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ARTIFICIAL INTELLIGENCE-DRIVEN TALENT MANAGEMENT AND WORKFORCE COMPETITIVENESS OF THE BANKING SECTOR IN RIVERS STATE

By

Oruebo, Stella Daso PhD[1]
Department of Business Administration,
Ignatius Ajuru University of Education, Port Harcourt, Rivers State.
E-mail-: stelladaso18@gmail.com

David Alonge, Bosede Olugbenga (PhD)[2]
Department of Administrative Studies,
Faculty of Management and Social Sciences,
Nigerian British University, Asa, Abia State
E-mail: Olugbenga.bosede@nbu.edu.ng; bosedavida@gmail.com
ORCID ID: 0009-0005-0946-2994

Abstract
The study explores the relationship between artificial intelligence (AI)-driven talent management and workforce competitiveness of the banking sector in Rivers State. The predictor variable AI-driven talent management was operationalised with talent acquisition and retention optimisation, while the criterion variable workforce competitiveness was measured with work efficiency and innovation capacity. The study was a cross-sectional survey study. The population comprises 493 employees of money deposit banks in Rivers State. A sample of 217 respondents was determined using the Krejcie and Morgan table. Random sampling technique was used. The primary data was obtained using a well-structured questionnaire and the analysis was conducted using Spearman's rank correlation coefficient. The findings revealed a strong positive relationship between the dimensions of AI-driven talent management (talent acquisition and retention optimisation) and workforce competitiveness. The study concludes that AI-driven talent management correlates with employee competitiveness of the banking sector in Rivers State. The study recommends enhancing Al driven talent acquisition and retention optimization for effective workforce competitiveness.

Keywords: AI-driven talent management, talent acquisition, retention optimisation workforce competitiveness, work efficiency, innovation capacity

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1.0 Introduction

In today's business environment, the competence, knowledge **s**kills, flexibility, and motivation of employees decide the survival and success of financial institutions in a rapidly changing work environment. Hence, organisations that invest in people thrive in a fast-changing financial landscape. Workforce competitiveness refers to an organization's employees' ability to adapt to change, perform effectively, and create value in a dynamic business environment. It is a critical factor for ensuring long-term organisational success and sustainability. Workforce competitiveness refers to an organisation's employees' abilities to accomplish tasks efficaciously, adjust to change, and create value in an ever-changing business environment (Pavlović & Milićević, 2023). Workforce competitiveness in the banking sector matters because employees are the primary tool for promoting customer trust, regulatory compliance, service innovation, and ensuring long-term organisational success and sustainability and client retention (Hu et al., 2021; Pavlović & Milićević, 2023).

Competitive workforces enable banks to adapt to rapid digital and business-model shifts and promote improved skills and flexibility among employees to improve operational efficiency, reduce error and fraud risks, and deliver higher-quality advisory and sales interactions that directly affect revenue. A competitive workforce enhances talent retention and attraction, efficiency, productivity, innovation, adaptability, and improves organisational growth and profitability (World Bank, 2023). The pandemic and subsequent acceleration of digital channels forced many banks to redeploy and learn new skills to perform their current jobs better and reskill staff by learning completely new skills to move into a different job or role; hence, roles could now move from branches to digital and advisory functions. Banks that built learning infrastructures and used "skill adjacencies", which involve using transferable skills that are close to someone's existing capabilities, made it easier for them to learn new roles or tasks. In other words, an already acquired skill made it easy to acquire new skills without starting from scratch, resulting in reduced hiring costs and maintaining high service levels while transforming their offerings (Hu et al., 2021; World Bank, 2023).

Workforce competitiveness modifies innovation and long-term financial performance in an era of technological disturbance where changing market trends and a competitive workforce enable an organisation to innovate incessantly and adapt speedily. Workers who possess diverse skills and embrace learning are better equipped to handle new tools, processes, and market demands, thereby sustaining organisational relevance. Pavlović & Milićević (2023) suggest that human capital in the form of specialised skills, tacit knowledge, and organisational learning is positively associated with bank performance metrics and provides a source of sustainable competitive advantage that is hard for rivals to imitate (Ng et al., 2024). Nevertheless, focusing on workforce competitiveness reduces strategic risk and supports regulatory resilience as the banking sector operates in constricting regulated environments; however, employees with adequate knowledge on risk, compliance, and cybersecurity could minimise costly breaches and regulatory sanctions through compliance with regulations. Developing a competitive workforce therefore protects reputation and capital while enabling banks to pivot into new products and ecosystems (Hu et al., 2021; World Bank, 2023).

