

# ARTIFICIAL INTELLIGENCE AND EMPLOYABILITY OF UNIVERSITY GRADUATES IN NIGERIA

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**Abstract:** This study examined the effect of artificial intelligence (AI) on graduate employability in Delta State, Nigeria. A cross-sectional research design was employed, with data collected from 150 participants serving in the National Youth Service Corps in Oshimili South Local Government Area. Using a convenience sampling method, respondents completed a structured questionnaire with close-ended questions. The data were analyzed using descriptive and inferential statistical techniques. Findings revealed that AI skills, literacy, and application all have significant positive effects on graduate employability, with correlation coefficients and regression results indicating a strong relationship ( $\beta = 0.362$ ,  $\beta = 0.166$ , and  $\beta = 0.349$ , respectively;  $P < 0.05$  for each). These results suggest that AI competencies are essential for enhancing job prospects among graduates, aligning with the growing demand for tech-savvy professionals in the labor market. The study concludes that fostering AI-related skills among graduates can improve their employability and recommends integrating AI training, launching AI literacy programs, and increasing access to AI tools and resources as key strategies to support graduate employability in Delta State.

**Keywords:** Artificial intelligence, employability, graduates, university, Nigeria.

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## I. INTRODUCTION

Many facets of life are being revolutionized by artificial intelligence (AI), which is also becoming a more significant part of companies. According to Walsh et al. (2019), artificial intelligence (AI) is defined as "a collection of interrelated technologies used to solve problems and perform tasks that, when done by humans, require thinking." But it's important to understand the high costs and possible hazards of using AI, which emphasizes the need for rigorous examination of its effects and results (Lee & Rich, 2021), including how integrating AI affects graduates' employability (Bankins et al., 2022).

The development of artificial intelligence (AI) skills is prioritized globally to promote the establishment of future jobs. For jobs in the twenty-first century, future generations will require digital, creative, problem-solving, and entrepreneurial skills. Low self-esteem and self-actualization in the pursuit of a career may result from the large number of graduates who finish their education lacking these skills and frequently struggle to obtain employment (Mokonyane-Motha & De Jager, 2024).

According to Mutascu (2021), the use of AI in a variety of settings could help recent graduates find jobs or even start their own businesses to generate their own employment possibilities. Due to its effects on the labor market, artificial intelligence is generating technological interest in social sciences (Mutascu, 2021). Furthermore, it is suggested that all school disciplines and courses in higher education should incorporate AI content, such as computer vision, machine learning, and autonomous systems (Kim et al., 2021). According to Tshishonga (2022), graduates lack technological skills and their degrees are oversaturated and unmarketable, which frequently leads to a rise in youth unemployment.

Artificial Intelligence" (AI) is being promoted as a way to use the wealth of real-time data (Big Data) to improve education through more personalized, flexible, inclusive, and engaging learning (Bhutoria, 2022). In order to achieve these benefits,

governments, the education sector, and technology companies have been looking into the introduction of AI tools and platforms to deliver monitoring of the educational system that is more efficient (with less administrative burden) and effective (with timely, accurate, and informative indicators) than in the current educational system (Rosak-Szyrocka, 2024). Artificial intelligence is defined as "the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings" (Vries, Bliznyuk & Pinedo, 2023). Numerous international research indicate that one of the newest developments in educational technology is artificial intelligence (Zawacki-Richter et al., 2019; Rosak-Szyrocka et al., 2024; Rosak-Szyrocka et al., 2022a). Computers which perform cognitive tasks, usually associated with human minds, particularly learning and problem-solving" is the broad definition of artificial intelligence (Baker et al., 2010). They clarify that the term AI does not refer to a particular technology. It's a catch-all word for a variety of tools and techniques, including algorithms, machine learning, data mining, neural networks, and natural language processing. Intelligent virtual reality, intelligent assistance for collaborative learning, and personal tutors are the three types of AI software solutions in education that are now accessible (Holmes et al., 2022; Luckin & Holmes, 2016).

Furthermore, it's unclear if using AI in higher education genuinely affects students' development of employable skills for the twenty-first century. This is due to the fact that Squicciarini and Nachtigall (2021) contend that 21st-century employability skills necessitate AI-related communication, problem-solving, creativity, and collaborative abilities in addition to generic capabilities.

