable infrastructure. AI technologies require stable electricity for running machines and servers, High-speed internet for cloud computing and data exchange, Data centers and computing power to process AI models. Without these, new ventures face high operating cost, Delays in model deployment, Limited experimentation and innovation. Akinbami and Olowookere (2021) found that over 60% of Nigerian tech startups face delays in AI deployment due to erratic electricity and high internet costs. To support AI and entrepreneurship, Nigeria must invest in reliable electricity supply, especially for innovation cluster and tech hubs, Broadband Infrastructure to expand high speed internet access, Local data centers to reduce reliance on foreign servers and lower latency, Affordable cloud computing and AI platforms, subsidized for startups. Olufemi and Salawu (2021) argue that infrastructure bottlenecks are a primary constraint on AI opportunity recognition and venture scaling in Nigeria. Governments and private sector actors should collaborate to build tech parks with 24/7 power and broadband, Extend fibre-optic networks to underserved regions, Support telecom and ICT investments in rural areas. Oladipo and Udechukwu (2023) recommend incentivizing infrastructure providers to develop AI ready environments, especially in innovation driven cities like Lagos, Abuja and Port Harcourt.

For AI to serve as a catalyst for entrepreneurship, innovation and inclusive economic growth, Nigeria needs structured policy direction, clear ethical guidelines and supportive regulations to stimulate investor and startup confidence. Nigeria's startup ecosystem operates in a context of regulatory uncertainty. Oladipo and Udechukwu (2023) emphasize that the lack of an AI policy in Nigeria has discouraged serious investment and cross- sector AI adoption, especially among tech entrepreneurs and SMEs. A functional AI policy should include national AI strategy with sectorial focus, Data protection and privacy regulations, AI ethics and accountability guidelines, Support for AI research, Funding and incentives for AI based ventures and infrastructure. According to Olufemi and Salawu (2021) , a well-structured AI policy would

empower startups to experiment with confidence, knowing there is legal and regulatory clarity. UNESCO (2021) recommends that African countries implement national AI policies to prevent regulatory gaps that may harm innovation or lead to misuse of emerging technologies.

AI startup development involves Data collection and model training, Hiring skilled professionals, Compliance with data privacy and ethical standards. Without adequate funding, startups struggle to develop prototypes or minimum viable products (MVPs), Cannot afford infrastructure and technical tools, and Face early-stage failure despite innovative ideas. Akinbami and Olowookere (2021) noted that over 70% of AI focused tech startups in Lagos and Abuja cited "lack of funding" as their top challenge. To make a meaningful impact, Nigeria could implement seed grants for AI research. The seed grant can be implemented by establishing a national AI research fund managed by agencies like the Federal Ministry of Communications, Innovation and Digital Economy (FMCIDE) and the National Information Technology Development Agency (NITDA). Public-private partnerships (PPPs) can strengthen seed grant programs through co-funding and mentorship.

A conceptual Framework linking AI and new venture creation in Nigeria may involve inputs, processes, outputs and outcomes
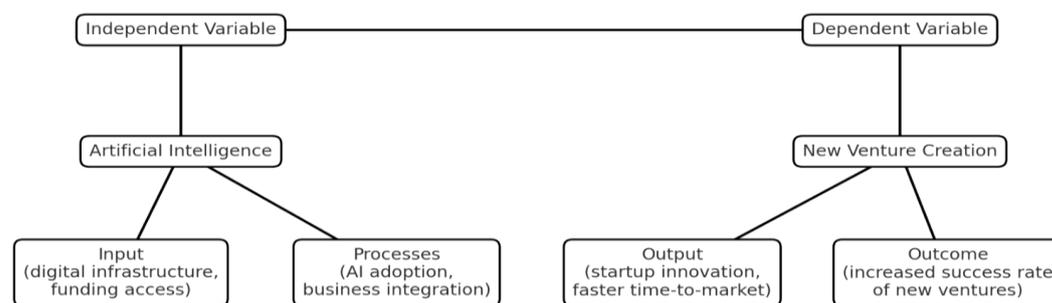

Fig 2.1
Source: Researchers' Conception (2025)

With government Support (e.g.., NITDA's AI policy draft), increased private investment and growing tech communities, the future is promising for AI driven entrepreneurship in Nigeria. Educational institutions and incubators must also play a key role in training talent and supporting AI based startups.

2.2 Review of Relevant Theories

Several fundamental theoretical frameworks provide a comprehensive understanding of the investigation of Artificial Intelligence and New Venture Creation, especially within developing economies like Nigeria. Various theories from technology adoption, innovation and entrepreneurship have been applied to explain the dynamics of AI adoption and entrepreneurial behavior.

2.2.1 Technology Acceptance Model Theory

Technology Acceptance Model (TAM) was developed by Fred Davis (1986; 1989) to explain how users accept and use technology. It focuses on Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). Perceived usefulness is the degree to which a person believes that using

a technology will improve their job or performance, while Perceived ease of use is the degree to which a person believes that using a technology will be free of effort. These two factors influence the attitude toward using the technology, which then affects the intention to use and ultimately the actual use of that technology.

