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Flexible Work Arrangements and Workforce Productivity of Pharmaceutical Firms in Southeast, Nigeria

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ABSTRACT: This study examined the relationship between flexible work arrangements and workforce productivity of pharmaceutical firms in Southeast, Nigeria. Specifically, the research investigated the relationship between autonomy in location choice and employee sense of empowerment, and determined the relationship between access to digital tools and task completion among employees of pharmaceutical firms in Southeast, Nigeria. Two research questions and two null hypotheses were developed in line with the study objectives. The study was anchored on Self-Determination Theory (SDT), the Job Demands-Resources (JD-R) Theory, and Media Richness Theory (MRT). A survey research design was adopted. The population comprised staff drawn from 25 purposively selected pharmaceutical firms across the five states of Southeast Nigeria (Abia, Anambra, Ebonyi, Enugu, and Imo), with a sample size determined using the Taro Yamane (1967) formula. Stratified random sampling ensured proportional representation across states. Data were collected using structured questionnaires, using descriptive statistics and Pearson Product Moment Correlation Coefficient at a 0.05 level of significance. The findings revealed a strong positive and significant relationship between autonomy in location choice and employee sense of empowerment ($r = 0.524$, $p < 0.01$); and a strong positive and significant relationship between access to digital tools and task completion among employees ($r = 0.558$, $p < 0.01$). The study concluded that flexible work arrangements particularly location autonomy and digital tool access significantly enhance workforce productivity outcomes in pharmaceutical firms in Southeast, Nigeria, and recommended deliberate investment in both location flexibility policies and digital infrastructure to sustain employee empowerment and operational efficiency.

Keywords: Flexible Work Arrangements, Workforce Productivity, Autonomy in Location Choice, Access to Digital Tools, Employee Empowerment, Task Completion.

INTRODUCTION

The concept of workforce productivity has long occupied a central place in organizational management discourse, yet its meaning and determinants have evolved considerably in the post-pandemic era. Productivity in contemporary organizations is no longer defined solely by hours worked or physical presence at a workstation but by the

quality of output, the efficiency of task execution, and the degree of psychological investment employees bring to their roles (Choudhury, Foroughi, & Larson, 2021). In the Nigerian pharmaceutical sector — a sector characterised by regulatory stringency, customer sensitivity, and complex supply chain demands — workforce productivity is a strategic imperative that directly affects service quality, regulatory compliance, and organizational competitiveness.

Flexible work arrangements, broadly defined as work structures that grant employees discretion over where, when, and how they perform their duties, have emerged as powerful levers of workforce productivity in the post-COVID-19 landscape. The pandemic compelled pharmaceutical firms across Southeast Nigeria to rethink conventional work models and experiment with arrangements that distribute work across physical and virtual spaces. Two dimensions of flexible work have assumed particular significance in this context: autonomy in location choice the degree of freedom employees have to determine where they perform their duties and access to digital tools the availability and usability of technological resources that enable effective task execution regardless of location (Eze & Udeh, 2023).

Autonomy in location choice is rooted in Self-Determination Theory (Deci & Ryan, 2000), which posits that when individuals are given freedom and control over their circumstances, they experience enhanced psychological empowerment a motivational state characterised by feelings of meaning, competence, self-determination, and impact (Spreitzer, 2020). In pharmaceutical firms, where a significant proportion of administrative, sales, regulatory, and customer-facing roles do not require constant physical presence, granting employees location autonomy can catalyse empowerment, reduce turnover intention, and drive discretionary effort. Abayol, Gbenga, and Mbah (2025) established that work-life harmony practices which are closely related to location flexibility significantly enhance employee career advancement outcomes in quick service restaurants in Southeast Nigeria, underscoring the productivity-enhancing potential of autonomy-oriented work policies in the broader Nigerian service sector.

Access to digital tools constitutes the technological infrastructure upon which location autonomy is operationalised. Without reliable communication platforms, collaborative software, and secure digital networks, flexible work arrangements cannot function effectively (Allen et al., 2021). In pharmaceutical firms in Southeast Nigeria, digital tools encompass enterprise communication platforms, inventory management systems, regulatory tracking software, e-prescription platforms, and virtual consultation tools that enable employees to maintain productivity across distributed work settings. Gbenga and Okeke (2025) demonstrated that structured organisational approaches — including the deployment of enabling technologies significantly influence performance outcomes in Nigerian manufacturing firms, a finding that speaks directly to the role of digital tool access in driving productivity in the pharmaceutical sector.

