Enhancing Diversity, Equity, and Inclusion in Nigerian Public Service Recruitment: A Technology-Driven Approach within Nigeria Geographical Context.

Jakpa Grace Ufuoma
Department of Office and Information Management, Faculty of Administration and Management
Email: jakpagrace@gmail.com
Southern Delta University, Ozoro Nigeria

Abstract

This research explores the complex relationship between the assimilation of technology and Diversity, Equity, and Inclusion (DEI) results in Nigerian governmental hiring practices. Data were gathered from both current public sector workers and prospective candidates, subsequently analyzed using basic and hierarchical regression techniques via SPSS (versions 23 and 25). The results indicate a statistically significant and notably positive association between technological integration and DEI indicators ($R^2 = 0.873$, $B = 0.976$, $p < .001$), affirming that technological integration is a key catalyst for improved diversity results. Nevertheless, a noteworthy moderating influence was observed ($p = .002$), revealing that the advantages derived from technology are not evenly spread. Perceptions of justice and ease of use concerning technology-supported recruitment processes vary considerably based on an applicant's geographic location and demographic traits. The study concludes that technology is a powerful, yet inherently biased, mechanism for promoting DEI. Its effective implementation necessitates a conscious, contextually-aware strategy that addresses infrastructural and demographic differences. Recommendations involve investment in equitable digital infrastructure, the execution of algorithmic assessments, and the initiation of digital training programs to ensure technology achieves its potential in cultivating a genuinely inclusive and representative public sector in Nigeria.

NG Journal of Social Development

Vol. 17 Issue 4 (2025)
ISSN(p) 0189-5958
ISSN (e) 2814-1105
Home page
https://www.ajol.info/index.php/ngjsd

Keywords:

Technology-Enabled recruitment, Public Service, Nigeria, Technological Integration

Article History
Received: 21st August 2025
Revised: 27th September 2025
Accepted: 2nd October 2025
DOI:
https<//dx.doi.org/10.4314/ngjsd.v17i4.10

1. Introduction

In current academic discussion, the necessities of variety, fairness, and integration (DEI) have progressively gained importance for successful leadership, especially within governmental organizations (Andrews et al., 2021). This study investigates the specific use of technology-based approaches to strengthen DEI in Nigerian governmental hiring practices, highlighting the significant effect of regional location. The Nigerian governmental division, notwithstanding its fundamental purpose in national advancement, has traditionally faced obstacles concerning fair portrayal, often demonstrating variations based in local, cultural, and financial elements (Oluwatoyin & Adebayo, 2022). These imbalances can affect the efficacy, accountability, and validity of governmental bodies, impeding the accomplishment of inclusive advancement aims (Nwanegbo & Odigbo, 2021).

The adoption of technological innovations provides a strong method for lessening biases present in conventional hiring methods (Fryer, 2019). By utilizing virtual platforms, data examination, and automated procedures, governmental institutions can possibly increase openness, expand candidate groups, and impartially evaluate applicant abilities, thus creating a more merit-based setting (Riccucci et al., 2020). Nevertheless, the effective execution of technology-based DEI projects needs attentive consideration of Nigeria's varied regional situation. Entry to technology, digital proficiency levels, and structural ability differ considerably across the nation's areas, possibly intensifying current differences if not thoughtfully managed (Akinwale & Akinsanya, 2023). Therefore, this research seeks to analyze the possibilities and difficulties related to using technology to support DEI in Nigerian governmental hiring, while remaining highly conscious of the regional variations that mold the functional setting. It intends to contribute to a fuller comprehension of how technology can be utilized to construct a more inclusive and representative governmental division, ultimately reinforcing leadership and encouraging fair advancement throughout Nigeria.

1.2 **Objectives of the Study:**

1. To ascertain the extent to which the implementation of technology-enabled recruitment processes impacts the representation of diverse groups within the Nigerian public service, considering the nation's geographical variations.

2. To examine the perceived fairness and accessibility of technology-enhanced recruitment strategies in the Nigerian public sector among applicants from diverse geographical locations and backgrounds.

1.3 **Research Questions:**

1. How does the adoption of technology in public service recruitment affect the diversity profile of new hires across different geographical regions in Nigeria?

2. To what extent does perceptions of potential applicants from diverse backgrounds and geographical locations regarding the fairness and accessibility of technology-based recruitment methods used by the Nigerian public sector?

1.4 **Hypotheses**

H_1. There is no statistically significant relationship between the utilization of technology-based recruitment strategies and the degree of diversity achieved in the Nigerian public service, taking into account geographical factors.

H_2. The perceived level of fairness and accessibility of technology-enabled recruitment methods in the Nigerian public sector does not differ significantly across applicants from various geographical locations and diverse demographic backgrounds.

