

DIGITAL BANKING ADOPTION AND HUMAN CAPITAL RESKILLING IN SELECTED NIGERIAN BANKS

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ABSTRACT

Research Objective: This study investigated how digital banking adoption influences human capital development in selected Nigerian banks, with emphasis on how emerging digital platforms drive workforce reskilling.

Methodology: A quantitative survey design was adopted, using structured questionnaires administered physically and electronically to employees of Access Bank, Zenith Bank, and Globus Bank. A sample of 396 respondents was derived from a population of 37,846 using Yamane's (1967) formula. Instrument reliability exceeded the 0.70 Cronbach's alpha benchmark. Data analysis was conducted using SPSS Version 27, employing descriptive statistics and Pearson correlation to assess the relationship between digital banking channels and workforce reskilling.

Findings: The study found a significant positive relationship between digital banking adoption and workforce reskilling. ATM/self-service channels showed the strongest influence on reskilling ($r = 0.687$, $p < 0.01$), followed by mobile banking ($r = 0.346$, $p < 0.01$) and internet banking ($r = 0.205$, $p < 0.01$). High usage levels were recorded across all digital platforms. Digital transformation was also shown to be reshaping job roles, increasing the need for digital literacy, cybersecurity awareness, compliance competencies, and enhanced customer service skills.

Conclusion: Digital banking adoption is a major driver of human capital development, requiring continuous employee reskilling to meet evolving technological demands.

Recommendations: The study recommends intensified training in internet and mobile banking operations, structured reskilling for ATM/self-service platforms, and institutionalization of continuous digital skill development to enhance workforce adaptability and efficiency.

Keywords: *Digital Banking, Human Resource Management, Workforce Reskilling, Nigerian Banks.*

1.0 INTRODUCTION

Digital banking refers to the delivery of banking products and services through electronic channels such as internet banking, mobile apps, ATMs, POS, and other self-service platforms, enabling customers to conduct transactions without visiting physical branches (Ozili, 2023). The global banking industry is undergoing unprecedented transformation, driven largely by rapid advances in digital technologies, evolving customer expectations, and intensifying competition (Li, 2022). Digital banking adoption through internet banking, mobile banking, ATMs, and fintech integration has redefined financial services delivery by promoting speed, cost efficiency, and inclusiveness (World Economic Forum, 2025). However, the success of these technological innovations depends not only on infrastructure but also on human capital development, particularly workforce reskilling (Schwab & Zahidi, 2020). Across Sub-Saharan Africa, the digital shift is even more pressing. The World Bank and IFC (2021) estimate that by 2030, nearly half of Nigerian jobs will require medium to advanced digital skills, with reskilling of existing employees accounting for more than \$6 billion in training demand. This highlights the strategic importance of investing in human capital to sustain digital adoption. In fact, organizations that prioritize workforce reskilling are significantly more likely to achieve successful digital transformation outcomes (World Economic Forum, 2025). Nigeria stands at the forefront of Africa's digital financial revolution. Its fintech ecosystem is one of the continent's largest and fastest-growing, attracting substantial investments and reshaping traditional banking operations (Financial Times, 2025; Reuters, 2024). Banks now operate in a highly digitized environment, where mobile apps, electronic payment platforms, and fintech partnerships are indispensable. Yet, alongside these advancements, the digital skills gap within the workforce remains a challenge, prompting initiatives such as the government-driven 3 million Technical Talent (3MTT) programme launched in 2023 to strengthen national capacity in digital competencies (NITDA, 2025). Within this context, Nigerian banks such as Globus, Zenith, and Access face mounting pressure to balance technology adoption with workforce readiness. Studies have shown that electronic banking service quality is closely linked to customer satisfaction, but this relationship is contingent on employees' ability to effectively operate and manage digital platforms (Yusuf & Bala, 2021). Therefore, workforce reskilling through digital literacy programs, adaptive training, and career development has become central to sustaining innovation and ensuring service reliability in the sector. Despite growing research on digital banking and fintech growth, limited empirical evidence exists on how workforce reskilling mediates the relationship between digital banking adoption and human capital development in Nigerian banks. This gap necessitates a focused study on Globus, Zenith, and Access Banks to examine how digital banking adoption drives human capital development through structured reskilling

initiatives. By addressing this, the study contributes to both scholarly understanding and practical strategies for sustainable digital transformation in Nigeria's financial sector.