The connection between flexible work arrangements and workforce productivity has been reinforced by studies in related organisational contexts. Okeke, Akpamgbo, Dike, and Williams (2025) established that workplace management practices which encompass the structuring of work arrangements significantly improve organisational productivity in aluminium manufacturing firms in Anambra State, while Okeke and Williams (2025) confirmed that

dimensions of corporate sustainability including work environment quality positively relate to performance in plastic manufacturing firms. These findings affirm that how work is structured and enabled technologically has measurable implications for productivity, lending empirical support to the present study's focus on location autonomy and digital tool access as drivers of pharmaceutical workforce productivity in Southeast Nigeria.

Despite these promising linkages, pharmaceutical firms in Southeast Nigeria continue to grapple with unequal access to digital infrastructure, low digital literacy among some employee categories, and the absence of clear policies governing location autonomy. These gaps translate into inconsistent employee empowerment experiences and variable task completion rates across firms and roles. This study therefore investigates how autonomy in location choice and access to digital tools — operationalised as dimensions of flexible work arrangements relate to employee sense of empowerment and task completion efficiency in pharmaceutical firms across Southeast Nigeria.

Statement of the Problem

Pharmaceutical firms in Southeast Nigeria operate in an environment that simultaneously demands high operational precision and workforce adaptability. As hybrid and flexible work models have become more prevalent following the COVID-19 pandemic, two persistent challenges have emerged that undermine workforce productivity: the inconsistent granting of location autonomy to employees, and the unequal and often inadequate access to digital tools necessary for remote and hybrid work performance.

With respect to autonomy in location choice, many pharmaceutical firms in Southeast Nigeria have yet to develop clear, equitable policies that define which roles qualify for location flexibility and under what conditions. The absence of such policies creates a climate of uncertainty and perceived inequality, where some employees enjoy location freedom while others in similar roles do not. This inconsistency erodes the psychological foundations of empowerment — particularly feelings of self-determination and impact which are known drivers of discretionary effort and sustained productivity (Spreitzer, 2020; Lee & Nie, 2021). When employees feel that their work location is arbitrarily controlled rather than purposefully structured, their sense of ownership over tasks diminishes, and motivation declines.

Regarding access to digital tools, the digital divide remains a critical obstacle in the Southeast Nigerian pharmaceutical landscape. While some firms in urban centres have adopted collaborative platforms, cloud-based systems, and enterprise software, many others particularly smaller and medium-sized firms — struggle with outdated systems, poor internet connectivity, and insufficient staff training (Chikwe & Nwankwo, 2022; Eze & Udeh, 2023). This technological inconsistency impedes communication flow, delays task completion, introduces errors in regulatory documentation, and reduces operational efficiency. Employees without reliable digital tool access report higher frustration levels, lower job satisfaction, and reduced motivation to complete tasks independently and efficiently (Adekunle & Nwachukwu, 2023).

Together, these twin deficits insufficient location autonomy and inadequate digital tool access create a structural impediment to workforce productivity in the pharmaceutical sector. If unaddressed, they may contribute to sustained underperformance, increased staff turnover, and a weakening of the sector's capacity to meet regulatory, customer, and

operational demands. This study therefore examines how autonomy in location choice and access to digital tools two dimensions of flexible work arrangements relate to employee sense of empowerment and task completion efficiency in pharmaceutical firms in Southeast, Nigeria.

Objectives of the Study

The broad objective of this study is to examine the relationship between flexible work arrangements and workforce productivity of pharmaceutical firms in Southeast, Nigeria. Specifically, the study sought to:

i. Investigate the relationship between autonomy in location choice and employee sense of empowerment of pharmaceutical firms in Southeast, Nigeria.
ii. Determine the relationship between access to digital tools and task completion among employees of pharmaceutical firms in Southeast, Nigeria.

Hypotheses

The following null hypotheses were developed in the course of this research:

H01: Autonomy in location choice has no significant positive relationship with employee sense of empowerment of pharmaceutical firms in Southeast, Nigeria.

H02: Access to digital tools has no significant positive relationship with task completion among employees of pharmaceutical firms in Southeast, Nigeria.

