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EXPLORING THE POTENTIALS OF ARTIFICIAL INTELLIGENCE TOWARDS ENTREPRENEURIAL INTENTIONS AMONG STUDENTS IN DELTA STATE

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A B S T R A C T

This study focused on artificial intelligence and entrepreneurial intentions among students. The study ascertained how AI-integrated entrepreneurial learning affects entrepreneurial intentions and assessed how computer vision (technological innovation and perceived feasibility) affects entrepreneurial intentions. This study adopted a survey research design. The initial approach included the dispatch of invitation letters and e-mails to selected higher learning institutions within Delta State. This approach was purposive in nature. A total of 500 questionnaires were forwarded, out of which 372 valid responses were returned, thus reflecting a response rate of 74.4%. To ensure validity, the instrument was subjected to construct validity, following a pilot study with 50 students from institutions not included in the main study. Reliability analysis using Cronbach's Alpha showed that all constructs exceeded 0.70. Both descriptive and inferential statistics were used for data analysis. Regression model was used for testing hypotheses. Finding showed that AI-integrated entrepreneurial learning has a significant positive effect on entrepreneurial intentions. Finding further showed that cognitive thinking has a significant positive effect on individuals' propensity to act upon opportunities. A transformative tool in the aspect of forming entrepreneurial intentions amongst students is artificial intelligence, considering that it offers tools, platforms, and learning environments that boost the ability to recognize entrepreneurial opportunities, make decisions, and solve problems. One of the recommendations from the study was that there should be a focus on promoting the inclusion of AI tools and platforms in entrepreneurial learning initiatives in an environment that encourages the adoption of innovative solutions like computer vision while at the same time improving the perceived feasibility amongst students.

1. INTRODUCTION

Today, the intersection of technology, education, and cognition has reengineered the manner in which the youth perceive innovation, opportunity, and value addition. The ever-increasing technological evolution has opened significant opportunities for students to interact and utilize intelligent systems that mimic some features of human cognition and perception. The impact and effect of these technological advancements go beyond

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affording innovations in problem-solving instruments—that is, tools that students can use in problem-solving and innovative activities—to paradigmatically reengineering students' cognition regarding their roles in innovation and entrepreneurship. The development and rise in use and implementation of intelligent technologies have broadened the entrepreneurship landscape from business-oriented ventures to innovation-oriented ventures that use data automation and computational intelligence (Azizi et al., 2025; Nafiu et al., 2020; Solomon et al., 2025). Students today are beyond mere learners in an education system—they are innovators poised in an overarching technological entrepreneurship ecosystem in which access and use of technology, experience, and cognition interact to shape students' intentions to implement innovations in entrepreneurship ventures that are innovative, data-driven, and automation-oriented (Maritz et al., 2022; Prokopenko et al., 2024; Zaki et al., 2021).

Entrepreneurship learning is fundamental for the accomplishment of change. Instructors and learning environments are, therefore, important for the application of learning styles and the development of entrepreneurial skills. Learning contexts, have the ability to influence students' skills and confidence, and this is because the students feel the capacity required for implementation within uncertain conditions. Curiosity, solving, and creativity are all the driving forces towards the development of the entrepreneurial mindset, and this happens because the learning context prepares students for the acquisition of skills through active learning as opposed to passive learning. The acquisition of skills and knowledge of this nature plays a pivotal role within the developing world, especially where diversification and empowerment of the youth are highly reliant upon the skills of transforming ideas into successful ventures.

Within the symbiotic relationship that emerges when learning is pitched alongside innovation, computer vision technology makes entrepreneurship more feasible (Brueggemann & Matthews, 2024; Prokopenko et al., 2024). Computer vision, an AI by-product that enables computers to interpret and respond to image data, has been widely put into use in areas ranging from biotech and agritech to logistics and security. By doing this, institutions can provide students with more than technical know-how—they obtain an appreciation that technologies in this manner can be put into use and thereby translated into financially rewarding entrepreneurship (Crittenden et al., 2019). If they know how technologies such as computer vision actually function and can see them in use, they feel entrepreneurship not as an idea but as something that can actually be done; this makes them more enthused and inclined toward taking up entrepreneurship (Pergelova et al., 2023; Yalo et al., 2019).

At the same time, it is important to recognize the cognitive aspect, which is a precursor to entrepreneurial activity itself. Cognitive thinking, which can be seen in reason, decision, and problem-solving capacities, in fact, represents the mental processing activity that involves judging and exploiting opportunities via a distinct mental mechanism. Thinking students are in a better position to handle uncertainties in a sound manner while making decisions while moving from the stage of idea creation to implementation (Guo et al., 2024). Cognitive flexibility helps these students to convert obsacles into opportunities, which can be done through reframing constraints into incentives for creativity in a setting where a lack of resources characterizes a structural constraint, as witnessed in Delta State, Nigeria (Maritz et al., 2022; Zaki et al., 2021).

