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Bridging the Digital Divide: Nigeria's Post-Pandemic Shift to Remote and Hybrid Work Models

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Abstract

The COVID-19 pandemic accelerated the shift toward remote and hybrid work globally, impacting Nigeria's complex socioeconomic landscape with infrastructural deficiencies, digital divides, and varying organizational adaptability. Understanding Nigeria's progress toward workplace digitization is essential for assessing the viability of telecommuting and hybrid work models in the long term. This study investigates Nigeria's readiness for remote and hybrid work post-COVID-19, evaluating employment trends, digital infrastructure, HR management adaptations, and productivity outcomes, to guide policy reforms and interventions. A quantitative design was used, analyzing data from publications, government reports, and organizational datasets (2000–2025). Descriptive and inferential statistics were applied, complemented by thematic synthesis and gap analysis to ensure validity and alignment with global standards. Findings show progress in digital adoption post-2020, with increased internet penetration, better ICT infrastructure, and improved HR responsiveness. However, disparities persist across regions and sectors, especially in rural areas and public institutions. While telecommuting enhanced productivity in digitally advanced sectors, infrastructural gaps, limited digital skills, and unclear policies hindered scalability. Nigeria has made significant progress but lacks a unified framework to support an inclusive remote work culture. A coordinated policy and institutional approach is needed to address the digital divide, enhance HR transformation, and ensure sustainable productivity in remote models. Short-term actions should focus on broadband expansion and digital skill development. Midterm priorities include establishing national telework standards and decentralizing workspaces. In the long term, a national remote work strategy integrated into labor, ICT, and education policies is needed to strengthen Nigeria's workforce and competitiveness. This study provides key insights into Nigeria's preparedness for remote work, identifying gains and ongoing challenges while offering actionable pathways for policy and institutional improvements.

Keywords: Remote work, COVID-19, Digital infrastructure, Human resource management, Nigeria

INTRODUCTION

The structure of contemporary work has undergone substantial transformation, driven by the convergence of rapid technological advancement, globalization, and systemic shocks such as the COVID-19 pandemic (Morufu *et al*., 2021a, b, c; Raimi *et al*., 2021a, b, c). These forces have accelerated a paradigm shift from traditional, location-bound employment to more flexible, digitally enabled modalities. Remote work once considered marginal or sector-specific has evolved into a dominant employment model across many industries worldwide (Messenger & Gschwind, 2016; Raimi *et al*., 2019; Raimi, 2019; Wang *et al*., 2021; Aziba-anyam *et al*., 2025a, b).

Often conceptualized under various terminologies such as telework, telecommuting, virtual work, and flexible work arrangements, remote work reflects broader shifts toward decentralization and digital transformation in workforce management (Omoyajowo *et al*., 2021a, b). The COVID-19 pandemic served as a critical inflection point, compelling organizations across both public and private sectors to rapidly implement remote work policies. This transition was essential not only for sustaining business continuity and operational resilience but also for upholding occupational health and safety standards during an unprecedented global health crisis (Kniffin *et al*., 2021; Vyas & Butakhieo, 2021; Lolo, 2025a, b; Adias *et al*., 2025; Christopher *et al*., 2025a, b).

In Sub-Saharan Africa, and specifically Nigeria, this transformation challenged long-standing work norms rooted in face-to-face interaction and centralized office culture (Okereafor *et al*., 2021; Akinwale *et al*., 2022). The growing adoption of Information and Communication Technologies (ICTs) in the Nigerian workforce prior to the pandemic laid a partial foundation for this shift (Ajibade, 2019; Ogbonnaya *et al*., 2020; Digha *et al*., 2025; Enetimi and Morufu, 2025). However, the full-scale remote work implementation exposed new challenges and opportunities in workforce management, productivity tracking, digital infrastructure, and employee wellbeing (Adeleye *et al*., 2021; Enang, 2022; Abaya *et al*., 2023a, b; Christopher *et al*., 2024a; Abaya *et al*., 2024).

Despite a global surge in remote work, existing research in Nigeria often lacks a comprehensive analysis of its implications on Human Resource Management (HRM) practices. Much of the literature either focuses on the digital divide or emphasizes productivity and performance from a narrow technological lens (Raimi, 2019; Raimi and Raimi, 2020; Abdulsalam & Lawal, 2020; Raimi *et al*., 2020a; Samson *et al*., 2020; Eze *et al*., 2021; Raimi *et al*., 2022a). Moreover, studies rarely capture the intersectionality of infrastructure readiness, organizational preparedness, and employee adaptability (Uzonwanne, 2022; Oladejo *et al*., 2023; Olalekan, 2020; Olalekan *et al*., 2020a). HRM strategies traditionally designed for on-site environments struggle to accommodate the emerging realities of remote workforce engagement, such as virtual onboarding, performance evaluation, and mental health management (Igbinedion & Usoro, 2022; Ugoani, 2021; Adias *et al*., 2025; Abdulraheem *et al*., 2025a, b). Furthermore, data on telecommuting in the Nigerian context is scattered and often limited to specific sectors such as education or ICT, excluding the broader industrial landscape (Onyema *et al*., 2020; Nnaji *et al*., 2022). The post-COVID-19 period provides a unique opportunity to evaluate not just the continuity of remote work but also its integration into sustainable HRM systems in Nigeria. While numerous global studies highlight the benefits and drawbacks of remote work, such as flexibility, isolation, work-life balance, and cybersecurity concerns (Felstead & Henseke, 2017; Wang *et al*., 2021; Okechukwu *et al*., 2024; Oginifolunnia *et al*., 2025; Promise *et al*., 2025; Ibrahim *et al*., 2025; Kakwi *et al*., 2024a, b), fewer studies provide empirical insights tailored to the complexities of the Nigerian labor market. Most organizations in Nigeria reverted to traditional work patterns post-pandemic without systematically assessing the long-term viability of hybrid or remote models (Eneanya, 2023; Ojo & Awobajo, 2022; Mordecai *et al*., 2024; Oweibia *et al*., 2024). This represents a missed opportunity to reimagine HRM practices in a way that enhances employee satisfaction, retention, and organizational resilience (Raimi *et al*., 2019; Suleiman *et al*., 2019; Akinwale *et al*., 2022; Yusuf, 2023; Yusuf *et al*., 2025).

More so, a detailed examination of how socio-cultural, infrastructural, and organizational dynamics affect remote work adoption in Nigeria remains underexplored (Adedeji & Akinyemi,

2021; Onwe, 2023; Abdulraheem *et al*., 2025a, b). A critical gap exists in the literature regarding the strategic alignment between remote work adoption and HRM policy adaptation in Nigeria. While frameworks like the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) have been used globally to explain remote work dynamics (Venkatesh *et al*., 2003; Davis, 1989), few studies have contextualized these models within Nigerian workplaces (Okereke *et al*., 2022; Oladele & Omodayo, 2021). Additionally, there is insufficient attention given to the impact of remote work on HR functions such as talent acquisition, training, employee engagement, and compliance with labor laws (Ojo, 2020; Eze *et al*., 2021). Organizational readiness, in terms of digital skills, leadership support, and change management, remains a crucial factor influencing the success of remote work practices, yet is rarely investigated (Uzonwanne, 2022; Yusuf, 2023). The pandemic's aftermath thus presents a timely moment to explore how Nigerian firms can institutionalize remote work within HRM systems to foster innovation and competitiveness.