Universities are struggling with how to effectively prepare students for a career that is becoming more and more impacted by technology in the age of generative artificial intelligence (AI). A curriculum that prepares students for the difficulties of a technology-driven job market by balancing technical skills with critical thinking and interpersonal talents should be implemented, especially as AI encroaches on graduate-entry and even high-skill employment.

According to Sam Altman, CEO of OpenAI, the company behind ChatGPT, Nigeria has been the largest AI adopter in Africa. However, a year after Altman's visit, the majority of Nigerian universities are not choosing to integrate AI into their curricula in order to develop graduates' skills, and the nation is currently only placed 103rd on the worldwide AI adoption readiness index.

The dilemma that educators are facing as a result of AI goes beyond evaluation trust and authenticity. It also raises important and difficult questions about what and how universities should educate, as well as how to effectively prepare students for the quickly evolving workplace. It is widely acknowledged that making sure graduates are marketable and valued by potential employers is a common goal, even though institutions typically have many and varied purposes. The research of artificial intelligence and graduates' employability is conducted against this context.

### ***Objective of the Study***

The general objective of the study is to ascertain the effect of artificial intelligence on graduate employability in Delta State, Nigeria.

The specific objectives are to:

- i. determine the effect of artificial intelligence skills on graduate employability in Delta State, Nigeria.
- ii. determine the effect of artificial intelligence literacy on graduate employability in Delta State, Nigeria.
- iii. ascertain the effect of artificial intelligence application on graduate employability in Delta State, Nigeria.

### ***Hypothesis***

HO1: There is a significant relationship between artificial intelligence skills and graduate employability in Delta State, Nigeria.

HO2: There is a significant relationship between artificial intelligence literacy and graduate employability in Delta State, Nigeria.

HO3: There is a significant relationship between artificial intelligence application and graduate employability in Delta State, Nigeria.

## II. LITERATURE REVIEW

### *Artificial Intelligence*

The introduction of artificial intelligence (AI) seem to be a total replacement of human educational activities, especially writing of assignment, research papers, literature reviews, etc. With machine learning automation (Atlas, 2023; King, 2023, Zhao et al., 2022). This is because current AI technologies have now become writing aids for both students and faculty (Pence, 2019), with some papers even listing AI tools as authors (Alattar & McDowell, 2023). AI, defined as “a system’s ability to interpret external data correctly, to learn from such data, and to use those learnings to achieve specific goals and tasks through flexible adaptation” (Kaplan & Haenlein, 2019), has the potential to augment or even replace human tasks and activities through recognition, understanding, learning, and action (Dwivedi et al., 2021). Modern AI systems are currently bound to Machine Learning (ML). The development of machine learning methods and models enables computers to learn from data without explicit programming (Mohri et al., 2018). Machine learning involves providing large amounts of data to a computer system, which then uses statistical techniques to find patterns and relationships in the data.

Florida (2019) is concerned that the introduction and implementation of AI technologies might replace human workers and increase unemployment in the next ten to twenty years. On the other hand, Aleryani (2019) and Bughin et al. (2018) point out that AI can positively influence economic progress and improve the level of production in most business divisions. Additionally, the invention and creation of services provided by AI could increase employment opportunities. Even though it is not easy to predict the impact that AI is imposing on the economy as a whole, Persons (2018) emphasises that AI can efficiently improve production, intensify human performance, and improve the service and quality of products in various industries. The different technologies of AI can capture huge data information gathered from different sources and even identify deviations faster than human beings. Moreover, AI can eliminate biased human decisions in many sectors when applied correctly (Persons, 2018), and can be used to ensure regulatory compliance in sectors such as finance, medical sciences, transportation, housework and therapy when they render services. It is further emphasised by Rauf et al. (2021) that effective education and business opportunities may be established by making use of AI.

Artificial intelligence (AI) is one of the core areas of the fourth industrial revolution, along with the transformation of the mechanical technology, electric power technology, and information technology, and it serves to promote the transformation and upgrading of the digital economy industry. (Shen & Zhang, 2024). Indeed, the rapid iteration and cross-border integration of general information technology in the era of the digital economy has made a significant contribution to the stabilization of employment and the promotion of growth, but this is due only to the “employment effect” caused by the ongoing development of the times and technological progress in the field of social production (Xie, 2022). Digital technology will inevitably replace some of the tasks that were once performed by human labour.

