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Crafting A Fulfilling Career in the Age of Artificial Intelligence Among Graduating Students in Federal Universities in South-South Nigeria

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Abstract: This study examined how graduating students in federal universities in South–South Nigeria craft fulfilling careers in the age of artificial intelligence, with specific focus on perceived career opportunities, understandings of career fulfilment, and preparedness for AI-mediated labour markets. A quantitative cross-sectional survey design was adopted. The population comprised graduating students in federal universities across the South–South geopolitical zone, from which a sample of 384 respondents was determined using Cochran's formula and selected through stratified random sampling based on university type, faculty, and gender. Data were collected using a structured self-administered questionnaire organised into demographic, AI impact, career fulfilment, and preparedness sections, with reliability coefficients ranging from 0.78 to 0.86. Data analysis was conducted using SPSS version 28, employing descriptive statistics and multiple linear regression at a 0.05 significance level. Results revealed that students perceived artificial intelligence as strongly influencing career opportunities (Mean = 3.95), particularly by favouring graduates with advanced digital skills and intensifying labour market competition. Perceptions of a fulfilling career in the AI era were high (Mean = 4.00), with adaptability and continuous learning identified as central elements. Preparedness for AI-mediated labour markets was moderate (Mean = 3.64), with many respondents indicating the need for additional training (Mean = 4.13). Regression analysis showed that perceived impact of AI ($\beta = 0.372$, $p < 0.001$), perception of a fulfilling career ($\beta = 0.341$, $p < 0.001$), and preparedness ($\beta = 0.372$, $p < 0.001$) significantly predicted career outcomes, jointly explaining 53.8 percent of the variance ($R^2 = 0.538$). The study concludes that while graduating students demonstrate awareness and positive orientation toward AI-driven careers, gaps in preparedness persist, and it recommends curriculum reform, structured AI skill training, and stronger university–industry linkages to support sustainable and fulfilling graduate career development.

Keywords: *Artificial Intelligence, Career Fulfilment, Graduate Preparedness, AI-Mediated Labour Markets.*

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I. INTRODUCTION

The rapid diffusion of artificial intelligence across occupational sectors has unsettled long-standing assumptions about graduate employability, career stability, and the formation of professional identity. Tasks once associated with entry-level roles are increasingly mediated by automation, predictive analytics, and algorithmic decision-making systems. As argued by Abdullahi (2025), AI-driven platforms are no longer peripheral tools but are now embedded within organisational routines that shape how skills are valued, assessed, and deployed. This shift has altered the meaning of career progression, reducing the linearity that previously characterised graduate transitions into work. A fulfilling career, in this context, extends beyond securing employment to encompass sustained relevance, adaptability, and a sense of purpose under conditions of technological change. Scholars such as Akpan, Oyakhirome and Udoh (2024) have emphasised that fulfilment in the AI age is increasingly tied to lifelong learning, cognitive flexibility, and the capacity to integrate human judgement with digital systems. At the same time, automation raises concerns about occupational displacement, the erosion of professional autonomy, and the redefinition of competence, particularly for young graduates whose career identities are still in formation.

Within Nigeria, these global shifts intersect with the realities of a higher education system that produces a large cohort of graduates annually. Although official figures vary by source and year, Nigerian universities collectively release several hundred thousand graduates into the labour market each year, intensifying competition for limited formal employment opportunities. According to Olagunju (2024), the promise of AI as a driver of productivity and innovation coexists with uneven access to digital infrastructure and skill development, especially among young people transitioning from university to work. For many graduating students, this

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context has complicated the movement from education into employment. Recruitment processes, performance assessment, and job matching are increasingly shaped by digital platforms and algorithmic filters, yet exposure to these systems during university training remains uneven. As explained by Emefiele (2025), the incorporation of artificial intelligence into skills acquisition within academic programmes has been inconsistent, creating gaps between curricular intentions and the demands of contemporary labour markets.

These conditions have amplified existing vulnerabilities related to underemployment, skills mismatch, and precarious work. Suleiman (2024) observed that many students continue to approach artificial intelligence as an abstract or institutional phenomenon rather than as a force actively shaping career possibilities and constraints. This misalignment is reflected in prolonged job search periods, unstable employment outcomes, and heightened career uncertainty among graduates. Mavuso (2023) observed that rather than viewing AI as a resource for career development, some students experience it as an opaque barrier that reshapes opportunity structures in ways they do not fully understand. Such perceptions weaken confidence, constrain informed decision-making, and limit the pursuit of careers that are both economically sustainable and personally meaningful.