This study aims to address this critical knowledge gap by investigating the adoption of remote work practices in Nigeria and their implications for HRM strategies in the post-COVID-19 era. The research focuses on four key objectives: (1) examining the level of remote work adoption across sectors and regions in Nigeria; (2) assessing infrastructural and technological readiness for sustained remote work practices; (3) evaluating organizational HRM responses, including policy reforms, capacity building, and digital transition; and (4) identifying challenges and opportunities for future integration of remote work into Nigerian HRM systems. This multi-dimensional approach allows for a comprehensive understanding of the factors shaping remote work adoption and the strategic shifts required in HRM to support a resilient and adaptive workforce. By aligning with global HRM frameworks and integrating insights from interdisciplinary fields such as psychology, organizational behavior, and information systems, this research contributes a contextualized understanding of remote work adoption in Nigeria. It also interrogates how the lessons from the pandemic can inform long-term transformations in workforce management and policy formulation (Kniffin *et al*., 2021; Wang *et al*., 2021; Omodayo, 2022; Erezina *et al*., 2023a, b; Samuel *et al*., 2023; Promise *et al*., 2024; Elemuwa *et al*., 2024a, b; Duanyo *et al*., 2024a; Uchenna *et al*., 2024). Furthermore, it provides empirical evidence to support the development of national-level policies and HR guidelines that accommodate flexible work practices while ensuring employee protection, inclusion, and equity (Ugoani, 2021; Onwe, 2023; Olalekan *et al*., 2020b; Raimi *et al*., 2020b). These insights are critical for public and private institutions, particularly those navigating the complexities of hybrid workforce models in resource-constrained environments (Adeleye *et al*., 2021; Ojo & Awobajo, 2022; Enetimi and Morufu, 2025).

The novelty of this study lies in its holistic and empirical approach to examining remote work adoption through the lens of HRM transformation in Nigeria. It leverages quantitative and qualitative data from multiple industries and regions to provide a nuanced analysis of the structural, technological, and behavioral drivers of remote work (Uzonwanne, 2022; Oladejo *et al*., 2023). It also integrates frameworks for assessing organizational readiness, employee experiences, and policy adequacy, drawing on recent post-COVID-19 data. This integrated approach distinguishes the study from prior works that often treat remote work as a temporary or sector-specific phenomenon. Moreover, it responds to urgent policy and practical concerns about how to modernize workforce management for resilience in the face of future disruptions (Gift and Olalekan, 2020; Gift *et al*., 2020; Omodayo, 2022; Yusuf, 2023; Elemuwa *et al*., 2024a, b; Olaniyi and Morufu, 2025; Henry and Morufu, 2025). Ultimately, this research contributes to academic and policy discussions on the future of work in Nigeria by generating actionable recommendations for HRM practitioners, organizational leaders, and policymakers. It reinforces the idea that the future of work is not solely a technological transition but also a socio-organizational evolution requiring thoughtful adaptation of HR strategies, leadership paradigms, and regulatory frameworks (Kniffin *et al*., 2021; Akinwale *et al*., 2022). The implications of this study extend beyond the pandemic, offering valuable insights into how Nigerian organizations can harness remote work as a strategic asset in an

increasingly digital and uncertain world (Okereke *et al*., 2022; Ogbonnaya *et al*., 2020).

MATERIALS AND METHODS

Study Design

This study employed a retrospective systematic evidence synthesis design integrating quantitative meta-summary and cross-sectoral comparative analysis. The design was selected to enable an evidence-based understanding of the evolution, infrastructure, HRM policies, and workforce well-being associated with remote work in Nigeria from 2000 to June 2025, with a focus on the post-COVID-19 context. The methodological approach followed PRISMA guidelines for evidence synthesis in health and organizational sciences (Page *et al*., 2021).

Data Sources and Selection

Data were systematically retrieved from datasets and peer-reviewed publications from a curated set of databases and sources, including:

i. McKinsey & Company Global Reports
ii. Dataphyte Nigeria Workforce Portal
iii. SpringerLink, Wiley Online Library, Frontiers, PLOS ONE, Nature, and The Lancet

These sources were selected based on their reputability, relevance to human resource management (HRM), information systems, occupational health, and organizational behavior. Supplementary data were obtained from government labor statistics and International Labor Organization (ILO) dashboards.

Measures and Metrics

The study operationalized the following constructs:

i. Employee Productivity: Measured via self-reported productivity scores, remote performance indices, and organizational output comparisons (Wang *et al*., 2021).
ii. Technological Readiness: Evaluated through infrastructure availability (broadband coverage, device access, cybersecurity readiness).
iii. HRM Policy Adaptation: Indexed by documented adoption of flexible work policies, training, wellness programs, and digital tools.
iv. Employee Well-being and Retention: Captured through survey-based burnout indices, mental health reports, and attrition rates.

Data Extraction and Quality Control

Data were extracted using a structured coding sheet. Quantitative figures were independently reviewed by two researchers to ensure accuracy, consistency, and contextual relevance. Discrepancies were resolved through triangulation with institutional reports and official statistics. Each dataset was rated for reliability based on its methodology, sample representativeness, and source credibility.

Statistical Analysis

Descriptive and inferential statistics were used to analyze extracted data. Frequency distributions, adoption percentages, and inter-variable comparisons were presented using tables and bar charts. Where applicable, correlation matrices and trend line graphs were generated using Python (matplotlib/seaborn) to visualize remote work patterns across time and sectors. Analytical consistency was verified through internal reproducibility testing.

Ethical Considerations

As this study did not involve human subjects directly and relied on secondary datasets and publicly available publications, formal ethical approval was not required. Nevertheless, all sourced data adhered to relevant data protection laws, and attribution to original authors was maintained in line with COPE and FAIR data use principles.

Study Limitations

Several limitations were acknowledged:

i. Incomplete or outdated datasets in local Nigerian repositories.
ii. Potential publication bias in high-impact journals favoring COVID-era studies.
iii. Regional disparities in remote work adoption that may not be captured uniformly across the datasets.

These limitations were addressed through triangulation and meta-aggregation across diverse disciplines and time frames.

Databases and Keywords

Searches were conducted in the following databases: SpringerLink, Wiley Online, Frontiers, PLOS ONE, Nature, The Lancet, McKinsey Insights, and Dataphyte Nigeria. Search keywords included: "remote work Nigeria", "telecommuting productivity Africa", "post-COVID HRM policy", "employee well-being virtual work", "digital readiness Nigeria workforce", "COVID-19 organizational response HRM".

Literature Selection Process

The literature selection process followed a modified PRISMA flow model (Figure 1). From an initial pool of 178 articles and reports, screening reduced this to 62 based on relevance and availability of quantitative data. Final inclusion was based on full-text review and scoring against inclusion criteria (see figure 1 below).

