

# ISA Journal of Business, Economics and Management (ISAJBEM)

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Volume 2, Issue 3, May-Jun 2025

ISSN: 3049-1835

# Artificial Intelligence and Students Entrepreneurship Achievements in Nigeria

Muhammed Adamu Obomeghie

Department of Statistics, Auchi Polytechnic, Auchi, Nigeria

Received: 10.05.2025 / Accepted: 14.05.2025 / Published: 16.05.2025

\*Corresponding Author: Muhammed Adamu Obomeghie

DOI: 10.5281/zenodo.15433830

Abstract

#### Original Research Article

In the face of global AI revolution in all facet of human endeavour including inside our institution of learning, this study examines the impact students AI usage on their entrepreneurship achievements in higher institutions in Nigeria with a view to identifying derivable benefits while attempting to mitigate its apparent shortfalls. The study adopted the survey method in collecting data from three hundred and sixteen students of Auchi Polytechnic in Nigeria using a five point Likert scale questionnaire. The Logistic regression method is used to analyze the data collected. The findings of this study indicates that students utilization of AI tools for lecture preparation positively impacts their understanding and retention of entrepreneurial concepts, resulting in improved examination achievements. Equally, the utilization of AI chatbots to connect and collaborate with peers improves understanding and knowledge retention, leading to better entrepreneurial examination performance. The study therefore recommends that Higher institutions should promote the use of AI-powered collaboration tools and platforms that facilitate peer-to-peer interaction, idea sharing, and joint problem-solving among students.

Keywords: Artificial Intelligence, Chatbots, Digital Technologies, Entrepreneurial Achievements.

Citation: Obomeghie, M. A. (2025). Artificial intelligence and students entrepreneurship achievements in Nigeria. *ISA Journal of Business, Economics and Management (ISAJBEM)*, 2(3), 170-181, May–June.

### **1.0 INTRODUCTION**

The adaptation and usage of AI technologies in Nigeria education system has become a growing inevitable exercise. This is because of the radical transformation it has brought to various sectors of the Nigeria. While the impact of AI on different aspects of humanity is still in its infancy and its full potential has yet to be fully known however, the impact of those technologies on all facets of human endeavors ranging from; smart homes, self-driving cars, virtual assistants and chart bots, provision of personalized learning, automating administrative task natural language processing e.t.c cannot be side-lined (Somia & Vecchiarini, 2024). With the radical redirection of many aspect of human endeavour by AI, entrepreneurship educational activities cannot be left out. The adaptation of AI technologies in entrepreneurship learning in Nigeria has the potential of enhancing students learning experiences as well as, supporting their competencies if it is

effectively integrated along with non AI approaches (Gadanidis 2017).

Nigeria is currently facing a multitude of educational challenges which can only be surmounted if it has an innovative, well educated and entrepreneurial individuals who have the zeal and intuitiveness to reason in radical new ways with the aim of overcoming these challenges. Higher institutions of learning in Nigeria are expected to play a crucial role in the integration of AI into entrepreneurship pedagogy given its growing influence. According to Grupta & Singh (2024) the implementation of AI in education curriculum has been noted to be one of the significant evolution of the decade. This is because AI not only assists the conventional set-ups; it also supports the creation of new enterprise.

Artificial Intelligence (AI) has transitioned from a niche technological innovation to a pervasive force transforming numerous aspects of daily life. From healthcare and finance to manufacturing and entertainment, AI systems are enhancing

efficiency, decision-making, and innovation (Russell & Norvig, 2016). The rapid advancement of AI technologies, including machine learning, natural language processing, and robotics, has created new opportunities for economic growth and social development.

Within this evolving landscape, education systems worldwide are increasingly integrating AI tools to augment learning experiences, foster critical thinking, and develop innovative skills (Luckin et al., 2016). Concurrently, AI-driven platforms and applications are opening novel avenues for entrepreneurship, enabling students to conceive, develop, and launch startups more efficiently. For instance, AI-powered market analysis, automated customer service, and personalized marketing have lowered barriers to market entry and penetration, empowering student entrepreneurs to compete in dynamic markets (Brynjolfsson & McAfee, 2014).

The intersection of AI and student entrepreneurship outcome is a relatively new research frontier, yet it holds significant implications for economic development and workforce preparedness. Understanding how AI influences students' ability to innovate and succeed as entrepreneurs can inform educational policies, entrepreneurial training programs, and technology adoption strategies. Prior studies suggest that AI can enhance entrepreneurial skills by providing data-driven insights and automating routine tasks, thereby allowing students to focus on creative and strategic aspects (Sasikala, & Ravichangra, (2024). However, empirical evidence on the specific impacts of AI tools on students' entrepreneurial achievements remains limited.

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

Entrepreneurship education has been identified as a key driver of innovation, competitiveness and disturbance solution which lead to economic growth hence, equipping students of higher institution with AI skills and knowledge is crucial for future prosperity of the society (Park & Singh, 2023). Although the integration of AI into entrepreneurship education in higher institutions has many advantages, it also has some disadvantages such as; AI encourages plagiarism which is a treat to academic integrity, entrepreneurs needs the presence of sound human mind to identify any conceivable error of specific meaning, words or interpretation. On the strength of the rising application of AI, this study is tailored toward an examination of the impact of students usage of AI tool on their entrepreneurial achievement.