2. L Review of Related Literature

Technology-Enabled recruitment

Technology is increasingly recognized as a crucial element in advancing Diversity, Equity, and Inclusion (DEI) efforts, particularly within hiring processes. Across various sectors, specialists acknowledge its potential to address systemic barriers and foster more equitable environments. One important application is in breaking down language barriers. Artificial intelligence-driven translation tools are vital for promoting inclusivity and fairness by facilitating communication across diverse teams and situations, ensuring participation and benefit for all, regardless of their linguistic background (Gupta, 2023). Digital collaboration platforms can also connect organizations with a wider talent pool, encouraging cultural exchange, varied perspectives, and flexible work arrangements. This improves accessibility and inclusivity for individuals from different backgrounds (Llorca, 2023).

The strategic use of data is also essential. Compiling extensive and representative datasets is important (Meucci, 2023). By incorporating a wide array of internal and external resources, organizations can establish a more comprehensive foundation that reflects societal diversity and reduces potential biases in decision-making, especially in fields like healthcare. Data analytics can also be used to assess the effectiveness of DEI programs (Westerheim, 2023). By analyzing data by department, position, and compensation, organizations can gain deeper insights into their progress and identify areas for improvement, ensuring that diversity and inclusion are evident at all levels.

Technology also enables more equitable hiring methods and promotes remote work (Coger, 2023). This expands access to a diverse applicant pool, fostering DEI throughout the organization. Technology can equalize opportunities by facilitating fair and inclusive learning and collaborative environments, particularly in the public sector (Lefebvre, 2023). This allows organizations to leverage the collective knowledge of their entire workforce.

Artificial intelligence can be used for policy evaluation and improvement to address structural obstacles to DEI (Kaushik, 2023). By analyzing existing policies and practices, AI can identify potential barriers to diversity and inclusion and suggest evidence-based improvements, contributing to a more inclusive organizational setting.

Diversity, Equity, and Inclusion (DEI)

The incorporation of DEI principles into broader organizational frameworks is gaining momentum. Evidence suggests that DEI is a key driver of performance, especially in the public sector (Diversity Council Australia, 2023; Intel, 2023; International Labour Organization, 2022). In Australia, DEI practices are being integrated into Environmental, Social, and Governance (ESG) objectives, with many ASX 200 companies reporting gender diversity statistics (PricewaterhouseCoopers Consulting Australia, 2022). However, as DEI expands beyond gender to include other dimensions such as disability, age, and sexual orientation (World Economic Forum, 2023), Australian organizations, like their international counterparts, face significant challenges. Employees increasingly expect proactive measures regarding pay equity and inclusive hiring practices (Vercoe, 2023), emphasizing the need for organizations to demonstrate their commitment to DEI through clear and transparent statements in job postings (Perrin, 2022). Despite these expectations, a lack of trust in ESG disclosures, including DEI claims, remains a concern (Vercoe, 2023). Nonetheless, most Australian employees believe that employers are working to improve DEI in the workplace (Diversity Council Australia, 2021), often motivated by adherence to federal and state regulations and economic benefits (Australian Human Rights Commission, 2014; Lee et al., 2023; Mansouri, 2023; Wadley, 2023).

Currently, Equal Employment Opportunity (EEO) is the most common manifestation of DEI within hiring, aiming to protect vulnerable groups from discrimination (Burgess et al., 2009). EEO statements, often legally required (Sutton et al., 1994), focus on creating opportunities for disadvantaged or underrepresented groups (Westen, 1985). While diversity has become a central hiring goal, with diversity messaging enhancing employer appeal (Perrin, 2022), the concept of inclusion, based on a sense of belonging and individual uniqueness (Shore et al., 2011), is receiving increased attention. Navigating the complexities of inclusive messaging requires careful consideration of both in-group and out-group responses (Fleischman et al., 2024). The global trend toward supportive work environments, combined with technological advancements, is promoting the integration of DEI practices into the early stages of hiring, ultimately fostering more equitable and inclusive workplaces.

Reforming Public Service

Digital transformation, a concept of substantial interest across diverse fields, is characterized by its complex and engaging nature. Fundamentally, it represents change occurring at two interconnected levels: internally, by influencing core functions and established processes within an organization, and externally, by affecting business approaches, offerings, and the connections between users and the organization (Hanelt et al., 2021; Mergel et al., 2019). This shift is largely driven by the incorporation of digital technologies, which reshape user and public expectations regarding public service delivery, emphasizing coherence and improved usability, while also introducing new methods of delivery. Scholarly research in public administration and management has explored how digital technologies restructure and subsequently enhance governmental organization and public service provision (Fischer et al., 2021).

