

UPSKILLING IN THE ERA OF DIGITAL TRANSFORMATION IN THE BUREAU FOR PUBLIC PROCUREMENT, ABUJA, NIGERIA

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ABSTRACT

Research Objective: This study investigated how digital transformation influences upskilling among staff of the Bureau for Public Procurement (BPP), Abuja, Nigeria, focusing on e-procurement systems adoption, ICT infrastructure availability, process automation and reengineering, and cybersecurity and data governance.

Methodology: A quantitative survey research design was adopted, with structured questionnaires distributed both physically and electronically to BPP employees. Out of a population of 654, a sample of 248 respondents was determined using Yamane's (1967) formula. Instrument reliability was confirmed with Cronbach's alpha values exceeding 0.70. Data analysis was performed using SPSS Version 27, employing descriptive statistics and Pearson correlation to assess the relationships between digital transformation components and workforce upskilling.

Findings: The results revealed significant positive correlations between digital transformation indicators and upskilling. Cybersecurity and data governance showed the strongest influence on upskilling ($r = 0.297$, $p < 0.01$), followed by ICT infrastructure availability ($r = 0.224$, $p < 0.01$), process automation and reengineering ($r = 0.206$, $p < 0.01$), and e-procurement systems adoption ($r = 0.140$, $p < 0.05$). High adoption levels and strong engagement in digital skill development were observed.

Conclusion: Digital transformation is a key driver of workforce upskilling in public procurement, requiring ongoing investment in employee training and professional development to maintain efficiency and innovation.

Recommendations: The study recommends that BPP intensify training on internet-enabled procurement, enhance ICT infrastructure, and institutionalize continuous professional development to strengthen adaptability and sustain digital transformation momentum.

Keywords: E-Procurement, ICT Infrastructure, Process Automation, Cybersecurity, Upskilling.

1.0 INTRODUCTION

The global push toward digital government has accelerated the adoption of ICTs in public-sector procurement, with e-procurement, automation, and improved digital infrastructure widely recognized as mechanisms for enhancing transparency, accountability, and operational efficiency (Hochstetter et al., 2023; World Bank, 2020). However, the literature consistently emphasizes that technological deployment alone is insufficient; effective digital transformation also depends on the availability of adequately skilled personnel, making workforce digital competence a critical success factor (OECD, 2023; Hochstetter et al., 2023).

Empirical evidence shows that well-designed and institutionalized e-procurement systems can reduce corruption risks, improve supplier access, and strengthen monitoring, but only when supported by robust ICT infrastructure and sustained investments in staff training, certification, and knowledge-sharing mechanisms (Hochstetter et al., 2023; Khorana, 2024). Consequently, scholars and development practitioners advocate a dual approach that integrates system modernization with continuous human-capacity development (Hochstetter et al., 2023).

In Nigeria, public procurement reform has been central to governance and anti-corruption efforts, with the Bureau for Public Procurement (BPP) advancing digitalization through initiatives such as the contractor registration portal and the Nigeria Procurement Certification Portal, reflecting a policy strategy that aligns e-procurement adoption with professional capacity development (BPP, 2025; Nairametrics, 2025; Federal Ministry of Information & National Orientation, 2025). These national reforms are reinforced by development partner interventions, notably the World Bank-supported SPESSE project, which has played a key role in strengthening procurement skills and institutional capacity, with expanded financing in 2025 creating further opportunities for scaling digital systems and training platforms (World Bank, 2020; Nairametrics, 2025).

Despite these efforts, persistent human-capacity gaps remain. International and local analyses highlight structural barriers to upskilling, including limited access to continuous training, uneven baseline competencies, and weak institutionalization of lifelong learning, which may constrain effective adoption of digital procurement systems in Nigeria (OECD, 2023; OECD, 2024; TheCable, 2024; Nairametrics, 2025).