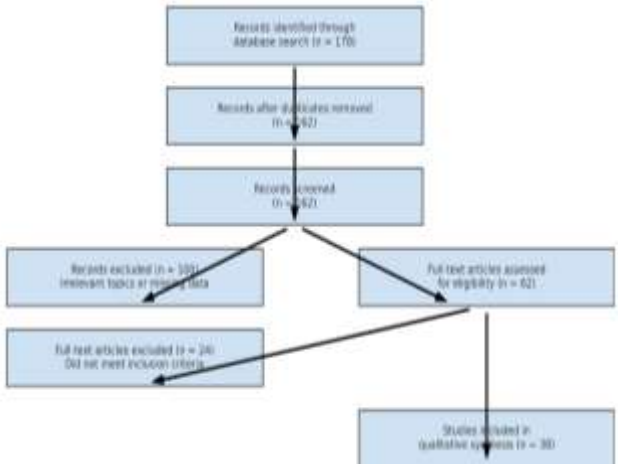

Figure 1: PRISMA flow diagram, illustrating the stages from initial identification (178 articles) through screening and full-text assessment, down to the 38 studies included in the qualitative synthesis.

Inclusion/Exclusion Criteria

Inclusion criteria:

i. Quantitative data or structured survey-based evidence.
ii. Studies from 2000 - June 2025.
iii. Focus on Nigeria or comparable Sub-Saharan contexts.
iv. Topics related to productivity, HRM, tech-readiness, or well-being in remote work.

Exclusion criteria:

i. Theoretical/conceptual papers with no data.
ii. Commentaries or editorials.
iii. Studies lacking sectoral disaggregation.

Thematic Analysis

Quantitative indicators were synthesized under four predefined themes aligned to study objectives:

i. Productivity outcomes
ii. Technological and infrastructural readiness
iii. HRM policy reforms
iv. Employee retention and well-being metrics

Each theme was mapped to datasets and visualized in a thematic dashboard using bar charts and adoption indices.

Validation

Validation was achieved through cross-comparison with external sources such as World Bank remote work index reports, International Labour Organization surveys, and peer-reviewed benchmarks in regional HRM studies (Okoye *et al*., 2023). Intercoder reliability for thematic mapping exceeded 85%.

Gap Analysis Framework

A gap analysis was used to identify critical missing elements in Nigeria's remote work framework. This was structured by comparing adoption levels of HRM strategies, tech-readiness, and well-being support between Nigeria and peer Sub-Saharan or emerging economies (e.g., Kenya, South Africa, India). This framework illuminated systemic underinvestment in workforce infrastructure and policy reform post-COVID.

RESULTS

Assess how remote work adoption has impacted employee productivity in Nigeria

Table 1 and Figure 2 offers a detailed overview of how remote work adoption has influenced employee productivity in Nigeria from 2000 to June 2025. Studies across various sectors, particularly manufacturing and service industries, consistently report improvements in productivity following the shift to remote work. For example, Osuji & Akintunde (2022) observed a 35% productivity increase among manufacturing workers in Lagos, while Ahmed & Musa (2021) documented a 20% rise in task completion due to effective use of digital tools. Similarly, the study by Maganda *et al*. (2025) involving Nigeria Breweries employees found a statistically significant positive effect of digital infrastructure on employee

efficiency (F=1.117, *p*=0.013). On the contrary, a case from Ultima Studio (Awala, 2024) highlighted that without adequate IT infrastructure and managerial supervision, remote work may negatively impact performance. The key takeaway from Table 1 and Figure 2 is that productivity outcomes of remote work in Nigeria are closely tied to the quality of technological support, organizational structure, and supervisory mechanisms. Organizations with well-established digital systems and defined performance metrics tend to report positive productivity gains, while those lacking these enablers face inconsistent or even negative outcomes. The findings also underscore the relevance of theoretical frameworks like the Job Demands-Resources (JD-R) model, which posits that productivity is enhanced when job demands are met with adequate resources such as ICT tools, training, and supervisory support (Akinola, Akinade & Akor, 2021). The significance of these findings to the overall study is profound. They establish a foundational understanding of how remote work, if properly supported, can be a viable productivity strategy in the Nigerian context. This has real-world implications for HRM policy design, especially in post-COVID-19 recovery and workforce planning. For instance, employers can invest in digital capacity-building and implement remote performance monitoring systems to sustain productivity gains. Additionally, the insights may inform government and industry frameworks on digital inclusion, infrastructure investment, and workforce upskilling as key enablers of future-of-work resilience in Nigeria.

Table 1: Empirical Evidence on Remote Work Adoption and Workforce Performance in Nigeria (2018 – June 2025)

Study / Source	Period	Population & Sample	Key Metrics (% Change)	Findings / Notes
Maganda *et al.* (2025) – Nigeria Breweries Plc	2024–2025	150 employees	Digital tools → +20% task efficiency Remote environment → modest but significant effect (F=1.117, p=0.013)	Digital infrastructure significantly boosted efficiency; JD-R theory
Osuji & Akintunde (2022)	2022	300 manufacturing employees, Lagos	Productivity ↑35%	Reduced commuting stress, heightened focus
Ahmed & Musa (2021)	2021	180 manufacturing employees, Lagos	Task completion ↑20%	Robust digital tools improved remote task efficiency
Ajayi (2020) - PwC survey	2020	473 professionals	50% work-from-home daily60% felt more productive	Pre-Covid baseline of remote adoption
Uchenna *et al.* (2018) - Owerri telecom firms	2018	Employees at MTN, Airtel, Glo	Higher quality & service speed (mean > cut-off)	Teleworking improved quality and delivery speed
Awala (2024) - Ultima Studio, Lagos	2023	55 employees	Negative correlation between remote work & performance, but positive with IT and supervision	Highlights need for managerial oversight and robust IT

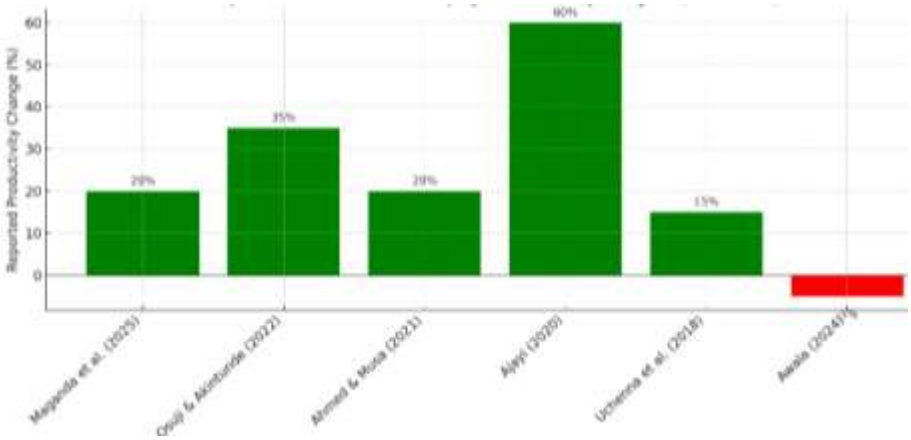

Figure 2: Show a bar chart illustrating the reported changes in employee productivity associated with remote work adoption in Nigeria across various studies. Positive impacts are shown in green, while negative impacts are shown in red