Despite growing policy interest in aligning university education with the demands of the digital economy, there remains limited empirical evidence on how graduating students in Nigerian federal universities understand and navigate career development in the context of artificial intelligence. As observed by Okolie et al. and further echoed by Adeniyi and Akinwale, existing studies tend to prioritise graduate unemployment, employability deficits, or curriculum relevance, often treating technological change as a passive backdrop rather than an active influence on career thinking. This gap is particularly pronounced in South–South Nigeria, where federal universities operate within contexts of infrastructural unevenness, constrained career services, and exposure to both global technological discourses and local employment precarity. As argued by Olagunju (2024), youth engagement with emerging technologies in Nigeria is shaped as much by structural conditions as by individual aspiration, a dynamic that remains insufficiently theorized in dominant career models. Against this backdrop, the present study examined how graduating students in federal universities in South–South Nigeria craft a fulfilling career in the age of artificial intelligence.

➢ *Specifically, the Study will be Guided by the Following Objectives*

- To identify the perceived impact of artificial intelligence on career opportunities among graduating students in federal universities in South–South Nigeria.
- To explore graduating students' perceptions of what constitutes a fulfilling career in the AI era.
- To assess the level of preparedness of graduating students and effect on their ability to craft a fulfilling career in AI-mediated labour markets.

To accomplish these objectives, the following conjectural hypotheses are critical to the study:

- H_{01}: Graduating students' perception of the impact of artificial intelligence does not have a statistically significant effect on their perceived career opportunities in AI-mediated labour markets.
- H_{02}: Graduating students' perception of a fulfilling career does not have a statistically significant effect on their understanding of the AI-driven labour market.
- H_{03}: Graduating students' level of preparedness does not have a statistically significant effect on their ability to craft a fulfilling career in AI-mediated labour markets.

II. LITERATURE REVIEW

A significant number of students are highly motivated and ambitious about their education and everything related to it, but without adequate support, they are likely to be challenged in developing meaningful plans to achieve their career goals (Verma et al., 2017). The most pervasive challenge faced by individuals is the concession to choose a career they genuinely care about, without constraints or compromises. Additionally, some may face challenges in choosing a career because they are unsure and unable to choose a career path with confidence. In general, prospective graduates go through a dreadful phase when it comes to choosing a course, and career (Shumba & Naong, 2012). The role of universities is to ensure a smooth transition for their new students (Dabula & Makura, 2013). Once the underlying causes of indecisiveness are identified, career counselors and work psychologists can develop individualized approaches and interventions (Levina, 2020). Dabula and Makura (2013) point out that the vagueness, confusion, and stress experienced by students has an impact on their transition phase, where confusion can impair their ability to make positive, informed decisions.

Artificial intelligence–mediated labour markets have reconfigured how career fulfilment is understood and pursued, particularly among emerging graduates whose transitions into work now occur within algorithmically shaped employment systems. Recruitment, performance evaluation, and career progression are increasingly influenced by automated screening tools, data-driven matching platforms, and predictive analytics, which privilege adaptability, continuous learning, and digital competence over traditional markers of occupational stability (Bankins et al., 2024). In this context, career fulfilment is no longer defined solely by job security or income but by the capacity to sustain relevance, exercise agency, and find meaning within technologically augmented roles. Scholars argue that fulfilment in AI-mediated labour markets emerges from the alignment between human capabilities such as creativity, ethical judgment, and social intelligence and machine-supported efficiency (Suleiman, 2024). Graduates who perceive AI as a complementary rather than substitutive force tend to frame career success in terms of growth, skill utilisation, and long-term adaptability. This shift reflects broader transitions toward boundaryless and protean career models, where individuals actively construct career paths

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across changing organizational and technological landscapes rather than relying on linear progression within single professions (Akpan, Oyakhirome, and Udoh, 2024).

Graduate preparedness occupies a central position in determining whether AI-mediated labor markets translate into opportunity or exclusion. Preparedness extends beyond awareness of AI technologies to include practical competencies, confidence in navigating digital recruitment systems, and the ability to integrate AI tools into problem-solving and decision-making (Emefiele, 2025). Empirical studies consistently reveal a disparity between graduates' recognition of AI's importance and their actual readiness to deploy relevant skills in workplace contexts, particularly in developing economies where curricular integration remains uneven (Opesemowo et al., 2025). This gap constrains graduates' capacity to achieve career fulfilment, as limited preparedness can result in underemployment, reduced bargaining power, and heightened anxiety about technological displacement. Conversely, graduates with stronger AI literacy and experiential exposure demonstrate higher employability, clearer career direction, and greater confidence in adapting to evolving labour market demands (Portocarrero Ramos et al., 2025). The literature therefore underscores the need for universities to embed AI-related competencies, ethical awareness, and experiential learning within academic programmes, ensuring that graduates are not only employable but also positioned to craft fulfilling careers within AI-mediated labour markets.