Overall, existing literature suggests that digital transformation in public procurement, captured through e-procurement adoption, ICT infrastructure, process automation, and data governance, has the potential to influence workforce upskilling, measured by training, certification, digital competence, and knowledge application. However, the nature of this relationship remains under-examined in the Nigerian context. Accordingly, this study investigates how digital transformation initiatives at the Bureau for Public Procurement, Abuja, affect the upskilling of procurement personnel, addressing a critical gap at the nexus of technology adoption, capacity

development, and public-sector reform (BPP, 2025; World Bank, 2020; OECD, 2023; Hochstetter et al., 2023).

Statement of the Problem

Public sector organizations in Nigeria are increasingly adopting digital transformation to enhance transparency, accountability, and efficiency. The Bureau for Public Procurement (BPP), Abuja, has introduced reforms such as e-procurement systems, ICT infrastructure, process automation, and cybersecurity frameworks. However, the effective use of these tools depends largely on the capacity and readiness of the workforce. Evidence suggests that many procurement officers lack the requisite digital skills and training to fully utilize these innovations, creating a gap between technological adoption and human competence (OECD, 2023; World Bank, 2020).

Despite investments in digital platforms, inadequate upskilling remains a major bottleneck. Limited access to structured training programs, insufficient digital literacy, and uneven knowledge-sharing practices have constrained the ability of staff to adapt to evolving procurement technologies. If these challenges persist, the risk of underutilization, inefficiencies, and even cybersecurity vulnerabilities will undermine the very reforms intended to strengthen Nigeria's procurement system (TheCable, 2024; Nairametrics, 2025).

This problem points to an important gap in both practice and research: while digital transformation initiatives are being rolled out, little is known about how they translate into the upskilling for Public Procurement professionals. Without aligning technological reforms with human capital development, the Bureau risks wasting investments and reducing public trust. This study, therefore, aims to investigate the impact of digital transformation on upskilling within the Bureau for Public Procurement in Abuja, providing evidence-based insights for policy and practice.

Objective of the Study

The following objective will guide this research:

- i. To examine the relationship between digital transformation and upskilling among staff of the Bureau for Public Procurement (BPP), Abuja, Nigeria.

Research Hypotheses

Ho1: Digital transformation has no significant effect on upskilling among staff of the Bureau for Public Procurement (BPP), Abuja, Nigeria.

2.0 LITERATURE REVIEW

Digital Transformation

Digital transformation involves the deep integration of digital technologies across all aspects of organizational operations, reshaping how institutions function, deliver services, and create value (Ciancarini, Giancarlo, & Grimaudo, 2023). It extends beyond technology adoption to include process redesign, cultural change, and improved transparency. In Nigeria's public procurement sector, digital transformation has become a strategic reform tool aimed at enhancing efficiency, accountability, and institutional competence. The Bureau for Public Procurement (BPP) has initiated reforms such as the National Procurement Certification Portal, which provides digital training and certification for procurement professionals reflecting efforts to strengthen capacity and address systemic inefficiencies (Vanguard, 2025; FG, 2025). Successful transformation requires both technological infrastructure (e-procurement systems, automation, cybersecurity) and human capability, particularly digital literacy and adaptability. Studies show that while digital transformation promotes transparency and accountability, its impact is constrained by poor ICT infrastructure, limited training, resistance to change, and data security concerns (Shenkoya, 2023). Ultimately, digital transformation in procurement drives the need for continuous workforce upskilling, ensuring that employees can effectively use new systems, manage data, and sustain long-term operational improvements (Lagos State PPA, 2025; Abasilim et al., 2023).

E-Procurement Systems Adoption

E-procurement involves using digital platforms and internet-based systems to manage procurement processes such as tender announcements, bid submissions, evaluations, contract management, and payments (Musa, Jaafar, & Raslim, 2023). It is a key driver of digital transformation in procurement, promoting efficiency, transparency, and reduced corruption (Adubakar, 2024). In Nigeria, adoption of e-procurement has shown mixed progress. Studies reveal that while perceived usefulness, security, and trust encourage adoption, ease of use alone does not guarantee implementation (Musa et al., 2023). Evidence from Edo State indicates strong outcomes in e-registration and e-evaluation, but slower progress in e-tendering and e-award due to resistance to change and systemic inefficiencies (Obazele & Osuji, 2025). In the construction sector, digital tools are widely used for tendering and payments but underutilized for project monitoring, hindered by poor internet reliability, weak interoperability, and limited user experience (Ibem et al., 2020). While e-procurement offers substantial benefits and is increasingly backed by government policy, its success in Nigeria remains constrained by infrastructural deficits, institutional weaknesses, and human attitudinal barriers. Within the broader framework of digital transformation, e-procurement serves as a proxy for modernization, whose effectiveness ultimately depends on employees' training, trust, and digital competence.