LITERATURE REVIEW

Flexible Work Arrangements

Flexible work arrangements refer to a broad spectrum of policies and practices that grant employees discretion over the temporal and spatial dimensions of their work. These arrangements include remote work, hybrid work models, flexitime, compressed workweeks, and work-from-anywhere policies (Allen, Merlo, & Shockley, 2021). The concept has gained renewed global prominence following the COVID-19 pandemic, which compelled organisations across sectors including the pharmaceutical industry to rapidly adopt distributed work models to maintain business continuity (ILO, 2021). In Southeast Nigeria, flexible work arrangements have evolved from emergency pandemic responses to strategic human resource management tools that are now central to talent attraction, retention, and productivity enhancement.

Two dimensions of flexible work arrangements are particularly relevant to workforce productivity in the pharmaceutical sector. First, autonomy in location choice the freedom employees have to determine where they perform their work duties directly affects employees' psychological empowerment, motivation, and sense of ownership over their roles (Choudhury, Foroughi, & Larson, 2021). Second, access to digital tools the availability and reliability of technological platforms that enable task execution across distributed settings constitutes the enabling infrastructure upon which location autonomy and broader flexible work arrangements depend (Bloom et al., 2021). Together, these dimensions define the operational and psychological landscape within which pharmaceutical employees exercise flexibility and deliver productivity outcomes.

Autonomy in Location Choice

Autonomy in location choice refers to the extent to which employees have the freedom to decide where they perform their work duties whether from home, a remote location, a satellite office, or the main workplace. Larson, Vroman, and Makarius (2021) describe it as a strategic tool that empowers employees by giving them control over their

work environment, significantly affecting engagement, productivity, and job satisfaction. Choudhury, Foroughi, and Larson (2021) situate it within "work-from-anywhere" models, demonstrating that employees with full geographic flexibility report increased productivity, reduced turnover intention, and stronger perceptions of empowerment.

Self-Determination Theory (Deci & Ryan, 2000) provides the primary theoretical basis for understanding location autonomy's effect on empowerment. The theory posits that autonomy as a basic psychological need when satisfied, enhances intrinsic motivation, engagement, and well-being. Spreitzer (2020) further argues that empowerment is a motivational construct manifested through four cognitions: meaning, competence, self-determination, and impact. When employees are granted location autonomy, their sense of self-determination is directly activated, leading to greater task ownership and initiative (Zhang & Bartol, 2021). Studies in Nigerian contexts have similarly found that location flexibility significantly enhances employees' feelings of being trusted, valued, and capable of independent decision-making (Aluko & Uche, 2023). Abayol, Gbenga, and Mbah (2025) further demonstrated that work-life harmony a construct closely allied with location autonomy positively relates to employee career advancement in Southeast Nigerian service organizations, implying that autonomy-oriented work policies are instrumental to both individual productivity and career outcomes in the Nigerian context.

Despite its documented benefits, autonomy in location choice is not uniformly applicable across pharmaceutical roles. Laboratory technicians and production staff require physical presence, while administrative, sales, logistics, and regulatory personnel can often exercise greater location discretion (Eze & Udeh, 2023). Role-based differentiation in location autonomy policies is therefore essential to ensuring both fairness and operational effectiveness in pharmaceutical firms.

Access to Digital Tools

Access to digital tools refers to the availability, usability, and reliability of technological resources that enable employees to perform their tasks effectively, particularly in remote or hybrid work environments. According to Allen et al. (2021), digital tools include communication platforms (e.g., Zoom, Microsoft Teams), collaborative software (e.g., Trello, Asana), cloud-based storage, and industry-specific applications that facilitate seamless workflow. In the pharmaceutical sector, digital tools also encompass inventory control systems, regulatory compliance platforms, patient data management applications, and e-prescription systems (Umeh & Chukwuma, 2021).

The importance of digital tool access as a driver of task completion has been extensively documented. Bloom et al. (2021) argue that employee productivity is strongly influenced by how well firms equip their staff with necessary digital infrastructure, with inadequate access leading to communication breakdown, missed deadlines, and low morale. Chandran and Iyer (2023), using Structural Equation Modelling on data from 500 IT professionals in India, found that access to project tracking software significantly improved clarity in role assignment and accountability, while employees with digital tool access reported higher satisfaction and lower task-related stress. In Nigerian contexts, Adebayo and Onuoha (2022) found that access to digital reporting tools and mobile enterprise applications enhanced employees' ability to meet compliance requirements and customer

service timelines in pharmaceutical companies in Lagos.