The intersection of entrepreneurial learning, technology innovation, and cognitive ability, therefore, constitutes the psychological and experiential base for the entrepreneurial intention of students located in Nigeria. Within the contexts of states whose development is slowly unfolding, such as Delta State within which job opportunities are limited, such antecedents are not merely theoretical but form the practical ingredients for socioeconomic change. By being introduced to intelligent technology, involved in active learning, and developed for cognitive flexibility, students become transformed from passive recipients to active agents in their educational and economic lives, establishing active value as opposed to merely passive recipients.

The broad objective of the study was to examine how Artificial intelligence affects entrepreneurial intentions among students in Delta State. The specific objectives were to:

- Ascertain how AI-integrated entrepreneurial learning affects entrepreneurial intentions;
- Assess how computer vision (technological innovation and perceived feasibility) affects entrepreneurial intentions; and
- Determine how cognitive thinking affects propensity to act upon opportunities.

2. LITERATURE REVIEW

There are several definitions of Artificial Intelligence, which range from its interdisciplinary topic to its expanding applications. Based on a description by asaad et al. (2021), AI is the science and engineering of building intelligent agents, which generally refers to systems that are capable of perceiving their environment and behaving in a way to maximize the probability of its succeeding particular objectives. Using this description, it is generally noted that AI emphasizes adaptability and autonomy, which are fundamental for intelligent agents. Based on Raggett (2021), AI represents the field that focuses on how to apply computers to do things for which they are actually less competent compared to human capabilities, identifying its goal of imitating human-like intelligence, learning, and perception. In a similar fashion, Kaplan and Haenlein (2019) defined AI as "a system's ability to properly interpret external data, learn from it, and use these learns to achieve specific goals via flexible adaptation." These definitions emphasize the aspect of AI which comprises the integration of learning,

reasoning, and problem-solving skills that are typologically unique in human intelligence. There is a subfield of machine learning, natural language processing, computer vision, and robotics in a bid to emulate intelligence. Rather, it personifies the pursuit of systems with the ability to decide, recognize intricate patterns, and accrue experience with the perspective of harmonizing human intelligence with computing capability.

Entrepreneurial intention is the mental state of the individual when it comes to planning and acting with the intention of starting a business. Krueger and Carsrud (1993) state that it is "a personal commitment to pursue entrepreneurship. Intentions precede behavior." This perception of entrepreneurial intention highlights the importance of the intention in the entrepreneurial process, stating it occurs before the action takes place. Ajzen (1991) explains the entrepreneurial intention from the Theory of Planned Behavior: "The key determinants of intention include attitude towards the behavior, perceived behavior control, and subjective norms. These factors will influence an individual's decision of whether they will be entrepreneurial." Mia et al. (2025) describe entrepreneurial intention further: "The entrepreneurial intention is the result of a purposeful cognitive process where the motivation for action and decision-making for enterprise creation is managed." In other terms, entrepreneurial intention is not a real-life event for the individual (Ozovehe et al., 2022). In this context, it is the controlled process of wanting a startup. Entrepreneurial intention combines the process of the individual's beliefs, motivation, and the feasibility of the startup. Entrepreneurial intention is the transition point of the entrepreneurial process from potential to action.

2.1 AI-integrated entrepreneurial learning and entrepreneurial intentions

Artificial intelligence (AI)-driven entrepreneurial learning can then be defined as the transformative experience of equipping individuals with cognitive-technical skills for opportunity identification, analysis, and exploitation through direct engagement with artificial intelligence systems designed to mimic entrepreneurial problem-solving or decision-making tasks in a virtual simulation of the context of entrepreneurial opportunity pursuit (Cocu et al., 2025; Kumar, 2025). Through entrepreneurial learning within an environment powered by AI, for example, people are able to develop systematic patterns for their thinking related to opportunities, analysis, and innovation, thus enhancing opportunities for identification, analysis, and innovation (Mostafiz et al., 2019; Tynan, 2023). However, although technology-driven learning increases opportunity feasibility belief and self-efficacy, it has also been shown to promote over-reliance on technological outcomes, hence stymieing creativity in entrepreneurial opportunity analysis.

In practical application, there is evidence to show that students who undergo AI-integrated entrepreneurial learning attribute to stronger entrepreneurial intentions than others (Brueggemann & Matthews, 2024; Prokopenko et al., 2024). Entrepreneurial learning with AI can attribute to entrepreneurial behavior as an ability enhancer. Meanwhile, over-reliance on AI for entrepreneurial learning may lead to limitations of entrepreneurial initiatives with little social interaction. In most cases, entrepreneurial learning with AI can attribute to entrepreneurial behavior as an ability enhancer but may also attribute to entrepreneurial behavior as an ability restrictor. In retrospective consideration, entrepreneurial learning with AI can attribute to entrepreneurial behavior as an ability double-edger.