As an essential force in the fourth industrial revolution, AI inevitably affects the social status of humans and changes the structure of the labour force (Chen 2023). AI and machines increase labour productivity by automating routine tasks while expanding employee skills and increasing the value of work. As a result, in a machine-for-machine employment model, low-skilled jobs will disappear, while new and currently unrealized job roles will emerge (Polak 2021). We can even argue that digital technology, artificial intelligence, and robot encounters are helping to train skilled robots and raise their relative wages (Yoon 2023).

The changes coupled with technological advancement have resulted in the adoption of technology in teaching and learning. The introduction and usage of AI is a further development in technological advancement in the higher education landscape. The use of AI in higher education among graduate students has the potential to influence elements in the social subsystem such as institutional culture, interpersonal relationships, values, beliefs, motivations, interactive patterns, learning and flexibility that existed in higher education before the introduction of the AI technology/platform. Thus, AI usage could pose some challenges to institutional norms and the employability skills of postgraduate students.

### *Employability of University Graduates*

Employability can be defined in competency based as an individual’s (perceived) ability to obtain and maintain employment throughout his/her career (Small, Shacklock & Marchant 2018; Peeters et al. 2019), how to prepare students for the uncertainties, changes and challenges they may face throughout their careers. Hence, the Western employability literature focuses on competences that contribute to graduate employability (Smith, Ferns, and Russell 2016).

Hillage and Pollard (1998) as cited by Römgers et al. (2019) define employability as ‘the capability to move self-sufficiently within the labor market to realize potential through sustainable employment’. According to them the employability of individuals depends on their knowledge, skills and attitudes. Moreover, they argue that employability is linked to career management skills or the way in which individuals mobilize, present and update their resources in the context of the job market. Harvey (2001) continues on the definition of Hillage and Pollard (1998). He defines individual employability as the ‘propensity of students to obtain a job’ (Harvey 2001, 98); adding to Hillage and Pollard (1998) that a distinction should be made between individual and institutional employability – the latter referring to institutional performance. Thirdly, according to Yorke the individual’s employability is ‘a set of achievements – skills, understandings and personal attributes – that makes graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy’ (2006, 8).

Competence-based approaches to employability focus on the identification and development of knowledge, skills and attitudes that contribute to effective performance in the labor market. A frequently cited definition of employability in workplace learning literature is ‘the continuous fulfilling, acquiring or creating of work through the optimal use of competences (Artess, Hooley, and Mellors-Bourne 2017).

Peeters et al. (2019) introduce the term employability capital as a variation on the term movement capital to emphasize that the competences identified for employability not only help people to successfully change jobs, but also to retain a job. Despite such differences in terminology, the different definitions and approaches all refer to behavioral tendencies directed at acquiring, maintaining and using competences in order to cope with changes in the labor market throughout a career (Römgers et al., 2019).