Statement of the Problem

The global banking industry has embraced digital transformation as a means of improving efficiency, service delivery, and competitiveness. In Nigeria, this transformation has been accelerated by the rapid adoption of internet banking, mobile banking platforms, ATMs, and fintech partnerships. While these innovations have enhanced customer convenience and broadened financial inclusion, they simultaneously create new demands on the workforce. Employees are now expected to possess advanced digital competencies, adaptability, and problem-solving skills to effectively deliver banking services in a technology-driven environment (World Economic Forum, 2025). Despite this reality, empirical evidence suggests that Nigerian banks face a widening digital skills gap, as the rate of technology adoption outpaces the capacity of employees to reskill (World Bank & IFC, 2021). This misalignment often results in operational inefficiencies, increased customer complaints, and service disruptions, which undermine the full benefits of digital banking adoption. For example, studies highlight that the quality of electronic banking service delivery is strongly linked to the technical proficiency of frontline employees (Yusuf & Bala, 2021). Without adequate workforce reskilling initiatives, banks risk creating technologically advanced systems that are poorly managed by inadequately trained staff. Furthermore, although government initiatives, such as the 3Million Technical Talent (3MTT) program launched in 2023, aimed to bridge the digital skills gap nationwide (NITDA, 2025), their integration into specific organizational strategies within Nigerian banks remains under-examined. There is a paucity of empirical research examining how banks, such as Globus, Zenith, and Access, balance the twin imperatives of adopting digital banking platforms and reskilling their workforce. This gap creates a critical problem: digital banking adoption, without parallel investments in human capital development, risks creating an imbalance where technology outpaces employee skills. Such a scenario threatens not only operational efficiency but also the long-term sustainability and competitiveness of Nigerian banks. Hence, this study aims to investigate the impact of digital banking adoption on human capital development, with a specific emphasis on workforce reskilling at Globus, Zenith, and Access Banks.

Objective of the Study

The following objective will guide this research:

- i. To examine the relationship between digital banking adoption and human capital development in selected Nigerian banks.

Research Hypotheses

Ho1: Digital banking adoption has no significant effect on human capital development in selected Nigerian banks.

2.0 LITERATURE REVIEW

Digital Banking Adoption

Digital banking adoption, the integration of internet banking, mobile apps, ATMs, and FinTech-enabled innovations, has fundamentally transformed the global financial services sector (Ozili, 2023). This evolution is driven by heightened customer expectations for convenience, speed, and accessibility, as well as ongoing technological innovation and regulatory reforms (Kraus et al., 2022). Increasingly, banks in both developed and developing economies see digital banking as essential not just for competition but as a strategic response to changing market dynamics. In Nigeria, digital banking is especially pivotal for advancing financial inclusion and service innovation. Rising mobile penetration and the proliferation of FinTech platforms have compelled Nigerian banks to strengthen their digital infrastructure and partner with technology providers (Ovat & Itah, 2022). Mobile banking, in particular, is central to reaching underserved populations, supporting the Central Bank of Nigeria's inclusion agenda, while the expansion of ATMs and self-service technologies reduces dependence on physical branches and broadens access (Chigada & Hirschfelder, 2022). Furthermore, the collaboration between traditional banks and FinTech firms has deepened digital adoption, bringing innovations such as mobile money, contactless payments, and blockchain-based solutions into the mainstream (Adeola & Evans, 2023). These global trends highlight how digital transformation in banking fosters organizational resilience and demand continuous workforce reskilling (Clohessy et al., 2019).

Internet Banking Utilization

Internet banking utilization refers to how individuals and businesses use online banking platforms for financial transactions like transfers, bill payments, and account monitoring. Despite notable adoption in Nigeria, research shows that higher internet banking usage does not always equate to improved operational efficiency for banks, as measured by the Technology Acceptance Model (Uzor et al., 2022). This suggests that platform utilization alone is insufficient for driving banking efficiency. User perceptions significantly influence internet banking adoption. Factors such as perceived ease of use, usefulness, security, and compatibility with users' routines are key determinants, as shown in studies among undergraduates in Oyo, Nigeria (Olawepo & Akanbi, 2023). Lack of trust and low security perception remain barriers, deterring customers from fully embracing online banking (Uche, 2023). Beyond the customer perspective, successful adoption requires adequate digital infrastructure, strong cybersecurity, and user education to translate technology into tangible benefits (Nkomoy et al., 2024). Indicators like transaction frequency,

penetration rate, and trust/security perceptions are valuable for assessing the impact of internet banking on human capital and organizational outcomes.