2.2 Computer vision and entrepreneurial intentions

The literature increasingly acknowledges that the development of technology, such as computer vision, and perceived feasibility are now widely regarded as crucial in the entrepreneurial intention. In addition, innovative technology captures the attention of students, as well as increases their belief in their capabilities to develop and implement their business ideas, feasibility, thus entrenching the psychological foundations for entrepreneurship (Dangana et al., 2023; Ou & Kim, 2025). Further studies suggest that entrepreneurial awareness and exposure to computer vision and its applications, opportunity recognition, problem solving, and confidence in executing technology ventures develop and increase (Cocu et al., 2025; Kumar, 2025; Panxhi, 2023). On the other hand, whenever the learners link technological tools with complication or unavailable leading factors, then a reduced assessment capability is shown in applying the innovation, thereby depleting the probabilities of translating the ideas into a venture. Whenever the learners regard technological tools as complicated or unavailable, leading factors are found to make them evaluate their capabilities as less than what is necessary in applying innovations and therefore reduce the probabilities of translating their ideas into ventures (Aldossary, 2023; Brueggemann & Matthews, 2024). The interplay between technological novelty, ease of use, and perceived feasibility is not just a technical but basically a cognitive and motivational issue that shapes the entrepreneurial intention.

Evidence from educational and entrepreneurship studies makes these trends even more informative. For instance, students engaged with computer vision technologies and who consider them to be useful show the highest levels of self-efficacy, more creative thinking, and a greater intention to exploit entrepreneurial opportunities than do other students (Brueggemann & Matthews, 2024; Prokopenko et al., 2024). On the other hand, overreliance on technology without the imperative of critical thinking and potential creativity might decrease creativity and the scope of potential ventures. In such environments as in the state of Delta, where access to innovative enabling technologies might not be readily available, the perceived desirability of computer vision use stands as the gateway criterion in determining whether students shall pursue their entrepreneurial ventures. The interaction between technological innovation and perceived feasibility

becomes the core in explaining how AI-driven enabling tools like computer vision develop entrepreneurial intentions.

2.3 Cognitive thinking and propensity to act upon opportunities

Past research has already established that cognitive thinking—a critical cognition that encompasses a person's decision-making and problem-solving abilities—significantly influences individuals to materialize entrepreneurial opportunities (Elrehail et al., 2024l Ou & Kim, 2025). Well-developed cognitive thinking provides a person with greater abilities to critically investigate complicated information, estimate any potential risks involved, and devise workable strategies, thereby increasing the likelihood of transforming their ideas into viable venture creation (Tian & Yang, 2025). Furthermore, skills for making decisions within an entrepreneurial setting help the learners concentrate efforts on valuing an occasion despite its feasibility, resource requirements, and possible outcomes, and problem-solving skills improve malleability and preparedness when faced with uncertain situations (Cocu et al., 2025; Guo et al., 2024; Kumar, 2025). The cognitive thinking process allegedly develops self-efficacy and confidence, which act as crucial stimulators for acting upon an occasion believed to exist (Elrehail et al., 2024; Ou & Kim, 2025). On the contrary, weakness within the processes of analytical reasoning and creative problem-solving may lead to hesitation, risk aversion, and a Trial-and-error approach. Evidence also reveals that when students are involved in activities aimed at improving decision-making and problem-solving capacities, they can effectively identify and leverage opportunities as well as create entrepreneurial possibilities by taking actions related to entrepreneurial initiatives (Dangana et al., 2023; Kayyali, 2023). Additionally, cognitive thinking acts as an essential psychological process because it shapes the willingness of students to undertake entrepreneurial actions.

3. METHODOLOGY

3.1 Research Design

The survey research design was applied in this study to examine the impact of elements of AI and cognitive thinking on entrepreneurial intentions among students in Delta State, Nigeria. Respondents were asked to fill in a structured questionnaire comprising statements that quantified variables such as: entrepreneurial learning through AI, computer vision (technological innovative capability and perceived desirability), cognitive thinking (decision-making and problem-solving), and entrepreneurial intention. Initial contact entailed invitation letters and electronic messages sent to the selected higher education institutions in Delta State. For the instrument to be valid, it was administered at convenient times for the participants, with deliberate attempts to get the right data that are truthful. All participants were thoroughly informed of the purpose of the investigation before making necessary consent responses.

3.2 Sampling

Participants came from undergraduate and postgraduate levels in both university and polytechnic institutions in Delta State, identified as having a highly diverse academic program with a diverse mix of students. A purposive type of sampling procedure was employed, taking into consideration those likely to have significant information based on existing experience with courses or technology learning or engagement with work related to AI projects. A total of 500 questionnaires were distributed among five institutions, representing different areas of the state in terms of academic groups. A total of 372 valid responses were gathered from the distributed questionnaires, making up about 74.4% of the total.

3.3 Data Collection Instrument

A structured questionnaire was used to obtain data, which was designed to extract responses related to students' views on AI-powered learning, technological innovation, cognitive thinking, and entrepreneurial intentions. The scale was divided into sections focusing on each variable. The questions regarding entrepreneurial learning using AI included interest in AI applications and experiential learning, while those focusing on computer vision included perceived viability and technological innovation. Questions evaluating cognitive thinking included decision-making and solving capacities. Entrepreneurial intention was measured using the constructs self-efficacy, recognition, and intentions to create an enterprise. A five-point Likert scale with responses from 1 ('strongly disagree') to 5 ('strongly agree') was used to rate each question.

A pilot study involving construct validity was conducted on a total of 50 students from institutions that were not considered for study in the main investigation, ensuring that minor modifications are considered as a measure of relevance to contexts by respondents. The reliability analysis including Cronbach's alpha showed that each factor had a level above 0.70, ensuring that internal consistency for all constructs is met (Table 1). The administration of instruments within institutions followed ethical considerations, including anonymizing respondents for the collection process of data.