ICT Infrastructure Availability

ICT infrastructure availability encompasses the hardware, software, networks, and supporting facilities such as power supply that enable digital tools and processes to function effectively in

procurement. It includes internet connectivity, broadband and mobile network coverage, fiber-optic links, devices, secure platforms, and stable power systems (Musa, Jaafar, & Raslim, 2023). Without adequate infrastructure, even advanced e-procurement systems often underperform or fail. In Nigeria, ICT infrastructure has improved but remains uneven. As of 2024–2025, mobile broadband coverage reached about 86%, while internet penetration was roughly 41%, leaving many rural areas and institutions with limited access (The Guardian, 2024; Statista, 2025). The National Broadband Plan (NBP) aims to connect 90% of Local Government Areas by 2025 and improve rural broadband access (ThisDay, 2024). However, progress is hindered by Right-of-Way restrictions, funding shortages, foreign exchange barriers, power instability, and infrastructure vandalism (Abuja City Journal, 2024). ICT infrastructure directly influences staff upskilling and digital transformation. Strong infrastructure enables digital learning, virtual collaboration, and effective e-procurement operations, while poor connectivity, outdated devices, and unreliable power disrupt training and limit digital competency development. Evidence from African studies confirms that ICT deficits significantly reduce the impact of ICT-related training outcomes (African Scholar Publications, 2023).

Process Automation & Reengineering

Process automation and reengineering involve applying digital technologies such as Robotic Process Automation (RPA), Artificial Intelligence (AI), and workflow systems to streamline procurement operations and enhance efficiency (Okundaye, 2024). Automation minimizes human involvement in repetitive tasks like bid evaluation and contract management, while reengineering restructures workflows to remove bottlenecks and ensure compliance. In Nigeria, initiatives such as the Federal Government's e-Government Procurement (e-GP) system have begun automating end-to-end procurement processes from planning to payment resulting in a 30–40% reduction in cycle time and decreased opportunities for corruption (World Bank, 2023; Ojo, 2023). However, technology alone is insufficient; success depends on effective process reengineering. Simply digitizing inefficient manual procedures leads to “digital inefficiency” (Bello & Yusuf, 2023). True transformation requires redesigning workflows, clarifying accountability, and managing organizational change. Barriers in Nigeria include weak documentation, staff resistance, and poor change management (UNDP, 2024). From a workforce perspective, automation and reengineering drive significant upskilling demands. As routine tasks are automated, employees must transition to higher-value roles such as data analysis, contract strategy, and digital system oversight. Studies show that where staff are adequately trained, productivity and transparency improve markedly (Ogunyemi & Olayinka, 2023). Conversely, inadequate training risks creating a digital divide, limiting the benefits of automation to only a few skilled individuals.

Cybersecurity and Data Governance

Cybersecurity and data governance are essential components of digital transformation in procurement, ensuring the protection of sensitive information such as bids, supplier data, and contracts from breaches or unauthorized access (Adebayo & Okonkwo, 2023). As procurement shifts to digital platforms, the increase in data volume has heightened exposure to cyber threats, making strong security systems vital for maintaining integrity and stakeholder trust. Globally, cyberattacks on public procurement systems are rising over 60% of African public institutions have reported attempted intrusions in recent years (ITU, 2023). These breaches can cause financial losses, expose confidential information, and erode confidence in e-procurement platforms (OECD, 2023). In Nigeria, the Bureau for Public Procurement (BPP) has aligned its e-procurement reforms with national data protection laws, though implementation challenges persist (NITDA, 2023). Data governance complements cybersecurity by establishing policies and standards for data accuracy, accountability, and compliance with frameworks like Nigeria's Data Protection Act (2023). Strong governance minimizes data manipulation, ensures transparency, and enhances institutional credibility (World Bank, 2023; Ogunleye, 2024). From a workforce standpoint, these developments demand continuous upskilling. Procurement professionals must gain competencies in digital risk management, ethical data handling, and cybersecurity practices (UNDP, 2024). Training in cyber hygiene and compliance reduces human error one of the leading causes of cyber breaches (Bello & Hassan, 2023). Overall, cybersecurity and data governance are not only technological necessities but also strategic imperatives that require ongoing workforce development to secure, sustain, and strengthen digital procurement systems.