In the context of new ventures in Nigeria, this theory provides a useful framework for understanding how entrepreneurs and startups decide to integrate AI into their business processes or create AI based ventures. In terms of perceived usefulness, entrepreneurs adopt AI tools when they perceive them as beneficial for improving decision making, enhancing customer experience and reducing operational costs. According to Oluwafemi and Adegbola (2023), Nigerian startups that perceive AI as a source of competitive advantage are more likely to embed it into their innovation strategies, leading to new venture creation in sectors like logistics, finance and education. Using the Perceived ease of use approach, Many entrepreneurs face technical and financial barriers to AI adoption. However, when AI systems are made simpler through low -code tools or cloud-based AI services, entrepreneurs find them more accessible. Ease of use influences whether small business owners and startups will apply AI to solve problems or develop new ventures. In Nigeria, entrepreneurs who hold positive attitudes toward AI, seeing it as an enabler rather than a job threat are more likely to establish AI driven businesses.

2.2.2 Resource-Based View Theory

The Resource Based View Theory (RBV), originally developed by Wernerfelt (1984) and later expanded by Barney (1991), is a strategic management theory that explains how firms achieve and sustain competitive advantage through the acquisition, development and deployment of valuable internal resources. RBV proposes that a firm's resources must be valuable, rare, inimitable and non –substitutable.

This theory helps explain how AI-related capabilities, knowledge, and data assets can serve as strategic resources that give startups in Nigeria a sustainable competitive advantage. AI technologies such as machine learning algorithms, data analytics and predictive models are increasingly viewed as valuable and rare organizational resources. For Nigerian entrepreneurs, leveraging AI enables better decision making and forecasting, it also improves customer engagement through personalization, and also enables greater operational efficiency and cost reduction. According to Obiya (2025), AI capabilities act as strategic assets that differentiate Nigerian startups in sectors such as fintech, agritech and healthtech. For instance, AI powered credit scoring systems used by fintech startups like Fair Money enhance loan accessibility and risk management, creating a competitive edge in the financial sector.

Resource based theory explains why Nigerian startups that effectively acquire, develop and utilize AI resources outperform others. It highlights that AI data and algorithms are valuable assets, thus, the successful creation and scaling of new ventures in Nigeria increasingly depend on how entrepreneurs manage and exploit these AI-based strategic resources.

2.2.3 Dynamic Capabilities Theory

The Dynamic Capabilities Theory (DCT), developed by Teece, Pisano and Shuen (1997), builds upon the Resource –Based View by emphasizing a firm's ability to adapt, integrate and reconfigure internal and external competencies in response to rapidly changing environments. Dynamic capabilities consist of identifying and assessing new opportunities and technological trends, it also mobilizes resources to capture value from those opportunities.

In Nigeria's fast changing technological and business environment, DCT helps explain how entrepreneurs use AI to sense opportunities, seize innovation potential and transform their operations to create and sustain new ventures. Once opportunities are identified, entrepreneurs must seize them by developing products, services and business models that exploit AI's potential.

Dynamic capabilities theory enables Nigerian entrepreneurs to adapt quickly to technological and market changes driven by AI. Startups that develop the capability to sense shifts in customer preferences or emerging AI trends are better positioned to innovate and survive in volatile environments. Through AI Nigerian ventures can redesign their business structures adopting digital-first, data-driven and customer-centric approaches.

2.3 Empirical Review

Several studies sought to investigate the interdependence between artificial intelligence and new venture creation. This section provides a review of the empirical literature on the relationships between artificial intelligence and new venture creation in Nigeria.

Ojo and Adetunji (2020) explored the sectorial application of Artificial Intelligence (AI) in Nigerian new ventures, with a focus on agritech and healthtech startups. The study aimed to examine how AI technologies are being adopted in these critical sectors and how this adoptions influence innovation, service delivery and startup scalability. The researchers used a qualitative case study analysis and used detailed interviews with founders and technical leads, field observation and company reports. The study applied the Technology Organization Environment (TOE) framework to analyze AI adoption factors. Based on the findings on this study in agritech, AI was used for precision farming, including soil quality analysis, crop disease detection via image recognition and weather forecasting. It was found out that startups using AI reported 30% improvement in crop yield and reduced losses that occur as a result of activities that occur after crops are harvested from the field through better decision-making. Also based on findings in healthtech AI applications included predictive diagnosis and remote health monitoring, also startups using AI in diagnostics experienced faster turnaround in diagnosis, enabling quicker treatment. These ventures also attracted more grant funding and international partnerships due to the scalable nature of AI- driven models. The researchers concluded that AI is a catalyst for innovation in sector-specific new ventures in Nigeria. Startups that leveraged AI tools were more productive, responsive and attractive to funders. However, achieving nationwide impact requires investment in data infrastructure, supportive policy and AI education.