AI tools change the mechanics of talent management by improving efficiency and enabling more data-driven decisions across the employee lifecycle. Systems for automated candidate matching, predictive turnover models, personalised learning and competency dashboards allow firms to reduce routine tasks and deliver targeted upskilling at scale (Ekuma, 2024). Systematic reviews of AI's effects on HRD highlight that automation and AI can increase throughput of HR processes and create opportunities for more strategic development work,

though outcomes depend on capability, data quality and governance arrangements (Ekuma, 2024). AI-enabled talent practices are connected to high employee competitiveness in achieving faster skills, higher process productivity and inventiveness. AI is one of the transformative technologies of the 21st century that brings changes to the operation of individuals, businesses, and governments, and its enabling importance is relevant to all sectors, among which are the education sector, healthcare, finance, education, manufacturing, and the public sector.

The use of AI in firms enhances productivity, optimises production schedules, predicts equipment maintenance needs, and creates personalised services based on individual preferences and behaviour, reducing downtime and improving productivity and service efficiencies. AI systems are used to detect complex situations and proffer solutions to challenges that are difficult for humans to resolve. AI has become a major driver of innovation and creativity of new products, services, and business models. Gyau et al.'s (2024) study posits that AI technology innovation is relevant in achieving improved bank performance metrics. Hence, AI-driven embedded talent-driven learning and analytics could transform technological investments into competitive workforce outcomes (likewise, HR analytics in banks has shown that data-driven HR practices could positively influence competitive positioning when combined with agile decision-making and managerial ability (Alzghoul, 2025).

Despite several studies on artificial intelligence-driven talent management and workforce competitiveness (Ekuma, 2024; Gyau et al.'s (2024); Hu et al., 2021; World Bank, 2023, Ng et al., 2024) the integration of AI into talent management for effective competition in the banking sector has raised practical and policy challenges in the banking sector in Rivers state. Hence the study will bridge the gap in knowledge and proffer solutions to banks, regulators and industrial bodies that emphasise crucial governance, model transparency, fairness in automated hiring and reskilling pathways for displaced roles as essential to sustain workforce efficiency (U.S. Department of the Treasury, 2024). Hence, the need for banks to leverage AI for talent, as ethical, legal and capability challenges are better managed with the use of AI for maintaining a highly competitive workforce in the 21st century to reduce poor employee trust and loyalty, regulatory friction and wasted investment (U.S. Department of the Treasury, 2024; Ekuma, 2024).

1.1 Statement of the Problem

Despite improved and advanced technological and digital transformation efforts, many banks are not consistently equipped to meet contemporary operational and strategic demands, and this manifests as poor workforce competitiveness, as many banks face issues such as skill mismatches, low digital literacy, poor innovation culture, and declining productivity, all of which undermine their ability to compete effectively (Onunwor, 2024). The bank personnel lack the vital mix of technical, digital, and soft skills (social intelligence, critical thinking, and communication) required to execute tasks efficiently in today’s fast-changing banking environment (Onunwor, 2024). The poor workforce competitiveness has resulted in the risk of low employee competence, lesser service quality, inadequate operational efficiency, and poor relationship management (Okwurume, 2023; Onunwor, 2024), and this has resulted in inefficiencies, slower service delivery, limited innovation, and inadequate capability to adopt and exploit new digital tools and processes, as many employees lack critical thinking and digital readiness, which in turn slow down technology adoption, limit innovation capacity, and widen the gap between early and late adopters of technological advancements (Onunwor, 2024; Aliyu & Iheonkhian, 2025).

Staff training and skill enhancement initiatives in several banks have shown that the workforce are inadequately equipped to compete in a technology-driven financial landscape, and training has only produced mixed improvements, suggesting that the skills and capability base required for sustained competitiveness remain underdeveloped (Okwurume, 2023; Okwurume, 2023). When employees lack the necessary skills and adaptability, customer satisfaction and service quality decline, there is higher operational costs through higher error rates, increase redundant supervision, and reduced efficiency in customer service delivery, increases compliance and fraud risks where staff cannot fully leverage automated controls, there is increase attrition or poor morale when high-performers leave for better-prepared institutions, resulting in reduced client and employee retention and weaker brand reputation (Okwurume, 2023; Onunwor, 2024) and the inability to attract, retain, and develop top-performing talent could result in high employee turnover, intention to quit, low morale, and reduced innovation capacity (Onunwor, 2024; Aliyu & Iheonkhian, 2025). Furthermore, many banks are still struggling to leverage new technology to fully utilise digital platforms, and this inherently limits productivity, innovation, performance and market responsiveness, which are the core components that determine the firm's survival and growth in a competitive financial environment (Aliyu & Iheonkhian, 2025).