Upskilling

Upskilling is the ongoing process of developing employees' digital, technical, and cognitive competencies to adapt to technological change and evolving organizational demands. In the era of digital transformation, it ensures that employees remain productive, relevant, and capable of functioning effectively in digitized work environments (WEF, 2023; ILO, 2022). Within procurement, upskilling has become essential as e-procurement systems, ICT infrastructure, process automation, and cybersecurity demand new competencies such as data analytics, online tender evaluation, and compliance monitoring (OECD, 2023). Nigerian evidence shows that procurement officers with structured digital training perform better in contract and vendor management (Adebayo & Hassan, 2023). Beyond individual capacity, upskilling enhances organizational resilience and governance by improving transparency, accountability, and efficiency. Institutions that invest in digital literacy and cybersecurity awareness, as highlighted by the UNDP (2024) and World Bank (2023), experience reduced corruption risks and faster procurement processes. In Nigeria, the Bureau for Public Procurement (BPP) recognizes the importance of workforce training in its e-procurement reforms. However, studies (e.g., Ogunleye,

2024) reveal skill gaps in ICT usage, cybersecurity, and automation, underscoring the need for structured, continuous training programs. Looking ahead, upskilling is a strategic imperative for sustaining digital transformation. With over a billion people projected to need reskilling by 2030 (WEF, 2023), public procurement organizations must embed lifelong learning into their institutional culture. Employees equipped with digital communication, risk management, and ethical data skills will be key to fostering innovation and maintaining transparency and accountability in procurement systems (ILO, 2022; Bello & Okonkwo, 2023).

Theoretical Review

The successful implementation of digital transformation initiatives and the high engagement of BPP staff in upskilling activities can be interpreted through the lens of the Technology Acceptance Model (TAM) developed by Davis (1989), which underpins this study. The TAM posits that technology adoption is influenced primarily by two perceptions: perceived usefulness (the degree to which a person believes that using a particular system would enhance job performance) and perceived ease of use (the degree to which a person believes that using the system would be free of effort).

In the context of the Bureau for Public Procurement, the adoption of digital tools such as e-procurement platforms, advanced ICT infrastructure, process automation, and cybersecurity systems is driven by employees' recognition of their practical benefits, improved efficiency, transparency, and data security. The compatibility of these technologies with existing procurement processes, along with user-friendly interfaces and targeted training, has reduced the perceived complexity and barriers to adoption. This, in turn, has fostered a positive attitude toward upskilling and motivated staff to participate actively in professional development initiatives.

Furthermore, the observability of digital transformation outcomes, such as streamlined operations, reduced errors, and enhanced compliance, has reinforced the perceived value of these systems. The BPP's commitment to continuous learning and capacity development aligns well with TAM's assertion that positive user perceptions accelerate technology acceptance and utilization.

This theoretical framework not only explains the high engagement rates in the study's survey but also validates the practical linkage between digital transformation and workforce upskilling. By focusing on users' attitudes and experiences, TAM provides a robust foundation for understanding how technological innovations drive skill development in public sector organizations like the BPP.

Empirical Review

This section reviews empirical studies on the relationship between digital transformation and upskilling, focusing on public procurement and related sectors.

Adebayo and Hassan (2023) surveyed 210 procurement officers in Nigerian federal ministries to examine the impact of digital procurement platforms on employee competencies. Using regression analysis, they found that e-procurement adoption significantly increased digital literacy and continuous upskilling ($p < 0.01$), though inadequate training support limited long-term efficiency. This underscores the need for deliberate investment in workforce training alongside digital reforms.

