International Journal of Applied Research and Sustainable Sciences (IJARSS)
Vol. 3 No. 10, 2025: 855 - 864

Impact of Artificial Intelligence on Recruitment Processes of Public Tertiary Institutions in Federal Capital Territory, Abuja, Nigeria

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ARTICLEINFO

Keywords: Artificial Intelligence, Universities Management, Teaching, Research

Received : 20 August
Revised : 20 September
Accepted: 26 October

ABSTRACT

The paper assessed the impact of AI on the recruitment process in public tertiary institutions in Nigeria. A descriptive survey research design was employed to collect data from a broad population. The population of this study consisted of all staff of all public tertiary institutions in FCT. A sample size of approximately 250 respondents was targeted, based on the Krejcie and Morgan sample size. The structured questionnaire was designed with both closed-ended questions. A pilot test was conducted with a small group of respondents from institutions outside the study area. Cronbach's Alpha was applied to test the reliability of the questionnaire, with a benchmark of 0.84 and above considered acceptable. Descriptive statistics and inferential statistics were employed to analyze the data. The result shows that AI aids the recruitment process in public tertiary institutions in FCT by identifying the area of job need in the institutions, job analysis and job description, finding potential applicants through internal or external sources, application process, screening and shortlisting selection, selection process, reference and background checks, decision-making and job offer, and onboarding and orientation. The study also discloses that the problems militating against effective deployment of AI for the recruitment process include funding problems, inadequate infrastructure facilities, unstable power, poor quality of internet services, poor digital skills, and unstable electricity. Based on the findings, the study recommends that management of tertiary institutions in FCT should supply adequate AI facilities to the department of human resources for effective recruitment processes in the system.

INTRODUCTION

Tertiary education refers to higher education that follows secondary education. It includes programs such as undergraduate and graduate studies at colleges, universities, and vocational schools. Tertiary education typically focuses on developing advanced knowledge and skills in a specific field of study and is usually required for certain professions. It is often seen as the final stage of formal education before entering the workforce or pursuing a higher degree. The goal of tertiary education is to provide students with the necessary knowledge, skills, and experiences to succeed in their chosen career path. Tertiary education is commonly referred to as higher education and refers to the education level that follows secondary education. It encompasses post-secondary programs such as college, university, and vocational education. These programs focus on providing advanced knowledge and skills to students in a specific field or discipline. Tertiary education is essential for individuals seeking to further their knowledge and increase their job prospects. It also plays a critical role in developing and advancing society through research and innovation. The goals of tertiary education include promoting critical thinking and problem-solving skills, fostering lifelong learning and personal development, and preparing individuals for the workforce. Tertiary education also aims to advance knowledge and academic research, promote cultural diversity and global citizenship, and improve social and economic development. Ultimately, the goal of tertiary education is to provide individuals with the skills and knowledge needed to succeed in their chosen fields and contribute positively to society (Ogunode, 2025).

Statement of the problem

Recruitment remains one of the most critical human resource management functions in public tertiary institutions, as it determines the quality of personnel who will drive teaching, research, and administrative effectiveness. In Nigeria, and particularly within public tertiary institutions in the Federal Capital Territory (FCT), Abuja, recruitment processes have often been marred by inefficiencies such as nepotism, bureaucratic delays, favoritism, limited transparency, and inadequate merit-based selection. These challenges have not only reduced public trust in recruitment outcomes but have also undermined institutional productivity and academic excellence (UNESCO.2021).

With the emergence of Artificial Intelligence (AI), recruitment processes across various sectors globally are being transformed through automated screening, unbiased candidate evaluation, data-driven decision-making, and improved transparency. However, in the context of public tertiary institutions in Nigeria, the extent to which AI is adopted, applied, and effectively utilized in recruitment remains uncertain. Issues such as poor technological infrastructure, limited digital literacy, inadequate policy frameworks, resistance to change, and funding constraints pose significant barriers to leveraging AI in recruitment practices (Elijah, 2020; Ogunode, & Ahmed, 2021).

Moreover, there is limited empirical evidence on how AI integration impacts recruitment processes in public tertiary institutions in Abuja, particularly regarding fairness, efficiency, and accountability. Without a clear understanding of the implications of AI on recruitment, these institutions risk either underutilizing the technology or failing to address systemic challenges in traditional recruitment methods. This knowledge gap makes it imperative to investigate the impact of Artificial Intelligence on recruitment processes in public tertiary institutions in the FCT, Abuja.