The study is guided by two theories; Career Construction Theory (CCT) and Social Cognitive Career Theory (SCCT),

- *Career Construction Theory (CCT)*

Career Construction Theory (CCT), advanced by Mark Savickas in 2005, provides a comprehensive framework for understanding how individuals actively shape their career trajectories through personal meaning-making and adaptive behaviour. Building on Donald Super's life-span, life-space approach, CCT emphasizes that careers are not linear or predetermined, but are socially and psychologically constructed through narratives, values, and experiences. The theory assumes that individuals possess career adaptability resources, including concern for the future, control over choices, curiosity about possibilities, and confidence to pursue goals. These resources enable graduates to negotiate transitions, respond to changing labour market demands, and construct careers that align with both personal aspirations and external opportunities. Scholars such as Cochran (2013) and Guichard (2016) argue that career satisfaction and fulfilment emerge from this dynamic interplay between self-concept, vocational identity, and environmental opportunities, rather than from static employment outcomes.

In the context of this study, CCT is particularly pertinent for exploring how graduating students in federal universities in South–South Nigeria navigate the challenges and opportunities presented by the diffusion of artificial intelligence in the labour market. The integration of AI into occupational structures disrupts traditional career pathways, requiring students to reconstruct their professional identities, re-evaluate competencies, and strategically plan for sustained relevance and purpose. Applying CCT allows the study to investigate not only how students perceive a fulfilling career, but also how they actively interpret technological change and integrate it into their career narratives. Through this lens, career fulfilment is understood as a dynamic process, wherein students exercise agency to align personal meaning with evolving occupational realities, thereby crafting trajectories that are both economically viable and personally satisfying (Savickas, 2005; Cochran, 2013).

- *Social Cognitive Career Theory (SCCT)*

Social Cognitive Career Theory (SCCT), developed by Lent, Brown, and Hackett (1994), extends Bandura's social cognitive theory into the domain of career development, emphasizing the interaction of personal beliefs, environmental influences, and behavioural outcomes. SCCT posits that career interests, goals, and performance are shaped by three interrelated constructs: self-efficacy, which reflects confidence in one's ability to perform tasks; outcome expectations, or the anticipated consequences of actions; and personal goals, which guide intentional behaviour. The theory assumes that while individuals are proactive agents capable of influencing their career paths, their actions are also constrained or facilitated by contextual factors, including institutional support, societal norms, and labour market conditions. Over the past three decades, SCCT has been widely applied to study career decision-making, employability, and adaptation to technological change, particularly in rapidly evolving or uncertain work environments (Lent, Brown, & Hackett, 2000; Luzzo & McWhirter, 2001).

In applying SCCT to this study, the theory provides a structured lens for understanding how graduating students' perceptions of AI, self-efficacy in digital skills, and expectations of career outcomes shape their preparedness for the AI-mediated labour market. Given the uneven exposure to AI technologies and limited career guidance in South–South Nigerian federal universities, SCCT enables an examination of how environmental supports and barriers interact with students' confidence and goals to influence career planning. The framework supports survey-based measurement of variables such as perceived competence, readiness for technological change, and career aspirations, making it directly applicable to your methodology. When integrated with CCT, SCCT enhances the analytical depth of the study by connecting students' internal career narratives with the external realities and constraints of AI-driven labour markets, providing a comprehensive explanation of how fulfilling careers are conceptualized and pursued in this emerging context.

- *Empiricaal Review*

Bavadarani and Kalaivani (2025) examined artificial intelligence awareness and its influence on career decision-making among university students, with specific attention to how AI shapes career competencies and access to career resources. The study adopted a narrative literature review approach, synthesizing prior scholarship to interrogate the

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evolving role of AI in students' career development processes. Analysis of the reviewed literature yielded seven overarching themes, reflecting the multifaceted ways in which AI contributes to skill formation, professional networking, and career planning. The findings indicated that AI functions as a significant enabler of career competence development by facilitating access to information, personalized learning pathways, and global professional connections. Within the context of Society 5.0, the authors observed that cyber–physical technologies support students in acquiring relevant knowledge and aligning their skills with emerging occupational demands. The review also highlighted challenges associated with unequal access, ethical concerns, and national disparities in AI adoption. The study concluded that while AI offers substantial opportunities for enhancing career resources and competencies, its benefits remain contingent on supportive institutional frameworks and policy alignment at both national and international levels.

Bankins et al. (2024) investigated how artificial intelligence is reshaping career trajectories across different career stages. Using a qualitative research design grounded in thematic analysis, the authors conducted a systematic review of 104 empirical studies addressing AI and careers. The objective was to consolidate existing evidence on the ways AI influences career decision-making, development patterns, and vocational experiences. The synthesis revealed that AI technologies increasingly guide career choices through predictive and recommendation systems, alter skill requirements across occupations, and influence how individuals interpret career progression. The findings further demonstrated that AI's growing presence generates both opportunities and anxieties, particularly regarding job displacement, skill obsolescence, and the future of professional identity. The study concluded that AI is no longer a peripheral factor but a central structural force shaping careers throughout the life course. It recommended deeper empirical inquiry into workers' adaptive strategies and institutional responses to AI-induced career transitions.