#### Conceptual Framework:

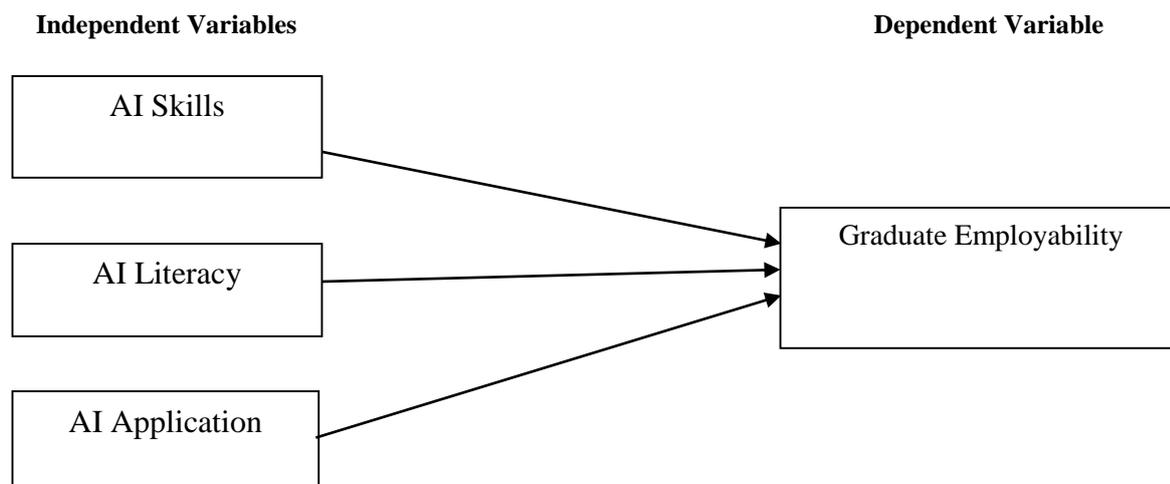


Figure 1: Conceptual Framework

#### Theoretical Review

##### Technology-Mediated Learning (TML)

Technology-Mediated Learning (TML) Theory focuses on the integration of technology in learning processes, examining how technology can enhance or alter the learning experience (Bower, 2019; Gupta & Bostrom, 2009). This theory suggests that technology-mediated learning, such as online video tutorials or virtual simulations, can be an effective way for people to learn new skills and knowledge. Technological “affordances” and social contexts significantly influence learning outcomes. In that sense, AI technology can provide people with a wider range of information and tools, helping them to learn and perform more effectively. Thus, AI has the potential to automate certain tasks and processes, freeing up time and resources for human workers to focus on more complex and higher-level tasks. The theory does not seem to address the issue of the individual employee’s access to technology, which the organisation must provide as a resource. An organisation might not always be so resourceful to provide all the technology needed to learn new skills and knowledge; even when it is, employees should be aware of its availability. Also, it might be expected that it is not technology per se that makes employees learn but rather a technology that employees feel comfortable with and find useful, relevant, satisfying, and easy

to use. Thus, employees' perceptions of the technology and its characteristics become further factors to consider in the technology-mediated learning process. Finally, the theory misses covering which factors lead workers to focus on more complex tasks rather than on any other type of activity when relieved from tasks taken over by AI.

### *Empirical Review*

Ruiz-Talavera, Cruz-Aguero, García-Palomino, Calderón-Espinoza & Marín-Rodríguez. (2023) carried out a study on artificial intelligence and its impact on job opportunities among university students in North Lima, 2023. The study conducted a descriptive analysis of two variables: artificial intelligence and job opportunities. A moderate and positive correlation was observed between both variables, suggesting a significant relationship between the level of artificial intelligence and job opportunities of the respondents. The study revealed a positive and moderate correlation between the knowledge of artificial intelligence and the perception of job opportunities. It is important to adapt to this global technology to improve employability. The findings support that artificial intelligence transforms society and the labor market. Although 86% of students know AI, most need more training in this field, even in areas with projected growth in AI-related employment.

Mokonyane-Motha & De Jager (2024) conducted a research artificial intelligence as a tool to reduce graduates' unemployment needs. The findings detected that unemployed graduates were aware of what AI is, but 30% were not aware that they were using it in their daily lives. The need for practical application of curricula and AI activities should be integrated into higher education courses to develop creative, critical thinking, problem-solving and entrepreneurial skills. Effective training of both educators and students in AI is required.

## **III. METHODOLOGY**

The study cross-sectional research design was adopted. The purpose of which is to make interference about a population of interest while trying to measure their perception on a theme. In cross-sectional research, data are obtained from research participants at a specific point in time, relatively brief period. The choice of this design is premised on the fact that it aids the study to gain certain degree of flexibility in data collection and enables the presentation and analysis of result that shows robustness of findings.

### *Population and Sample of the Study*

The target population of this study comprised of 150 recent graduates of various higher institutions in Nigeria serving in the mandatory National Youth Service Corps in Oshimili South Local Government Area of Delta State. Convenience sampling method was used to choose the respondents. This method was chosen since the study only included respondents who were accessible and willing to take part at the time of data collection. Out of the 150 questionnaires distributed to respondents only 120 were filled and returned.

### *Data collection*

Data collection was by means of a questionnaire which had close ended items. Pilot testing of the instrument was done by administering the questionnaires to 10% of the total sample size. The questionnaire that was utilized in the study was divided into two major sections, each with a connected object. The first section covered respondents' demographic information, such as their age, gender, marital status, degree of education. The second section discussed the elements of artificial intelligence and employability of university graduates. A five-point Likert scale (1-5) was used where 1 represents strongly disagree; 2 – disagree; 3 – neutral; 4 – agree; 5 – strongly agree.