The rapid advancement of Artificial Intelligence (AI) presents both opportunities and challenges for student entrepreneurship. While AI tools are increasingly integrated into various aspects of modern business, a significant gap exists in understanding how these technologies specifically influence student entrepreneurial outcomes. Existing research primarily examines AI's impact on established businesses, neglecting the unique context of student entrepreneurs. The rapid proliferation of Artificial Intelligence (AI) presents a transformative force across industries, including the realm of entrepreneurship. Consequently, its integration into educational

settings, particularly within entrepreneurship programs, is becoming increasingly prevalent. While AI offers promising tools and capabilities that could potentially enhance students' entrepreneurial journeys, the precise nature and extent of its impact on their actual entrepreneurial achievement remain largely unclear and under-researched. (Fossen, et al. 2024). This lack of clarity hinders educators, policymakers, and students themselves from effectively leveraging the potential benefits of AI while mitigating its potential drawbacks in fostering entrepreneurial achievement. Therefore. comprehensive investigation into the multifaceted impact of AI on students' entrepreneurial achievement is urgently needed to inform educational practices, guide resource allocation, and ultimately cultivate a generation of ethically aware and technologically empowered entrepreneurs

### **1.3 Research Objectives**

The research objectives of this study are summarized bellow as following;

1. To assess how the use of AI by students in their lecture preparation lead to higher entrepreneurship outcome.

2. To evaluate the impact of AI usage by students in networking with other students on the latest on entrepreneurship education lead to higher entrepreneurship outcome.

3. To proposes strategic recommendations based on the outcome of our analysis whether students should be encouraged to use AI chart-bots in the teaching and learning of entrepreneurship in higher institutions in Nigeria

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

The study on the impact of AI on students' entrepreneurial achievements holds significant importance for several key reasons;

The research work can guide educators in designing and updating entrepreneurship curricula to effectively integrate AIrelated knowledge, skills, and tools. This ensures students are prepared for the AI-driven business landscape. For example, understanding how AI assists in market research can lead to incorporating AI-powered market analysis tools into coursework. Battilana, & Dorado. (2010). The study can also reveal the most effective teaching methods for leveraging AI in entrepreneurship education. This could involve experiential learning with AI simulation tools or critical analysis of AIgenerated business insights. (Oluwatoyin, et, al. (2024). Equally, identifying how AI impacts specific entrepreneurial skills will allow educators to tailor their teaching to either augment these skills with AI or focus on developing uniquely human skills that AI might not replicate.

Understanding the benefits and limitations of AI tools will enable students to make informed decisions about when and how to integrate AI into their ventures, maximizing efficiency and innovation

The study can as well, contribute to the development of new theoretical frameworks that explain the complex interplay

between AI and entrepreneurial action. This helps in understanding how technology shapes the entrepreneurial process.

The findings can inform policymakers about the need for initiatives that support AI literacy in entrepreneurship education and promote ethical AI adoption among future entrepreneurs.

By understanding how AI is transforming entrepreneurship educational in our institutions can better prepare graduates for a future where collaboration with AI will be increasingly important. Fostering AI-savvy student entrepreneurs can contribute to economic growth and innovation by creating new businesses and driving technological advancements. (Oyewole,2024)

### 2.0 LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK 2.1 Literature Review Overview of Entrepreneurship Education in Nigeria

Prior to the arrival of the Europeans, the Nigerian people had developed indigenous systems of education that were effective in instilling cultural values, beliefs, and norms in the younger generations. These educational systems were organized, structured, and pragmatic, tailored primarily to entrepreneurship education hence, there was no formal way of measuring entrepreneurial achievements. With the coming of the Europeans, these native educational systems were disrupted and entrepreneurship education was eventually destroyed. This is because of the belief that precolonial entrepreneurship education grew out of their environment and available resources. According to Rodney (1992) cited in Okoli & Allahna, (2014) the objective of the colonial education system was to train African to work in the local administration under the while colonialist with little room for entrepreneurship activities.

# **2.2 Conceptual Review**

Entrepreneurship education in Nigeria, has undergone various institutional, curricular, and pedagogical changes. Education is crucial for entrepreneurial initiatives, as it helps individuals acquire the skills needed to organize and manage resources for production. Education is vital in developing countries in Nigeria, has made education a priority since independence. The work of Odiba & Baba, (2013), noted that, entrepreneurship education is crucial in equipping young people with entrepreneurial skills and attitudes, which can be fostered through schools and universities Thus, the introduction of entrepreneurial education in higher institutions in Nigeria is relevant in combating unemployment.

# **Definition and Concept of AI in Entrepreneurship Educational Activity**

According to Park and Singh (2023), AI refers to the

creation of Computer systems capable of performing tasks that historically only human being can perform, including reasoning, making decisions or solving problem. In their own separate study Nwanguma & Onyeukwu, 2023). added that AI may also mean the mechanical stimulation of human intelligence process especially computer systems. Artificial intelligence has seen rapid development and growth in its application in all facet of lives, because it is able to undertake tasks previously performed by intelligent beings, such as learning, judgement, and decision making (Xu et al., 2021). Artificial intelligence has been proved to be effective in solving complicated problems in a variety of fields, including business (Kraus et al, 2020), entrepreneurship (Short & Short, 2023), and education (Ouyang et al., 2022).

AI tools especially, generative AI tool has the potential to revolutionize the way entrepreneurship is taught and learned, with features that support tasks from answering user inquiries to content creation and prediction. It can help students to generate ideas, analyze markets and customers and develop new business models, sparring partners when writing, and generate a lot of variations on a theme rapidly. For example, generative AI can create a business model in entrepreneurship pedagogy by providing data-driven insights, inspiring creativity, and generating assets such as vision and mission statements, target audiences, and value propositions. It can also assist in composing proposals, market research questions, and social media posts, serving as a solid starting point for entrepreneurs to build upon. A study by Strezelecki (2023) found that students' use of AI in entrepreneurship education can increase student interest and perceived performance expectations by providing data-driven insights and predictions and supporting more informed decision-making and business model development.

### Some Benefits of AI integration into Entrepreneurship Pedagogy

According to Mendoza, et, Al. (2023), existing studies on the adoption of AI in entrepreneurship education generally showed positive results with students actively using them to access information, ask questions and receive support with different assignments and tasks, such benefits includes:

- Chartbots can help to solve the problem of inadequate student and instructor interaction.