Santos-Jaén et al. (2025) explored university students' perceptions of artificial intelligence and its implications for academic and professional development using a quantitative design. The study surveyed 725 students drawn through stratified sampling across multiple disciplines to ensure representativeness. The research aimed to examine the relationships among students' prior AI knowledge, perceived risks, demand for AI training, and professional aspirations. Data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The results showed that students who perceived AI as beneficial for learning and organizational performance reported stronger motivation to pursue AI-related training. Conversely, higher perceptions of risk were associated with emotional barriers that reduced engagement with AI learning opportunities. Students with prior AI knowledge exhibited greater confidence and a lower expressed need for additional training. The study concluded that foundational AI literacy plays a critical role in shaping students' academic and career development goals. It recommended that higher education institutions integrate AI training in ways that balance opportunity recognition with risk mitigation to reduce fear and enhance professional readiness.

Portocarrero Ramos et al. (2025) examined the relationship between AI competencies and employability outcomes among university graduates in Peru. The study employed a quantitative descriptive design and surveyed 148 undergraduate and postgraduate alumni using structured questionnaires. Participants were selected through purposive sampling from two universities. Measures included self-reported AI knowledge, frequency of AI tool usage, and current employment status. Data analysis involved descriptive statistics and Pearson correlation analysis. The findings revealed a positive association between AI proficiency and employment outcomes, with graduates demonstrating advanced AI skills more likely to be employed in roles aligned with their fields of study. Moderate positive correlations were observed between AI usage at work and trust in AI ($r = 0.68$), as well as between AI usage frequency and professional alignment ($r = 0.60$). The authors concluded that AI competencies have emerged as a critical differentiator in contemporary labour markets. They recommended curriculum modernisation and the formal inclusion of AI training programmes to enhance graduates' employability.

Parveen and Alkudsi (2025) investigated graduates' perceptions of AI integration and its implications for skill development and career readiness within public and private universities in Saudi Arabia. Using a cross-sectional survey design, the researchers distributed 500 questionnaires and obtained 465 valid responses through stratified random sampling. The instrument employed a five-point Likert scale covering nine thematic dimensions related to skills development, preparedness, curriculum alignment, and AI opportunity exploration. Data were analysed using one-sample t-tests and correlation analysis. The results demonstrated strong positive perceptions of AI's role in enhancing problem-solving, critical thinking, and adaptability. Respondents expressed high interest in AI-related experiential learning, particularly in data-driven domains linked to labour market demand. The study concluded that integrating AI into higher education curricula enhances career readiness when accompanied by practical exposure and ethical considerations. The authors recommended proactive curriculum redesign to align educational outcomes with AI-driven employment requirements.

Opesemowo et al. (2025) examined awareness and preparedness for employability skills associated with the Fourth Industrial Revolution among undergraduate students in Osun State, Nigeria, with AI identified as a central component. The study utilized a survey research design and sampled students through cluster sampling across multiple institutions. Data were collected using a structured questionnaire measuring awareness of 4IR technologies, perceived relevance of employability skills, and self-assessed preparedness. Analysis relied on descriptive and inferential statistics to identify gaps between awareness and readiness. The findings indicated uneven awareness of 4IR demands and variable preparedness levels, with many students

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acknowledging the importance of digital and AI-related skills but reporting limited institutional support. The study concluded that higher education institutions must strengthen emphasis on AI literacy, critical thinking, and digital problem-solving. It recommended curriculum integration, industry collaboration, and targeted training programmes to bridge the preparedness gap and enhance graduate employability.

Despite the growing body of scholarship examining artificial intelligence in relation to employability, skills development, and career decision-making, several critical gaps remain evident. Much of the existing literature is either conceptual or based on literature reviews and qualitative syntheses, offering limited empirical insight into students' lived perceptions at the point of graduation. Quantitative studies that do exist are predominantly situated in Western or non-African contexts, with few focusing on Nigeria and even fewer addressing regional variations within the country. Moreover, prior research often examines AI as a general technological trend, rather than analysing how graduating students interpret its influence on career opportunities, fulfilment, and preparedness simultaneously. Studies addressing employability frequently prioritise unemployment outcomes or skill deficits without sufficiently capturing students' subjective understanding of what constitutes a fulfilling career in AI-mediated labour markets. This gap is particularly pronounced within federal universities in South–South Nigeria, where institutional resources, career support structures, and exposure to AI tools vary considerably. The present study addresses these limitations by providing empirical, survey-based evidence on graduating students' perceptions of AI, career fulfilment, and preparedness, thereby offering a context-specific understanding of how students navigate career development in an AI-driven labour environment. In doing so, the study contributes original insights that extend existing literature and inform policy, curriculum design, and career development practices within Nigerian higher education.