However, the effectiveness of digital tools is contingent on organisational commitment to digital literacy and IT infrastructure. In Southeast Nigeria, inconsistent internet connectivity, low digital proficiency among some employee categories, and poor software integration remain significant barriers to realising the productivity gains that digital tools can generate (Chikwe & Nwankwo, 2022). Pharmaceutical firms must therefore complement digital tool provision with ongoing training, technical support, and infrastructure investment to maximise their productivity impact.

Employee Sense of Empowerment

Employee sense of empowerment refers to the psychological state in which employees perceive that they have control, authority, and competence to perform their work effectively and contribute meaningfully to organisational outcomes. Spreitzer (2020) defines empowerment through four cognitions: meaning (the value of work goals relative to one's standards), competence (the degree of efficacy in performing work activities), self-determination (the sense of choice in initiating and regulating actions), and impact (the degree to which one can influence outcomes). Lee and Nie (2021) further describe empowerment as employees' belief that they have the authority, confidence, and resources necessary to perform their responsibilities effectively.

In hybrid and flexible work settings, empowerment takes on particular significance because employees operate with reduced direct supervision and must exercise greater self-direction. Empowered employees are more likely to demonstrate initiative, solve problems proactively, and adapt to changes (Zhang & Bartol, 2021). In pharmaceutical firms, where attention to detail, regulatory adherence, and proactive problem-solving are critical, employee empowerment directly translates into operational effectiveness and quality outcomes. Oladapo and Salami (2023) found that empowered employees exhibit higher job satisfaction, lower turnover intentions, and greater organisational citizenship behaviour — outcomes particularly valuable in the pharmaceutical sector's compliance-intensive environment.

Task Completion

Task completion in the context of hybrid and flexible work environments refers to the efficiency, accuracy, and timeliness with which employees accomplish assigned responsibilities using available tools and resources. Allen et al. (2021) define task completion as the ability to smoothly and promptly achieve work objectives, while Eze and Ajayi (2022) situate it within the broader construct of ease of communication and task execution — the capacity of employees to share information, collaborate, and deliver outputs without significant barriers.

Digital tool access is recognised as the primary enabler of task completion in distributed work settings. Chandran and Iyer (2023) demonstrated that project tracking software significantly improved role clarity and task accountability in Indian IT firms. Adekunle and Nwachukwu (2023) similarly found that ease of access to company portals, internal messaging tools, and mobile support systems correlated positively with quicker task resolution and increased motivation among employees of FMCG firms in Southeast Nigeria. In the pharmaceutical sector specifically, where regulatory documentation, inventory tracking, and customer service require precision and timeliness, the quality and accessibility of digital tools determine whether employees

can consistently complete tasks to the required standard (Bello & Umeh, 2021).

Theoretical Framework

This study is anchored on three complementary theories. Self-Determination Theory (SDT) by Deci and Ryan (1985, 2000) provides the primary framework for understanding how autonomy in location choice influences employee empowerment. SDT posits that autonomy — as a fundamental psychological need when satisfied in the workplace, enhances intrinsic motivation, psychological well-being, and engagement. Location autonomy directly fulfils employees' need for self-determination, activating empowerment cognitions and fostering a proactive orientation toward work tasks.

The Job Demands-Resources (JD-R) Theory (Demerouti et al., 2001; Bakker & Demerouti, 2017) complements SDT by framing access to digital tools as a job resource that reduces job demands and enables employees to complete tasks effectively. When digital tools are readily available and reliable, they function as job resources that buffer the adverse effects of work demands such as geographic distance, coordination complexity, and information asymmetry thereby sustaining employee motivation and task performance. Media Richness Theory (MRT) by Daft and Lengel (1986) further elucidates the role of digital tools in task completion by explaining how communication media vary in richness their capacity to facilitate understanding and reduce ambiguity. When employees have access to appropriately rich media (e.g., video conferencing for complex collaborative tasks, instant messaging for routine coordination), communication effectiveness and task completion efficiency are maximised.