Several efforts have been made to tackle these problems, but they have not resolved them. Some banks now use digital technology for recruitment and performance evaluation; many banks offer training and on-the-job development (Okwurume, 2023; Onunwor, 2024). But these initiatives are insufficiently data-driven and have not yielded substantial outcomes, resulting in poor workforce competitiveness (Aliyu & Iheonkhian, 2025; Padmavathi, 2024). The banking sector is not yet equipped to meet contemporary operational and strategic demands, and this manifests as poor workforce competitiveness, which affects organisational sustainability. This study will bridge the gap in knowledge by examining the influence of AI-driven talent management on improving workforce competitiveness in the banking sector in Rivers State, Nigeria**.**

1.2 Aim and Objectives of the Study

The aim of this study is to examine the relationship between AI-driven talent management and workforce competitiveness of banking sector in Rivers State. The specific objectives are to:

i. Explore the relationship between talent acquisition and work efficiency of the banking sector in Rivers State.
ii. Determine the link between talent acquisition and innovation capacity of the banking sector in Rivers State.
iii. Assess the bond between retention optimization and work efficiency of the banking sector in Rivers State.
iv. Investigate the association between retention optimization and innovation capacity of the banking sector in Rivers State.

1.3 Research Questions

The following research questions were given in the study:

i. What is the association between talent acquisition and work efficiency of the banking sector in Rivers State?
ii. How does talent acquisition relate to the innovation capacity of the banking sector in Rivers State
iii. How does retention optimization relate to the work efficiency of the banking sector in Rivers State?

iv. What is the linkage between retention optimization and innovation capacity of the banking sector in Rivers State?

1.4 Research Hypotheses

The following research hypotheses were stated and tested in this study.

H_{o1}: There is no significant relationship between talent acquisition and work efficiency of the banking sector in Rivers State.

H_{o2}: There is no significant relationship between talent acquisition and innovation capacity of the banking sector in Rivers State.

H_{o3}: There is no significant relationship between retention optimization and work efficiency of the banking sector in Rivers State.

H_{o4}: There is no significant relationship between retention optimization and innovation capacity of the banking sector in Rivers State.

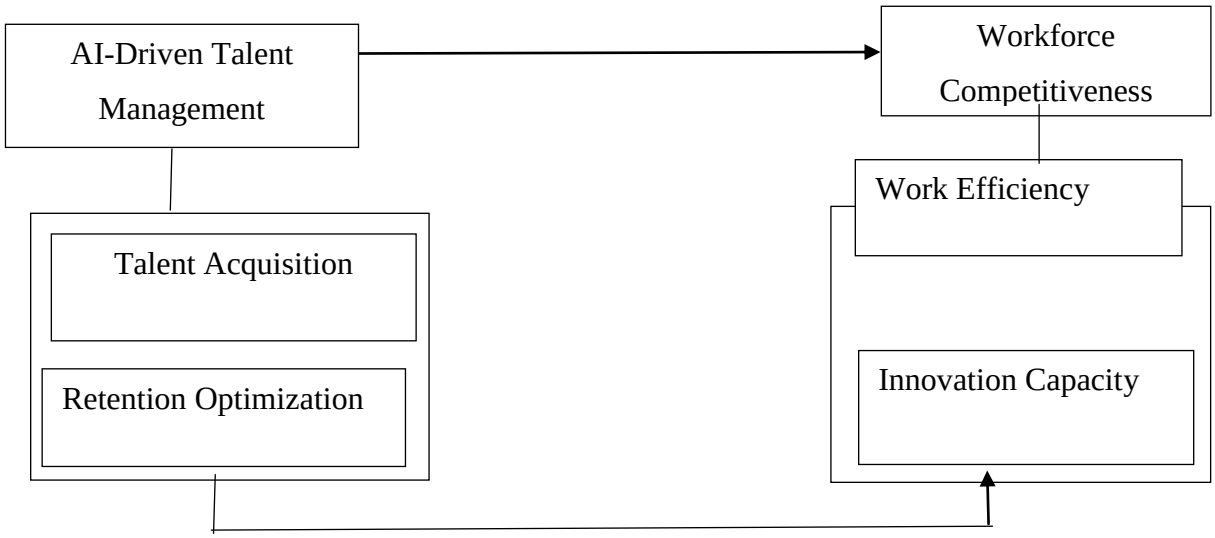


Figure 1: A conceptual framework showing the relationship between AI-driven talent management and workforce competitiveness of banking sector in Rivers State