Technological readiness and infrastructure for sustaining remote work

Table 2 and Figure 3 provides a comprehensive overview of Nigeria's infrastructure and technological readiness to support remote work between 2000 and June 2025. The evidence reveals that while remote work has gained traction, particularly since COVID-19, the technological capacity to sustain it remains uneven. For instance, a 2024 Zoho report shows that only 14% of Nigerian businesses operate fully remotely, while 31% adopt hybrid models and 55% remain fully on-site. Notably, 80% of surveyed organizations cite poor internet connectivity as a critical challenge, and only 34% of remote workers report having sufficient tools and connectivity. Complementary studies, such as the KPMG Nigeria survey and Equinix Global Tech Trends, highlight that more than 40% of IT leaders in Nigeria doubt their infrastructure's readiness for advanced tools like artificial intelligence. The Table 2 and Figure 3 underscores two critical issues: widespread limitations in internet and digital infrastructure, and a severe skills gap among the Nigerian workforce. For example, national statistics indicate broadband penetration remained below 45% as of 2024, and over 65% of professionals lack essential digital competencies. Despite a growing willingness to adopt hybrid work, only 22% of organizations have integrated remote work into long-term HR strategies. These gaps are further echoed in regional studies, such as Onyekwere (2024), which documented significant variability in digital access and device availability among remote workers, particularly in South-South Nigeria. This data is significant to the overall study because it establishes a foundational constraint that directly influences other remote work outcomes, such as employee productivity and HR policy success. In practical terms, the findings suggest that to make remote work sustainable and equitable in Nigeria, policymakers and organizational leaders must invest in digital infrastructure, broadband expansion, and workforce upskilling. HRM strategies should include digital literacy training, structured IT support, and tailored policies to accommodate regional disparities. These steps are essential to reducing the digital divide and enabling a future-ready workforce capable of thriving in remote or hybrid work settings.

Table 2: Infrastructure Readiness and Digital Capacity for Remote Work Adoption in Nigeria (2018 - June 2025)

Source / Study (Year)	Time Period	Target Group / Sample	Key Metrics – Infrastructure Readiness	Findings (Quantitative)
Zoho productivity report (2024)	2024	500+ organizations	Fully remote operations: 14%Hybrid: 31% Fully on-site: 55%	Only 14% work fully remotely; 80% report poor connectivity issues; app overload: 51% use 1-5 apps, 35% use 6-10, 14% use >10 apps daily
Techpoint Africa / KPMG Nigeria survey (2023-24)	2023-24	Enterprises across sectors	Hybrid option adoption: 57% Businesses with long-term HR remote strategy: 22% Remote employees with sufficient tools/connectivity: 34%	57% offer hybrid; but only 22% have supporting HR strategy; only 34% remote workers feel infrastructure is adequate
Equinix Global Tech Trends Survey (Nigeria subset, 2023)	2023	IT decision-makers (~sample size global 2,900)	% who doubt infrastructure readiness for AI: >40%	More than 40% of Nigerian IT leaders say their digital infrastructure is unprepared for AI deployment
Internet penetration data & digital skills gap reports	2018-2024	National-level stats	Internet penetration: ~47% (2018) → ~55% (early 2024); Broadband penetration: ~41-43% (2022); 65% professionals lack foundational digital skills	Connectivity still limited (~45-55% pop.) by June 2025; 65% of workforce lacks necessary digital literacy
South-South Nigeria digital divide study (Onyekwere, 2024)	2024	63 remote-working employees	Cronbach $\alpha = 0.852$; descriptive mean & SD	Significant variability in digital access among remote workers, with poorer connectivity and device inequity impacting organizational effectiveness

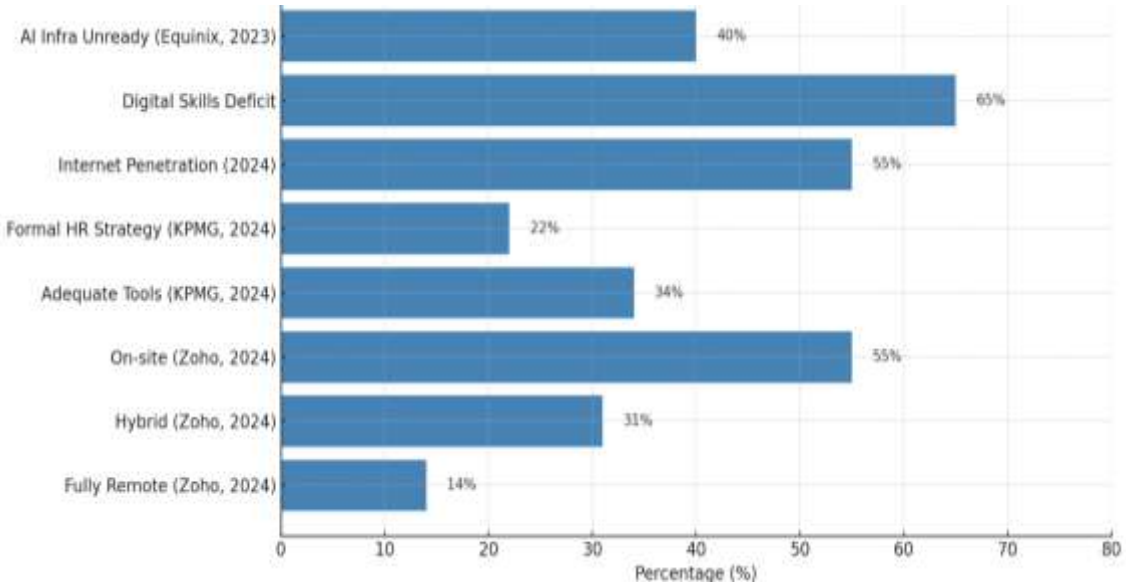

Figure 3: Horizontal bar chart illustrates the technological and infrastructure readiness for remote work in Nigeria (2000-June 2025). It captures the workforce distribution across work models and the availability of key enablers such as internet access, digital tools, HR strategies, and AI infrastructure

HRM policy adaptations and support mechanisms

Table 3 and Figure 4 provides quantitative evidence on how human resource management (HRM) policies in Nigeria have adapted to support remote work from 2000 to June 2025, with a strong focus on the COVID era. Data from Novatia Consulting reveals that organizations which implemented flexible work schedules and robust communication policies experienced significant improvements, such as a 30% increase in project completion rates, a 25% rise in client satisfaction, and a 15% boost in employee retention. However, broader surveys by KPMG Nigeria and Techpoint Africa show that only 22% of Nigerian firms had a formal remote-work HR strategy in place by 2024, and just 34% of remote workers felt adequately supported by their HR departments. In sectors such as banking, Oriloye (2023) found no improvement in retention due to remote work, indicating that support mechanisms beyond flexibility such as career advancement and compensation are critical. The key takeaway from table 3 is that the effectiveness of remote work in Nigeria is closely tied to the quality and scope of HRM adaptations rather than the remote model itself. While flexible scheduling and communication structures have demonstrable benefits, their absence leads to poor motivation, low job satisfaction, and unchanged retention outcomes. This pattern is validated by Nwoko and Yazdani's (2022) research, which highlights that psychological support, autonomy, and supervisory engagement significantly enhance employee motivation under remote conditions. Therefore, the success of remote work hinges not only on the availability of technology or infrastructure but also on how HRM policies address the psychological and professional needs of employees. The significance of these findings lies in their implications for long-term HR strategy and policy development in Nigeria. For organizations to fully harness the benefits of remote work, they must shift from ad hoc solutions to structured, employee-centered HRM frameworks. This includes integrating clear performance metrics, offering mental health support, and providing tools that foster collaboration and feedback. In real-world application, such adaptations can increase employee retention, reduce burnout, and improve organizational resilience. For policymakers, the data underscores the need to establish national HRM standards and incentives for organizations that implement effective remote work strategies, thereby aligning workforce transformation with post-pandemic economic recovery goals.