- It gives the users new and creative ideas that might not be thought of.
- It also helps in expanding knowledge on subject related to the idea.

- AI is able to see and add variables that might not have been considered by students.

- It provides a faster access to information and increase students' efficiency and productivity.
- AI implementation could lead to improved students engagement, individualized learning experiences and more efficient resource utilization (Bognair and Myint 2025).
- AI usage in entrepreneurship instruction has been found to improve decision making and resource allocation. (Fauzi

#### 2024)

- AI adoption has also been positively related to cost reduction in entrepreneurship programmes

because it helps to reduce waste and improve operations efficiency (Ezek 2024).

- AI can also offer valuable support to students to prepare for their examinations.

Finally, as AI technology continues to evolve, it is likely that its impact on students entrepreneurship achievement will continue to grow.

# Likely Disadvantages of AI Integration into Entrepreneurship Learning.

Despite the benefits which AI can bring to entrepreneurship learning some institutions of higher learning have been hesitant to embrace it, this is because opposing Scholars are still strong on the negative impact of AI on entrepreneurship education (Lim, et al. 2023).

- Students usage of AI in entrepreneurship education has been noted to be hazardous to
- scholastic honesty and the discussion on AI plagiarism is continuous (Stokel Walker, 2022).
- Some AI tools have restricted logical comprehension which can prompt insignificant reactions

this may reduced students achievement in this regards.

- AI is mostly used to acquire surface level understanding of topics without deep understanding, this may reduce students achievement (Dwivedi et at 2023)
- Entrepreneurial students and educators may worry that AI powered tools will be prone to
- technical glitches, data breaches or other issues that can distract the learning process, especially
- in developing countries with inefficient functional infrastructures.
- The use of AI technologies in the entrepreneurship learning process may result into lack of empathy and understanding in the learning process because these attribute are human.
- Since it has been noted that AI tends to suffer from artificial hallucinations, that is, occasionally
- producing content that does not exist, this may also reduce students achievement. (Else 2023).
- AI tools can also contribute to the spread of misinformation and generate inaccurate or biased
- responses For this reasons some institutions have limited its use (Borji, 2023)

With the above listed short-comings, some institutions has already prohibited the use of some AI technology, but this is a short-sighted approach (Rosenzweigh–Ziff, 2023). However, if implemented in a controlled environment and under the guidance of educators, some of these challenges can be addressed.

### **2.3 Theoretical Review**

The entrepreneurial and AI theories reviewed in this work which form the theoretical framework upon which this analysis is based are briefly outlined below;

# **2.3.1 Selected Theoris and Their Relevance to the Study**

# **2.3.2 Opportunity Recognition Theory of Entrepreneurship.**

The study by Kwabena, (2011) noted that this theory was propounded by Peter Drucker and Howard Stevenson . It is a framework within entrepreneurship that seeks to explain how individuals identify business opportunities. The theory emphasizes that recognizing a viable business opportunity involves both recognizing unfulfilled needs in the market and linking them with one's personal skills and capabilities. The relationship between Artificial Intelligence (AI) and the Opportunity Recognition Theory of Entrepreneurship is multifaceted and increasingly significant.

According to Kwabena, (2011), AI Enhances Opportunity Recognition in the following ways:

AI algorithms can analyze vast amounts of data (big data) from diverse sources (market reports, social media, customer reviews, etc.) far more efficiently and effectively than humans. This allows for the identification of patterns, trends, and anomalies that might indicate unmet needs or emerging market gaps which is the foundation of many entrepreneurial opportunities.

AI-powered predictive analytics can forecast future trends and consumer behavior with greater accuracy, helping potential entrepreneurs anticipate market shifts and identify opportunities before they become mainstream.

AI tools can automate and enhance market research by analyzing competitor activities, identifying customer sentiments, and segmenting markets more precisely, leading to a clearer understanding of potential opportunities.

AI, particularly through natural language processing and sentiment analysis, can help uncover subtle, unarticulated customer needs that traditional market research methods might miss, revealing opportunities for innovative solutions.

While traditional "alertness" in opportunity recognition theory refers to an entrepreneur's cognitive ability, AI can act as an external "alert system," continuously scanning the environment for potential opportunities based on predefined parameters.

AI can analyze existing business models and market dynamics to suggest novel and potentially more efficient or disruptive business models, opening up new entrepreneurial avenues.

In conclusion, AI is becoming an increasingly integral factor in the realm of opportunity recognition. It offers powerful tools to enhance the efficiency and scope of opportunity identification. However, it also raises important questions about the future role of human cognition, the emergence of new opportunity types, and the ethical considerations that need to be integrated into our understanding of how entrepreneurial opportunities arise in an AI-driven world. Future research is crucial to fully explore and theorize this evolving relationship

# 2.3.3 Innovation Theories

According to Karol (2013), the study of innovation began with Joseph Schumpeter in 1934. who emphasized the

role of the entrepreneur in driving economic change through "creative destruction." Schumpeter viewed innovation as a key engine of capitalist development, classifying it into five types: new products, new methods of production, new markets, new sources of supply, and new organizational forms.

The relationship between Artificial Intelligence (AI) and the Innovation Theory of Entrepreneurship is profound and transformative. Innovation theory, particularly Schumpeter's concept of "creative destruction," posits that entrepreneurship is the driving force behind innovation, introducing new products, processes, and business models that disrupt existing markets and create new ones. AI is increasingly intertwined with this process in numerous ways:

AI can optimize operational processes, automate routine tasks, improve efficiency, and reduce costs, leading to process innovation that can provide a significant competitive advantage for new entrepreneur.