Source: Adapted from Padmavathi (2024), Aliyu and Iheonkhian (2025), and Onunwor (2024).

2.0 Review of Related Literature

2.1 Conceptual Review

AI-Driven Talent Management

Artificial intelligence (AI) has progressed speedily from small test projects to core capabilities across financial services, transforming how banks hire, train, develop, manage and deploy human talent. AI-Driven Talent Management refers to how human intelligence is stimulated to reason, evaluate, learn, and make decisions to ease the work process. It involves the use of algorithmic programs and systems in enhancing cognitive functions in computers for problem-solving, reasoning, language understanding, perception, and decision-making (Russell & Norvig, 2021). AI enables machines and devices to imitate human ability and incessantly improve through experience and data analysis, and

this is being used by the banking sector in adopting machine eruditeness, natural language processing and automation of customer service and internal operations and detection of fraud. AI is increasingly supporting HR functions in carrying out screening, usage in learning platforms and enhancing performance analytics (Biallas & O'Neill, 2020; U.S. Department of the Treasury, 2024). AI adoption and usage in the banking sector are speedily increasing and widespread and becoming strategic partners for human resource professionals in executing data and algorithms to align workforce capabilities with fast-changing market demands (Biallas & O'Neill, 2020).

Talent Acquisition

Talent acquisition refers to "the strategic process of identifying, attracting, and selecting skilled individuals who align with an organisation's long-term goals." Effective talent acquisition in the dispensation of digital banking goes beyond filling vacancies to involve creating a sustainable talent pipeline for future skills using data-driven insights to predict future job roles, assess skill gaps, and create strategies that attract candidates that possess an adaptive and innovative mentality (Baker & Kumar, 2023). Modern talent acquisition emphasises speed, fit, and candidate experience, where innovation and customer-centric services are essential to promote the recruitment of the right personnel to drive digital transformation, manage risks, and deliver quality financial solutions in a progressive banking sector. Modern banks progressively are leveraging the use of Artificial Intelligence (AI) tools such as predictive analytics and machine learning algorithms to streamline hiring processes through automating curriculum vitae screening, assessing candidate fit, and reducing hiring bias.

Retention Optimization

Retention optimisation is a strategic use of devices, data, and practices to cut down the workforce turnover rate and ensure that skilled and valuable people are retained within an organisation for a long term by recognising the drivers of voluntary turnover and applying targeted, appropriate interventions to keep high-value people. Retention optimisation reduces employee intention to quit and turnover and likewise enhances the retention of skilled and valuable workers to stay within an organisation (França et al., 2023). Combining analytics with high-quality employees and actionable retention paths could promote better performance and productivity. Analytics alone will point out the risks involved, and offering realistic alternatives that align with individual motivations and the organization's needs will optimise the retention strategy (Xuecheng et al., 2022).

Workforce Competitiveness

Workforce competitiveness refers to the employees' capability and strength relative to others in terms of their technical skills, transferrable skills, and organisational systems. Technical skills indicate how effectively employees can perform their specific jobs or tasks, transferable skills refer to abilities applicable in various roles, and organisational systems illustrate how the company supports its employees through effective planning, training, promotion opportunities, and other performance measurement methods (Pavlović & Milićević, 2023; Venugopal, 2024). Workforce competitiveness refers to how effectively a business organisation's workforce can carry out their roles and responsibilities, adapt to changes, and promote strategic goal achievement in a dynamic environment. In the banking sector, a competitive workforce is an employee that possesses problem-solving ability, strong technical expertise, digital literacy, and emotional intelligence for superior customer service

and innovative process delivery (Okolie & Opara, 2022). Moreover, workforce competitiveness is strengthened by the firms's ability to create a work environment that translates employee capabilities into measurable outcomes through effective talent management, performance evaluation, and strategic deployment of staff based on their strengths (Akinyemi & Awosika, 2023).