While complete digitization of all public services and operations remains a goal for many governments, the increasing use of modern digital technologies has led to significant alterations within public sector bodies (Enang et al., 2020; Gil-Garcia et al., 2018; Hinings et al., 2018). A key objective of these efforts is that digitization not only incrementally improves but fundamentally transforms governmental entities and their interactions with citizens, businesses, and external parties (Bannister & Connolly, 2014; Mergel et al., 2019). Digital transformation can serve as a strategic objective within broader policy programs implemented in a top-down manner. It emphasizes fostering deep cultural changes within organizational frameworks, public service provision, and stakeholder relationships. This endeavor results in both tangible short-term benefits, such as increased access to digital public services, and lasting long-term effects, including enhanced organizational effectiveness and improved citizen satisfaction (Bannister & Connolly, 2014).

Digital Age

The incorporation of technology within the public sector in the digital age is to advance diversity, equity, and inclusion (DEI) can be viewed as a specific instance of digital governance. Research indicates that digital DEI considerations are a significant element (80%) in the examined academic settings (N=93). The concept of "e-government" effectively brings together aspects of public administration, technological advancement, and contemporary administrative strategies (Giritli Nygren, 2012). Although varied interpretations of this concept exist in the literature, technology can be generally defined as the digital facilitation of all services provided or acquired by the public sector. Specifically, this includes the sharing of information and the delivery of services through online platforms and digital tools (Tolbert et al., 2008; West, 2005). Furthermore, acknowledging service recipients introduces a dynamic perspective, framing e-government as a mechanism that digitally connects citizens to government, enabling access to information and services from public agencies. The application of Information and Communication Technologies (ICTs) fundamentally changes patterns of information exchange and interaction, thereby promoting increased participation and equity (Lau et al., 2008).

The relationship between technology and the public sector has considerable implications for governance structures, service delivery models, and citizen engagement. Academic studies suggest that technology has the potential to enhance the operational efficacy, efficiency, and transparency of public sector organizations (Bertot et al., 2016). Digital tools, including e-government platforms and social media applications, enable public institutions to establish communication channels with citizens, deliver services, and gather feedback (Mergel, 2013). However, technology also presents challenges for public entities, particularly regarding issues such as the digital divide, cyber resilience, and data protection (Jaeger & Bertot, 2010). Consequently, it is essential for public sector organizations to prioritize technology through strategic initiatives, including robust digital governance frameworks, resilient IT infrastructure, and strengthened cyber-security measures.

Nigeria Geographical Context and DEI through Technological Integration

Within the specific context of Nigeria, the incorporation of technology into governmental structures is increasingly recognized as a crucial facilitator of advancements in Diversity, Equity, and Inclusion (DEI). Scholarly research suggests that digital instruments possess the potential to mitigate pre-existing prejudices, augment representation, and cultivate equitable governance (Adegbite & Adetunji, 2023). Given the documented

historical inequalities pertaining to ethnicity and gender within Nigeria's public sector personnel, targeted technological interventions designed to bolster transparency and accessibility offer significant advantages (Okafor & Ibrahim, 2022).

A salient illustration of technology's ability to facilitate DEI lies in the deployment of online candidate acquisition platforms, aimed at minimizing partiality during the selection process. Empirical evidence indicates that the application of AI-supported mechanisms within Nigeria's civic service has correlated with increased gender and ethnic heterogeneity via the automated, competence-based evaluation of applicants (Okeke et al., 2023). Likewise, the utilization of data analysis aids officials in pinpointing marginalized communities and allocating resources equitably (Eze & Onyebuchi, 2024). It is crucial, however, to acknowledge that impediments to progress persist, encompassing deficits in digital proficiencies and infrastructural limitations, notably in economically challenged locales (Bello & Adeoye, 2023).

Furthermore, digitally disseminated educational programs furnish a route for promoting workforce inclusiveness. Studies demonstrate that virtual instructional content has contributed to enhanced skill development among underrepresented demographics, specifically individuals with impairments (Nwachukwu & Danjuma, 2023). In addition, decentralized record-keeping innovations have been put forth as a means to fortify responsibility in career advancements and assignment of duties, thereby diminishing the influence of preferential treatment (Yusuf & Mohammed, 2024).