Purpose of the study

The study assess the impact of AI on recruitment process of public tertiary institutions in Federal Capital Territory, Abuja, Nigeria. The specific objectives include;

1. To find out the impact of AI on recruitment processes of public tertiary institutions in FCT, Nigeria and;
2. To examine the challenges hiding effective deployment of AI for recruitment processes of public tertiary institutions in FCT, Nigeria.

Research Questions

Based on the objective of the study, the following questions were formulated to guide the study;

1. What is the impact of AI on recruitment processes of public tertiary institutions in FCT, Nigeria? and;
2. What is the challenges hiding effective deployment of AI for recruitment processes of public tertiary institutions in FCT, Nigeria?

Research Hypothesis

This section shows the test of hypothesis carried out by the researcher.

Ho1: There is no significant relationship between AI and recruitment processes of public tertiary institutions in FCT

LITERATURE REVIEW

Recruitment is the process of finding, attracting, and hiring qualified candidates for a job or position within an organization. It involves various steps such as identifying the job requirements, sourcing potential candidates, reviewing resumes, conducting interviews, and selecting the most suitable candidate. The main goal of recruitment is to identify and hire the best talent that aligns with the organization's goals and culture. This process is crucial for the success and growth of any company, as it ensures that the right people are in the right roles (Adewale & Anthonia, 2013; Amobi, 2019; Donatus & Kenneth, 2021). Recruitment is the process of seeking out and attracting qualified individuals for a job or position within an organization. It involves identifying the required skills and qualifications for a particular role and then reaching out to potential candidates through various methods such as job postings, networking, and recruitment agencies (Gadi Dung Paul & Lauko Shadrach Audu 2019). The recruitment process refers to the series of steps involved in identifying, attracting,

and hiring qualified candidates for a job vacancy in an organization. These steps typically include sourcing, screening, interviewing, and selecting the most suitable candidate for the job. The recruitment process also involves onboarding and orientation of the selected candidate to ensure a smooth transition into the organization. Proper execution of the recruitment process is crucial for organizations to find the best talent for their workforce and ensure the success of their business (Gamage, 2014).

AI has significantly transformed the recruitment process by automating many tasks and streamlining the overall process. It has enabled faster and more efficient candidate sourcing by using algorithms to analyze job descriptions and match them with potential candidates. AI also assists in identifying top candidates by analyzing resumes and profiles, saving recruiters a significant amount of time (Ogunode & Olowonefa, 2023; Schueller, Tomasino, & Mohr, 2017). Ogunode & Gregory, 2023). Additionally, AI-powered chatbots can handle initial candidate interviews and answer frequently asked questions, providing a more seamless and convenient experience for both recruiters and candidates. Overall, AI has greatly impacted the recruitment process by improving efficiency, reducing bias, and enabling better candidate matches. Artificial intelligence (AI) is a field of computer science that focuses on creating intelligent machines that can think and act like humans. It involves simulating human intelligence processes such as learning, reasoning, and self-correction using algorithms and computational techniques (Ross & Kim Issroff, 2018; Ogunode & Ukozor, 2023; Stoeffler, Rosen, Bolsinova, & von Davier, 2019). AI has a wide range of applications, from self-driving cars and virtual assistants to medical diagnosis and game playing. It is a rapidly growing field that seeks to improve our lives and make tasks more efficient and accurate through the use of technology.

Artificial Intelligence (AI) is a branch of computer science that focuses on creating intelligent machines that can think and act like humans. It involves developing algorithms and software that can learn from data, make decisions, and improve over time without explicit programming instructions (Ogunode, Agbade, & Bassey, 2023b; Shobita, 2019; Smith, 2018). AI has many applications, including in natural language processing, computer vision, robotics, and game playing. It is a rapidly growing field with vast potential to impact and improve various industries and aspects of our daily lives.