AI can analyze existing business models and market dynamics to suggest novel and potentially disruptive ways of creating, delivering, and capturing value. This can lead to entirely new business models enabled by AI technologies.

Some scholars propose the concept of Artificial Entrepreneurship, where AI systems might move beyond simply assisting human entrepreneurs to autonomously identifying, evaluating, and even exploiting entrepreneurial opportunities. While still in its nascent stages, this suggests a future where AI could be a direct driver of innovation. (Lim, et, al. (2023).

AI can automate tasks that were previously considered integral to the entrepreneurial innovation process, such as market research, data analysis, and even some aspects of design and prototyping. This can accelerate the innovation cycle and potentially lower barriers to entry

In conclusion, AI is not just a tool that students entrepreneurs can use to innovate, it is a fundamental force that is reshaping the very process and theory of entrepreneurial innovation. It enhances traditional approaches, introduces the possibility of autonomous innovation, and presents significant challenges that require a re-evaluation of existing theoretical frameworks. The relationship between AI and innovation theory is dynamic and will continue to evolve as AI capabilities advance

### 2.3.4 Environmental Theories

The relationship between Artificial Intelligence (AI) and the Environmental Theory of Entrepreneurship is an evolving and increasingly critical one. The Environmental Theory of Entrepreneurship posits that the external environment, including ecological conditions, resource availability, and societal pressures related to sustainability, significantly influences entrepreneurial opportunities and the success of new ventures. AI is emerging as a powerful force that interacts with this environmental context in several key ways: (Tetteh, et, al. 2024).

AI excels at analyzing vast datasets related to environmental issues, such as pollution levels, resource depletion rates, climate change patterns, and biodiversity loss. This capability allows entrepreneurs to identify previously unseen opportunities for developing solutions that address these challenges.

AI can be a crucial tool in the development and deployment of environmentally friendly innovations. This includes optimizing resource utilization in production processes, designing sustainable products, improving waste management systems, and facilitating the transition to renewable energy sources.

AI-powered sensors, drones, and satellite imagery analysis can provide real-time data on environmental conditions, enabling entrepreneurs to develop services for early warning systems, pollution control, and conservation efforts.

# Environmental Considerations Influencing AI-Driven Entrepreneurship

The deployment of AI in environmental solutions raises ethical questions related to data privacy, algorithmic bias in environmental risk assessments, and the potential for unintended ecological consequences.

Environmental regulations and policies can significantly shape the opportunities and constraints for AI-driven environmental entrepreneurship. government support for green technologies and AI research can accelerate innovation in this space.

Growing consumer awareness and demand for sustainable products and services create a market pull for AI-powered environmental solutions, driving entrepreneurial activity.

In essence, AI is becoming an increasingly powerful force within the environmental theory of entrepreneurship. It provides entrepreneurs with unprecedented capabilities to understand, address, and capitalize on environmental challenges. (Tetteh, et, al. 2024). However, the theory must also account for the environmental footprint of AI itself and the ethical considerations that arise from its application in this future of successful domain. The environmental entrepreneurship will likely involve a synergistic relationship between AI technologies and a deep understanding of ecological principles and sustainability goals

# 2.4 Empirical Review

The relationship between artificial intelligence (AI) and students entrepreneurship achievements is multifaceted and has been the subject of various empirical studies. This relationship can be understood through different lenses, including innovation, business model development, operational efficiency, market competitiveness, and value creation. According to Fossen, et. Al, (2024) the empirical relationships between AI and entrepreneurship, are summarized below;

-AI technologies enable entrepreneurs to innovate by providing new avenues for product and service development. Start-ups often leverage AI to create novel solutions that disrupt traditional markets.

-AI allows for the transformation and optimization of business models. Entrepreneurs can utilize. -AI to customize offerings, improve customer experiences, and enhance operational efficiency.

-AI tools aid entrepreneurs in making data-driven decisions, which can lead to improved strategic outcomes, especially in market analysis and consumer behavior predictions.

-AI applications help startups optimize their operations, reducing costs and enhancing productivity through automation and improved processes.

-Entrepreneurs who effectively utilize AI can gain a competitive edge in the market, creating barriers for new entrants while improving their value proposition.

The empirical relationship between AI and entrepreneurship is characterized by a continuous interplay of innovation, business transformation, operational efficiency, market competitiveness, and ethical challenges. Understanding this dynamic can empower entrepreneurs to harness AI's potential while navigating its complexities.

# **2.5 Limitations and Directions for Future Research**

This work has added to the stock of existing literature however, some limitations were identified that could be addressed in future research. Suggested areas for future research includes;

- This study examined the specific impact of students' usage of AI on their performance in entrepreneurship studies with more focus on the use of AI for lectures preparation and networking with one another. Future research can focus on the impact of students AI usage on other courses offered within the institution or other institutions.

- Given the fact that this work was conducted within the borders of Auchi Polytechnic, it is recommended that future research should be conducted using other higher institutions within Nigeria or the West African region.

### 2.6 Gaps in Previous Work

Despite the growing integration of AI into entrepreneurial endeavors, there is a paucity of comprehensive research examining its direct effects on students' entrepreneurial outcomes. The absence of robust empirical evidence and theoretical frameworks to address these questions represents a significant gap in our understanding. The identified gaps in previous works which this study is determined to close are as follows: from the theoretical angle, Previous studies fail to robust theories on how human entrepreneurial skills and AI capabilities can best complement each other. Should AI be seen as a tool to automate tasks, or a partner in creative and strategic thinking? What are the optimal ways for students to learn to leverage this synergy? The location gap deals with the fact that similar studies conducted were focused on advance economies with no direct bearing on Nigeria students specifically. Finally, methodology gap will take care of the fact that a logistics regression model is adopted.