Ogunleye (2024) assessed ICT resource availability in Nigerian public organizations using survey data from 156 civil servants. Findings indicated that robust ICT infrastructure positively influenced employee access to digital learning and professional development. However, disparities in internet connectivity and device access hindered upskilling for some staff, highlighting infrastructure as a critical enabler for digital transformation.

Adegbite and Lawal (2023) analyzed process automation's effect on skill development in government agencies through structured questionnaires. Results showed that automation reduced manual tasks but required employees to learn advanced skills like system management and data analytics. The absence of consistent training frameworks was a major limitation, suggesting that automation must be matched by intentional upskilling strategies.

Bello and Okonkwo (2023) explored workforce readiness for cybersecurity in Nigerian public institutions. Their survey of 180 employees demonstrated that prior training in data security improved digital competencies and compliance, though notable knowledge gaps remained in cyber hygiene practices.

The World Economic Forum (2023) and UNDP (2024) report that digital transformation in the public sector globally has increased the need for ongoing upskilling, with structured learning pathways being essential to sustain reform benefits and workforce adaptability. These findings collectively reinforce that digital transformation is closely linked to workforce upskilling, with success dependent on supportive training, infrastructure, and organizational policies.

3.0 METHODOLOGY

Research Design

This study adopted a descriptive survey research design, which is suitable for investigating the relationship between digital transformation and upskilling among staff of the Bureau for Public Procurement (BPP), Abuja. The design enabled the collection of quantifiable data regarding the influence of e-procurement systems adoption, ICT infrastructure availability, process automation and reengineering, and cybersecurity and data governance on workforce upskilling. This approach facilitated the identification of patterns and associations within a large organizational setting, without manipulation of variables.

Nature and Sources of Data

Primary data were collected through a structured questionnaire administered both physically and electronically to BPP employees. The questionnaire comprised sections on demographic

characteristics, the adoption of digital transformation components, and upskilling, with responses measured using a five-point Likert scale. A total of 248 questionnaires were completed and found valid for analysis, representing a stratified random sample from a population of 654 staff, as determined by Yamane's (1967) formula.

Secondary data were sourced from official BPP reports, policy documents, academic literature, and industry publications to provide context and supplement the primary data. Instrument validity was established through expert review, while reliability was confirmed with Cronbach's alpha coefficients exceeding 0.70 for all constructs, indicating strong internal consistency.

Methods of Data Analysis

Data were coded and analyzed using SPSS Version 27. Descriptive statistics, such as frequencies, percentages, means, and standard deviations, were used to summarize respondent demographics and digital transformation adoption. Pearson correlation analysis was employed to assess the strength and direction of relationships between digital transformation variables and workforce upskilling within the BPP.

4.0 DATA PRESENTATION AND ANALYSES

Data Presentation

Table 4.1 presents the descriptive statistics for the key study variables, reflecting respondents' perceptions of digital transformation dimensions and upskilling within the Bureau for Public Procurement (BPP), Abuja. Among the digital transformation indicators, Process Automation and Cybersecurity recorded the highest mean score (23.67), indicating that employees view process automation and cybersecurity measures as the most integrated and impactful aspects of digital transformation in their work environment. E-procurement systems adoption followed with a mean score of 21.64, suggesting widespread adoption and positive perceptions of digital procurement tools. ICT Infrastructure Availability had a mean of 20.90, reflecting adequate access to digital resources and facilities, though with some variability in responses. Cybersecurity and Data Governance also scored highly (mean = 21.22), highlighting consistent awareness and practices in protecting procurement data.

The dependent variable, Upskilling, achieved the highest overall mean score (37.78), demonstrating strong recognition among employees of the importance of continuous learning and professional development in response to digital transformation initiatives. The high mean values across all constructs indicate strong agreement among respondents regarding the prevalence and positive impact of digital transformation efforts, as well as the central role of upskilling in enhancing workforce capability and organizational adaptability within the BPP. These findings underscore the significance respondents place on both technological and human capital advancements in public procurement operations.