Empirical Review

Choudhury, Foroughi, and Larson (2021) conducted a quasi-experimental study at the U.S. Patent and Trademark Office examining how geographic flexibility impacts employee productivity and empowerment. Analyzing longitudinal panel data from employees who transitioned to "work-from-anywhere" arrangements, the study found that employees with full autonomy over location reported increased productivity, stronger perceptions of empowerment, and reduced turnover intention. Similarly, Lin and Yao (2020), using hierarchical regression on data from 385 IT professionals in Taiwan, demonstrated that the more control employees had over their work location, the greater their perceived empowerment and innovation capacity. These findings align with Abayol, Gbenga, and Mbah (2025), who established that work-life harmony practices — encompassing elements of location flexibility — significantly enhance employee career advancement in quick service restaurants in Southeast Nigeria, suggesting that autonomy-oriented work policies translate into productivity-enhancing outcomes across different Nigerian organizational contexts.

Kassa, Alemu, and Hailu (2021), sampling 410 respondents from private banks in Ethiopia, found that location flexibility was positively associated with psychological empowerment, with employees who could control where they worked reporting greater decision-making confidence and higher satisfaction. Aluko and Uche (2023) similarly found a strong positive relationship between work location flexibility and psychological empowerment among employees of Nigerian fintech companies, with empowered employees reporting increased feelings of being trusted, valued, and capable of making independent decisions.

Obi and Ekwe (2023), surveying 270 lecturers in public universities in Southeast Nigeria,

confirmed that location flexibility significantly enhanced lecturers' capacity to plan, manage, and execute academic responsibilities independently, with higher morale and creativity reported among those with location autonomy. Regarding digital tool access and task completion, Chandran and Iyer (2023), using Structural Equation Modelling on data from 500 IT professionals in India, found that access to project tracking software significantly improved clarity in role assignment, reduced task-related stress, and enhanced accountability in team projects.

Adebayo and Onuoha (2022), surveying 280 staff in pharmaceutical companies in Lagos, Nigeria, found that access to digital reporting tools and mobile enterprise applications significantly enhanced employees' ability to meet compliance requirements and customer service timelines, with regularly trained employees demonstrating higher engagement and faster task execution. Adekunle and Nwachukwu (2023), using regression analysis on data from 360 employees across FMCG firms in Southeast Nigeria, found that ease of access to company portals, internal messaging tools, and mobile support systems correlated positively with quicker task resolution and increased motivation.

Gbenga and Okeke (2025) demonstrated that structured organisational arrangements — including the deployment of enabling technologies and management practices — significantly influence performance outcomes in Nigerian foam manufacturing firms, reinforcing the importance of equipping employees with resources that enable productivity. Okeke, Akpamgbo, Dike, and Williams (2025) further established that workplace management practices significantly improve organisational productivity in Anambra State aluminium manufacturing firms, highlighting that resource-oriented management has measurable performance implications. Okeke and Williams (2025) confirmed that social and environmental corporate sustainability dimensions including work environment quality positively relate to plastic manufacturing firm performance, while Abayol, Gbenga, and Mbah (2025) demonstrated that work-life harmony practices significantly enhance employee career outcomes in Southeast Nigeria. Collectively, these studies affirm that how organisations structure work arrangements and provision enabling resources whether digital tools or location flexibility fundamentally shapes employee-level and firm-level productivity outcomes.

Dlamini and Mkhize (2022), examining 350 employees in South African insurance companies, found that those with continuous access to digital dashboards and CRM tools completed tasks more effectively and reported higher levels of collaboration with supervisors. Musa and Idris (2021), using correlation and regression analysis on data from 215 lecturers across four Nigerian universities during COVID-19, found that departments with prior digital infrastructure experienced faster task delivery and smoother transitions to online operations, highlighting digital inequities as a barrier to consistent performance.

METHODOLOGY

This study adopted a survey research design, which allowed for the collection of quantitative data from a large population to establish correlations related to flexible work arrangements and workforce productivity within the pharmaceutical sector in Southeast, Nigeria. The population comprised staff drawn from 25 purposively selected pharmaceutical firms across the five states of Southeast Nigeria Abia, Anambra, Ebonyi, Enugu, and Imo selected based on registration with the Pharmacists Council of Nigeria

(PCN) and a minimum of ten years of continuous operation.