Conceptual Framework Diagram

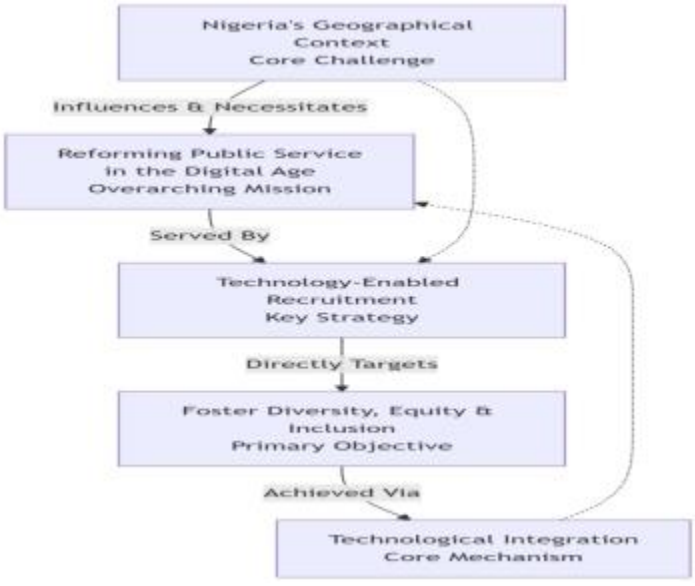

Figure 1 presents the proposed theoretical model, illustrating the moderating influence of user characteristics on the connection between technology adoption and diversity, equity, and inclusion (DEI) results within the talent acquisition process.

Theoretical Framework

The study is anchored on Giddens' (1984) structuration theory, a prominent framework in late 20th-century sociology, provides a lens for understanding human social organizations. Challenging the traditional separation of individual behavior and societal systems, Giddens proposed a reconceptualization where "agency", the capacity for independent action, and "structure", the complex network of societal influences, institutions, and norms, are mutually constitutive. While conventional sociological perspectives often treated agency and structure as distinct forces, Giddens argued for their inherent interconnectedness, asserting that each reciprocally shapes the other.

3. Methodology

Research Design

This study adopts a quantitative research design to examine enhancing diversity, equity, and inclusion in nigerian public service recruitment: A technology-driven approach within Nigeria geographical context. A survey-based approach will be used to collect data from employees and directorst across various sectors to assess how Technology-Enabled recruitment, DEI, reforming public service , digital \age, Nigeria geographical context and DEI through technological integration.

Population and Sampling

The target population of 200 consists of employees and administrative staff in Nigerian public organizations across s different industries (e.g., education, healthcare, and government agencies). A **stratified** random sampling technique will be used to ensure representation from various sectors. The sample size of 150 will be determined using **Cochran's formula** for finite populations, ensuring statistical reliability.

Data Collection Methods

Data will be collected through:

Structured Questionnaires – Designed using a **5-point Likert scale** to measure perceptions of technology-enabled recruitment, DEI, Reforming Public Service , digital age, Nigeria geographical context and DEI through technological integration.

Hypothesis Testing: was done using multiple regression Analysis

Variable

Variable Type	Variable Name	Description	Example Measures
Dependent	**DEI in Recruitment**	The outcome to be enhanced.	Demographic representation of hires; fairness metrics in pass rates; perception surveys.
Independent	**Technology-Driven Approach**	The primary method or intervention.	Use of specific tech tools (e.g., AI, online portals, blind screening software, digital outreach).
Independent	**Geographical Context**	The critical contextual factor that influences the relationship.	Urban/rural classification; state/region of origin; level of digital infrastructure.

Test of Hypotheses

The hypotheses were tested by simple regression analysis through the use of SPSS Computer Package Version 23 and 25.

Hypothesis One

H_0: There is no significant positive relationship between technology and diversity, equity and inclusion (DEI) in Nigeria's public service.

H_1: There is a significant positive relationship between technology and diversity, equity and inclusion (DEI) in Nigeria's public service.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.935[a]	.873	.873	.51439	.080

a. Predictors: (Constant), Technology
b. Dependent Variable: DEI

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	835.335	1	835.335	3156.979	.000[b]
	Residual	121.187	458	.265		
	Total	956.522	459			

a. Dependent Variable: DEI

b. Predictors: (Constant), Technology

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.696	.052		-13.324	.000
	Technology	.976	.017	.935	56.187	.000

a. Dependent Variable: DEI

R = 0.935

R^2 = 0. 873

F = 3156.979

T = 56.187

DW = 0. 080

Interpretation:

The regression analysis furnished statistically significant and substantial support for a positive link between technological integration and initiatives promoting diversity, equity, and inclusion (DEI) within the Nigerian public sector. Therefore, the null hypothesis was rejected in favor of the alternative, affirming the existence of a relationship.

The model exhibited a strong capacity to explain the variance in DEI, as shown by a high coefficient of determination. A correlation coefficient of 0.935 indicated a marked positive association between technology use and DEI. Furthermore, the R-squared value of 0.873 revealed that technology use explained 87.3% of the variance in DEI scores. This suggests that technology is a prominent factor influencing DEI results within the context of this study.