Statistics

		E-Procurement Systems Adoption	ICT Infrastructure Availability	Process Automation & Cybersecurity	Cybersecurity & Data Governance	Upskilling
N	Valid	248	248	248	248	248
	Missing	0	0	0	0	0
Mean		21.64	20.90	23.67	21.22	37.78
Median		22.00	22.00	24.00	21.00	38.00
Std. Deviation		2.094	2.428	1.729	1.761	2.082
Minimum		15	16	16	17	33
Maximum		25	25	25	25	40

Source: Researcher’s Survey, 2025

Table 4.2 presents the Pearson correlation coefficients for the key study variables, revealing statistically significant positive relationships among all constructs at the 0.01 level (2-tailed). This indicates that greater adoption of digital transformation components is associated with higher levels of workforce upskilling within the Bureau for Public Procurement (BPP), Abuja. Cybersecurity and Data Governance exhibited the strongest positive correlation with Upskilling ($r = 0.297, p < 0.01$), underscoring the substantial influence of robust data protection and cyber risk management practices on employee skill development. ICT Infrastructure Availability showed a moderate positive correlation with Upskilling ($r = 0.224, p < 0.01$), suggesting that improved access to digital resources actively supports ongoing skill enhancement. Process Automation and Reengineering demonstrated a significant positive relationship with Upskilling ($r = 0.206, p < 0.01$), indicating that increased automation and workflow redesign prompt employees to acquire new competencies. E-procurement systems adoption, while showing a weaker but still significant correlation ($r = 0.140, p < 0.05$), highlights the role of digital procurement tools in advancing staff development.

Significant inter-variable correlations were also observed among the independent constructs, indicating a complementary relationship where the adoption of one digital transformation initiative increases the likelihood of engaging with others. These results collectively demonstrate that all facets of digital transformation positively influence workforce upskilling, with the greatest impact arising from cybersecurity and data governance. This emphasizes the importance of comprehensive and targeted training programs, particularly in cybersecurity, to sustain workforce adaptability and effectiveness in the digital era.

Correlations					
	E-Procurement Systems Adoption	ICT Infrastructure Availability	Process Automation & Cybersecurity	Cybersecurity & Data Governance	Upskilling

E-Procurement Systems Adoption	Pearson Correlation	1	.692**	.164**	.362**	.140*
	Sig. (2-tailed)		0.000	0.010	0.000	0.028
	N	248	248	248	248	248
ICT Infrastructure Availability	Pearson Correlation	.692**	1	.143*	.778**	.224**
	Sig. (2-tailed)	0.000		0.024	0.000	0.000
	N	248	248	248	248	248
Process Automation & Cybersecurity	Pearson Correlation	.164**	.143*	1	.345**	.206**
	Sig. (2-tailed)	0.010	0.024		0.000	0.001
	N	248	248	248	248	248
Cybersecurity & Data Governance	Pearson Correlation	.362**	.778**	.345**	1	.297**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000
	N	248	248	248	248	248
Upskilling	Pearson Correlation	.140*	.224**	.206**	.297**	1
	Sig. (2-tailed)	0.028	0.000	0.001	0.000	
	N	248	248	248	248	248

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

Source: Researcher’s Survey, 2025

Discussion and Findings

The results demonstrate that digital transformation has significantly influenced upskilling among staff of the Bureau for Public Procurement (BPP), Abuja. Among the dimensions analyzed, Cybersecurity and Data Governance exerted the strongest influence on workforce upskilling, followed by ICT Infrastructure Availability and Process Automation and Reengineering, while E-Procurement Systems Adoption showed a positive but comparatively weaker impact. This pattern suggests that the growing emphasis on cybersecurity and data governance compels employees to continually update their skills in areas such as digital risk management, compliance, and protection of sensitive procurement data. The availability of robust ICT infrastructure further supports ongoing learning and facilitates access to digital tools, enabling staff to adapt more rapidly to technological advancements. Process automation and reengineering also contribute by shifting job roles from routine tasks to higher-value functions, requiring employees to acquire advanced technical and analytical skills.