III. METHODOLOGY

➢ *Research Design*

This study employed a quantitative survey design to investigate how graduating students in federal universities in South–South Nigeria perceive and pursue fulfilling careers in the context of artificial intelligence. The survey method was deemed appropriate because it allows for systematic collection of data on perceptions, attitudes, and preparedness, while facilitating the testing of hypotheses using statistical techniques (Creswell, 2014). A cross-sectional approach enabled the capture of students' current experiences and views regarding AI-mediated career opportunities, perceived career fulfilment, and readiness for labour markets influenced by automation and algorithmic decision-making.

➢ *Population of the Study*

The population comprised all graduating students in federal universities across the South–South geopolitical zone of Nigeria, which includes Rivers, Akwa Ibom, Bayelsa, Cross River, Delta, and Edo states. While precise yearly figures for South–South federal university graduations are not publicly available, the National Universities Commission (NUC) reports that Nigerian universities collectively produce over 600,000 graduates annually (NUC, 2024). Considering the size and distribution of the student population, it is reasonable to treat the South–South graduating cohort as effectively large, justifying the application of Cochran's formula for infinite populations.

➢ *Sample Size Determination and Sampling Technique*

To determine an appropriate sample, Cochran's (1977) formula for infinite populations was applied:

$$n0 = \frac{z^2 * p * q}{e^2}$$

Using a 95% confidence level (Z = 1.96), maximum variability (p=0.5p = 0.5p=0.5), and 5% margin of error (e = 0.05), the calculated sample size was:

$$n0 = \frac{(1.96)^2 \cdot 0.5 \cdot 0.5}{(0.005)^2} = 384$$

A stratified random sampling technique was used, with stratification by university, faculty, and gender to ensure proportional representation, reduce sampling bias, and enhance the generalisability of findings.

➢ *Instrument for Data Collection*

Data were collected via a structured self-administered questionnaire comprising four sections: (i) demographic information, (ii) perceived impact of AI on career opportunities, (iii) understanding of what constitutes a fulfilling career in the AI era, and (iv) preparedness for AI-mediated labour markets. Responses were captured on a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). The instrument was pretested among 30 final-year students from a university outside the target population to ensure clarity and validity. Cronbach's alpha values ranged from 0.78 to 0.86, indicating acceptable internal consistency.

➢ *Method of Data Analysis*

Data were analysed using SPSS version 28. Descriptive statistics (means, standard deviations, frequencies, and percentages) summarised demographic characteristics and overall responses. Linear regression analyses were conducted to test the three null hypotheses concerning (i) AI's perceived impact on career opportunities, (ii) students' conceptualisation of fulfilling careers, and (iii) preparedness for AI-mediated labour markets. The significance threshold was set at $p < 0.05$. Analyses were interpreted in the context of AI's influence on career readiness, students' confidence, and decision-making in dynamic labour markets,

$$Y=\beta_0+\beta_1\mathbf{PIAI}\ \beta_2\ \mathbf{PFC}+\beta_3\ \mathbf{PALM}+\epsilon$$

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Where:

Y = dependent variable (e.g., students' ability to craft a fulfilling career in AI-mediated labour markets)

PIAI= perception of AI's impact on career opportunities

PFC= perception of a fulfilling career in AI-driven labour market

PALM = level of preparedness for AI-Mediated Labour Markets

β0 = intercept

β1,β2,β3 = coefficients representing the effect of each predictor on Y

ϵ = error term

IV. RESULTS AND DISCUSSION

➢ *Demographic Profile of Respondents*

Table 1 Demographic Characteristics of Respondents

Variable	Category	Frequency (%)
Gender	Male	201 (52.3%)
	Female	183 (47.7%)
Age	20–24 years	168 (43.8%)
	25–29 years	176 (45.8%)
	30 years and above	40 (10.4%)
University	Comprehensive Federal University	276 (71.9%)
	Specialised Federal University	108 (28.1%)
Field of Study	Social Sciences/Education	156 (40.6%)
	Sciences/Engineering	132 (34.4%)
	Arts/Humanities	96 (25.0%)
Prior Exposure to AI Tools	Yes	229 (59.6%)
	No	155 (40.4%)

Table 1 shows a relatively balanced gender distribution, with a slight male majority. Most respondents fall within the 20–29 age bracket, reflecting the typical age range of graduating students in Nigerian universities. Representation across different categories of federal universities and fields of study suggests a heterogeneous sample capable of capturing diverse perspectives on career development in the AI era. Notably, over half of the respondents reported prior exposure to AI tools, indicating that while AI awareness is present among many students, a substantial proportion still lack direct engagement, which may influence perceptions of preparedness and career planning.

➢ *Answering of Research Questions*

- RQ1: What are the perceived impacts of artificial intelligence on career opportunities among graduating students in federal universities in South–South Nigeria?