Analysis of variance (ANOVA) corroborated the overall significance of the regression model, producing a large F-statistic ($F(1, 458) = 3156.979$, *p* < .001). This outcome signified that the model offered a considerably better prediction of DEI compared to a baseline model using only the mean DEI value.

Examination of the coefficients provided particular insight into the predictive equation. The intercept, although statistically significant (B = -0.696, *p* < .001), indicated a negative predicted DEI level when technology use was absent. Crucially, the unstandardized coefficient for technology (B = 0.976) demonstrated that a one-unit increase in technology adoption was linked with a predicted increase of 0.976 units in DEI scores. The standardized coefficient (Beta = 0.935) reinforced the strong positive effect of technology on DEI. Furthermore, the t-value of 56.187, in conjunction with a significance level of *p* < .001, highlighted the high statistical significance of this association.

However, the Durbin-Watson statistic of 0.080 deviated considerably from the ideal value of 2, suggesting the potential presence of positive autocorrelation in the residuals. This implies a possible breach of the assumption of independent errors. While this does not invalidate the important discoveries, it represents a limitation that should be acknowledged. Future investigations should contemplate employing techniques, such as time-series analysis or the inclusion of relevant control variables, to address this issue.

In conclusion, the regression analysis provided compelling evidence supporting Hypothesis 1. The statistically significant positive relationship between technology adoption and DEI (B = 0.976, β = 0.935, *p* < .001) warranted the rejection of the null hypothesis. This study concludes that a noticeable positive association exists between the integration of technology and the advancement of diversity, equity, and inclusion within the Nigerian public service. Greater technological integration is strongly correlated with improvements in DEI outcomes.

Hypothesis Two

H_0: The level of fairness and accessibility of technology-enabled recruitment methods in the Nigerian public sector does not differ significantly across applicants from various geographical locations and diverse demographic backgrounds.

H_1: The level of fairness and accessibility of technology-enabled recruitment methods in the Nigerian public sector differ significantly across applicants from various geographical locations and diverse demographic backgrounds.

SPSS Version 25 Output for Moderation Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.855[a]	.731	.725	1.12943	.731	131.517	2	97	.000
2	.870[b]	.757	.749	1.07835	.026	10.408	1	96	.002

a. Predictors: (Constant), Centered-M- Geographical locations and diverse demographic backgrounds., Centered-X- Technology

b. Predictors: (Constant), Centered-M- Geographical locations and diverse demographic backgrounds. Centered-X-Technology, INT (Interaction Term)

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	335.532	2	167.766	131.517	.000[b]
	Residual	123.735	97	1.276		
	Total	459.267	99			
2	Regression	347.635	3	115.878	99.652	.000[c]
	Residual	111.632	96	1.163		
	Total	459.267	99			

a. Dependent Variable: DEI

c. Predictors: (Constant) Technology, Centered-M-Geographical locations and diverse demographic backgrounds, Centered-X-Technology, INT

d. Predictors: (Constant) Technology, Centered-M-Geographical locations and diverse demographic backgrounds, Centered-X-Technology, INT

Coefficients[a]

Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
1 (Constant)	8.000	.113		70.972	.000
Centered-X-	.540	0.084	0.342	6.422	.000

Technology

Centered-M-	1.878	.120	0.831	15.630	.000

Geographical locations and diverse demographic backgrounds

.

2 (Constant)	8.053	.109		74.095	.000
Centered-X-	.471	.083	.298	5.675	.000

Coefficients[a]

Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
1 (Constant)	8.000	.113		70.972	.000
Centered-X-	.540	0.084	0.342	6.422	.000

Technology

Centered-M-	1.878	.120	0.831	15.630	.000

Geographical locations and diverse demographic backgrounds.

2 (Constant)	8.053	.109		74.095	.000

Centered-X-Technology	.471	.083	.298	5.675	.000
Centered-M-Geographical locations and diverse demographic backgrounds.	1.930	.116	.855	16.661	.000
INT	.249	.077	.170	3.226	.002

a. Dependent Variable: DEI

INT = Interaction Term (X * M).

R = 0.855[a], 0.870[b]

R^2 = 0. 731[a], 0.757[b]

F = 131.517

t = 15.63, 16.66

Interpretation

A hierarchical multiple regression analysis, performed using IBM SPSS Statistics Version 25, was conducted to test the proposed hypothesis that geographical location and demographic characteristics moderate the relationship between technology use and the perceived fairness and accessibility of recruitment practices. The analysis sought to determine if the association between the independent variable (technology) and the dependent variable (perceived fairness and accessibility) varied depending on an individual's background.