Mobile Banking Usage

Mobile banking has rapidly become a cornerstone of digital banking, allowing customers to perform transactions using smartphones and mobile apps. The widespread use of mobile devices and improved internet access has made mobile banking a preferred channel for financial services, enhancing convenience and customer satisfaction (Oyewole et al., 2024). Customers can transfer funds, check balances, and pay bills without visiting physical branches, reshaping resource allocation in banks. In Nigeria, the Central Bank has actively promoted mobile banking through policies supporting cashless transactions and financial inclusion. Mobile banking is instrumental in expanding access for underserved groups and fostering broader participation in the formal financial system (Akinwunmi & Adedoyin, 2023). The integration of secure mobile payment platforms, such as USSD codes and apps, has improved both operational efficiency and customer trust (Eze & Nwankwo, 2022). Additionally, mobile banking reduces operational costs for banks by decreasing overhead and reliance on branches. Studies confirm that adoption of mobile banking correlates with higher transaction volumes, improved organizational performance, and greater customer loyalty, emphasizing the need for workforce reskilling to handle new technological demands (Chinomona & Sandada, 2023).

ATM and Self-service Channels

ATMs and self-service channels have revolutionized customer interaction with banks, providing 24/7 access to essential services such as withdrawals, deposits, transfers, and bill payments (AZ Research Consult, n.d.; Osakwe & Chika, 2023). This self-service approach has reduced congestion in banking halls and enhanced user autonomy, making banking more efficient and customer-centric. Despite these advantages, challenges such as access charges, wait times, and technical issues, especially with offsite ATMs, persist. Customers value speed and accuracy but are often frustrated by network unreliability and machine breakdowns, which impact user satisfaction (Egbo et al., 2020; AZ Research Consult, n.d.; ENEMS Project, 2019). Empirical evidence suggests mixed effects on satisfaction and loyalty, but when well-implemented, ATMs and POS systems can positively influence banks' financial performance (Muotolu & Nwadiakor, 2019). Importantly, the deployment of these technologies has generated new job opportunities in maintenance and IT, and has implications for service quality and customer retention (Mkpojiogu & Asuquo, 2018). Research on ATM and self-service channel adoption should consider device distribution, transaction volume, downtime, and customer perceptions of reliability and cost.

Human Capital Development

Human capital development involves enhancing employee skills for improved organizational performance, focusing on both technical and soft skills (Noe et al., 2021; Armstrong & Taylor, 2020). Digital transformation in banking demands workforce reskilling to align with technological changes and sustain competitiveness (World Economic Forum, 2020; Becker, 2022). A learning-oriented culture and investment in reskilling strengthen resilience and efficiency (Lynch & Smith, 2021).

Workforce Reskilling

Workforce reskilling equips employees with new skills for changing roles due to technological advances, especially in banking (OECD, 2021; Noe et al., 2021). It is essential for organizational agility, employee engagement, and retention, supporting adaptation to digital processes (World Economic Forum, 2020; Lynch & Smith, 2021; Armstrong & Taylor, 2020). Structured learning and continuous development close skill gaps and drive sustainable performance (Becker, 2022).

Theoretical Review

The achievement of a complete sample size of 396 valid responses is not coincidental but can also be understood through the lens of the Diffusion of Innovation (DOI) Theory (Rogers, 1962), which anchors this study. The DOI theory emphasizes that the adoption of innovations depends on attributes such as relative advantage, compatibility, complexity, trialability, and observability. In this context, the use of digital banking channels (internet banking, mobile banking, and ATM/self-service platforms) resonates strongly with Nigerian bank employees because they directly perceive the relative advantage (efficiency, convenience, and customer satisfaction), and compatibility (fit with existing banking operations) of these technologies. This made them not only more aware of the subject of the research but also more motivated to participate fully in the survey, thereby explaining the unusually high response rate. Moreover, as early adopters and majority adopters in Rogers' diffusion curve, bank employees are typically inclined to engage with studies relating to technological innovations in their workplace. Their familiarity with digital banking platforms reduced the complexity of the questionnaire, while the observability of digital banking outcomes in their daily job functions made the research relevant and credible. These attributes directly contributed to the ability of the researcher to collect the entire sample of 396 valid responses without attrition. By contrast, had the study been conducted among the general public (many of whom are non-users or late adopters of digital banking), achieving a 100% response rate would have been improbable. Hence, the DOI theory not only explains the diffusion of digital financial services but also helps justify the strong engagement and full participation recorded in the data collection process..

Empirical Review

This section presents empirical evidence from previous studies on the relationship between digital banking adoption and human capital development, with emphasis on workforce reskilling in the banking sector.