The sample size was determined using the Taro Yamane (1967) formula. Stratified random sampling was employed, stratifying firms by state and proportionately selecting staff from each firm. Data were collected through direct administration of structured questionnaires rated on a 5-point Likert scale ranging from Strongly Agree (5) to Strongly Disagree (1). The instrument was validated through face and content validation by academic experts and pharmaceutical industry professionals. Reliability was assessed using Cronbach's Alpha (α), with Autonomy in Location Choice (α = 0.829), Access to Digital Tools (α = 0.853), Employee Sense of Empowerment (α = 0.857), and Ease of Communication/Task Completion (α = 0.836) all exceeding the acceptable threshold of 0.70 (Nunnally, 1978). Data were analysed using descriptive statistics and the Pearson Product Moment Correlation Coefficient (PPMCC) at a 0.05 level of significance, using SPSS Version 25.

RESULTS AND DISCUSSION

Hypothesis One: Autonomy in Location Choice and Employee Sense of Empowerment

H01: Autonomy in location choice has no significant positive relationship with employee sense of empowerment of pharmaceutical firms in Southeast, Nigeria.

The Pearson correlation analysis revealed a strong positive and significant relationship between autonomy in location choice and employee sense of empowerment ($r = 0.524$, $p < 0.01$). This finding indicates that pharmaceutical firms that grant employees discretion over where they work experience substantially higher levels of employee psychological empowerment. Consequently, the null hypothesis (H01) is rejected.

These results are consistent with Choudhury, Foroughi, and Larson (2021), who found that employees with full geographic autonomy reported stronger perceptions of empowerment and greater productivity. Kassa, Alemu, and Hailu (2021) similarly established that location flexibility was positively associated with psychological empowerment among private bank employees in Ethiopia.

Aluko and Uche (2023) further confirmed a strong positive relationship between location flexibility and empowerment in Nigerian fintech firms, with empowered employees reporting greater task ownership and decision-making confidence. The finding also resonates with Abayol, Gbenga, and Mbah (2025), whose study of quick service restaurants in Southeast Nigeria showed that autonomy-enhancing work practices translate into meaningful employee performance and career outcomes an effect that the present study traces to the empowerment mechanism in pharmaceutical settings.

Table 1: Pearson Correlation between Autonomy in Location Choice and Employee Sense of Empowerment

Variables	Autonomy in Location Choice	Employee Sense of Empowerment
Autonomy in Location Choice	1	

Employee Sense of Empowerment	.524**	1
Sig. (2-tailed)	.000	

***Correlation is significant at the 0.01 level (2-tailed). Source: SPSS Version 25 (2026)*

Hypothesis Two: Access to Digital Tools and Task Completion

H02: Access to digital tools has no significant positive relationship with task completion among employees of pharmaceutical firms in Southeast, Nigeria.

The Pearson correlation analysis revealed a strong positive and significant relationship between access to digital tools and task completion among employees ($r = 0.558$, $p < 0.01$). This represents the strongest relationship found in the study, indicating that digital tool access is the most powerful predictor of task completion efficiency in the pharmaceutical firms studied. Consequently, the null hypothesis (H02) is rejected.

These findings align closely with Chandran and Iyer (2023), who demonstrated that digital tool access significantly improved task accountability and completion efficiency in Indian IT firms. Adebayo and Onuoha (2022) corroborated this in a Nigerian pharmaceutical context, finding that digital reporting tools and mobile enterprise applications significantly enhanced employees' ability to meet compliance requirements and service delivery timelines. Adekunle and Nwachukwu (2023) similarly confirmed that access to company portals and internal messaging tools correlated with quicker task resolution among employees of Southeast Nigerian FMCG firms. The finding further resonates with Gbenga and Okeke (2025), who demonstrated that equipping Nigerian manufacturing organisations with enabling resources and structured management arrangements significantly improves firm performance a principle that the present study validates at the individual task completion level within pharmaceutical firms.

Table 2: Pearson Correlation between Access to Digital Tools and Task Completion

Variables	Access to Digital Tools	Task Completion
Access to Digital Tools	1	
Task Completion	.558**	1
Sig. (2-tailed)	.000	

***Correlation is significant at the 0.01 level (2-tailed). Source: SPSS Version 25 (2026)*

Summary of Findings

This study examined the relationship between flexible work arrangements operationalised through autonomy in location choice and access to digital tools and workforce productivity outcomes operationalised through employee sense of empowerment and task completion in pharmaceutical firms in

Southeast, Nigeria. The key findings are as follows:

i. There is a strong positive and significant relationship between autonomy in location choice and employee sense of empowerment ($r = 0.524$, $p < 0.01$).
ii. There is a strong positive and significant relationship between access to digital tools and task completion among employees ($r = 0.558$, $p < 0.01$).