Results indicated a statistically significant moderating effect, leading to the rejection of the null hypothesis. The findings suggest the relationship between technology and perceptions of fairness and accessibility is not uniform and is significantly influenced by applicant background.

The moderation effect was examined through a two-step hierarchical regression. Model 1 included the primary effects of the centered independent variable (technology scores) and the centered moderator variable

(geographical/demographic background scores). Model 2 added the interaction term, created by multiplying the two centered variables, to directly assess the moderation effect.

Model 1 demonstrated a strong fit, accounting for a considerable proportion of the variance in the dependent variable ($R^2 = .731$, *F*(2, 97) = 131.52, *p* < .001). The addition of the interaction term in Model 2 resulted in a significant increase in explained variance ($\Delta R^2 = .026$, *F*(1, 96) = 10.41, *p* = .002). This statistically significant improvement in model fit (*p* = .002), below the α level of .05, provided strong support for the existence of a moderation effect.

An examination of the coefficients for Model 2 revealed the following: Technology remained a significant positive predictor of perceived fairness and accessibility (B = 0.471, $\beta = 0.298$, *p* < .001). Furthermore, background was also a significant positive predictor of perceived fairness and accessibility, exhibiting an even stronger effect (B = 1.930, $\beta = 0.855$, *p* < .001). Critically, the interaction term was statistically significant (B = 0.249, $\beta = 0.170$, *t*(96) = 3.226, *p* = .002), indicating that the association between technology and fairness/accessibility is contingent upon the level of the moderator variable. The positive B coefficient suggested that the positive impact of technology on fairness/accessibility is amplified for applicants from specific geographical or demographic backgrounds.

In summary, the analysis provided substantial evidence for the hypothesized relationship. The statistically significant interaction effect (*p* = .002) supports the assertion that the relationship between technology use and the perception of fairness and accessibility in recruitment is not consistent across the Nigerian public sector. Rather, it is significantly moderated by an applicant's geographical location and demographic background.

4. Discussion of Findings

This study examined the intricate relationship between the assimilation of technology and its effects on Diversity, Equity, and Inclusion (DEI) within the Nigerian public sector, concentrating specifically on talent acquisition procedures. The results, derived from the testing of two hypotheses, present a sophisticated and multi-faceted understanding of this dynamic.

Initially, the investigation of Hypothesis 1 yielded compelling and definitive confirmation of a significant positive association between technology and DEI. The model's exceptionally high predictive power ($R^2 = 0.873$) intimates that the incorporation of technological solutions – likely manifested through platforms such as online application systems, unbiased assessment tools, and digital outreach strategies – serves as a critical factor in advancing DEI metrics within the public sector. This observation is consistent with global discussions surrounding technology's capacity to mitigate human partiality, standardize methodologies, and broaden the applicant pool, thereby promoting more diverse and equitable recruitment practices.

However, the findings pertaining to Hypothesis 2 introduce a vital qualification to this optimistic perspective. The identification of a statistically significant moderating influence (*p* = .002) signifies that the advantages of technology are not disseminated uniformly. The positive connection between technology and perceived impartiality/accessibility is substantially conditioned by an applicant's geographical location and demographic

characteristics. This suggests that while technology generally exerts a strong positive effect, its effectiveness is either amplified or diminished depending on the user's specific context. This finding introduces critical nuance to the initial observation, implying that without deliberate design and implementation, technology may inadvertently perpetuate or even intensify existing disparities related to digital access, proficiency, and cultural biases embedded within algorithms.

In essence, the discussion must reconcile two principal findings: technology is a valuable instrument for promoting DEI (Hypothesis 1), yet its deployment is not neutral, and its advantages are moderated by socio-demographic attributes (Hypothesis 2). This positions technology not as a straightforward solution, but rather as a complex enabler whose influence is determined by the context in which it is utilized.

5 Conclusion

This study's conclusions necessitate a nuanced perspective. While technology demonstrably serves as a potent and important catalyst for enhancing diversity, equity, and inclusion (DEI) within talent recruitment, exhibiting a strong correlation with more diverse, equitable, and inclusive results, this association is not absolute. The advantageous impact of technology is significantly influenced by an applicant's geographic location and demographic characteristics. Consequently, technology should not be viewed as a panacea. Rather, it operates as a sophisticated instrument whose efficacy is contingent upon the user's background. Without careful and intentional implementation, technology risks reinforcing pre-existing disparities.