3.4 Data analysis

Both descriptive and inferential statistics were used for data analysis. This is important as both statistics help with clearer results (Nafiu et al., 2023). Regression model was used for testing hypotheses. Test was conducted at 5% (sss0.05) significance level. Construct reliability was examined, with acceptable thresholds set at $\alpha \geq 0.70$. In specific form, regression models are:

$$ENI = a + \beta_1 AEL + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 1$$

$$ENI = a + \beta_1 TLI + \beta_1 PFY + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 2$$

$$PAO = a + \beta_1 COT + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3$$

Where,
a = Constant
β_1 = Regression coefficients
ε = Stochastic term
AEL= AI-integrated entrepreneurial learning
TLI= Technological innovation
PFY= Perceived feasibility
COT= Cognitive thinking
ENI= Entrepreneurial intentions
PAO= Propensity to act upon opportunities.

4. DA ANALYSIS

The results of the validity and reliability analysis indicated in Table 1 show the strong psychometric properties of the measurement instrument employed in this research. **Table 1.** Validity and Reliability of Instrument

Indicator Variable	Loading	AVE	Cr	Chron (α)
AEL1	0.805	0.691	0.831	0.788
AEL2	0.812			
AEL3	0.822			
AEL4	0.892			
AEL5	0.823			
TLI1	0.725	0.576	0.759	0.784
TLI2	0.711			
TLI3	0.787			
TLI4	0.721			
TLI5	0.843			
PFY1	0.877	0.681	0.825	0.765
PFY2	0.792			
PFY3	0.912			
PFY4	0.714			
PFY5	0.818			
COT1	0.812	0.619	0.787	0.794
COT2	0.722			
COT3	0.819			
COT4	0.748			
COT5	0.827			
ENI1	0.816	0.627	0.792	0.835
ENI2	0.812			
ENI3	0.784			
ENI4	0.719			
ENI5	0.823			
PAO1	0.718	0.562	0.750	0.712
PAO2	0.732			
PAO3	0.751			
PAO4	0.756			
PAO5	0.789			

The factor loadings of the instrument for the various constructed factors of this research—AI-enhanced learning (AEL), technological innovation (TLI), perceived feasibility of this innovation (PFY), cognitive thinking (COT), entrepreneurial intention (ENI), and the propensity to act on opportunities (PAO)—are greater than the minimum recommended threshold of 0.70. This means that each item has a strong association with the factors they represent. Additionally, the Average Variance Extracted (AVE) for the items of the factors varies from 0.562 to 0.691. This indicates a satisfactory level of convergent validity since it is greater than the minimum acceptable threshold of 0.50. This means that the factors mentioned above appropriately manifest sufficient shared variation. Furthermore, the values of the items for the factors related to the Composite Reliability (CR) range from 0.750-0.831.

Moreover, in reference to the reliability of the instrument, the Cronbach alpha coefficients for all the variables exceed the 0.70 level that is considered acceptable in social science research. All scales used show relative stability and consistency in their responses, with coefficients ranging from 0.712 to 0.835. It is quite important to note that scales like perceived feasibility (PFY) and entrepreneurial intention (ENI) had high values for the indicators of reliability. Nonetheless, based on the validity and reliability results, the test is conceptually valid and empirically reliable for studying the interconnections between AI-enhanced learning processes, technological innovation processes, cognitive thinking processes, and the intention and predisposition to pursue new opportunities.

Table 2. Demographic characteristics of participants

Demography	Frequency	Percent
Gender		
Male	189	50.8
Female	183	49.2
Age		
Under 20 years	80	21.5
20 – 29 years	112	30.1
30 – 39 years	98	26.3
40 – 49 years	69	18.5
50 years and above	4	1.1
Education		
Primary	56	15.1
Secondary	78	21.0
OND/NCE	113	30.4
HND/Bachelor's Degree	58	15.6
Postgraduate	67	18.0
Marital Status		
Single	110	29.6
Married	109	29.3
Widow(er)	12	3.2
Separated	67	18.0
Divorced	74	19.9
Experience		
Less than 1 year	72	19.4
1 – 3 years	111	29.8
4 – 6 years	86	23.1
7 – 10 years	67	18.0
Above 10 years	36	9.7

Source: *Field Survey, 2025*

The demographics of the study participants reveal that there is almost equal gender representation, with male participants making up 50.8%, while the female participants make up 49.2%, suggesting that the study has an equal number of male and female participants. The age composition of the study participants reveals that they are mainly composed of young people, with 30.1% of them

aged between 20-29 years and another 26.3% aged between 30-39 years. The participants aged less than 20 years make up 21.5%, while only 1.1% of the participants are 50 years and older. This suggests that the study mainly involves younger people who may be better conversant with new technology and activities relating to the emergence of entrepreneurial initiatives. The education disparities among the study participants are quite wide, with 30.4% of them holding OND/NCE qualifications. These are followed by secondary education (21.0%) and then Postgraduate qualifications (18.0%).