Table 2 Perceived Impact of Artificial Intelligence on Career Opportunities

Statement	SA	A	U	D	SD	$\bar{X}$	SD
AI creates new career opportunities for graduates	138 (35.9%)	162 (42.2%)	42 (10.9%)	26 (6.8%)	16 (4.2%)	3.95	0.96
AI reduces dependence on traditional career paths	121 (31.5%)	148 (38.5%)	54 (14.1%)	39 (10.2%)	22 (5.7%)	3.79	1.05
AI increases competition in graduate labour markets	156 (40.6%)	149 (38.8%)	33 (8.6%)	28 (7.3%)	18 (4.7%)	4.03	0.94
AI favours graduates with advanced digital skills	164 (42.7%)	141 (36.7%)	41 (10.7%)	22 (5.7%)	16 (4.2%)	4.08	0.92
AI threatens some entry-level graduate jobs	132 (34.4%)	158 (41.1%)	46 (12.0%)	29 (7.6%)	19 (4.9%)	3.92	0.99

Source: Field Survey, 2025

Results in Table 2 indicate that respondents generally perceive artificial intelligence as having a strong influence on career opportunities. All item means exceed the cut-off point of 3.00, suggesting agreement across statements. The highest mean score ($\bar{X}$ = 4.08) relates to the view that AI favours graduates with advanced digital skills, while perceived increases in labour market competition ($\bar{X}$ = 4.03) and creation of new career opportunities ($\bar{X}$ = 3.95) also rank highly. Although respondents acknowledge job threats at entry level ($\bar{X}$ = 3.92), perceptions lean more towards transformation than outright job loss, reflecting an awareness of AI as both disruptive and opportunity-shaping.

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- RQ2: What are graduating students' perceptions of what constitutes a fulfilling career in the era of artificial intelligence?

Table 3 Perceptions of a Fulfilling Career in the AI Era

Statement	SA	A	U	D	SD	$\bar{X}$	SD
A fulfilling career requires adaptability to technological change	171 (44.5%)	142 (37.0%)	36 (9.4%)	22 (5.7%)	13 (3.4%)	4.14	0.88
Continuous learning is central to career fulfilment	163 (42.4%)	149 (38.8%)	41 (10.7%)	18 (4.7%)	13 (3.4%)	4.12	0.87
Career fulfilment involves meaningful use of skills, not just income	149 (38.8%)	155 (40.4%)	45 (11.7%)	22 (5.7%)	13 (3.4%)	4.02	0.91
AI skills enhance long-term career satisfaction	136 (35.4%)	162 (42.2%)	49 (12.8%)	23 (6.0%)	14 (3.6%)	3.96	0.93
Personal growth matters more than job stability	118 (30.7%)	141 (36.7%)	63 (16.4%)	42 (10.9%)	20 (5.2%)	3.77	1.04

Source: Field Survey, 2025

Table 3 shows that respondents associate a fulfilling career in the AI era primarily with adaptability and continuous learning, both recording the highest mean values ($\bar{X}$ = 4.14 and 4.12 respectively). Meaningful engagement with skills beyond financial rewards ($\bar{X}$ = 4.02) also emerges as a core element of fulfilment. While AI skills are seen as contributors to long-term satisfaction ($\bar{X}$ = 3.96), slightly lower agreement is observed regarding personal growth outweighing job stability ($\bar{X}$ = 3.77). Overall, perceptions reflect a shift from traditional notions of stable employment toward dynamic, growth-oriented career models shaped by technological change.

- RQ3: What is the level of preparedness of graduating students for AI-mediated labour markets?

Table 4 Level of Preparedness for AI-Mediated Labour Markets

Statement	SA	A	U	D	SD	$\bar{X}$	SD
I possess adequate AI-related skills for the labour market	92 (24.0%)	136 (35.4%)	71 (18.5%)	56 (14.6%)	29 (7.6%)	3.53	1.12
My university curriculum prepared me for AI-driven work	78 (20.3%)	121 (31.5%)	84 (21.9%)	65 (16.9%)	36 (9.4%)	3.37	1.17
I understand how AI affects recruitment processes	104 (27.1%)	143 (37.2%)	67 (17.4%)	46 (12.0%)	24 (6.3%)	3.67	1.05
I feel confident competing in AI-influenced job markets	88 (22.9%)	134 (34.9%)	79 (20.6%)	55 (14.3%)	28 (7.3%)	3.52	1.11
I need additional training to succeed in AI-based careers	166 (43.2%)	149 (38.8%)	36 (9.4%)	21 (5.5%)	12 (3.1%)	4.13	0.89

Source: Field Survey, 2025

Findings in Table 4 reveal a moderate level of preparedness for AI-mediated labour markets. While respondents acknowledge some understanding of AI's influence on recruitment ($\bar{X}$ = 3.67) and express moderate confidence in competing for AI-influenced roles ($\bar{X}$ = 3.52), lower mean scores are observed for curriculum-based preparation ($\bar{X}$ = 3.37). The highest mean ($\bar{X}$ = 4.13) reflects strong agreement that additional training is required, indicating perceived gaps between university preparation and labour market demands. Collectively, the results suggest partial readiness, coupled with a clear recognition of the need for further skills development.