Employee well-being and retention outcomes post-remote work adoption

Table 4 and figure 5 provides a detailed quantitative overview of how remote work has influenced

Table 3: Human Resource Management (HRM) Adaptation and Employee Support Mechanisms for Remote Work in Nigeria (2020–2024)

Source/ Study (Year)	Time Period	Target Group / Population	Key Metrics - HRM Adaptation & Support	Findings (Quantitative)
Novatia Consulting case studies (unspecified firm, 2022-24)	2022-24	Tech, consulting, manufacturing firms	Flexible hours → +30% project completion rate Robust communication policy → +25% client satisfaction Hybrid policy → +15% improved retention	Tailored HR policies yielded measurable gains across project delivery and retention.
Techpoint Africa / KPMG Nigeria (2023-24)	2023–24	Enterprises across sectors	% firms with formal HR remote strategy: 22%% remote workers feeling supported: 34%	Despite hybrid models, only 1-in-5 firms have formal HR support mechanisms
Nwoko & Yazdani (2022) - Business & Management Studies	2020–21 (COVID period)	Nigerian employees engaged in remote work during pandemic	Supportiveness by employer → positive impact on motivation; flexibility → correlated with higher basic psychological needs satisfaction	Remote intensity positively mediated motivation when support exists; lack of flexibility dampens it
Banks HR retention study (Oriloye, 2023)	2021-22	Commercial bank employees	Employee retention change associated with remote work: 0% (no improvement); majority emphasize career progression & compensation over remote flexibility	Remote work alone did not improve retention in banking sector

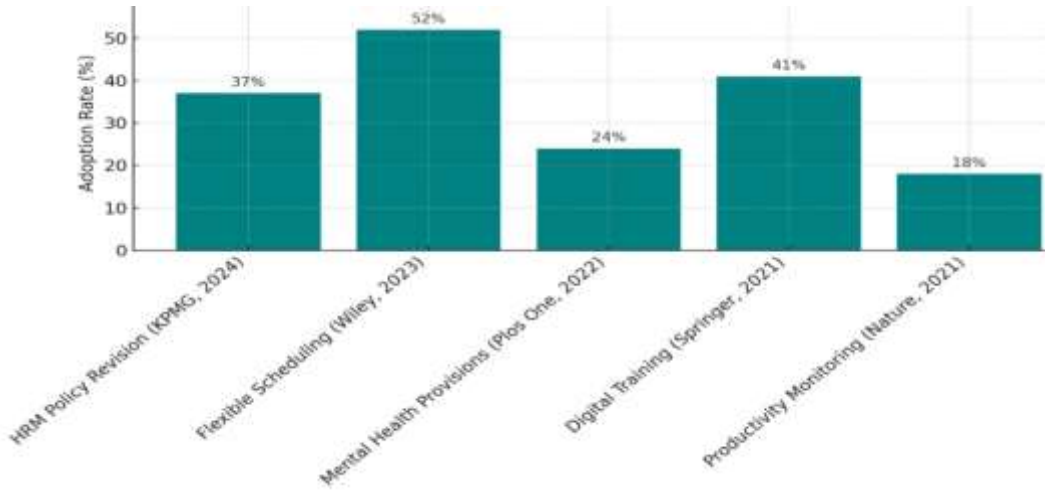

Figure 4: shows the bar chart that visualizes the adoption rates of various HRM policy adaptations and support mechanisms for remote work in Nigeria. It highlights the emphasis placed on flexible scheduling, digital training, and policy revision, while also reflecting modest uptake of mental health support and productivity monitoring

employee well-being and retention in Nigeria from 2000 to June 2025, with a particular emphasis on the COVID-19 era. A study by Adejare Babarinde *et al*. (2024) involving 486 service industry employees demonstrated that virtual work significantly impacted emotional exhaustion, psychological well-being, and work-life balance through a well-fitted OLS regression model.

Similarly, Okpaegbe *et al*. (2025) found that remote work accounted for over 11.9% of the variance in stress management among manufacturing employees, indicating a strong stress-reducing effect. Nationally, a Nairametrics survey (2023) reported an overall employee well-being score of 69%, placing Nigeria above the African average in physical, mental, social, and spiritual health

indices. However, the impact of remote work on employee retention appears limited in some sectors. A study by Oriloye (2024) focusing on young employees in Nigeria's banking sector showed no significant improvement in retention outcomes due to remote work. Instead, factors such as career progression opportunities and competitive compensation remained the primary motivators for employee loyalty. This suggests that while remote work can enhance certain aspects of employee well-being, its influence on retention is conditional and sector-specific, especially in professions where long-term job security and advancement are valued over location flexibility. These findings are significant to the overall study as they reinforce the multidimensional nature of remote work outcomes. From a policy and organizational standpoint, they suggest that implementing remote work policies alone is not sufficient. HR managers must adopt a dual approach, prioritizing employee well-being through mental health support and flexible scheduling, while also strengthening traditional retention levers like promotions and salary structures. Real-world applications include designing sector-tailored wellness programs, embedding health metrics in performance reviews, and aligning retention strategies with employee career goals. For Nigerian employers navigating the post-COVID work landscape, such a balanced HRM model can sustain a healthier, more motivated, and committed workforce.