Okoye et al. (2022) examined internet banking adoption in Nigerian deposit money banks using a survey of 450 employees across Lagos and Abuja. Their regression analysis revealed that internet banking utilization significantly increased the demand for IT-related training, particularly in cybersecurity and online customer service ($\beta = 0.63$, $p < 0.01$). However, the study acknowledged that limited ICT infrastructure and inconsistent power supply posed barriers to effective utilization. The findings suggest that as banks expand internet banking services, employees are compelled to acquire new digital competencies.

Alhassan and Adam (2021) studied Ghanaian banks and reported that internet banking adoption required staff to acquire advanced skills in digital platforms, leading to increased investments in training and capacity building. They employed structural equation modeling to establish a significant relationship between internet banking usage and human resource development ($p < 0.05$). However, the study's reliance on managerial perspectives rather than frontline staff responses limited its insights into employee-level skill gaps.

Ugwueze and Nwankwo (2022) surveyed 600 employees in five Nigerian commercial banks to investigate the impact of mobile banking on workforce skills. Using multiple regression analysis, they found that mobile banking adoption significantly influenced the need for reskilling in areas such as mobile app support and customer onboarding ($\beta = 0.59$, $p < 0.01$). Nevertheless, the study noted challenges, including inadequate digital literacy among older employees and resistance to change.

Kamau and Oluoch (2021) assessed mobile banking adoption among 1,200 bank staff and concluded that mobile transactions reshaped employee roles, shifting emphasis from manual processes to digital customer support. Their mixed-methods approach (questionnaire and interviews) strengthened the study's validity, though it highlighted the high costs of training as a constraint.

Oni and Ayo (2019) analyzed self-service banking adoption in Nigerian banks using data from 350 staff members. Their findings showed that the expansion of ATMs and self-service channels reduced the demand for routine clerical tasks but increased the need for technical and problem-solving skills. The study applied descriptive statistics and regression models, noting that banks with higher levels of self-service adoption invested more in reskilling programs.

Correspondingly, Adeyemi and Fagbemi (2020) studied ATM usage in Southwest Nigeria and found that banks with advanced ATM networks recorded higher reskilling rates, particularly in

troubleshooting and customer assistance. However, they noted that training programs were often reactive rather than proactive, limiting long-term skill development.

Adeleye and Yusuf (2020) examined the impact of digital transformation on workforce development in Nigerian banks using interviews and surveys of 420 employees. They found that digital adoption necessitated continuous reskilling programs to align employee competencies with emerging technologies. Their thematic analysis revealed that digital skills, adaptability, and customer engagement training were core focus areas.

World Bank (2020) reported that across Sub-Saharan Africa, digital banking adoption has accelerated the demand for human capital investment, particularly in reskilling for digital literacy, cybersecurity, and innovation. The report emphasized that countries with proactive workforce training policies experienced smoother transitions in digital banking operations compared to those without structured reskilling frameworks.

3.0 METHODOLOGY

Research Design

The study adopted a descriptive survey research design, appropriate for examining the relationship between digital banking adoption and human capital development without manipulating variables. This design enabled the collection of quantifiable data on how internet banking, mobile banking, and ATM/self-service platforms influence workforce reskilling and human capital development in selected Nigerian banks. It also facilitated the identification of patterns, relationships, and possible causal links across a large and geographically dispersed employee population.

Nature and Sources of Data

Primary data were collected using a structured questionnaire administered both physically and electronically to employees of Access Bank, Zenith Bank, and Globus Bank. The questionnaire included sections on demographics, perceptions of digital banking adoption, and workforce reskilling (as a proxy for human capital development), measured on a five-point Likert scale. A total of 396 questionnaires were administered, all of which were valid for analysis.

Secondary data were obtained from annual reports, regulatory documents, policy statements, academic journals, and industry publications to provide context and complement primary data. Instrument validity was ensured through expert review, and reliability was confirmed using Cronbach's alpha, with all constructs exceeding the 0.70 threshold, confirming the instrument's internal consistency and appropriateness for the study.

Methods of Data Analysis

Data were coded and analyzed using SPSS Version 26. Descriptive statistics, including frequencies, percentages, means, and standard deviations, summarized respondent demographics and digital banking usage patterns. Pearson correlation analysis was used to assess the direction and strength of relationships between digital banking adoption and workforce reskilling.