Marital status distribution shows nearly equal proportions of singles (29.6%) and married (29.3%) participants with a significant number of participants being divorced (19.9%) or separated (18.0%). Only (3.2%) of the participants are separated. Based on experience, a substantial representation of participants possesses experience of 1-3 Years (29.8%) and 4-6 Years (23.1%), which clearly indicates moderate experience in a job or entrepreneurial setting. Furthermore, (19.4%) participants possess experience of less than one year, while (9.7%) participants possess more than ten years of experience. Therefore, the demographic representation lays down a diverse set of participants which are representative of the age group, educational level, marital status, or experience level of the population, thus providing a strong base for analyzing the outlook of AI-enhanced learning processes, cognitive processes, or entrepreneurship.

Table 3. AI-integrated entrepreneurial learning and entrepreneurial intentions

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.201	0.057	3.543	0.001
AEL	0.946	0.015	63.047	0.000
R-squared	0.915	Mean dependent var		3.565
Adjusted R-squared	0.915	S.D. dependent var		1.296
S.E. of regression	0.379	Akaike info criterion		0.902
Sum squared resid	53.091	Schwarz criterion		0.923
Log likelihood	-165.725	Hannan-Quinn criter.		0.910
F-statistic	3974.913	Durbin-Watson stat		2.023
Prob(F-statistic)	0.000			

The results of the regression analysis (see Table 3) illustrate that AI-integrated entrepreneurial learning (AEL) exerts a strong and highly significant positive effect on entrepreneurial intentions. The coefficient for AEL is 0.946, which reveals that a unit increase in AI integration is associated with nearly a full-unit increase in entrepreneurial intentions. The statistical significance of this result is evidenced by its very high t-statistic value of 63.047, while its p-value is 0.000, which plays a significant role in rejecting the assumption that the correlation could be due to random variability. The intercept (0.201), on the other hand, is also significant at a 0.001 significance level, which implies that the existence of some entrepreneurial intent exists irrespective of AI-enriched learning. The results are sufficient to imply that AI-enriched entrepreneurial learning exerts a positive impact on students' intent to engage in entrepreneurial endeavors.

The explanatory power of the model is quite robust, with an R-squared of 0.915, suggesting that AI-integrated entrepreneurial learning has accounted for 91.5% of the variance in entrepreneurial intentions. The adjusted R-squared ensures the robustness of the model, whereas the F-statistic (3974.913, p = 0.000) confirms that the overall model itself is highly significant. The standard error of regression (0.379) & Durbin-Watson statistic (2.023) suggested that the model is well-fitted & there aren't any concerns of auto-correlation. The model selection criteria (AIC, Schwartz, & Hannan-Quinn statistic respectively) support the appropriateness of the model. The result reveals that the integration of AI in entrepreneurial learning paths significantly improves students' perceptions of capability, confidence, & motivation to work on entrepreneurial initiatives.

Table 4. Computer vision and entrepreneurial intentions

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.150	0.106	1.414	0.158
TLI	0.231	0.046	5.061	0.000
PFY	0.720	0.049	14.818	0.000
R-squared	0.756	Mean dependent var		3.565
Adjusted R-squared	0.755	S.D. dependent var		1.296
S.E. of regression	0.642	Akaike info criterion		1.960
Sum squared resid	152.167	Schwarz criterion		1.99
Log likelihood	-361.577	Hannan-Quinn criter.		1.973
F-statistic	571.424	Durbin-Watson stat		2.303
Prob(F-statistic)	0.000			

The results of regression analysis (Table 4) reveal that both technological innovation (TLI) and perceived feasibility (PFY) have significantly positive effects on entrepreneurial intention. The value of perceived feasibility (0.7197) is significantly higher than that of technological innovation (0.2315), implying that students' confidence in the capability to apply or utilize computer vision technology has a more profound effect on entrepreneurial intention than innovation itself. Both variables are statistically significant at the 0.000 level, with high t-values of 5.06 and 14.82, respectively, implying that students with confidence in the feasibility of computer vision applications have innovator interest significantly. The value of the constant variable is not statistically significant at the 0.158 level, suggesting that

entrepreneurial intention lacks any meaningful existence without the influence of predictor variables. These results underscore that the computer vision technology has significantly promoted entrepreneurial intention by increasing students' confidence to utilize innovative technology in solving real-life problem-solving.

The model has excellent explanatory capability with an R-squared measure of 0.7559; this shows that technological innovation and perceived feasibility combined explain about 75.6% of variability in entrepreneurial intentions. The adjusted R-squared measure of 0.7546 shows that the model is stable, and the F-statistic measure of 571.42 with p = 0.000 shows that it is also globally very significant. The standard error of regression measure of 0.642 shows that there is little to no autocorrelation and that it fits nicely into the model. The Akaike, Schwarz, and Hannan-Quinn information criteria measures also show that it is an efficient model specification. The findings show that if students perceive that computer vision technology is an innovation and feasible, then it has an overall impact on increasing their motivation levels for entrepreneurial activity.