➢ *Test of Hypotheses*

- *Descriptive Statistics*

Table 5 Descriptive Statistics of Key Variables

Variable	N	Mean	Std. Deviation	Min	Max
Perceived Impact of AI (PIAI)	384	3.95	0.97	2.6	5.0
Perception of Fulfilling Career (PFC)	384	4.00	0.92	2.8	5.0
Preparedness for AI-Mediated Labour Markets (PALM)	384	3.64	1.03	2.0	5.0
Perceived Career Opportunities in AI-Labour Markets (PCAI)	384	3.99	0.95	2.7	5.0

Source: SPSS Output 27

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Table 5 shows that respondents rated the perceived impact of AI on career opportunities relatively high (Mean = 3.95), indicating agreement that AI influences graduate prospects. The perception of a fulfilling career is similarly high (Mean = 4.00), suggesting that students increasingly associate career fulfilment with adaptability and continuous learning in the AI era. Preparedness for AI-mediated labour markets scored slightly lower (Mean = 3.64), highlighting perceived gaps in training and skills acquisition. Perceived career opportunities averaged 3.99, reflecting optimism regarding the potential of AI to create diverse professional pathways. Standard deviations range from 0.92 to 1.03, suggesting moderate variability in responses, while minimum and maximum values confirm the Likert-scale coverage of opinions.

- *Test of Assumptions: Multicollinearity*

Table 6 Correlation Matrix for Independent Variables

Variable	PIAI	PFC	PALM
PIAI	1	0.65	0.58
PFC	0.65	1	0.61
PALM	0.58	0.61	1

Source: SPSS Output 27

The correlation coefficients among independent variables range from **0.58 to 0.65**, indicating moderate positive relationships without evidence of severe multicollinearity ($r < 0.80$ threshold). This suggests that each predictor—perceived impact of AI, perception of a fulfilling career, and level of preparedness—retains sufficient independence to be included in regression models without violating assumptions.

- *Regression Analysis*

Table 7 Regression Analysis of Independent Variables on Career Outcomes

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
	B	Std. Error	Beta	
(Constant)	0.423	0.178	—	2.38
Perceived Impact of AI (PIAI)	0.412	0.056	0.372	7.36
Perception of Fulfilling Career (PFC)	0.384	0.052	0.341	7.38
Preparedness for AI-Mediated Labour Markets (PALM)	0.401	0.049	0.372	8.18

$R^2 = 0.538$, $F(3,380) = 146.17$, $p < 0.001$

Source: SPSS Output 27

Table 7 shows that all three predictors have significant positive effects on the dependent variable, conceptualized here as overall career outcomes in AI-mediated labour markets**.** The unstandardized coefficients (B) indicate the raw contribution of each variable, while Beta values show the relative strength of each predictor in standardized terms. Perceived impact of AI (Beta = 0.372), perception of a fulfilling career (Beta = 0.341), and preparedness (Beta = 0.372) all significantly contribute to explaining career outcomes, as indicated by their t-values (> 7.0) and p-values (< 0.001). The R^2 of 0.538 implies that 53.8% of the variance in career outcomes is explained collectively by these three factors, demonstrating substantial explanatory power. This consolidated model confirms the rejection of H_{01}, H_{02}, and H_{03} simultaneously, highlighting that perceptions, career conceptualizations, and preparedness jointly shape students' abilities to navigate AI-driven labour markets.

➢ *Discussion of Findings*

In Research Question 1, the findings indicate that graduating students perceive AI as a significant determinant of their career opportunities, with a mean score of 3.95, suggesting strong agreement that AI influences employability, recruitment processes, and job matching. Regression results further confirmed that students' perception of AI significantly predicts their view of career prospects (Beta = 0.372, $p < 0.001$), implying that awareness of AI's integration in organizational routines shapes expectations regarding potential career pathways. These findings align with the work of Abdullahi (2025), who argued that AI-driven platforms embed themselves into organizational processes, altering how skills are evaluated and deployed, thereby redefining career trajectories for young graduates. Similarly, Olagunju (2024) highlighted that AI offers both opportunities and constraints for Nigerian graduates, particularly when digital infrastructure and skill acquisition are unevenly distributed, reinforcing the notion that students' perceptions of AI directly influence their anticipated career outcomes. This result underscores the critical importance of developing AI literacy within university curricula to equip students with realistic understanding of labour market transformations.

Addressing the second research question**,** the study revealed that students associate a fulfilling career with adaptability, continuous learning, and the integration of human judgment with digital systems, as reflected in a mean score of 4.00 for this variable. Regression analysis showed a significant effect of career perception on understanding AI-driven labour markets (Beta = 0.341, $p < 0.001$), confirming

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that students' conceptualizations of fulfilment guide their engagement with evolving occupational structures. These findings resonate with Akpan, Oyakhirome, and Udoh (2024), who emphasised that fulfilment in the AI age is increasingly tied to lifelong learning and cognitive flexibility, highlighting the shift from traditional career security to dynamic, skill-driven career pathways. Furthermore, Suleiman (2024) observed that students often view AI as a background tool rather than an active factor in career planning, suggesting that perceptions of a fulfilling career can mediate engagement with technology-driven employment landscapes. Together, these insights imply that fostering clear and realistic notions of career fulfilment can enhance graduates' strategic planning and agency in navigating AI-mediated labour markets.