Work Efficiency

The effective use of time, skills, and resources to achieve organisational goals with minimal waste or delay by employees is referred to as work efficiency. In the banking sector, work efficiency could be referred to as the employees' capabilities in delivering high-quality financial services quickly to reduce operational costs and accurately, maintaining compliance with rules and regulations (Adams & Osei, 2022). To categorise an employee as being efficient, they are not just fast at executing tasks, but they work smart through effective collaboration, leveraging technology and prioritising critical tasks to meet customer expectations. For employee work efficiency to take place, there must be clear job roles, routine process automation, effective communication systems, and continual professional training. Thus, work efficiency is not only a measure of individual performance but also a measurement of how effectively and efficiently a business firm integrates human capability with technology to achieve consistent, high-quality outcomes**.**

Innovation Capacity

Innovation capacity refers to an organisation's capability in creating value and enhancing improved performance and their ability to generate, adopt and implement new ideas, processes and technology. Eze & Onuoha (2022) suggest that innovative capacity in banking involves enhancing creative solutions such as carrying out automated customer service, digital banking platforms, and providing new financial products that meet future customer needs. Innovative capacity enhances risk-taking, experimentation and collaboration among the employees. Promoting continuous learning and teamwork could promote creative innovative capacity and leveraging different ideas, perspectives and experiences proffering solutions to difficult challenges.

AI and data analytics could be used to help the banking sector in recognising new market trends and opportunities, strengthening and improving service, and enhancing efficient customer behaviours, and Artificial Intelligence (AI) and data analytics are increasingly contributing to the enhancement of innovation capacity. Through predictive insights, AI helps banks identify market trends, customer behaviours, and opportunities for service improvement (Nguyen & Bello, 2023). A workforce that is digitally skilled and adaptable can use these tools to design smarter solutions, streamline operations, and personalise customer experiences. Hence, a highly skilled digital personnel member can use artificial intelligence to create smarter solutions, enhance operational processes, and personalise customer experiences.

2.2 Resource-Based View (RBV) Theory

RBV theory suggests that "an organisation's competitive advantage develops from its exceptional resources that are valuable, rare, inimitable, and non-substitutable." AI-driven talent management is a strategic resource process for attracting, developing, and retaining knowledge-driven, skilled, and competent employees**.** The use of AI tools for recruitment analytics, performance evaluation, and skill development proffers solutions for building a highly capable and adaptive workforce that is difficult to replicate. This theory is relevant to

workforce competitiveness in the banking sector, as the use of AI promotes high internal human resource abilities in decision-making, productivity, and innovation.

2.3 Empirical Review

White (2019) explores the influence of high-performance work systems on the employee performance of the public sector in Britain. The study aimed to examine the relationship between HPWS adoption and workplace performance indicators, such as financial outcomes and the implementation of change initiatives, and to determine if these relationships remained stable between 2004 and 2011. The population comprises medium- and large-sized public organisations in Britain, with samples drawn from 490 workplaces in the 2004 Workplace Employment Relations Survey (WERS) and 769 workplaces in the 2011 WERS. The study employed the stratified sampling technique; structured interviews were used for data collection. Regression models were used for the analyses and robustness checks to control for sectoral differences and biases. The findings show a significant positive correlation between HPWS practices and improved workplace performance.

Li et al. (2019) explore HPWS and employee performance in the textile manufacturing industry in Pakistan. The population comprises workers in textile firms located in Faisalabad and in Lahore. A sample of 250 employees was selected using stratified sampling techniques. A structured questionnaire was used, and the data was analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The findings revealed a correlation between HPWS and employee performance.

Zhang & Jia (2019) investigate the influence of high-performance work systems on the branch performance of major state-owned banks. The population of large state-owned bank branches. A sample of 181 branch managers and 504 employees was used in the study. A multilevel cluster sampling approach was equally used. A structured questionnaire was used for instrumentation. The data analysis was carried out using multilevel structural equation modelling (MSEM). The result revealed that HPWS has a positive correlation with performance. The study concluded that HPWS is essential for achieving sustained performance outcomes.

Ezekiel (2022) investigated the impact of organisational politics and organisational citizenship behaviour (OCB) on employee job performance in the Federal Polytechnic Mubi. The target population comprises 2,357 staff members of the polytechnic. A sample of 342 participants was determined using the Taro Yamane formula. A descriptive survey design was adopted, and data were collected using structured questionnaires rated on a five-point Likert scale. Descriptive statistics, correlation, and multiple regression analysis through SPSS software were used to analyse the retrieved 330 valid responses. The resulting findings revealed that organisational politics had a significant positive effect on both OCB and employee job performance.