Table 5. Cognitive thinking and propensity to act upon opportunities.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.248	0.131	9.544	0.000
COT	0.666	0.037	17.767	0.000
R-squared	0.460	Mean dependent var		3.384
Adjusted R-squared	0.459	S.D. dependent var		1.346
S.E. of regression	0.990	Akaike info criterion		2.823
Sum squared resid	362.634	Schwarz criterion		2.844
Log likelihood	-523.102	Hannan-Quinn criter.		2.831
F-statistic	315.680	Durbin-Watson stat		1.741
Prob(F-statistic)	0.000			

The regression output (Table 5) reveals that the positive impact of cognitive thinking (COT) is substantial and significant for the tendency to act on opportunities. The value of the coefficient for cognitive thinking is 0.6662, which implies that for every unit increase in cognitive thinking skills manifested through improved decision-making, problem-solving abilities, and analytical talents, there is a dramatic increase in pursuing opportunities. The very high t-value (17.77) and very low p-value (0.000) emphasize that this particular result is significant and no way due to random error or variation. It can be stated that the constant or standalone value for acting on opportunity is significant (1.2478; p-value = 0.000), which reinforces that people without any measures of cognitive thinking tend to be action-oriented to a certain extent. It can be thus concluded that people with higher cognitive talents tend to better identify and pursue potential opportunities.

The model accounts for about 46% of variance in the tendency to act on opportunities, as evidenced by the value of R-squared of 0.4604. While slightly lower than the previous models, it still stands as significantly explanatory of the construct. The adjusted value of R-squared of 0.4589 confirms the robustness of the model. The F-statistic of 315.68 with an associated significance of 0.000 further confirms the significance of cognitive thinking skills to opportunity-driven behaviors. The standard error of regression of 0.9899 and the Durbin-Watson statistic of 1.74 confirm that the model meets the criteria of fitness with no concerns of auto-correlation. The model selection statistics of AIC, Schwarz, and Hannan-Quinn further confirm that the model meets the adequacy criteria. The results of the analysis confirm that individuals with stronger cognitive thinking skills have an important influence on individuals' predisposition to seize opportunities.

5. DISCUSSION

Findings show that AI-integrated entrepreneurial learning has a significant positive effect on entrepreneurial intentions. The finding is consistent with the views presented in the study by Prokopenko et al. (2024), who state that AI-enabled learning improves the skills of innovation and the preparedness for entrepreneurship. The finding is also consistent with the views presented by Azizi et al. (2025), who found in their study that AI-powered innovation increases the recognition and feasibility of opportunities, thereby increasing the intention to be entrepreneurial. In similar manners, the finding is consistent with the views presented in the study by Solomon et al. (2025), who found that the use of AI and business intelligence tools decreases uncertainties and promotes entrepreneurial behavior. Lastly, the finding is consistent with the views presented in the study conducted by Tahan (2025), who stated that entrepreneurial education enhanced with resources from psychology and cognitive tools increases entrepreneurial intentions.

Finding shows that both technological innovation and perceived feasibility make significant and positive contributions to entrepreneurial intentions. The finding above is validated by related researches focusing on the application of AI and digital platforms to upgrade entrepreneurial capacities. For example, Panxhi (2023) argued that technological innovativeness within the higher education system builds competence among students to make them more confident to pursue entrepreneurial endeavors. In support of this observation, Attah (2025) argued with evidence from his research study that experiential learning platforms enabled by AI can enhance innovation capabilities among students to encourage them to pursue entrepreneurial endeavors. Zaki et al. (2021) also emphasized with similar views that cultivating education for technopreneurship as well as developing an entrepreneurial mindset with digital platforms can build willingness or perceived feasibility

to pursue technological entrepreneurial endeavors among students.

Finding shows that cognitive thinking has a significant positive effect on individuals' propensity to act upon opportunities. The finding is in line with previous studies stressing decision-making and problem-solving skills as inherent in entrepreneurial behavior. To exemplify this point, Ou and Kim (2025) argue that the integration of the development of psychological and cognitive skills for entrepreneurship education improves the prospects of identification and subsequent exploitation. In addition, Junça-Silva et al. (2024) note that personal initiative, an important part of cognitive thinking, together with creativity and risk-taking, directly influences the discovery of new opportunities and proactive behavior. Tynan (2023), through his study, also proved that students' ability to find viable opportunities and take action upon them can be significantly enhanced by developing analytical and critical thinking. These works all affirm the present finding by showing that a higher degree of cognitive engagement equips an individual with the necessary conceptual frameworks and confidence to translate potential opportunity into concrete entrepreneurial action.

6. CONCLUSION AND RECOMMENDATIONS

Artificial intelligence replaces the traditional way of shaping entrepreneurial intention among students through the provision of tools, platforms, and learning environments that enhance the capability to recognize opportunities, make informed decisions, and solve complex problems. The study indeed shows that AI-integrated entrepreneurial learning significantly influences the development of entrepreneurial intentions among students, which supports the idea that students develop stronger entrepreneurial intentions once they are exposed to innovation in a digital world, integrated with structured learning frameworks. On the other hand, innovative technologies like computer vision, with perceived feasibility, have a positive effect on entrepreneurial intentions, signifying that students would be more likely to take part in entrepreneurship when they believe the technologies linked with AI are feasible and implementable. Furthermore, cognitive thinking-descriptive thinking, reasoning, decision-making, and problem-solving-singly enhances the capability of students in acting upon identified opportunities by a great margin. This indicates that cognitively dissonant mental states and critical thinking play an instrumental role in turning intentions into action. Taken together, the findings reveal the complex dynamic between AI technology use, technological viability, and cognition in the development of entrepreneurial mindset. They also indicate that education initiatives incorporating AI technology and cognitive skills development are critical in enhancing the entrepreneurial capacity of students, thereby equipping them with the necessary skills to make them proactive toward opportunity creation in the dynamic market driven by technology.