### *Data Analysis*

Data collected from the field survey were sampled and analyzed using descriptive as well as inferential statistical techniques at arriving at a generalization and conclusion. Inferential statistical technique; correlation analysis was employed to measure the degree of association between different variables under consideration; multiple regression was used to ascertain the strength of relationship that exist among variables.

### *Model Specification*

The empirical model expressing the relationship between artificial intelligence and employability of graduates is shown as follows:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \dots + \beta_nX_n + u_i$$

$$EMPG = \beta_0 + \beta_1AS + \beta_2AL + \beta_3AA + u_i$$

Where;

EMPG = Employability of Graduates (Dependent Variable)

AS = AI Skills

AL = AI Literacy

AA = AI Application

Independent Variables

$\beta_0$  = The intercept ( i.e value of EMPG when all the independent variables are equal to zero).

$\beta_1, \beta_2, \beta_3, \dots, \beta_n$  = The estimated regression coefficients.

$u_i$  = Error term

#### IV. RESULTS AND DISCUSSION

##### Characteristics of the Sample

**Table 1: Analysis from the field survey**

Pattern focused	Number administered	Number returned	Response Rate
Employees	150	120	80%

Source: Distributed Questionnaire (2024)

A total of 150 copies of the questionnaire administered, 120 copies returned were completely filled. Therefore, the analysis in this chapter was based on the response rate of 80%.

**Table 2: Analysis of respondents' profile**

S/N	Variables	Frequency	Percentage (%)
1	Gender:		
	Male	76	63
	Female	44	37
	Total	120	100
2	Age Range:		
	Below 30 years	31	26
	31-40 years	74	62
	41 years and above	15	12
	Total	120	100
3	Marital Status:		
	Single	52	43
	Married	68	57
	Total	120	100
4	Educational Qualification		
	HND	80	67
	B.Sc	40	33
	Total	120	100

Source: Field Survey, 2024.

Table 2 showed the background characteristics of the several respondents. Findings showed that 63% of the sample respondents were males while 37% were females. The age bracket of the respondents indicated that 26% of the respondents were below 30 years of age; 62% of the respondents' falls within the age bracket of 31-40 years of age, while 12% of the respondents were above 41 years of age and above. The marital composition of the respondents showed that; 43% of the

sample respondents were single, while 57% other respondents were married. The educational background of the respondents showed that 67% of the respondents were HND holders, while 33% other respondents were B.Sc degree holders.

### Analysis of Other Research Data

The analysis of the other research data as well as the testing of their earlier postulated hypotheses in previous chapter was done here for the purpose of arriving at a conclusion.

**Table 3: Correlations coefficients for study variables**

S/N	Study Variables	N	1	2	3	4
1	Artificial intelligence skills	120	1			
2	Artificial intelligence literacy	120	0.513**	1		
3	Artificial intelligence application	120	0.606**	0.540**	1	
4	Graduate employability	120	0.659**	0.540**	0.658**	1

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\*. Correlation is significant at the 0.05 level (1-tailed).

Table 3 indicated that artificial intelligence skills has a strong positive correlation with graduate employability (0.659). Artificial intelligence literacy showed a strong positive correlation with graduate employability (0.540). Artificial intelligence application has a strong positive correlation with graduate employability (0.658).

**Table 4: Effect of artificial intelligence on graduate employability**

Coefficients <sup>a</sup>							
Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1(Constant)	-3.671	1.845		-1.990	.049		
Artificial intelligence skills	.522	.116	.362	4.483	.000	.584	1.711
Artificial intelligence literacy	.200	.092	.166	2.174	.032	.654	1.530
Artificial intelligence application	.444	.105	.349	4.242	.000	.561	1.782

a. Dependent Variable: Graduate employability

Table 4 indicated that artificial intelligence skills has a significant positive effect on graduate employability ( $\beta = 0.362$ ,  $P < 0.05$ ). Furthermore, artificial intelligence literacy has a significant positive effect on graduate employability ( $\beta = 0.166$ ,  $P < 0.05$ ). However, the result indicated that artificial intelligence application has a significant positive effect on graduate employability ( $\beta = 0.349$ ,  $P < 0.05$ ).