Olaide, Mande and Adegbola (2023) carried out a research on Artificial Intelligence and entrepreneurship. The aim of the research was to examine the impact of Artificial Intelligence (AI) and blockchain on entrepreneurship performance and success in Nigeria (case: Kassy Blockchain and Technology Agency). The key variables used were AI (independent), Blockchain (independent), Entrepreneurship performance/success (dependent). The sample setting used was employees of a technology agency in Lagos; 70 questionnaires administered, 60 usable responses (purposive sampling). Descriptive statistics and ordinary least squares (OLS) regression to test hypothesis. He study finds there is a positive and statiscally significant relationship between the joint use of AI and Blockchain technology and entrepreneurship performance and success in Nigeria.

Godwin (2025) carried out a research on Artificial Intelligence with the aim to examine the effect of Artificial Intelligence (AI) power on entrepreneurial success among SMEs in Eket, Akwa Ibom State, Nigeria. Specifically, it sought to evaluate how AI rarity (the uniqueness and competitiveness of AI tools used by firms) affects entrepreneurial success; and assess how AI

utilization efficiency (how effectively SMEs apply AI in business Operations) influences entrepreneurial success. AI rarity and AI utilization efficiency were used as independent variables while entrepreneurial success was used as the dependent variable. A descriptive survey research design was used with a population of registered small and medium enterprises (SMEs) operating in Eket local government area, Akwa Ibom State, and a sample size of 120 SMEs surveyed via structured questionnaire. The sampling technique used for this research is a stratified random sampling, to ensure representation from trade, services and manufacturing sectors. Multiple regression analysis was used to test the hypotheses on the effect of AI variables on entrepreneurial success. The empirical findings from this research showed that AI rarity had a positive and significant effect on entrepreneurial success, also AI utilization efficiency also had a positive and significant effect. The model explained approximately 58% of the variance in entrepreneurial success. The author concludes that AI enhances productivity, market competitiveness and operational innovation among SMEs in Eket.

Discussion of Findings

The literature reveals that Artificial Intelligence (AI) plays a growing catalytic role in new venture creation in Nigeria, driving innovation, improving efficiency and enabling data-driven decision-making across sectors. Several studies highlight Artificial Intelligence as a strategy that brings about new and improved ideas for the creation of new ventures (Iwu and Osarumwense 2022; Ademola and Adebayo 2019, Adegbite and Machethe 2020). AI technologies enable entrepreneurs to identify new market opportunities through data analytics, predictive modeling and consumer behavior insights. According to Godwin (2025), AI enhances productivity, market competitiveness and operational innovation. In Nigeria context AI is a catalyst for innovation in sector-specific new ventures in Nigeria. Startups that leveraged AI tools were more productive, responsive and attractive to funders (Ojo and Adetunji, 2020).

5.0 Conclusion and Recommendations

5.1 Conclusion

Artificial Intelligence (AI) is rapidly transforming the landscape of entrepreneurship and new venture creation in Nigeria. Its applications across sectors, ranging from finance and agriculture to healthcare and transportation have created unprecedented opportunities for innovation, efficiency and market expansion. Despite the enormous potential, AI adoption among Nigerian startups faces several critical challenges. These include limited digital infrastructure, high cost of AI tools, lack of skilled talent, low public awareness and regulatory uncertainty. However, the tide is shifting as both public and private sector and stakeholders begin to recognize the strategic value of AI in economic development.

Government support through initiatives such as the National Artificial Intelligence Strategy (as proposed in NITDA's roadmap), improved access to affordable cloud infrastructure, targeted innovation grants and the promotion of AI education and digital literacy which are necessary steps to foster an enabling environment for AI driven entrepreneurship. Olufemi and Salawu (2021) emphasize, "AI has the capacity to serve as a powerful enabler for innovation and competitiveness in emerging markets like Nigeria, provided the ecosystem is intentionally nurtured".

Similarly, Okonkwo and Fagbohun (2022) argue that AI adoption in SMEs and startups will define the next generation of business growth and productivity in Nigeria if structural barriers are addressed.

In conclusion, AI is not just a technological trend but a strategic tool for entrepreneurial transformation in Nigeria. With proper investment in infrastructure, talent and policy frameworks, AI will catalyze a new wave of innovative ventures capable of solving some of Nigeria's most pressing socio-economic challenges.

5.2 Recommendations

Startups need affordable, reliable connectivity and compute to develop, test and scale AI services, because of this needs investment should be made on reliable digital infrastructure (broadband, power, cloud credits). A clear national AI strategy and regulatory sandbox should be established and operationalize because a national strategy clarifies priorities (skills, ethics, industry focus) and sandboxes let fintech, healthtech and agritech ventures test models under monitored rules, building investor confidence while protecting citizens. Data governance and data sharing frameworks (with privacy safeguards) should be created and accessible because high quality, interoperable datasets are essential for AI model performance. Practical AI skills and entrepreneurship capacity building (short courses, apprenticeships, bootcamps) should be scaled. Fast track retraining, university industry apprenticeships and non-degree bootcamps focused on applied machine learning, machine learning operations, and product design will grow talent for startups.

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