The study therefore recommends that:

- There is a need for learning institutions to emphasize the integration of AI-powered resources and platforms in the curriculum for budding entrepreneurs. Through such learning processes, where predictive analyses are done using AI, the intentions of students regarding becoming entrepreneurs can be enhanced, as they would be equipped with the ability to assess business opportunities.
- There is a need for policymakers and educators to promote a culture of adopting new technologies like computer vision while at the same time improving the perception of their feasibility for the students. This can be achieved with the help of workshops, entrepreneurs, or mentors who can demonstrate the practicality of technology solutions for entrepreneurship.

Courses focused on developing students' cognitive thinking skills in decision-making, analytical skills, and problem-solving should also feature in entrepreneurship development. This is because activities that involve reflection on actions and critical thinking would improve students' capacity to pursue a potential opportunity they see.

References:

Ajzen, I. (1991). Theory of planned behaviour. *Organizational Behavior and Human Decision Processes, 5o*(2), 179-211.

Aldossary, H. S. M. (2023). *Translation Technology and CAT Tools: Addressing gaps between pedagogy and the translation industry in Saudi Arabia* (Doctoral dissertation, University of Leeds).

Asaad, R. R., Saeed, V. A., & Abdulhakim, R. M. (2021). Smart Agent and it's effect on Artificial Intelligence: A Review Study. *Icontech International Journal*, *5*(4), 1-9. DOI 10.46291/ICONTECHvol5iss4pp1-9

Attah, A. A. (2025). Harnessing Artificial Intelligence for Transformative Growth in Entrepreneurial Education: Enhancing Experiential Learning and Innovation. *CME J Clin Case Rep, 2*(1), 1-5.

Azizi, N., Akhavan, P., Davison, C., Haass, O., Saremi, S., & Zaidi, S. F. M. (2025). AI-Driven Process Innovation: Transforming Service Start-Ups in the Digital Age. *Electronics*, *14*(16), 3240. DOI 10.3390/electronics14163240

Brueggemann, R. F., & Matthews, C. H. (2024). *Innovation and entrepreneurship: A competency framework*. Routledge.

Cocu, A., Pecheanu, E., Susnea, I., Dingli, S., Istrate, A., & Tudorie, C. (2025). Technology-enabled learning for green and sustainable entrepreneurship education. *Administrative Sciences*, *15*(2), 45. DOI 10.3390/admsci15020045

Crittenden, W. F., Biel, I. K., & Lovely III, W. A. (2019). Embracing digitalization: Student learning and new technologies. *Journal of marketing education*, *41*(1), 5-14. DOI 10.1177/0273475318820895

Dangana, J., Nafiu, A. T., & Isienyi, R. A. (2023). Evaluating Entrepreneurship Education for the Acquisition of Entrepreneurial Competencies among Tertiary Institution Students in Kogi State, Nigeria. *Asian J. Econ. Busin. Acc., 23*(14), 105-115. DOI 10.9734/AJEBA/2023/v23i141009

Elrehail, H., Aljahmani, R., Taamneh, A. M., Alsaad, A. K., Al-Okaily, M., & Emeagwali, O. L. (2024). The role of employees' cognitive capabilities, knowledge creation and decision-making style in predicting the firm's performance. *EuroMed Journal of Business*, *19*(4), 943-972. DOI 10.1108/EMJB-03-2022-0057

Guo, R., Jantharajit, N., & Thongpanit, P. (2024). Construct an Instructional Approach Based on Collaborative Learning and Reflective Learning for Enhance Students' Analytical Thinking and Critical Thinking Skills. *Asian Journal of Contemporary Education*, *8*(2), 115-125.

Junça-Silva, A., Duarte, H., & Santos, S. C. (2024). Personal initiative, risk-taking, creativity and opportunity discovery among students. *Journal of Enterprising Communities: People and Places in the Global Economy*, *18*(1), 49-71. DOI 10.1108/JEC-10-2022-0150

Kaplan, A., & Haenlein, M. (2019). Siri, Siri, in my hand: Who's the fairest in the land? On the interpretations, illustrations, and implications of artificial intelligence. *Business horizons*, *62*(1), 15-25. DOI 10.1016/j.bushor.2018.08.004

Kayyali, M. (2023). Promoting Entrepreneurship and Innovation in Higher Education. *Online Submission*, *2*(1), 1-26.

Krueger, N.F. & Carsrud, A. L. (1993). Entrepreneurial intentions Applying the theory of planned behavior. *Entrepreneurship & Regional Development, 5*(4). 315330.