RESEARCH METHODS

This study adopted a mixed-methods research design, combining both quantitative and qualitative approaches. The rationale for this design is to ensure a comprehensive understanding of the impact of Artificial Intelligence (AI) on recruitment processes within public tertiary institutions in the Federal Capital Territory (FCT), Abuja, Nigeria. A descriptive survey research design was employed to collect data from a broad population, while case study elements were incorporated to allow detailed exploration of specific institutions that have initiated or experimented with AI tools in recruitment. The population of this study consisted of all staff of all public tertiary institutions in FCT who are

directly or indirectly involved in recruitment processes in public tertiary institutions within Abuja. This will include personnel from the human resource departments, senior administrative officers, and heads of units, as well as members of recruitment and selection committees. Additionally, ICT units and academic staff who have been recruited in the last five years will also form part of the study population. Given the size of the population, a representative sample was drawn using a stratified random sampling technique. The institutions were first stratified into categories such as universities, polytechnics, and colleges of education. Within each stratum, respondents were randomly selected to ensure fair representation across institutional types. A sample size of approximately 260 respondents was targeted, based on the Krejcie and Morgan sample size determination table, to allow for adequate statistical analysis while maintaining feasibility. One main instrument will be used. Structured The questionnaire was designed with both closed-ended questions. The questionnaire covers areas such as current usage of AI tools in recruitment processes. Challenges and barriers to AI adoption (infrastructure, skills, funding, resistance). The questionnaire employed a 4-point Likert scale to measure perceptions and attitudes, allowing for quantitative analysis. To ensure content validity, the questionnaire was reviewed by experts in educational management, human resource management, and information technology. A pilot test will also be conducted with a small group of respondents from institutions outside the study area. Cronbach's Alpha was applied to test the reliability of the questionnaire, with a benchmark of 0.84 and above considered acceptable. Data will be collected in two phases. Phase One (Quantitative): Administration of questionnaires to the selected respondents. Trained research assistants helped in the distribution and retrieval of the instruments to ensure a high response rate. Quantitative Data: Responses from the questionnaires were coded and analyzed using the Statistical Package for Social Sciences (SPSS). Descriptive statistics, including mean, frequency, and standard deviation, were used to summarize data. Inferential statistics, particularly chi-square tests and regression analysis, were employed to examine relationships between AI adoption and recruitment outcomes.

RESEARCH RESULT

Result

Table 1: Impact of AI on recruitment processes of public tertiary institutions in FCT, Nigeria

S/N	ITEMS	X	SD	DECISION
	AI support recruitment processes in the following:			Agree
1	Identifying the area of job need in the institutions	2.88	1.99	Agree
2	Job analysis and job description	2.92	1.98	Agree
3	finding potential applicants through internal or external sources	3.08	1.97	Agree
4	Application Process	2.76	1.99	Agree

5	Screening and Shortlisting Selection	3.13	1.96	Agree
6	Selection process	3.18	1.95	Agree
7	Reference and Background Checks	2.84		Agree
8	Decision Making and Job Offer	3.22	1.93	Agree
9	Onboarding and Orientation	3.26	1.90	Agree
	Average mean	3.03		

Table 1 showed that respondents agree that AI helps in identifying the area of job need in the institutions with these scores (item 1, X = 2.88), job analysis and job description with these scores (item 2, X = 2.92), finding potential applicants through internal or external sources with these scores (item 3, X = 3.08), the application process with these scores (item 4, X = 2.76), screening and shortlisting selection with these scores (item 5, X = 3.13), the selection process (item 6, X = 3.18), reference and background checks with these scores (item 7, X = 2.84), decision making and job offers with these scores (item 8, X = 3.22), and onboarding and orientation with these scores (item 9, X = 3.26). The total average mean collected was 3.03, which is greater than the cut-off point of 2.50. This implies that AI aids the recruitment process in public tertiary institutions in FCT by identifying the area of job need in the institutions, job analysis and job description, finding potential applicants through internal or external sources, application process, screening and shortlisting selection, selection process, reference and background checks, decision-making and job offer, and onboarding and orientation.