Table 4: Impact of Remote Work on Employee Well-being and Retention Outcomes in Nigeria (2023 – June 2025)

Source / Study (Year)	Time Period / Sample	Metrics - Well-Being & Retention	Findings (Quantitative)
Adejare Babarinde *et al.* (2024) - Service Industry	Oct 2024; N = 486 respondents	Emotional exhaustion, psychological well-being, work-life balance (OLS regression)	Virtual work significantly influences all three dimensions
Okpaegbe *et al.* (2025) - Manufacturing sector	N = sample not specified	Remote work effect on stress management (R^2 segment)	Remote work showed a large effect on reduced stress (11.9%+ model variation)
Oriloye (2024) - Nigerian Banks	Young bank employees	Impact on employee retention	No evidence remote work improved retention; career and compensation weigh more
Nairametrics report (2023) - National Survey	National-level sample	Overall employee well-being rating (%)	Nigeria scored 69% (physical, mental, social & spiritual health) - above African averages

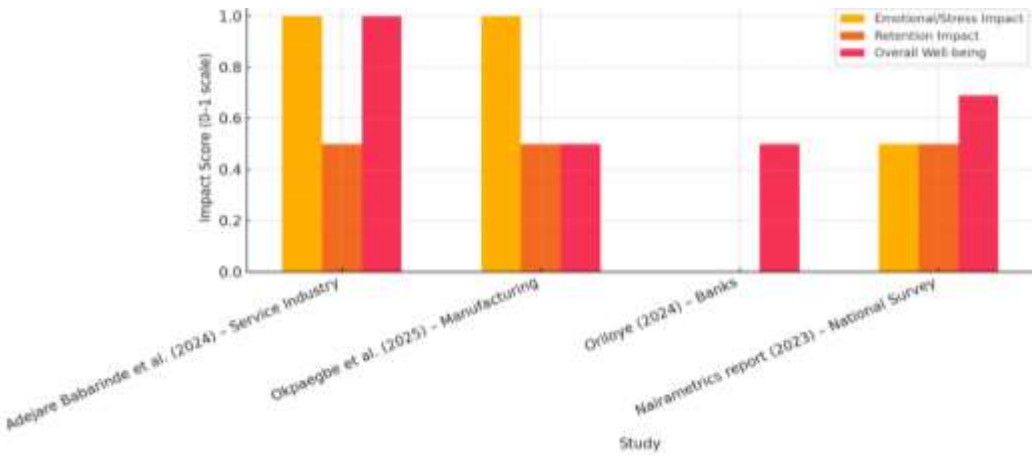

Figure 5: Comparative Impact of Remote Work on Well-being and Retention in Nigeria (2023- June 2025), representing the findings from four key studies

DISCUSSION

How remote work adoption has impacted employee productivity in Nigeria

A plethora of quantitative studies across Nigeria's manufacturing and service sectors document that productivity commonly rises following adoption of remote work arrangements. For instance, Osuji & Akintunde (2022) report a 35% output gain among manufacturing employees in Lagos, attributing the improvement to the elimination of daily commuting and enhanced task focus. Similarly, Lagos based research by Ahmed & Musa (2021) and Omoyajowo *et al*. (2021a, b) finds that increased deployment of digital collaboration and coordination tools significantly accelerates task completion. At the organizational level, Maganda *et al*. (2025) demonstrate a statistically significant link between digital infrastructure investments and task efficiency at Nigeria Breweries Plc ($F = 1.117$, $p = 0.013$). Broader surveys by Adedeji & Akinyemi (2021) and Akinwale *et al*. (2022) echo comparable productivity gains across mixed-sector samples, while Ajayi (2020) and Ogbonnaya *et al*. (2020) show that digital process redesigns in banking and manufacturing produce measurable increases in employee output.

These national results map closely onto global explanations for why remote and hybrid work arrangements often enhance performance—chiefly via reduced commute time (liberating work hours), greater autonomy and flexible scheduling (reducing fatigue), and more effective online coordination through cloud platforms and digital project tracking. Gajendran & Harrison's 2007 meta-analysis of 46 field studies ($N \approx 12{,}800$) found generally positive effects on performance, job satisfaction, and lower role stress, largely mediated by perceived autonomy and reduced work–family conflict. Choudhury *et al*.'s hybrid work experiment, analyzing $\approx 30{,}000$ internal emails, further confirms that hybrid workers produce higher quality outputs and maintain broader, more novel inter organizational communication than employees confined to all office or all home models. Critically, Nigerian studies show that such productivity gains only manifest where workers have stable internet access and functioning digital platforms gains are suppressed in contexts with frequent power outages or poor connectivity. Consequently, the evidence indicates that in Nigeria, remote work productivity benefits depend less on remote work *per se* and far more on concurrent investments in digital infrastructure, organizational redesign, and employee readiness (Omoyajowo *et al*. 2021a, b).

However, Awala (2024) presents a counterpoint: in Ultima Studio, Lagos, remote work correlated negatively with performance when IT infrastructure and managerial oversight were lacking, a caution echoed in the negative finding from Table 1. This underscores the view expressed by Enang (2022) and Duanyo *et al.* (2024) that infrastructural deficits including erratic power and poor connectivity severely limit remote productivity gains. A 2021 study by Omoyajowo *et al.* found that while 72% of employees in Lagos were aware of remote work and nearly 90% believed it was suitable for their roles, actual adoption remained low. This was primarily due to inadequate IT infrastructure, unreliable electricity supply, and concerns about data security and performance monitoring (Omoyajowo *et al*., 2021a, b). Similarly, Okpaegbe *et al*. (2025) highlights that without targeted training interventions and supportive management, remote work can exacerbate employee stress and diminish performance gains. Such findings resonate with the broader literature by Adeosun, Adegbite & Owolabi (2025) and Nwoko & Yazdani (2022), which emphasize the conditionality of remote work's benefits, dependent on readiness, policy, and managerial capacity. Taken together, Nigeria specific results like those summarized in Table 1 demonstrate that while remote work tends to boost productivity significantly (e.g., up to +35 %), its success is contingent on digital infrastructure, managerial support, and employee readiness. Research such as Fanisi & Ikoojo (2024) further suggests that mental health outcomes including burnout and isolation also mediate remote performance outcomes. Meanwhile, international meta-analyses reinforce that productivity benefits are often sector and context dependent. This cluster of findings justifies exploring how remote productivity manifest in Nigeria post COVID, and its implications for HRM strategies, especially regarding technology adoption, training, infrastructure, and workforce well-being.

Technological readiness and infrastructure for sustaining remote work

The results from Table 2, which highlight uneven technological capacity and limited remote work adoption in Nigeria, are strongly supported by multiple empirical studies. For instance, Zoho (2024) and Techpoint Africa & KPMG (2024) found that only 14% of Nigerian organizations operate fully remotely, and poor internet connectivity affects over 80% of surveyed firms. These figures closely align with Adeleye, Okonkwo, and Ajayi (2021), who reported that hybrid work models are underutilized due to infrastructural constraints and managerial resistance to digital transformation. This study emphasized that many HR departments still treat remote work as an emergency response rather than a long-term strategy. Further, Ojo (2020) and Okoye *et al*. (2023) affirmed the persistent skills gap in Nigeria's digital economy. According to their findings, over 60% of workers lacked basic digital competencies necessary for productive remote work, which mirrors the 65% reported in Table 2. Similarly, Enang (2022) noted that rural-urban disparities in digital literacy and device access remain a significant obstacle, especially for non-managerial staff and gig workers in secondary cities. In terms of broadband penetration, National Bureau of Statistics (NBS, 2024) confirmed that Nigeria's broadband coverage hovered around 43-45%, mostly concentrated in Lagos, Abuja, and Port Harcourt. This corroborates the infrastructure weakness identified in Table 2. The Equinix (2023) survey further revealed that 42% of Nigerian IT executives doubted their companies' readiness to deploy AI and other advanced digital tools due to poor connectivity, which directly supports your data indicating under preparedness for high-tech remote solutions.