3.0 Methodology

The cross-sectional survey was used in this study. A total of 493 employees of money deposit firms in Rivers State were covered. A sample of 217 respondents was determined using the Krejcie and Morgan table (1970). Random sampling technique was used. The primary data was obtained using a well-structured questionnaire. The independent variable, AI-driven talent management, was operationalised using two dimensions: talent acquisition and

retention optimisation. Each construct was measured with a set of five items. Talent acquisition was assessed with items such as "Our bank uses AI tools to identify and attract candidates who best fit specific job requirements." Similarly, retention optimisation was measured with items such as, "AI-based analytics help predict and address employee turnover before it occurs." The criterion variable, workforce competitiveness, was measured using two dimensions: work efficiency and innovation capacity. Work efficiency was assessed with items such as "AI-driven systems have improved employees' ability to complete tasks more accurately and on time." Innovation capacity was measured with items such as "Our employees use AI technologies to develop new ideas and improve service delivery." Face and content validity were used to determine the validity of the instrument used in this investigation. The reliability was determined using Cronbach's alpha. Cronbach's Alpha reliability level of 0.7 was used in the investigation. Values above 7.0 are considered reliable. Spearman's rank correlation was used for the analysis**.**

4.0 Results and Discussion

217 questionnaires were distributed, but only 202 (93.1%) copies were returned, and this constitutes the valid questionnaire. The hypothesis test is undertaken at a 95.5% confidence interval, and the decision rule states that where $P < 0.05$, reject the null hypothesis, and where $P > 0.05$, accept the null hypothesis.

Table 1: Correlations between Talent acquisition and the Dimensions of Workforce Competitiveness

			Talent Acquisition,	Work Efficiency	Innovation Capacity
Spearman's Rho	Talent Acquisition	Correlation Coefficient	1.000	.860**	.876**
		Sig. (2-tailed)	.	.000	.000
		N	202	202	202
	Work Efficiency	Correlation Coefficient	.860**	1.000	.840**
		Sig. (2-tailed)	.000	.	.000
		N	202	202	202
	Innovation Capacity	Correlation Coefficient	.876**	.840**	1.000
		Sig. (2-tailed)	.000	.000	.
		N	202	202	202

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

Source: SPSS Output, 2025.

Talent acquisition and work efficiency: In table 1, the Spearman's rho value is 0.860 ($p = 0.000$), which is lower than the 0.05 significance threshold. The coefficient of determination (r^2) is 0.740**.** This means 74% of differences shown in work efficiency are attributed to variations in talent acquisition. This finding led to the rejection of the null hypothesis (Ho_1) and the acceptance of the alternative hypothesis (Ha_1). The study revealed a positive relationship between talent acquisition and work efficiency.

Talent Acquisition and Innovation Capacity: Table 1 also reveals a Spearman's rho value of 0.876 ($p = 0.000$), which is less than the 0.05 threshold level**.** The r^2 value of 0.767

suggests that 76.7% of the variance in innovation capacity is attributable to talent acquisition. Consequently, the null hypothesis (Ho_2) is rejected in favour of the alternative hypothesis. This shows the existence of a positive relationship between talent acquisition and innovation capacity.

Table 2: Correlations between Retention Optimization and the Dimension of Workforce Competitiveness.

			Retention Optimization	Work Efficiency	Innovation Capacity
Spearman's rho	Retention Optimization	Correlation Coefficient	1.000	.845**	.830**
		Sig. (2-tailed)	.	.000	.000
		N	202	202	202
	Work Efficiency	Correlation Coefficient	.845**	1.000	.805**
		Sig. (2-tailed)	.000	.	.000
		N	202	202	202
	Innovation Capacity	Correlation Coefficient	.830**	.805**	1.000
		Sig. (2-tailed)	.000	.000	.
		N	202	202	202

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

Source: SPSS Output, 2025.

Retention Optimisation and Work Efficiency. According to Table 2, column 5, the Spearman's rho value is 0.845($p = 0.000$), which is below the significance level of 0.05. The coefficient of determination (r^2) is 0.714, indicating that 71.4% of the variation in work efficiency is explained by retention optimisation. Given this result, the null hypothesis (Ho_3) is rejected, and the alternative hypothesis (Ha_3) is accepted. This observation demonstrates a strong and significant positive relationship between retention optimisation and work efficiency.