Choudhury & Khanna (2020). This lack of specific research hinders the development of targeted pedagogical approaches and resources to leverage AI's potential for enhancing student entrepreneurial skills and ventures. This study aims to address this gap by examining the relationship between AI exposure and entrepreneurial achievement among university students, thereby providing valuable insights for educators and policymakers

### 2.0 RESEARCH METHODOLOGY

This section outlines the methodology employed in the study.

#### 1.1 Research design.

The study adopted a descriptive survey design by collecting information from HND II students (graduating class students) of Auchi Polytechnic. The decision to survey only students in the higher classes is due to the fact that such students must take mandatory entrepreneurship courses for more than four semesters. This is to avoid sampling students who are just being introduced to entrepreneurship studies.

#### 1.2 Study Sample.

A sample of three hundred and sixteen (316) Students in the graduating classes were sampled for the study. The Yamane (1967) method cited in Anokye (2020) is used to determine the sample size of 315 respondents as follows;

$n = \frac{N}{1 + N(e^2)}$
$n = \frac{1500}{1500}$
$1+1500(0.05^2)$
$n = \frac{1500}{1500}$
4.75 n = 315 780 ~ 316
$n = 313.789 \approx 310$

### 1.3 Research questions.

The research questions which this work sets-out to answer are listed below in the form of the main research question which is, to determine how AI positively impacts on students entrepreneurial achievement in Nigeria? The main research question is further broken down into the following;

- Will the use of AI by students in their lecture preparation lead to higher entrepreneurship outcome?

- Can the use of AI by students in networking with other students on the latest on entrepreneurship education lead to higher entrepreneurship outcome?

- Has the use of AI by students in performing their practicals lead to higher entrepreneurship outcome?

#### 1.4 Research Instruments

The researcher used a 24 item validated questions with a (5) point Likert scale to collect the required data. The cronbach alpha is used to validate the instrument and it yielded a coefficient of 0.87 which is good enough for the study. A 97% retrieval rate was recorded because the study is conducted within an enclosed Faculty.

#### 1.5 Research prticipants.

No	%	
·		
211	66.8	
105	33.2	
·		
103	32.6	
176	55.7	
37	11.7	
·		
274	86.7	
	No 211 105 103 176 37 274	No         %           211         66.8           105         33.2           103         32.6           176         55.7           37         11.7           274         86.7

(Source; Own research)

#### 1.6. Data Analysis.

The data collected in this study were analyzed using the logistics regression estimation technique. The researcher formulated a logistics regression equation in line with Boateng & Abaye (2019) as follows;  $EE = f \{ LPP, PWD \}$   $EE = \beta 0 + \beta 1LPP + \beta 2 PWD$ Where;

EE = Entrepreneurship Acheivements LPP= Students use of AI in Lecture preparation PWD=Students use of AI in networking among themselves

# 4.0 RESEARCH RESULTS AND DISCUSSION

Table 1. Descriptive statistics for the analysis

	EE	LPP	PWD
Mean	2.898413	3.088889	2.860317
Median	3.000000	3.000000	3.000000
Maximum	5.000000	5.000000	5.000000
Minimum	1.000000	1.000000	1.000000
Std. Dev.	0.921694	0.992826	0.859295
Skewness	0.544364	0.193096	-0.150736
Kurtosis	2.849837	2.368303	2.543056
Jarque-Bera	15.85337	7.194942	3.933342
Probability	0.000361	0.027393	0.139922
Sum	913.0000	973.0000	901.0000
Sum Sq. Dev.	266.7492	309.5111	231.8540
Observations	315	315	315

Source; Author's computation from eviews

From table 1, it can be observed that LPP has the highest mean and S.D. On the other hand PWD has the lowest value for the Mean and standard deviation

Table 2 Test for corellation

	EE	LPP	PWD
EE	1	0.7651	0.5972
LPP	0.7651	1	0.7686
PWD	0.5972	0.7686	1

Source; Author's computation from eviews

From table 2, it can be noted that our variables are positively related with one another indicating that our analysis is adequate.

Dependent Variable: EE				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
LPP	2.563592	0.254301	10.08093	0.0000
PWD	0.462993	0.248657	1.861974	0.0626
Limit Points				
LIMIT_2:C(3)	2.710670	0.591714	4.581047	0.0000
LIMIT_3:C(4)	7.965495	0.669456	11.89846	0.0000
LIMIT_4:C(5)	11.73654	0.877471	13.37542	0.0000
LIMIT_5:C(6)	14.08661	0.965400	14.59148	0.0000

Table 3. Logistics regression output.

Source; Author's computation from eviews

Variable	Coefficient	Odd Ratios	z-Statistic	Prob.
LPP	2.563592	12.9811	10.08093	0.0000
PWD	0.462993	1.58882	1.861974	0.0626
	Limi	t Points		
LIMIT_2:C(3)	2.710670	0.591714	4.581047	0.0000
LIMIT_3:C(4)	7.965495	0.669456	11.89846	0.0000
LIMIT_4:C(5)	11.73654	0.877471	13.37542	0.0000
LIMIT_5:C(6)	14.08661	0.965400	14.59148	0.0000
Pseudo R-squared	0.382803			
	510.4782			

Table 4. Logistics regression output result with Odd ratios

Prob(LR statistic) 0.000000

Source; Author's computation from eviews

#### Interpretation

The coefficient of 2.5636 indicates then when the level of students' use of AI for lecture preparation (LPP) increase by one unit the log odds of achieving higher scores of Entrepreneurship as opposed to the combined lower entrepreneurship scores, also increases by 2.5636 units holding all other variables constant.

The odd ratio of 12.98 means that with a one unit increase in students' use of AI for lecture preparation (LPP), the odds of achieving higher entrepreneurship scores one about 98% higher compared to those with a one-unit decrease in LPP, assuming other variables are held constant.