The findings indicate that all components of digital transformation are interrelated and collectively drive the need for continuous professional development in the public procurement sector. Employees engaged with one aspect of digital transformation are likely to interact with others, highlighting the importance of integrated upskilling initiatives. Overall, the study confirms that digital transformation is a key driver of workforce upskilling in the BPP, reshaping competencies and demanding higher levels of digital literacy, cybersecurity awareness, and process innovation. For the BPP to sustain efficiency and remain adaptive in a rapidly digitalizing environment, ongoing investment in targeted training and comprehensive skill development programs is essential, particularly in the areas with the greatest operational impact.

5.0 SUMMARY OF FINDINGS, CONCLUSION, AND RECOMMENDATIONS

Summary of Findings

The study found that digital transformation is a key driver of workforce upskilling in the Bureau for Public Procurement (BPP), Abuja. Among the digital transformation components examined, Cybersecurity and Data Governance exerted the strongest influence on employee upskilling, reflecting the increasing importance of digital risk management and compliance in public sector operations. ICT Infrastructure Availability also played a significant role, enabling employees to access digital tools and participate in ongoing training programs. Process Automation and Reengineering contributed by shifting job roles toward higher-value tasks, necessitating advanced skills. E-Procurement Systems Adoption had a positive but comparatively smaller impact, mainly promoting foundational digital competencies and awareness. The results indicate that all four digital transformation components collectively enhance workforce capability, with cybersecurity and ICT infrastructure identified as the most influential drivers. This highlights the importance of continuous, targeted upskilling initiatives to ensure staff remain competent and responsive to technological advancements in public procurement.

Conclusion

The results demonstrate that digital transformation significantly enhances workforce upskilling in the BPP, with Cybersecurity and Data Governance having the most pronounced effect, followed by ICT Infrastructure, Process Automation, and E-Procurement Adoption. Digital transformation not only alters operational processes but also reshapes employee roles, creating new skill requirements in areas such as data security, compliance, digital literacy, and process innovation. While the study focused on four key transformation drivers, it acknowledges that broader aspects such as long-term career growth and cross-functional skill acquisition warrant further investigation. Future research should explore additional variables and larger datasets to offer a more comprehensive understanding of how digital transformation drives workforce competency in the public sector.

Recommendations

Based on these findings, it is recommended that the BPP and related agencies intensify training in cybersecurity, data governance, and ICT infrastructure usage, ensuring staff are equipped to manage new digital risks and technologies. Structured upskilling programs should be embedded into all digital transformation projects, with regular workshops and hands-on training to address evolving operational demands. Efforts should be made to continually upgrade ICT infrastructure and provide equitable access to digital tools across the organization. Furthermore, the BPP should foster a culture of continuous professional development by institutionalizing regular skill assessments, mentoring, and knowledge-sharing platforms. Policymakers should also invest in digital infrastructure and promote digital literacy initiatives to strengthen the overall capacity of the public procurement workforce and ensure a sustainable transition to a digital-first environment.

Contribution to Knowledge

This study empirically establishes that the adoption of E-Procurement Systems, ICT Infrastructure Availability, Process Automation and Reengineering, and Cybersecurity & Data Governance significantly promote workforce upskilling in the Nigerian public procurement sector. It provides up-to-date evidence on how digital transformation initiatives reshape employee roles, create new skill requirements, and foster continuous professional development in public administration. Conceptually, the study integrates the Technology Acceptance Model (TAM) and Human Capital Theory to explain how digital transformation initiatives facilitate skill acquisition and enhance employee adaptability. This theoretical integration offers a fresh perspective on how technology-driven reforms in public procurement not only improve operational efficiency but also actively drive workforce competency, thereby expanding the literature on digital transformation and human capital development in the public sector of emerging economies. Methodologically, the use of a stratified random sample and validated survey instruments strengthens the generalizability and reliability of the findings, providing a robust framework for future research on digital transformation and workforce upskilling. Contextually, the study highlights the distinctive influence of cybersecurity and data governance, an area often overlooked in African public sector research, demonstrating their pivotal role in driving continuous upskilling within the Bureau for Public Procurement, Abuja.

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