Retention Optimisation and Innovation Capacity: Table 2 also shows a Spearman's rho value of 0.830($p = 0.000$), which is less than the 0.05 significance level. The r^2 value is 0.689, indicating that retention optimisation accounts for 68.9% of the variance in innovation capacity. Based on this evidence, the null hypothesis (Ho_4) is rejected in favour of the alternative hypothesis. This suggests that there is a strong, significantly positive relationship between retention optimisation and innovation capacity.

4.1 Discussion of Findings

The findings of this study provide evidence that AI-driven talent management enhances workforce competitiveness significantly in the banking sector of Rivers State. The dimensions of the predictor variable (talent acquisition and retention optimisation) revealed a robust and positive correlation with work efficiency and innovation capacity.

The first hypothesis explores the association between talent acquisition and employee work efficiency. The result shows a positive strong correlation ($r = 0.860$, $p < 0.05$) between the two variables. This result implies that AI-driven talent-hunting strategies promote improved employee performance and operational efficiency. Hence, banks that utilise artificial intelligence to recruit, assess, and choose appropriate candidates based on predictive analytics often hire well-skilled and adaptable candidates. This conforms with the findings in Li et al.'s (2019) study that technology-enhanced HR strategies improve employee performance. It also

aligns with White (2019) that high-performance and data-driven technology promoted a flexible and effective workplace environment.

The second hypothesis examines the association between talent acquisition and innovative capacity. The correlation result ($r = 0.876$, $p < 0.05$) shows a strong positive association between the two variables. This implies that banks that utilised AI in their recruitment procedures have a better opportunity of hiring creative and innovative personnel who could assist in digital transformation and continuous bank development. The use of artificial intelligence enables the banks to evaluate the candidates' creative problem-solving skills and harmonise them with the available tasks and job roles. This study agrees with Zhang and Jia's (2019) study that HR systems implemented through the use of AI and data analytics enhance human capital and innovation outcomes within financial firms.

The third hypothesis investigates the relationship between retention optimisation and work efficiency. The correlation of 0.845 ($p < 0.05$) shows an association between AI-driven talent recruitment and employee performance. The result shows that banks could use AI-based data to find early indicators of competitiveness, satisfaction and success and offer personalised help for productivity. This conforms with the study of Ezekiel (2022) that human resource practices promote employee engagement and well-being.

The fourth hypothesis determines the correlation between retention optimisation and innovation ability, yielding a substantial positive correlation ($r = 0.830$, $p < 0.05$). This revealed that an AI-supported retention solution enhances the innovation and creativity of employees and enhances career development through exploring modern technologies and solutions that bring results. This enhances retentive ability when management applies the use of smart systems for growth, retention and motivation. This study confirms França et al. (2023) that retention optimisation reduces employee intention to quit and turnover and likewise enhances the retention of skilled and valuable workers within an organisation.

5.0 Conclusion

This study explores the association between artificial intelligence-driven talent management and workforce competitiveness within the banking sector of Rivers State. The study focused on two dimensions of AI-driven talent management: these dimensions are talent acquisition and retention optimisation and their influence on two measures of workforce competitiveness, which are work efficiency and innovation capacity. The study findings revealed that both talent acquisition and retention optimisation had strong, positive and statistically significant associations with work efficiency and innovative ability. This implied that the use of AI in HR processes and practices enhances the hiring of efficient employees who will be committed to achieving the organisational goals and provides easier and efficient access for banks to locate the most suitable candidates for jobs, as The study concludes that a relationship exists between AI-driven talent management and the enhanced competitiveness of the banking sector. Banks may utilise artificial intelligence to enhance workforce competitiveness.

6.0 Recommendations

i. Banks should use powerful AI-powered hiring tools for choosing the best candidates to promote employee productivity, lower hiring mistakes, and enhance effective and efficient workplace job needs

ii. Banks should use AI tools to find people creative, talent employee with problem solving skills to produce initiatives personnel who that could come up with new ideas, improve service delivery, and keep the company innovative.
iii. Banks should employ AI-based retention systems to forecast employee intentions to quit, engagement levels, and offer personalised interventions to keep quality employees.
iv. Banks should leverage AI data to develop innovative retention strategies that encourage staff to be creative and generate new ideas.

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