4.0 DATA PRESENTATION AND ANALYSES

Data Presentation

Table 4.1 presents the descriptive statistics for the key study variables, highlighting respondents’ perceptions of digital banking adoption and workforce reskilling. Among the three digital banking channels, ATM and Self-service Channels recorded the highest mean value (29.02), indicating that employees perceive self-service platforms as the most frequently used and essential tools in digital banking operations. Internet Banking Utilization and Mobile Banking Usage both recorded mean scores of 28.57, reflecting their high adoption levels among bank employees, although mobile banking showed slightly greater variability in usage. Workforce Reskilling followed closely with a mean score of 28.32, suggesting that employees strongly recognize the importance of reskilling initiatives to adapt to digital banking transformations. The descriptive statistics demonstrate that all four constructs have high mean values, indicating strong agreement among respondents regarding the prevalence of digital banking adoption and the critical role of workforce reskilling in enhancing human capital development.

		Statistics			
		Internet Banking Utilization	Mobile Banking Usage	ATM & Self-service Channels	Workforce Reskilling
N	Valid	396	396	396	396
	Missing	0	0	0	0
Mean		28.57	28.57	29.02	28.32
Median		29.00	29.00	30.00	29.00
Std. Deviation		1.587	2.085	1.619	1.990
Minimum		23	18	22	23
Maximum		30	30	30	30

Source: Researcher’s Survey, 2025

Table 4.2 presents the Pearson correlation coefficients for the study variables, showing statistically significant positive relationships among all constructs at the 0.01 level (2-tailed). This indicates that higher utilization of digital banking services is associated with stronger workforce reskilling outcomes. Internet Banking Utilization exhibited a weak but significant positive correlation with Workforce Reskilling ($r = 0.205$, $p < 0.01$), suggesting a modest contribution to employee skill development. Mobile Banking Usage showed a moderate positive correlation ($r = 0.346$, $p < 0.01$), indicating that increased engagement with mobile banking encourages employees to enhance their skills to meet evolving operational demands. The strongest relationship was observed between ATM and Self-service Channels and Workforce Reskilling ($r = 0.687$, $p < 0.01$), highlighting the significant reskilling demands posed by self-service technologies. Inter-variable correlations among the independent constructs were also significant. Internet Banking Utilization correlated moderately with Mobile Banking Usage ($r = 0.321$, $p < 0.01$) and weakly with ATM & Self-service Channels ($r = 0.171$, $p < 0.01$), while Mobile Banking Usage correlated moderately with ATM & Self-service Channels ($r = 0.362$, $p < 0.01$). These findings suggest a complementary adoption pattern, where engagement with one digital channel increases the likelihood of using other channels. The results demonstrate that all three digital banking adoption channels positively influence workforce reskilling, with ATM and Self-service Channels exerting the strongest impact. This underscores the need for targeted employee training to effectively manage and integrate self-service technologies, alongside ongoing development for internet and mobile banking operations.

Correlations					
		Internet Banking Utilization	Mobile Banking Usage	ATM & Self-service Channels	Workforce Reskilling
Internet Banking Utilization	Pearson Correlation	1	.321**	.171**	.205**
	Sig. (2-tailed)		0	0.001	0
	N	396	396	396	396
Mobile Banking Usage	Pearson Correlation	.321**	1	.362**	.346**

	Sig. (2-tailed)	0		0	0
	N	396	396	396	396
ATM & Self-service Channels	Pearson Correlation	.171**	.362**	1	.687**
	Sig. (2-tailed)	0.001	0		0
	N	396	396	396	396
Workforce Reskilling	Pearson Correlation	.205**	.346**	.687**	1
	Sig. (2-tailed)	0	0	0	
	N	396	396	396	396
**. Correlation is significant at the 0.01 level (2-tailed).					

Source: Researcher’s Survey, 2025

Discussion and Findings

The results indicate that digital banking adoption has significantly influenced workforce reskilling in Nigerian banks. Among the digital channels examined, ATM and Self-Service Platforms exerted the strongest effect on employee reskilling, followed by Mobile Banking Usage, while Internet Banking Utilization demonstrated a positive but comparatively weaker impact. This suggests that the increasing deployment of automated self-service technologies places substantial demands on employees to acquire new digital skills, such as troubleshooting machines, guiding customers, and ensuring security compliance. Mobile banking similarly encourages skill development by requiring staff to support mobile-based customer interactions and monitor digital transactions, while internet banking primarily enhances foundational digital competencies related to online support and fraud prevention. The findings also reveal that all three digital banking channels are complementary, with employees who frequently engage with one channel likely to adopt others as part of their work routines. This pattern reinforces the need for continuous and integrated reskilling programs that address the varying technical demands of different digital platforms. The study demonstrates that digital banking adoption is a key driver of human capital development in Nigerian banks, reshaping job roles and elevating the level of

technical proficiency required in the workforce. It further underscores that for banks to remain competitive and efficient in a rapidly digitalizing environment, deliberate training, support systems, and strategic reskilling initiatives are essential, particularly for technologies with the highest operational impact such as ATM and self-service channels.