Recommendations

Based on the research outcomes, the following four focused recommendations are proposed for the Nigerian public sector to improve equity in recruitment:

1. Implement Proactive Digital Participation Programs: To address the limiting influence of location and population characteristics, public sector institutions should actively allocate resources to and execute digital participation programs. These should concentrate on enhancing broad internet connectivity in under-resourced areas, offering digital skills development for prospective candidates, and guaranteeing that online application platforms are accessible on low-bandwidth connections and fundamental mobile devices.

2. Perform Periodic Algorithmic Assessments for Prejudice: Acknowledging the potential for technology to perpetuate ingrained societal prejudices, it is advised that all AI-driven selection instruments (e.g., curriculum vitae evaluators, assessment algorithms) undergo routine, transparent evaluations by impartial external entities. These evaluations should explicitly assess for prejudice related to gender, ethnicity, geographic background, and socio-economic standing to ensure that these instruments foster impartiality as intended.

3. Employ a "Multi-Faceted" Application Approach: Recognizing that exclusive reliance on digital platforms can preclude specific population segments, selection processes should maintain and promote alternative, non-digital application avenues. This could encompass physical application centers, collaborative arrangements with local community organizations for application collection, and the use of text-based job notifications and application procedures to ensure equitable access for all societal demographics.

4. Develop an Ongoing Oversight Structure for DEI Results: To assure that technology fulfills its potential as a positive facilitator for DEI, institutions must progress beyond isolated implementations. It is recommended to establish a structure for the continuous oversight of DEI indicators (e.g., diversity of candidate pools, employment rates by demographic) specifically separated by location and socio-demographic grouping. This information will enable the prompt identification of any differential effects and facilitate evidence-based modifications to technological instruments and procedures.

References

Adegbite, W., & Adetunji, O. (2023). Digital tools for equitable governance: A Nigerian perspective. *Journal of Public Administration and Development*, *45(2), 112-125.

Akinwale, Y., & Akinsanya, M. (2023). Digital divide and infrastructural limitations in Nigeria: Implications for inclusive development. *African Journal of Science, Technology, Innovation and Development*, 15(1), 78-92.

Andrews, R., Boyne, G. A., Meier, K. J., O'Toole, L. J., & Walker, R. M. (2021). *Strategic management and public service performance*. Palgrave Macmillan.

Australian Human Rights Commission. (2014). *Face the facts: Gender equality 2014*.Bannister, F., & Connolly, R. (2014). ICT, public values and transformative government: A framework and programme for research. *Government Information Quarterly*, 31(1), 119–128.

Bello, T., & Adeoye, M. (2023). Bridging the gap: Digital literacy and public service recruitment in rural Nigeria. *Nigerian Journal of Economic and Social Studies*, 65(3), 45-60.

Bertot, J. C., Gorham, U., Jaeger, P. T., & Taylor, N. G. (2016). Big data, open government and e-government: Issues, policies and recommendations. *Information Polity*, *21*(1), 5–16.

Burgess, D., Borgida, E., & Van Ryn, M. (2009). The impact of Equal Employment Opportunity statements in job advertisements on applicants' perceptions of organizations. *Australian Journal of Psychology*, 61(2), 97–108.

Coger, T. P. (2023). *The future of work: Leveraging technology for equitable recruitment and remote collaboration*. Business Expert Press.

Diversity Council Australia. (2023). *The business case for diversity and inclusion*.

Enang, E., Asenova, D., & Bailey, S. J. (2020). Digital transformation and accountability in public sector governance: A systematic review. *Public Money & Management*, 40(7), 489–498.

Eze, C., & Onyebuchi, C. (2024). Data analytics for equitable resource allocation in the Nigerian public sector. *Journal of African Policy Studies*, 10(1), 88-104.

Fischer, D., Heuberger, M., & Heine, M. (2021). Anticipating and preparing for the future of the public sector: A framework for strategic foresight. *The American Review of Public Administration*, 51(5), 365–377.

Fleischman, D. S., Webster, G. D., & Gerrard, M. (2024). Navigating in-group and out-group dynamics in organizational diversity messaging. *Journal of Applied Social Psychology*, 54(3), 145-158.

Fryer, R. G., Jr. (2019). *The potential of technology to reduce bias in hiring*. National Bureau of Economic Research.

Giddens, A. (1984). *The constitution of society: Outline of the theory of structuration*. University of California Press.

Gil-Garcia, J. R., Dawes, S. S., & Pardo, T. A. (2018). Digital government and public management research: Finding the crossroads. *Public Management Review*, 20(5), 633–646.

Giritli Nygren, K. (2012). E-governmentality: On the electronic transformation of public sector rationality. *Journal of Information Technology & Politics*, 9(3), 255–270.

Hanelt, A., Bohnsack, R., Marz, D., & Marante, C. A. (2021). A systematic review of the literature on digital transformation: Insights and implications for strategy and organizational change. *Journal of Management Studies*, 58(5), 1159–1197.