Kumar, B. (2025). Harnessing the Power of Technology to Nurture the Spirit of Entrepreneurship and The Acumen of Innovation within Students. *Research Journal of English Language and Literature, 13*(1), 257-266. DOI 10.33329/rjelal.13.1.257

Maritz, A., Nguyen, Q., & Ivanov, S. (2022). Student entrepreneurship ecosystems at Australian higher education institutions. *Journal of Small Business and Enterprise Development*, *29*(6), 940-957. DOI 10.1108/JSBED-11-2021-0466

Mia, M. M., Rahman, M. A., Ahmed, S. F., Iqbal, M. M., & Khan, M. S. (2025). Entrepreneurial intention: the role of psychological factors and cognitive process in entrepreneurship. *Revista de Gestão*, *32*(1), 19-37. DOI 10.1108/REGE-02-2024-0013

Mostafiz, M. I., Sambasivan, M., & Goh, S. K. (2019). Impacts of dynamic managerial capability and international opportunity identification on firm performance. *Multinational Business Review*, *27*(4), 339-363. DOI 10.1108/MBR-09-2018-0061

Nafiu, A. T., Akuh, J. I., & Peter, U. N. (2020). Determinants of the actual ICT adoption among small and medium enterprises in Kogi State. *Economic Insights–Trends and Challenges*, *9*(3), 47-58.

Nafiu, A.T., Monday, E.E., Enimola, D.J., Alogwuja, C.U., Uba, H., & Nelson, U.P. (2023). Quality of work life: an investigation of the work environment of small and medium enterprises. *International Journal of Environment, Workplace and Employment, 7*(1), 48-63. DOI 10.1504/IJEWE.2023.132427

Ozovehe, O., Nelson, P. U., & Nafiu, I. O. (2022). Analysis of women's attitude towards entrepreneurship development in Sokoto Metropolis, *Addaiyan Journal of Arts, Humanities and Social Sciences, 4*(8), 22-39. DOI 10.36099/ajahss.4.8.3

Ou, Y., & Kim, K. (2025). Integrating psychology into entrepreneurship education: A catalyst for developing cognitive and emotional skills among college students. *Journal of the Knowledge Economy*, *16*(2), 7979-8006. DOI 10.1007/s13132-024-02070-0

Panxhi, M. (2023). *The role of technological advancements in learning entrepreneurial competencies for engineering students in higher education* (Doctoral dissertation, Universidade do Minho (Portugal)).

Pergelova, A., Angulo-Ruiz, F., Manolova, T. S., & Yordanova, D. (2023). Entrepreneurship education and its gendered effects on feasibility, desirability and intentions for technology entrepreneurship among STEM students. *International Journal of Gender and Entrepreneurship*, *15*(2), 191-228. DOI 10.1108/IJGE-08-2022-0139

Prokopenko, O., Järvis, M., Bielialov, T., Omelyanenko, V., & Malheiro, T. (2024, June). The future of entrepreneurship: Bridging the innovation skills gap through digital learning. In *International Conference Innovation in Engineering* (pp. 206-230). Cham: Springer Nature Switzerland. DOI 10.1007/978-3-031-61582-5_18

Raggett, D. (2021). Human-like AI. *ERCIM News*, *125*.

Solomon, O., Emmanuel, F., Simon, J., & Mendez, D. (2025). Leveraging Data Analytics, Business Intelligence, Artificial Intelligence, and Predictive Modeling to Foster Innovation, Strengthen Startups, Mitigate Operational Risks, and Accelerate Economic Growth in the United States. *International Journal of Future Engineering Innovations, 2*(4), 85-97. DOI 10.54660/IJFEI.2025.2.4.85-97

Tahan, S. (2025). Entrepreneurial Education and Innovation Intentions Among University Students: A Structural Assessment of Opportunity Recognition, Psychological Capital, and Fear of Failure. *Administrative Sciences*, *15*(7), 261. DOI 10.3390/admsci15070261

Tian, Y., & Yang, S. (2025). Exploring athletes' entrepreneurial intentions after retirement: a structural equation modeling explanation mediated by entrepreneurial cognition. *Humanities and Social Sciences Communications*, *12*(1), 1-11. DOI 10.1057/s41599-025-05628-8

Tynan, M. (2023). The creative catalyst: Developing student competency in opportunity recognition. *Industry and Higher Education*, *37*(4), 496-511. DOI 10.1177/09504222221138744

Yalo, M. I., Saliu, H. T., & Enimola, D. J. (2019). Descriptive Analysis of Entrepreneurial Skill and Opportunities Utilization for Sustainable Development in Nigeria. *Asian Journal of Economics, Business and Accounting*, *9*(4), 1-10. DOI 10.9734/AJEBA/2018/46741

Zaki, Y., Al Muwali, A., & Mahdi, N. (2021). The Role of Nurturing Technopreneurship Education and Building University Students' Entrepreneurial Mindsets and Skill Sets in Fostering Digital Innovation and Augmenting the Tech Start-Up Ecosystem in Bahrain. *International Journal of Learning, Teaching and Educational Research*, *20*(6), 152-173. DOI 10.26803/ijlter.20.6.8

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