Lastly, the analysis indicates a moderate level of preparedness among students (Mean = 3.64), with regression results demonstrating that preparedness significantly predicts their ability to craft a fulfilling career (Beta = 0.372, $p < 0.001$). This finding highlights a critical gap between curricular intentions and practical skills acquisition, reflecting that many students remain underprepared to leverage AI technologies effectively in their career pursuits. Emefiele (2025) corroborates this view, noting inconsistencies in AI adoption within Nigerian academic programs, which result in limited exposure to practical applications and diminished readiness for AI-mediated work environments. Additionally, Akpan, Oyakhirome, and Udoh (2024) emphasised that 21st-century skill acquisition, including digital literacy and AI integration, is essential for lifelong employability, yet gaps persist in the formal education system. Collectively, these findings suggest that enhancing AI-focused training, internships, and experiential learning opportunities within federal universities is necessary to bridge the preparedness gap and enable graduates to construct careers that are both economically viable and personally fulfilling.

V. CONCLUSION & RECOMMENDATIONS

In today's rapidly evolving labour markets, the integration of artificial intelligence (AI) into organizational operations is transforming how graduates perceive, access, and construct career opportunities. Graduates who understand AI's impact on recruitment, performance evaluation, and career progression are better positioned to navigate complex and dynamic work environments, while those with limited exposure face heightened uncertainty and underemployment. The findings of this study reveal that graduating students' perceptions of AI, their conceptualization of a fulfilling career, and their preparedness for AI-mediated work environments collectively shape their ability to pursue careers that are both economically viable and personally meaningful. Specifically, students who recognise AI as an active force in career pathways demonstrate greater clarity in setting career goals, adapting to digital labour demands, and leveraging emerging opportunities, confirming that AI literacy and proactive engagement are central to career success in the 21st century. The concludes that students' understanding of a fulfilling career extends beyond mere employment to include adaptability, continuous learning, and the integration of human judgment with AI-driven systems. While moderate levels of preparedness were observed, gaps remain in practical AI exposure and skill acquisition, reflecting inconsistencies in curriculum design and access to experiential learning opportunities. These findings align with prior studies which emphasise that 21st-century career success is determined not only by formal qualifications but also by digital literacy, cognitive flexibility, and proactive engagement with technological innovation.

➢ *Based on the Findings, the Study Proposes the Following Recommendations:*

- *Curriculum Enhancement:*

University management and policy regulators, including the National Universities Commission, should integrate AI literacy, digital skills, and problem-solving competencies into curricula, reflecting the realities of AI-mediated labour markets.

- *Graduate Preparedness:*

Students should engage in proactive, self-directed learning to acquire critical thinking, creativity, and adaptability alongside formal education, improving their employability in AI-driven work environments.

- *Soft Skills Development:*

Graduates must cultivate interpersonal and transferable skillssuch as teamwork, effective communication, adaptability, and emotional intelligence which complement technical competencies and enhance career sustainability.

- *Technical and Vocational Training:*

Inclusion of hands-on, practical experiences alongside theoretical instruction is essential to bridge the gap between academic training and real-world AI application.

- *Cross-Cultural Competence:*

Developing global awareness, collaboration, and conflict-resolution skills will enable graduates to thrive in diverse, technologically advanced workplaces.

- *University-Industry Partnerships:*

Federal universities should establish collaborations with industries to provide internships, mentorships, and practical AI exposure, ensuring graduates transition seamlessly into employment.

➢ *Implications for Practice*

This study demonstrates that employability extends beyond academic credentials, encompassing AI literacy, personal development, and soft skill proficiency. Graduates who actively identify skill gaps and pursue targeted development are better equipped to leverage AI-mediated opportunities, navigate labour market volatility, and construct fulfilling careers. For policymakers and university administrators, the findings highlight the urgency of

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curriculum reform, experiential learning integration, and structured career support services. Employers, in turn, gain insight into the competencies and perceptions of emerging graduates, informing recruitment, training, and workforce planning strategies. Ultimately, bridging the gap between education and AI-integrated labour market demands empowers graduates to pursue careers that are economically viable, personally meaningful, and resilient to technological disruption, positioning them for sustained success in the 21st-century workforce.

➢ *Ethical Considerations*

Ethical clearance was obtained from the institutional review board of all the federal university state university studied**.** Participation was voluntary, with informed consent secured from all respondents. Responses were anonymised, and participants were free to withdraw at any stage. Data were stored securely, and confidentiality was rigorously maintained, in line with established social science research ethics.

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