The Z-statistics of 10.08093 signifies that the coefficient for

LPP is significantly different from zero and the relationship between students' use of AI for lecture preparation (LPP) and entrepreneurial achievement is significant, given that the associated probabilities is 0.000, this suggest that the result is stats significant at less than 1%.

The coefficient of 0.46299 indicates then when the level of students' use of AI in networking among themselves to get new entrepreneurial ideas (PWD) increase by one unit, the log odds of achieving higher scores of entrepreneurship as opposed to the combined lower entrepreneurship scores, also increases by 0.46299 units holding all other variables constant.

The odd ratio of 23.4048 means that with a one unit increase in students' use of AI in networking among themselves to get new

entrepreneurial ideas (PWD), the odds of achieving higher scores in entrepreneurship examination are about 46% higher compared to those with a one-unit decrease in PWD, assuming other variables are held constant.

The Z-statistics of 1.86197 signifies that the coefficient for students' use of AI in networking among themselves to get new entrepreneurial ideas (PWD) is significantly different from zero and the relationship between students' use of AI in networking among themselves to get new entrepreneurial ideas and students entrepreneurial achievements is significant, given that the associated probabilities is 0.062, this suggest that the result is statistically significant at below 10% which is the threshold of our analysis.

#### Model Fit Measures

The Pseudo R-square (0.3828 which is an analogous measure to the R-squared used in linear regression, adopted for the logistic regression model where the dependent variable is ordered rather than continuous. A value of 0.3828 suggest that approximately 38.3% of the variability in the dependent variable students entrepreneurial achievement is explained by the model. This value is typically lower than what is seen in linear regression models due to the nature of the data and the model. It is not as intuitive as the linear regression R-squared and while it can give a rough idea of model fit, this should be interpreted with caution.

L-R statistics (The likelihood ratio L-R statistics) tests the goodness of fit of the model, specifically, it compared the likelihood of the model with the included independent variables (LPP PWD) to a model without predictors beyond the intercept. A value of 310.4762 is quite high, suggesting that the model with predictors provides a significantly better fit to the data than the null model.

Prob {LR – Stats (0.000)}. This represents the p-value for the LR stats. A value of 0.000 indicates that the improvement of the model fit with the predictors over the null model is statistically significant. In other words, thee is strong evidence to suggest that the model with the independent variables (LPP UPS PWD) is better fit than the intercept-only model, meaning that the independent variables as a whole have a significant effect on the dependent variable.

#### 4.1 Summary of Findings

Based on the data analysis and interpretation undertaken in this study the finding are presented below;

Research Objectives	Key Findings
How the use of AI by students in their	1 Students' lecture preparation with AI leads to higher grades in the
lecture preparation lead to higher	entrepreneurship exam.
entrepreneurship outcome.	2 Incorporating AI into study routines may promote more efficient and targeted
	learning, leading to higher achievement in entrepreneurship assessments.
	3 AI can serve as a valuable resource for students, supplementing traditional
	preparation methods and enhancing academic success.
The impact of AI usage by students in	1 Utilizing AI tools to connect and collaborate with peers improves understanding
networking with other students on the	and knowledge retention, leading to better exam performance.
latest on entrepreneurship education	2.Integrating AI into student interactions provides additional resources, feedback,
lead to higher entrepreneurship	and guidance that positively impact academic outcomes.
outcome.	3. The use of AI to network motivates students to participate more actively in their
	learning process, resulting in improved examination results.

Source; Aurthor's Review, 2025

#### 4.2 Recommendations.

Arising from the findings of this study, the following recommendations were proposed.

Recomendations
1.Institutions should promote the use of AI tools among students for research, idea
generation, and exam preparation to enhance learning outcomes.
2. Faculties should organize workshops or tutorials on effective AI tool usage to
ensure students can maximize their benefits responsibly and ethically.
3. Institutions should incorporate modules that teach students how to leverage AI
effectively in entrepreneurship.
4. To establish guidelines that endorse AI-assisted learning while maintaining
academic integrity, ensuring fair assessment standards.
5. Provide access to reliable AI platforms and resources to facilitate widespread
adoption among students.
6. Continuously evaluate how AI tools influence learning outcomes to refine
strategies and ensure optimal educational benefits.

Students' lecture preparation with AI leads to higher grades in the entrepreneurship exam.1. Faculties should promote the use of AI-powered collaboration tools and platforms that facilitate peer-to-peer interaction, idea sharing, and joint problem- solving among students.Incorporating AI into study routines may promote more efficient and targeted learning, leading to higher achievement in entrepreneurship assessments.2. Educators should incorporate assignments and projects that require students to engage with one another through AI-enabled discussion forums, chatbots, or virtual study groups focused on entrepreneurship topics.AI can serve as a valuable resource for students, supplementing traditional preparation methods and enhancing academic success.0. Offer workshops or tutorials to familiarize students with AI technologies that can enhance networking, communication, and collaborative learning.4. Faculties shouldn design competitions or recognition programs that reward effective networking and collaboration using AI tools, motivating students to participate actively.5. Use AI to match students based on interests and strengths, fostering mentor- ship and knowledge exchange in entrepreneurship.1. Invest in and provide access to reliable AI tools and resources so all students can benefit equally from networking opportunities.		7. Educate students on ethical considerations and responsible use of AI to foster integrity and professionalism.
L.	Students' lecture preparation with AI leads to higher grades in the entrepreneurship exam. Incorporating AI into study routines may promote more efficient and targeted learning, leading to higher achievement in entrepreneurship assessments. AI can serve as a valuable resource for students, supplementing traditional preparation methods and enhancing academic success.	<ol> <li>Faculties should promote the use of AI-powered collaboration tools and platforms that facilitate peer-to-peer interaction, idea sharing, and joint problem-solving among students.</li> <li>Educators should incorporate assignments and projects that require students to engage with one another through AI-enabled discussion forums, chatbots, or virtual study groups focused on entrepreneurship topics.</li> <li>Offer workshops or tutorials to familiarize students with AI technologies that can enhance networking, communication, and collaborative learning.</li> <li>Faculties shouldn design competitions or recognition programs that reward effective networking and collaboration using AI tools, motivating students to participate actively.</li> <li>Use AI to match students based on interests and strengths, fostering mentorship and knowledge exchange in entrepreneurship.</li> <li>Invest in and provide access to reliable AI tools and resources so all students can benefit equally from networking opportunities.</li> </ol>