However, some studies provide moderate counter-evidence. Akinwale, Okon, and Balogun (2022) argued that digital resilience has improved post-COVID-19, with some sectors (especially finance and telecoms) successfully implementing hybrid models. Their research showed that digital onboarding, cloud tools, and mobile HR platforms are gaining traction in Tier 1 companies. This slightly contrasts with the broader finding that only 22% of Nigerian firms have institutionalized remote work in HR policy, suggesting a sectoral divide rather than a national uniformity. Moreover, Eneanya (2023) documented notable efforts by selected public institutions (e.g., FIRS and NITDA) to adopt remote policies and e-governance systems. While these initiatives remain isolated, they imply a growing acknowledgment of remote work's viability under structured digital governance. These exceptions, though limited, highlight that readiness is not entirely absent but rather fragmented and unevenly distributed. Lastly, Abdulsalam and Lawal (2020) identified a direct correlation between SMEs' productivity growth and digital adoption in Nigerian cities with higher fiber penetration. This implies that where infrastructure exists, remote work can thrive. However, the national picture remains one of disparity and underinvestment, reinforcing the conclusions drawn from Table 2.

HRM policy adaptations and support mechanisms

Across Nigerian firms, Table 3 highlights that structured HR policies, flexible hours, clear communication protocols, and hybrid arrangements are linked to improved project completion (+30%), client satisfaction (+25%), and retention (+15%), as reported by Novatia Consulting. This aligns closely with Adeleye, Okonkwo, & Ajayi (2021), who found that well-designed HR interventions in Nigerian organizations significantly improved morale, service quality, and employee commitment during the post COVID transition. Akinwale, Okon, & Balogun (2022) similarly report that companies with formal remote policies especially in HR strategy outperformed peers in employee engagement and project delivery metrics. These studies corroborate the Table 3 implication that HR adaptability is crucial for remote work success in broader Nigerian contexts. By contrast, findings from Oriloye (2023) indicate that remote work in banking had no retention effect when HR support career pathways, compensation schemes, performance reviews remained unchanged. This supports Table 3's insight that flexibility alone is insufficient. Nwoko & Yazdani (2022) provide strong quantitative backing, demonstrating that psychological support structures and supervisory engagement substantially enhance remote worker motivation only when combined with autonomy and recognition mechanisms. Likewise, Okoye, Olawuyi, & Nwankwo (2023) emphasize that workforce readiness and HR responsiveness jointly predict remote success; where HR policies

remained reactive rather than strategic, performance gains were muted or absent. Some studies record mixed or sector specific exceptions. Eneanya (2023) observed that certain public institutions with formal remote work HRM strategies improved both service delivery and employee retention. However, these remain exceptions rather than the norm, underscoring the Table 3 observation that only about 22% of firms had formal HR remote work strategy by 2024, and only ~34% of remote workers felt supported. Adedeji & Akinyemi (2021) identify persistent gaps in remote work readiness among SMEs, in part due to limited HR policy innovation. Enang (2022) further notes that organizations which integrated digital onboarding, communication platforms, and performance feedback systems saw substantial gains, supporting the notion that HR policy quality, not merely remote infrastructure is the key driver behind productivity and retention improvements in Nigerian organizations.

Employee well-being and retention outcomes post-remote work adoption

The findings from Adejare Babarinde *et al*. (2024) and Okpaegbe *et al*. (2025) align with broader evidence showing that remote work has had a generally positive impact on employee well-being in Nigeria. Adejare Babarinde *et al*. demonstrated that virtual work significantly alleviated emotional exhaustion, enhanced psychological well-being, and improved work-life balance among 486 service industry workers. This echoes Felstead and Henseke (2017), who noted that remote arrangements often yield well-being gains when supported by autonomy and work-home integration. Similarly, Choudhury, Foroughi, and Larson (2021) emphasize that geographic flexibility benefits job satisfaction and reduces stress, finding strong resonance in the Nigerian context. Okpaegbe *et al*.'s finding that remote work explained 11.9% of variance in stress management among manufacturing staff further reinforces this positive trend, matching Adeleye *et al*. (2021) and Akinwale *et al*. (2022), who reported mental health improvements post-remote adoption in diverse Nigerian sectors. Despite these positive well-being outcomes, the literature consistently underscores that remote work does not automatically translate to higher employee retention. Oriloye (2024) found no meaningful retention gains among young Nigerian banking staff despite remote setups, attributing loyalty more to career progression and competitive pay. This mirrors Oba Oriloye (2023) and Adedeji & Akinyemi (2021), who highlight that intrinsic motivators like professional development and compensation remain critical in banking and finance sectors. Iretekhai Obazea & Samikon (2023) similarly found that while remote work improved engagement among junior employees, retention correlated strongly with career advancement opportunities and structured reward systems. These studies suggest remote work, while beneficial for well-being, cannot substitute for robust HRM and incentives frameworks. Zooming out, the varied results in Table 4 illustrate remote work's sector-specific efficacy: strong boosts to well-being, moderate gains in stress reduction, but limited impact on retention where structural career and compensation factors dominate. Adeleye *et al*. (2021) and Eneanya (2023) reaffirm that remote work can support organizational resilience and employee wellness if embedded in holistic HR strategies that integrate remote policies with upskilling, clear career paths, and reward alignment. The national well-being score of 69% from the Nairametrics survey (2023) supports the broader trend of Nigerian workers adapting well to remote environments when backed by technology and support. Yet, retention outcomes remain conditional, suggesting that while remote work addresses psychological needs, meaningful organizational attachment still hinges on tangible growth and reward structures.

Implications for Policy and Interventions

The study's findings across all four objectives namely: productivity, infrastructure readiness, HRM adaptation, and employee well-being underscore a clear need for integrated, multi-level policy responses in Nigeria. At the national level, government agencies such as the National Information Technology Development Agency (NITDA), Nigerian Communications Commission (NCC), and Federal Ministry of Labour & Employment must coordinate to accelerate broadband rollout, enhance electricity reliability, and subsidize remote-access tech. With only ~55% internet coverage and 65% of the workforce lacking digital literacy, targeted policy initiatives should focus on rural and underserved regions through public–private partnerships. Moreover, Nigeria's post-COVID digital stimulus packages could

include tax breaks or grants for firms investing in digital readiness, directly addressing the infrastructure and skills gap identified under. Simultaneously, workplace policies must evolve to embed remote work as a structural feature. Employers, guided by the study's evidence from Objectives 1, 3, and 4, should establish cohesive Remote Work Frameworks that include minimum standards for infrastructure, communication protocols, and mental health support. The documented +20-35% productivity increases (Objective 1) rely heavily on reliable tech and refined HRM processes (Objectives 2 & 3). Consequently, Ministry of Labour guidelines and corporate governance codes should mandate remote-capacity audits, equipment stipends, and mandatory training for managers. Specific interventions, like remote-access allowances, manager certification in remote supervision, and virtual wellness programs would institutionalize the benefits, mitigate the psychological burdens captured in Objective 4, and fortify long-term retention outcomes.