**Table 5: Analysis of variance**

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	185.758	3	61.919	48.848	.000 <sup>b</sup>
	Residual	147.042	116	1.268		
	Total	332.800	119			

a. Dependent Variable: Graduate employability

b. Predictors: (Constant), Artificial intelligence application , Artificial intelligence literacy , Artificial intelligence skills

The  $F$ -ratio in table 5 showed that artificial intelligence significantly predict graduate employability,  $F = 48.848$ ,  $0.000 < .05$ . This means that the regression model is statistically significant.

**Table 6: Model summary**

<b>Model Summary</b>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.747 <sup>a</sup>	.558	.547	1.126

a. Predictors: (Constant), Artificial intelligence application , Artificial intelligence literacy , Artificial intelligence skills

Table 6 showed the extent to which artificial intelligence accounted for change in graduate employability as reflected by the Adjusted R Square, which showed that 55% (0.547) of the change in graduate employability was brought about by the variables of artificial intelligence.

### Hypotheses Testing

The multiple regression analysis was adopted as the analytical technique for testing the stated hypotheses. The p-values reported in the regression coefficient tables were used for testing the study hypotheses.

### The Decision Rule

If the probability value calculated is lesser than the critical value of 5% (i.e.  $0.000 < 0.05$ ), it is vital to conclude that the given parameter is significant. In this scenario, it is accepted that there is need to reject the null hypotheses and to accept the alternate. When we reject the null hypotheses, we say that our findings are statistically significant and vice versa (Gujarati & Porter, 2009). Thus, the p-value was set at 0.05 (5%).

**H0<sub>1</sub>:** There is no significant relationship between artificial intelligence skills and graduate employability in Delta State, Nigeria.

Table 4 showed that the calculated level of significance is lesser than the p-value of 0.05 (5%) i.e. ( $0.000 < 0.05$ ). Based on this, the null hypothesis was rejected while the alternate was accepted implying that there is a significant positive relationship between artificial intelligence skills and graduate employability in Delta State, Nigeria.

**H0<sub>2</sub>:** There is no significant relationship between artificial intelligence literacy and graduate employability in Delta State, Nigeria.

Table 4 showed that the calculated level of significance is lesser than the p-value of 0.05 (5%) i.e. ( $0.032 < 0.05$ ), the null hypothesis was rejected while the alternate was accepted. This implies that there is a significant positive relationship between artificial intelligence literacy and graduate employability in Delta State, Nigeria.

**H0<sub>3</sub>:** There is no significant relationship between artificial intelligence application and graduate employability in Delta State, Nigeria.

The level of significance that was calculated in table 4 is lesser than the established p-value ( $0.000 < 0.05$ ), therefore the null hypothesis was rejected and the alternate was accepted which indicates that there is a significant positive relationship between artificial intelligence application and graduate employability in Delta State, Nigeria.

## V. DISCUSSION OF FINDINGS

In line with the data analysis done in chapter four and the review of the related literature in chapter two, the discussion of findings of this study is presented below.

### Artificial Intelligence Skills and Graduate Employability

Table 3 shows that artificial intelligence (AI) skills have a strong positive correlation with graduate employability (0.659). Table 4 further demonstrates that AI skills have a significant positive effect on graduate employability ( $\beta = 0.362, P < 0.05$ ). Hypothesis testing confirms a significant positive relationship between AI skills and graduate employability in Delta State, Nigeria ( $0.000 < 0.05$ ). These results contradict Liu and Lei's (2023) findings, which suggest that AI skills have an inverted U-shaped, non-linear effect on growth need strength and job performance. The implication of this finding is that enhancing AI skills can substantially improve graduates' employability, suggesting a direct investment in AI skill development to prepare graduates for the demands of the labor market in Delta State and beyond.

### Artificial Intelligence Literacy and Graduate Employability

Table 3 shows a strong positive correlation between AI literacy and graduate employability (0.540). Table 4 indicates that AI literacy has a significant positive effect on graduate employability ( $\beta = 0.166$ ,  $P < 0.05$ ). Hypothesis testing supports a significant positive relationship between AI literacy and graduate employability in Delta State, Nigeria ( $0.032 < 0.05$ ). This aligns with the findings of Ruiz-Talavera et al. (2023), which reveal a moderate positive correlation between AI knowledge and job opportunity perceptions. These findings highlight the transformative role of AI literacy in society and the labor market. The implication of this finding is that promoting AI literacy among graduates can enhance their ability to recognize and pursue new job opportunities, strengthening their position in an AI-driven economy.