Source; Author Review. 2025

# **5.0 CONCLUSION**

This study is aimed at investigating the impact of AI on students' entrepreneurial achievements. The findings of this work clearly demonstrate that When students' incorporate AI into their entrepreneurship study routines, it promotes more efficient and targeted learning, leading to higher achievement in entrepreneurship assessments. Equally, students use of AI tools can serve as a valuable resource for them by supplementing traditional preparation methods which enhances academic success. On the other hand, Utilizing AI tools to connect and collaborate with peers improves understanding and knowledge retention, leading to better exam performance. Finally, the use of AI to network motivates students to participate more actively in their learning process, resulting in improved examination results.

However one must not forget the inherent negative consequences associated with student' use of

AI such as, Students usage of AI in entrepreneurship education has been noted to be hazardous to

scholastic honesty and the discussion on AI plagiarism is continuous (Stokel – Walker, 2022).

#### **REFERENCES**

- 1. AlDahdouh, A. A, Osorio, J.A. & Caires, S. (2015).Understanding knowledge network and connectivism. *International journal of instructional technology and distance*.12 (10) 3-21
- 2. Anokye, M.A. (2020). Sample size determination in survey research. *Journal of scientific research and reports*, 26 (5) 90-97
- 3. Bognair, & Myint, S.K. (2025). The shifting landscape of student engagement: A pre-post semester analysis in

AI – enhanced classrooms. *Computers and education AI*. (8)100395

- 4. Barnes, E & Hutson, J. (2024). Natural language processing and neurosymbolic AI; The role of neural networks with knowledge -guided symbolic approaches. *DS Journal of Artificial intelligence and robotics*. 2(1).
- Battilana, J. and Dorado, S. (2010) Building Sustainable Hybrid Organizations: The Case of Commercial Microfinance Organizations. Academy of Management Journal, 53, 1419-1440.
- Block, J.H., Fisch, C.O. & Van Praag, M. (2016). The Schumpeterian entrepreneur: a review of the empirical evidence on the antecedents, behavior and consequences of innovative entrepreneurship. *Industry and Innovation* 24 (1) 61 – 95
- Boateng, Y.E & Abaye, A.D. (2019). A review of the logistics regression model with emphasis on medical research. Journal of data analysis and information processing. 7(4)190-207
- 8. Borji, A. (2023). A categorical archive of ChatGPT failures. ArXiv Preprint https://arxiv.org/pdf/2302.03494.pdf.
- Bourdieu, P. (1986) The Forms of Capital. In J. Richardson (Ed.), *Handbook of Theory and Research for the Sociology of Education* (pp. 241-258). New York: Greenwood.
- 10. Brynjolfsson, E., & McAfee, A. (2017). "The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies. W.W Norton and company. New York.
- 11. Caldarini, G., Jaf, S., & McGarry, K. (2022). A literature survey of recent advances in Chatbots. *Information*, 13(1), 41.
- 12. Choudhury, P., & Khanna, R. (2020). "Artificial Intelligence in Operations: A Study of the Role of

AI in Business Success. *Business Horizons*, 63(5), 681-691.

- 13. d'Avila Garcez, A.S, Lamb, L.C., & Gabbay, D.M. 2015 Neural-symbolic learning and reasoning; A survey and future directions. *Artificial Intelligence*, 235, 146-184.
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147–160
- 15. Dwivedi, Y. K., Kshetri, N., Hughes, L., Slade, E. L., Jeyaraj, A., Kar, A. K., Baabdullah, A. M., Koohang, A., Raghavan, V., & Ahuja, M. (2023). "So what if ChatGPT wrote it?" Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy. *International Journal of Information Management*, 71, Article 102642.
- 16. Else, H. (2023). Abstracts written by ChatGPT fool scientists. *Nature* .613 (7944):423.
- 17. Ezek, U.M. (2024). Appraisal of AI and Cost Reduction Management in Education Institution. Research Invention. *Journal of current research in humanities and social sciences.* 3 (1) 1-7
- Fauzi, C. (2024). A review of geospatial artificial intelligence (GEO – AI) Implementation of machine learning on urban planning. *Journal Multidislplin Indonesia*. 3 (1) 3752 – 3764.
- 19. Fossen, M.F., Mclemore, T. & Sorgner, A. (2024). *Artificial Intelligence and entrepreneurship.* IZA institute of labour discussion paper series. No 17055.
- Gadinidis, G. (2017). AI, computational thinking and mathematics education. International Journal of information and learning technology. 34 (2) 133-139
- Grupta, M. & Singh, M. (2024) The impact of AI for advancement in E.E. Proceedings of the 19th European Conference on Innovation and Entrepreneurship 218 – 224
- 22. Hahn, T., Pregernig, M., & Schanz, H. (2014). The theory of natural resource management: Understanding the institutional frameworks and stakeholder dynamics. *Environmental Science & Policy*, 38, 1-10.
- 23. Hillman, A. Withers C.M. & Collins, J.B. (2009): Resource Dependence theory: A review; *Journal of Management* 35 (6) 1404 – 1427
- 24. Karol, S. (2013). Schumpeter's view on innovation and entrepreneurship. *SSRN* Electronic Journal. D01:10 2139/SSRN.783 2257
- 25. Kraus, M., Feuerriegel, S., & Oztekin, A. (2020). Entrepreneurship education learning in business analytics and operations research: Models, applications and managerial implications. *European Journal of Operational*

Research, 281(3), 628–641.