Hinings, B., Gegenhuber, T., & Greenwood, R. (2018). Digital innovation and transformation: An institutional perspective. *Information and Organization*, 28(1), 52–61.

Intel. (2023). *Global diversity and inclusion: Annual report 2023*.

International Labour Organization. (2022). *Transformation and the future of work: A literature review*. ILO Publications.

Jaeger, P. T., & Bertot, J. C. (2010). Transparency and technological change: Ensuring equal and sustained public access to government information. *Government Information Quarterly*, 27(4), 371–376.

Kaushik, V. (2023). *AI for policy analysis: Identifying and dismantling structural barriers toinclusion*.OxfordUniversity Press.

Lau, T. Y., Aboulhoson, M., Lin, C., & Atkin, D. J. (2008). Adoption of e-government in three Latin American countries: Argentina, Brazil and Mexico. *Telecommunications Policy*, 32(2), 88–100.

Lee, J., Mansouri, F., & Wadley, D. (2023). Regulatory and economic incentives for DEI adoption: A comparative study. *Journal of Business Ethics*, 185(4), 789-805.

Lefebvre, E. (2023). *Technology as an equalizer: Creating fair learning and collaborative environmentsnthepublic sector*. Routledge.

Mansouri, F. (2023). *The economics of diversity: Policies for a competitive edge*. Cambridge University Press.

Mergel, I. (2013). Social media adoption and resulting tactics in the U.S. federal government. *Government Information Quarterly*, 30(2), 123–130.

Mergel, I., Edelmann, N., & Haug, N. (2019). Defining digital transformation: Results from expert interviews. *Government Information Quarterly*, 36(4), 101385.

Meucci, M. (2023). *Data for good: Building representative datasets to mitigate bias*. Stanford University Press.

Nwachukwu, C., & Danjuma, I. (2023). Virtual training and skill development for underrepresented groups in the Nigerian public service. *African Journal of Education and Practice*, 7(2), 33-47.

Nwanegbo, J., & Odigbo, J. (2021). Public service legitimacy and accountability in Nigeria: Challenges and prospects. *Journal of Public Affairs*, 21(3), e2245

Okafor, L., & Ibrahim, A. (2022). Ethnic and gender inequalities in Nigeria's public

sector:Ahistoricalanalysis. *Journal of African American Studies*, 26(1), 55-70.

Okeke, C., Eze, B., & Chukwuma, N. (2023). AI in recruitment and its impact on gender and ethnic diversity in Nigeria's civil service. *Technology in Society*, 72, 102178.

Oluwatoyin, A., & Adebayo, P. F. (2022). Cultural and financial determinants of representation in Nigerian public institutions. *African Development Review*, 34(2), 210–223.

Perrin, A. (2022). *The power of inclusive messaging in employer branding*. Society for Human Resource Management.ricewaterhouseCoopers Consulting Australia. (2022). *ESG and DEI reporting in the ASX 200*. PwC Australia.

Riccucci, N. M., Van Ryzin, G. G., & Lavena, C. F. (2020). Representative bureaucracy and the humanization of services: A field experiment. *Public Administration Review*, 80(6), 1005–1015.

Shore, L. M., Randel, A. E., Chung, B. G., Dean, M. A., Holcombe Ehrhart, K., & Singh, G. (2011). Inclusion and diversity in work groups: A review and model for future research. *Journal of Management*, 37(4), 1262–1289.

Sutton, C. D., Moore, K. K., & Makowski, D. G. (1994). The impact of Equal Employment Opportunity (EEO) statements in job advertisements on applicant attitudes. *Journal of Social Behavior and Personality*, 9(4), 721–728.

Tolbert, C. J., Mossberger, K., & McNeal, R. S. (2008). Institutions, policy, and e-government in the American states. *Public Administration Review*, 68(3), 549–563.

Vercoe, M. (2023). *Trust deficit: The challenge of ESG and DEI disclosures in the modern corporation*. Thomson Reuters.

Wadley, D. (2023). *The regulatory landscape of diversity and inclusion*. LexisNexis Butterworths.

West, D. M. (2005). *Digital government: Technology and public sector performance*. Princeton University Press.

Westen, T. E. (1985). The meaning of equality in law, science, math, and morals: A reply. *Michigan Law Review*, *83*(4), 604–663.

Westerheim, H. (2023). *Measuring what matters: Data analytics for effective DEI programs*. Wiley.

Yusuf, A., & Mohammed, S. (2024). Blockchain technology for transparent personnel management in the public sector. *Public Integrity*, 26(1), 12-28.