### Artificial Intelligence Application and Graduate Employability

Table 3 shows a strong positive correlation between AI application skills and graduate employability (0.658). Table 4 demonstrates that AI application skills have a significant positive effect on employability ( $\beta = 0.349$ ,  $P < 0.05$ ). Hypothesis testing further confirms a significant positive relationship between AI application skills and graduate employability in Delta State, Nigeria ( $0.000 < 0.05$ ). This finding contradicts the study by Segbenya et al. (2023), which found that the primary AI platforms used by postgraduate students were ChatGPT and Quillbot, mainly for general learning and literature searching. The implication of this finding is that hands-on AI application skills equip graduates with practical tools to enhance their employability, underscoring the need for educational institutions to incorporate applied AI training that prepares students for real-world challenges in the job market.

### Summary of Findings

The study examined the effect of artificial intelligence (AI) on graduate employability in Delta State, Nigeria. A cross-sectional research design was adopted, with a population consisting of 150 participants serving in the mandatory National Youth Service Corps in Oshimili South Local Government Area of Delta State. Convenience sampling was used to select the respondents. Data were collected through a questionnaire with close-ended items and analyzed using descriptive and inferential statistical techniques. The findings of the study revealed the following:

- i. AI skills have a significant positive effect on graduate employability ( $\beta = 0.362$ ,  $P < 0.05$ ).
- ii. AI literacy has a significant positive effect on graduate employability ( $\beta = 0.166$ ,  $P < 0.05$ ).
- iii. AI application has a significant positive effect on graduate employability ( $\beta = 0.349$ ,  $P < 0.05$ ).

## VI. CONCLUSION

The study concluded that artificial intelligence has a significant positive effect on graduate employability in Delta State, Nigeria. This finding highlights the importance of AI as a valuable asset in the modern job market, with competencies in this area helping graduates to meet employer demands and improve their career prospects. Specifically, the study suggests that AI-related skills, literacy, and practical applications play a critical role in enhancing employability. Graduates equipped with these competencies are better positioned to adapt to the technological demands of today's workforce, making them more competitive and increasing their job opportunities in various industries.

### Recommendations

- i. Educational institutions should incorporate AI skills training in their curricula to equip graduates with relevant competencies for the job market.
- ii. Government and private organizations should collaborate to provide AI literacy programs that enhance graduates' understanding and readiness for AI-driven industries.
- iii. Provide affordable or free access to AI tools and platforms for graduates to encourage ongoing skill development and practical application of AI technologies.

## REFERENCES

- [1] Alattar, A. A., & McDowell, M. M. (2023). The rise of AI co-authors: Navigating the future of scientific writing with ChatGPT. *Journal of Neurosurgery*, 1(aop), 1–2.
- [2] Artess, J., T. Hooley, and R. Mellors-Bourne (2017). *Employability: A Review of the Literature 2012 to 2016*. York: The Higher Education Academy.