Table 2: Challenges hiding effective deployment of AI for recruitment processes of public tertiary institutions in FCT, Nigeria

S/N	ITEMS	X	SD	DECISION
	The following are Challenges hiding effective deployment of AI for recruitment processes of public tertiary institutions in FCT			
1	Funding problems	3.12	1.94	Agree
2	Inadequate infrastructure facilities	3.30	1.89	Agree
3	Unstable power	3.35	1.88	Agree
4	Poor quality of internet services	2.96	1.99	Agree
5	Poor digital skills	3.15	1.91	Agree
6	Unstable electricity	3.07	1.96	Agree
	Average mean	**3.15**		

In table two, respondents also agree on the following points: funding problems with these scores (item 1, X = 3.12), inadequate infrastructure facilities with these scores (item 2, X = 3.30), unstable power with these scores (item 3, X =

3.35), poor quality of internet services with these scores (item 4, X = 2.96), poor digital skills with these scores (item 5, X = 3.15), and unstable electricity with these scores (item 6, X = 3.07). The total average score obtained is 3.15 and is greater than the cut-off point of 2.50. This means that problems militating against effective deployment of AI for the recruitment process include funding problems, inadequate infrastructure facilities, unstable power, poor quality of internet services, poor digital skills, and unstable electricity.

Test of Hypothesis

This section shows the test of hypothesis carried out by the researcher.

H_{o1}: There is no significant relationship between AI and recruitment processes of public tertiary institutions in FCT

Table 3: Test of Relationship between AI and Recruitment processes of public tertiary institutions in FCT.

Variables	N	Mean	SD	R	r^2	Sig@0.05	Decision
AI	111	2.27	1.07	0.819	0.670	0.000	Significant
Recruitment processes of public tertiary institutions in FCT	149	3.12	0.78				

Result on Table 1.3 showed that there was a significant relationship between AI and recruitment processes of public tertiary institutions in FCT (p=0.000, which is less than 0.05 level of significance). As a result, the hypothesis was rejected. In other words, there was a very strong positive correlation (0.819) between AI and recruitment processes of public tertiary institutions in FCT. The r^2 value of 0.670 shows that only 67.0% of the variance in AI on the recruitment processes of public tertiary institutions in FCT.

DISCUSSION

The result reveals that AI aids the recruitment process in public tertiary institutions in FCT by identifying the area of job need in the institutions, job analysis, and job description; finding potential applicants through internal or external sources; application process; screening and shortlisting selection; selection process; reference and background checks; decision-making and job offer; and onboarding and orientation. This result is in line with the findings of Olatunde-Aiyedun and Hamma (2023) and Ogunode, Okolie, and Chinedu (2023), who found out about AI-aided recruitment in universities in Nigeria. Another study by Ogunode and Ukozor (2023) and Okeke (2017)the finding when they discovered AI-supported tertiary institution administration, management, supervision, and recruitment processes.

The result shows that problems militating against effective deployment of AI for the recruitment process include funding problems, inadequate infrastructure facilities, unstable power, poor quality of internet services, poor

digital skills, and unstable electricity. It is also disclosed that there is a significant relationship between AI and recruitment processes of public tertiary institutions in FCT. This result is in agreement with the finding of Ogunode, Idoko, and ThankGod (2024) that found out that problems militating against the deployment of AI in tertiary institutions include poor funding, inadequate infrastructure facilities, poor ICT literacy, unstable electricity, poor internet service, and poor implementation of digital policies.

CONCLUSION AND RECOMMENDATIONS

The study assessed the impact of AI on the recruitment process of public tertiary institutions in the Federal Capital Territory, Abuja, Nigeria. The specific objectives include finding out the impact of AI on recruitment processes of public tertiary institutions in FCT, Nigeria, and examining the challenges hiding effective deployment of AI for recruitment processes of public tertiary institutions in FCT, Nigeria.

The study concluded that AI aids the recruitment process in public tertiary institutions in FCT by identifying the area of job need in the institutions, job analysis and job description, finding potential applicants through internal or external sources, application process, screening and shortlisting selection, selection process, reference and background checks, decision making and job offer, and onboarding and orientation. The study also disclosed that the problems militating against effective deployment of AI for the recruitment process include funding problems, inadequate infrastructure facilities, unstable power, poor quality of internet services, poor digital skills, and unstable electricity.

Based on the findings, the study recommends that management of tertiary institutions in FCT should supply adequate AI facilities to the department of human resources for effective recruitment processes in the system. Tertiary institutions should ensure constant training is organized for staff in human resources management in their respective institutions.

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