26. Kwabena, N.S. (2011): Entrepship theories and empirical research. A summary review of the

literature. European Journal of Business and Management. 3(6) 1–9

- Lim, W. M., Gunasekara, A., Pallant, J. L., Pallant, J. I., & Pechenkina, E. (2023). Generative AI and the future of education: Ragnarök or reformation? A paradoxical perspective from management educators. *The International Journal of Management Education*, 21(2), 100790.
- 28. Mark T. & Erude U.S. (2023) Contigency theory. An Assessment. American Journal of Research in Business and Social Science, (2) 11 12
- 29. Menendoza, P.S., Guevara, C., Alban, M.A. & Escobar, F. J. (2023), AI in higher education: A predictive model for Academic performance. *Education Series* 13 (10): 990
- Nwanguma, T K & Onyeukwu, H.C. (2023) Integrating AI in Nigeria education. A Panacea to education Assessment Development in Nigeria. African Journal of Information, Economics, and Management Research. 1(2) 100-106
- Odiba, I. & Ann Baba, P. (2013). Entrepreneurial Education in Nigeria Universities: A Recipe for National Development in the 21st Century. *Journal* of Education Practice. 4 (10) 36-39.
- 32. Okoli N & Allahna J E (2014) E..E from Pre-colonial to Post-Independent – *Nigeria Merit Journal* of Education & Review 2(10) xxx
- Onu, A. J. C. (2013). Stimulating Entrepreneurship In Educational Institutions In Nigeria. *European* Scientific Journal 9 (25) 38-49
- Ouyang, F., Zheng, L., & Jiao, P. (2022). Artificial intelligence in online higher education: A systematic review of empirical research from 2011 to 2020. Education and Information Technologies, 27(6), 7893–7925.
- 35. Park, J. & Singh, S. C. (2023) The impact of generative AI tools on the Development of entrepreneurship intentions. *ACIS proceedings*. 72
- Pavlik, J. V. (2023). Collaborating with ChatGPT: Considering the implications of generative artificial intelligence for journalism and media education. *Journalism & Mass Communication Educator*, 78(1), 84–93.
- 37. Rosenzweig-Ziff-D (2023). New York City blocks use of the Chat GPT bot in its schools. The Washington Piest. <u>http://www.washington</u> post/education
- Somia, T. & Vecchiarini, M. (2024) Navigating the new frontier. The impact of AI on students'entrepreneurship competencies. *International Journal of Entrepreneurship*
- Behaviour and Research 30 (11)
  39. Stokel-Walker, C. (2022). AI bot ChatGPT writes smart essays should professors worry?.*Nature*, Advance online publication. <u>https://doi.org/10.1038/d41586-022-04397-7</u>

- Strezelecki, A. (2023) Students' acceptance of Chat GPT in higher education. An extended unified theory of acceptance and use of technology. *Innovative Higher education*. 49 223 – 245.
- Teece, D.J. (2010). <u>Business Models, Business Strategy</u> <u>and Innovation</u>. *Long range* planning 43, 172-19
- Tetteh, C., Tasavori, M. & Rajwani, T. et al (2024) How do environmental factors shape entreprial intention? A review and future research. *International Entrepreneurship and Management Journal* (20) 2955 – 2977
- 43. Thornton, P. H., & Ocasio, W. C. (2008). Institutional Logics. In R. Greenwood, C. Oliver, K. Sahlin, & R. Suddaby (Eds.), The SAGE Handbook of Organizational Institutionalism (1ed.,pp.99-129). SAGE Publishing. <u>https://doi.org/10.4135/9781849200387.n</u> 4
- Xiamei, C. Xiaojie, W. & Wang, X. (2023): Organizational Ecology Theory. Review past for directing the future development. *Research Square*.DOI;10;21203/3.rs-2730086/v1
- Xu,Y., Liu, X., Cao, X, et al (2021). Artificial Intelligence; A powerful paradigm, for scientific research. *The Innovation*. 2 (4)100179
- 46. Russell, S.J. and Norvig, P. (2016) Artificial Intelligence: A Modern Approach. Pearson Education Limited, Malaysia
- 47. Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. (2016). Intelligence Unleashed: An Argument for AI in Education. PearsonEducation Limited. Malaysia.

- Brynjolfsson, E., & McAfee, A. (2014). The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies. W. W. Norton & Company.
- Sasikala P. & Ravichangra, R. (2024). Study on the Impact of Artificial Intelligence on Student Learning Outcomes Journal of Digital Learning and Education. 4(2):145-155.
- 50. Oluwatoyin A. A., Bongani Gamede, B. Matiyenga, C.T. (2024). Leveraging artificial intelligence to enhance teaching and learning in higher education: Promoting quality education and critical engagement. *Journal of Pedagogical Sociology and Psychology.* Journal of Pedagogical Sociology and Psychology. 7(1) 54-69.
- 51. Short, C. E., & Short, J. C. (2023). The artificially intelligent entrepreneur: ChatGPT, prompt engineering, and entrepreneurial rhetoric creation. *Journal of Business Venturing Insights*, 19, 00388.
- Oyewole O. S. (2024). AI: Driving Entrepreneurship, Nurturing Innovation, and Fueling Startup Growth. 6, (11) 540-547.
- 53. Lim, W. M., Gunasekara, A., Pallant, J. L., Pallant, J. I., & Pechenkina, E. (2023). Generative AI and the future of education: Ragnarök or reformation? A paradoxical perspective from management educators. *The International Journal of Management Education*, 21(2), 100790.