- [3] Bankins, S., Formosa, P., Griep, Y., & Richards, D. (2022). AI decision making with dignity? Contrasting workers' justice perceptions of human and AI decision making in a HRM context. *Information Systems Frontiers*, 24, 857–875.
- [4] Bhutoria, A. (2022). Personalized education and Artificial Intelligence in the United States, China, and India: A systematic review using a Human-In-The-Loop model. 2666-920X, vol. 3, p. 100068.
- [5] Dwivedi, Y. K., Hughes, L., Ismagilova, E., Aarts, G., Coombs, C., Crick, T., Duan, Y., Dwivedi, R., Edwards, J., Eirug, A., Galanos, V., Ilavarasan, P. V., Janssen, M., Jones, P., Kae, A. K., Kizgin, H., Kronemann/ B., Lal, B., Lucini, B., ... & Williams, M. D. (2021). Artificial Intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. *International Journal of Information Management*, 57, 101994.
- [6] Holmes, J., Moraes, O.R., Rickards, L., Steele, W., Hotker, M., Richardson, A. (2022). Online learning and teaching for the SDGs – exploring emerging university strategies. *International Journal of Sustainability in Higher Education*, vol. 23, no. 3, pp. 503-521.
- [7] 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.
- [8] Lee, M. K., & Rich, K. (2021). Who is included in human perceptions of AI? Trust and perceived fairness around healthcare AI and cultural mistrust. In *Proceedings of the 2021 CHI conference on human factors in computing systems* (pp. 1–14). Association for Computing Machinery, Article 138
- [9] Liu, Z. & Lei, X. (2023). Research on the Nonlinear Influence of Artificial Intelligence on Employee Development in Manufacturing Enterprise. Atlantis Press, 169-182.
- [10] Luckin, R., Holmes, W. (2016). *Intelligence Unleashed: An argument for AI in Education*. London, UK
- [11] Mohri, M., Rostamizadeh, A., & Talwalkar, A. (2018). *Foundations of machine learning*. MIT press.
- [12] Mokonyane-Motha, M. M. & De Jager, T. (2024). Artificial intelligence as a tool to reduce graduates' unemployment needs. *International Journal of Arts, Humanities and Social Sciences*, 8(1), 63-75.
- [13] Mutascu, Mihai, (2021). Artificial intelligence and unemployment: New insights," *Economic Analysis and Policy*, Elsevier, vol. 69(C), pages 653-667.
- [14] Polak P (2021) Welcome to the digital era—the impact of AI on business and society. *Society* 58:177–178
- [15] Römgens, I., Scoupe, R. & Beusaert, S. (2019): Unraveling the concept of employability, bringing together research on employability in higher education and the workplace, *Studies in Higher Education*, 1-16.
- [16] Rosak-Szyrocka, J., Apostu, S.A., Ali Turi, J., Tanveer, A. (2022a). University 4.0 Sustainable Development in the Way of Society 5.0. *Sustainability*, vol. 14, no. 23, p. 16043
- [17] Rosak-Szyrocka, J., Żywiołek, J., Nayyar, A., Naved, M. (2024). The role of sustainability & artificial intelligence in education improvement. Boca Raton, FL: CRC Press
- [18] Ruiz-Talavera, D., Cruz-Aguero, J. E. D., García-Palomino, N., Calderón-Espinoza, R. & Marín-Rodríguez, W. J. (2023). Artificial intelligence and its impact on job opportunities among university students in North Lima, 2023. *EAI Endorsed Transactions on Scalable Information Systems*, 10(5), 1-8.
- [19] Segbenya, M., Bervell, B., Frimpong-Manso, E., Otoo, I. C., Andzie, T. A. Achina, S. (2023). Artificial intelligence in higher education: Modelling the antecedents of artificial intelligence usage and effects on 21st century employability skills among postgraduate students in Ghana. Elsevier, *Computers and Education: Artificial Intelligence*, 5, 1-14.
- [20] Shen, Y. & Zhang, X. (2024). The impact of artificial intelligence on employment: the role of virtual agglomeration. *Humanit Soc Sci Commun* 11, 122.

- [21] Squicciarini, M., & Nachtigall, H. (2021). Demand for AI skills in jobs: Evidence from online job postings. In OECD science, technology and industry working papers. Paris: OECD Publishing. <https://doi.org/10.1787/3ed32d94-en>. No. 2021/03.
- [22] Vries, A. de, Bliznyuk, N., Pinedo, P. (2023). Invited Review: Examples and opportunities for artificial intelligence (AI) in dairy farms, 2590-2865, vol. 39, no. 1, pp. 14-22.
- [23] Walsh, T., Levy, N., Bell, G., Elliott, A., Maclaurin, J., Mareels, I., & Wood, F. (2019). The effective and ethical development of artificial intelligence. Retrieved from: [acola.org/wp-content/uploads/2019/07/hs4\\_artificial-intelligence-report.pdf](http://acola.org/wp-content/uploads/2019/07/hs4_artificial-intelligence-report.pdf)
- [24] Xie M, Dong L, Xia Y, Guo J, Pan J, Wang H (2022) Does artificial intelligence affect the pattern of skill demand? Evidence from Chinese manufacturing firms. *Econ Model* 96:295–309.
- [25] Yoon C (2023) Technology adoption and jobs: The effects of self-service kiosks in restaurants on labor outcomes. *Technol Soc* 74:102336.
- [26] Zhang, H., Lee, I., Ali, S., DiPaola, D., Cheng, Y., & Breazeal, C. (2023). Integrating ethics and career futures with technical learning to promote AI literacy for middle school students: An Exploratory Study. *International Journal of Artificial Intelligence in Education*, 33(2), 290–324.