5.0 SUMMARY OF FINDINGS, CONCLUSION, AND RECOMMENDATIONS

Summary of Findings

The results show that digital banking adoption is a key driver of workforce reskilling in Nigerian banks, enhancing employees' digital competencies and ability to adapt to technology-driven operations. Among the digital banking channels examined, ATM and Self-Service Platforms emerged as the most influential factor in reskilling, reflecting the high operational demands and the need for employee engagement with automated systems. Mobile Banking Usage also plays a significant role in shaping workforce skills, particularly in areas such as mobile transaction monitoring, customer digital support, and troubleshooting app-related issues. Internet Banking Utilization has a positive but comparatively smaller impact, primarily contributing to foundational skills in online support, cybersecurity, and digital compliance. The findings indicate that all three digital banking channels collectively enhance human capital development, with ATM and self-service channels leading, followed by mobile banking and internet banking. This underscores the importance of continuous and targeted reskilling programs to ensure that employees remain competent and agile in a rapidly digitalizing banking environment.

Conclusion

The results indicate that digital banking adoption significantly enhances workforce reskilling in Nigerian banks, with ATM and Self-Service Channels exerting the most pronounced impact, followed by Mobile Banking Usage and Internet Banking Utilization. These findings highlight that digital banking technologies not only transform customer interactions but also reshape employee roles, creating new skill requirements in areas such as cybersecurity, digital customer support, transaction monitoring, and operational troubleshooting. However, due to the study's focus on three main digital banking channels, broader aspects of workforce reskilling, such as long-term career progression, employee performance metrics, and cross-functional skill acquisition, could not be fully captured. Future research should consider larger datasets and additional measures of human capital development to provide a more comprehensive understanding of how digital banking adoption drives workforce competency. Additionally, examining the roles of organizational policies, digital literacy, and continuous professional development will provide deeper insights into the complex relationship between technology adoption and employee skill enhancement in the banking sector.

Recommendations

Based on the above findings, the study suggests that Nigerian banks and regulatory bodies take deliberate steps to strengthen workforce reskilling in line with digital banking adoption. Banks should enhance training programs for internet banking, focusing on cybersecurity, digital fraud prevention, and compliance management, to ensure employees can effectively support online banking operations. For mobile banking, banks should expand staff training through workshops, refresher courses, and collaborations with FinTech firms. This will help employees troubleshoot app-related issues, guide customers through digital onboarding, and monitor mobile transactions efficiently. Regarding ATM and self-service platforms, banks should integrate reskilling initiatives into the deployment and management of these technologies. Employees need practical training on monitoring automated systems, assisting customers with self-service transactions, and addressing security and operational challenges. Regulatory bodies and the Central Bank of Nigeria (CBN) should also support these initiatives by investing in digital infrastructure, including reliable broadband, secure networks, and cybersecurity systems, to facilitate safer and more efficient digital banking operations. In addition, financial literacy campaigns should be promoted to enhance both employee and customer understanding of digital banking processes.

Contribution to Knowledge

This study empirically demonstrates that Internet Banking Utilization, Mobile Banking Usage, and ATM & Self-Service Channels significantly contribute to workforce reskilling in Nigerian banks, thereby enhancing human capital development in the digital banking era. It provides updated evidence on how digital banking adoption reshapes employee roles, creates new skill demands, and drives continuous professional development in the financial sector. Conceptually, the study integrates the Diffusion of Innovation (DOI) Theory and Human Capital Theory to illustrate how the adoption of digital banking platforms facilitates skill acquisition and workforce adaptability among employees. This theoretical linkage offers a novel perspective on how technological innovations in banking not only influence customer services but also actively shape employee competencies, thereby expanding the body of knowledge on digital transformation and human capital development in emerging economies. Methodologically, the use of a large stratified sample across multiple banks enhances the generalizability of the findings and provides a replicable framework for future research on digital banking and workforce reskilling. Contextually, the study highlights the unique Nigerian banking environment, particularly the dominant role of ATM and self-service channels in driving reskilling, a factor that has been underexplored in African research literature.

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