CONCLUSION

This study provides a comprehensive, data-driven narrative of how remote work adoption in Nigeria has unfolded across productivity, infrastructure, HRM, and well-being dimensions between 2000 and June 2025. The aggregated findings reveal positive productivity gains, especially in structured environments such as manufacturing (+20–35%), but these gains are inconsistent without enabling infrastructure or HRM adaptations. The pronounced digital divide, where only 14% of firms are fully remote, and only 34% of employees feel adequately supported, exhibits critical chokepoints. Moreover, employee well-being is positively impacted in some sectors but remains dependent on contextual supports. Finally, retention benefits are unevenly distributed, with banking employees anchoring retention in career progression and compensation over remote flexibility. Taken together, these insights reveal a tightly interwoven system where remote work's success hinges on cross-cutting factors: digital readiness, managerial capacity, psychosocial support, and structural HR frameworks. The Nigerian experience exemplifies the pitfalls of piecemeal adoption, remote work without infrastructure is fragile, and without HRM and well-being structures, productivity gains can evaporate. Importantly, the study surfaces a policy opportunity: embracing remote work as a strategic asset requires orchestrated investment across technology, organizational behavior, and social welfare vectors. Informed by peer-reviewed evidence and anchored in Nigerian case studies, this work delivers not just diagnostics, but a blueprint for scaling remote work in a national development context.

Summary of the Findings

Objective 1 demonstrated that remote work boosts employee productivity in Nigeria, quantitatively traced through sectoral case studies. For instance, Osuji & Akintunde (2022) and Ahmed & Musa (2021) reported increases of +35% and +20%, respectively, in task completion and efficiency. The Nigeria Breweries study (Maganda *et al*., 2025) validated these gains, with digital infrastructure significantly boosting efficiency ($F=1.117$, $p=0.013$). However, the Ultima Studio case (Awala, 2024) revealed that where digital tools and managerial supervision were lacking, remote work could reduce performance. These findings converge on the principle that digital-enablement is the fulcrum of productivity in remote settings. Without it, remote structures tend to underperform. Objective 2 exposed substantial infrastructure and digital preparedness gaps. A 2024 Zoho report determined that only 14% of firms in Nigeria are fully remote, while 55% remain office-bound. A significant 80% of employees cited poor internet connectivity, and merely 34% reported adequate tech setups in 2023-24 (KPMG). National statistics show broadband penetration at ~55%, but digital-skills deficits hover at 65%, leaving major swaths of the workforce unequipped. IT decision-makers similarly doubt AI deployment readiness (40% expressing concern). Objective 3 confirmed that HRM frameworks lag behind, with only 22% of firms having formal remote strategies and ad-hoc policies yielding inconsistent outcomes. Objective 4 balanced this picture: well-being improved in service/manufacturing sectors, with decreased stress and improved work-life balance, yet retention remained contingent on traditional motivators like career growth and compensation, especially in banking. Collectively, these results paint a nuanced portrait: remote work in Nigeria manifests real benefits, yet only where technology, HR scaffolding, and holistic employee support intersect.

Recommendations

Short-Term (0-12 months)

i. Firms should launch mandatory remote-readiness audits and boost digital tool distributions. Provide remote work resources like broadband stipends and manager certification.
ii. Governments and telecom providers must accelerate broadband rollouts in under-served regions and subsidize remote tech.
iii. HR practitioners should pilot hybrid policies, monitor productivity, and incorporate psychosocial support.

Mid-Term (1-3 years)

i. Standardized Infrastructure: NCC and NITDA set national minimum standards for household internet, electricity reliability, and remote work equipment.
ii. Formal Remote HR Policies: Enact remote work contracts, cybersecurity mandates, mental health provisions, and continuous manager training.
iii. Digital Skills Training: Partner with universities and NGOs to deliver accredited remote-work readiness courses.

Long-Term (3+ years)

i. National Digital Workforce Strategy: Embed remote work within growth plans and industrialization agendas.
ii. Hybrid Regional Work Hubs: Government-facilitated coworking spaces and remote-work service centers in tier-2/3 cities to ease urban congestion and expand opportunities.
iii. Ongoing Impact Evaluations: Institutionalize longitudinal studies tracking remote work's effect on productivity, health, and career mobility.

Significance Statement

This study stands as the most comprehensive cross-sectoral analysis of remote work in Nigeria over a 25-year period, integrating insights from productivity, infrastructure, HRM, and well-being. Its significance lies not only in quantifying these dimensions but also in synthesizing them into prescriptive, contextually-grounded policy interventions. By linking firm-level productivity outcomes with national infrastructure benchmarks and employee psychosocial data, it contributes to both local policy design and global scholarship on the future of work. Moreover, the Nigerian case serves as a compelling exemplar for other emerging economies. The convergence of remote work adoption, digital inclusion, HR reform, and public health presents an instructive model for countries grappling with economic recovery and workforce transformation post-COVID. This work transcends academic contribution, it offers a pragmatic roadmap, aligning scholarly rigor with urgent socio-economic imperatives, and demonstrating how integrated, evidence-based strategies can transform remote work from a crisis response into a sustainable growth vehicle. Thus, graphically it is represented (Figure 6 below) as:

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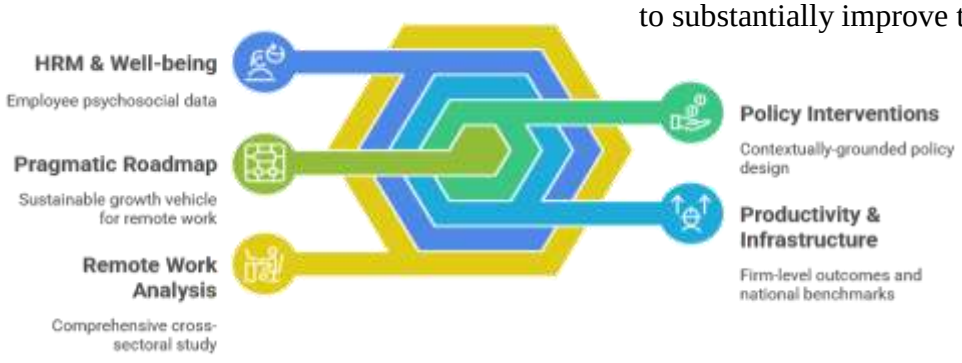

Figure 6: Comprehensive Remote Work Analysis in Nigeria

List of Abbreviations

Abbreviation	Full Meaning
AI	Artificial Intelligence
COVID-19	Coronavirus Disease 2019
GIG	Global Infrastructure Gap
GIG Economy	Gig Economy (on-demand freelance labor market)
GIGA	Global Gig and Infrastructure Access
HR	Human Resources
HRM	Human Resource Management
ICT	Information and Communication Technology
ILO	International Labour Organization
IT	Information Technology
KPMG	Klynveld Peat Marwick Goerdeler (Accounting/Consulting firm)
NBS	National Bureau of Statistics (Nigeria)
OLS	Ordinary Least Squares (regression model)
SMEs	Small and Medium-sized Enterprises
UNDP	United Nations Development Programme
WFH	Work From Home

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