CONCLUSION

The study concludes that flexible work arrangements specifically autonomy in location choice and access to digital tools significantly and positively influence workforce productivity outcomes in pharmaceutical firms in Southeast, Nigeria. Granting employees discretion over where they perform their duties meaningfully enhances their sense of psychological empowerment, activating the cognitions of self-determination, competence, and impact that drive motivated, high-quality work performance. Providing employees with reliable, accessible, and appropriate digital tools significantly improves their ability to complete tasks efficiently, accurately, and on schedule a critical requirement in the compliance-intensive pharmaceutical environment. These findings reinforce Self-Determination Theory by demonstrating that location autonomy satisfies the fundamental psychological need for self-determination, and they validate the Job Demands-Resources Theory by confirming that digital tools function as job resources that enable sustained task performance. The study also confirms the relevance of Media Richness Theory, establishing that appropriate digital tool access improves communication clarity and task execution efficiency in pharmaceutical hybrid work settings. Based on the study findings, the following recommendations are made:

1. Pharmaceutical firms in Southeast Nigeria should develop and implement formal, role-differentiated location autonomy policies that clearly define which positions qualify for remote or flexible location arrangements, the conditions governing such arrangements, and the performance expectations attached to them. These policies should be accompanied by outcome-based performance management frameworks that assess employee contribution by results rather than physical presence, creating the conditions under which location autonomy genuinely empowers employees and sustains organisational productivity.
2. Pharmaceutical firms should prioritise strategic investment in digital infrastructure, ensuring that all employees regardless of their physical location have access to reliable, user-friendly, and functionally appropriate digital tools. This investment should encompass not only platform procurement but also structured digital literacy training programmes, ongoing technical support, and regular infrastructure audits to address connectivity and equipment gaps.

Contribution to Knowledge

This study contributes to knowledge in the following ways. Empirically, it provides evidence from the pharmaceutical sector of Southeast Nigeria a context significantly underrepresented in flexible work and workforce productivity research demonstrating that location autonomy and digital tool access have distinct, strong, and statistically significant relationships with employee empowerment and task completion, respectively. Geographically, the study generates region-specific findings that account for the infrastructure realities, digital

literacy landscape, and operational characteristics of pharmaceutical firms in Southeast Nigeria, contributing African evidence to a literature dominated by Western and East Asian contexts. Theoretically, the study extends Self-Determination Theory, the Job Demands-Resources Theory, and Media Richness Theory into the domain of flexible work arrangements in a developing-economy pharmaceutical context, demonstrating that these frameworks offer robust explanatory power for understanding how autonomy and resource access shape productivity outcomes in Africa's emerging pharmaceutical sector. Practically, the study equips pharmaceutical managers, HR professionals, and policy makers in Southeast Nigeria with empirically grounded, sector-specific recommendations for designing flexible work policies that simultaneously enhance employee empowerment and operational task completion efficiency.

REFERENCES

Abayol, P. I., Gbenga, W., & Mbah, S. I. (2025). Work life harmony and employee career advancement in quick service restaurants, South East, Nigeria. *Journal of Emerging Trends in Management Sciences and Entrepreneurship, 7*(2).

Adekunle, F., & Nwachukwu, P. (2023). Digital communication platforms and task completion in FMCG firms in Southeast Nigeria. *International Journal of Business Innovation and Entrepreneurship, 11*(2), 44–61.

Adebayo, K., & Onuoha, C. (2022). Digital tools and employee task performance in Nigerian pharmaceutical companies. *Journal of African Business Studies, 14*(3), 88–103.

Allen, T. D., Merlo, K., & Shockley, K. M. (2021). Flexibility in the hybrid workplace. *Annual Review of Organizational Psychology and Organizational Behavior, 8*(1), 103–127.

Aluko, R., & Uche, M. (2023). Location autonomy and employee empowerment in Nigerian fintech companies. *Journal of Management and Organisational Behaviour, 12*(1), 55–71.

Bakker, A. B., & Demerouti, E. (2017). Job demands-resources theory: Taking stock and looking forward. Journal of Occupational Health Psychology, 22(3), 273–285.

Bello, O., & Umeh, K. (2021). Communication efficiency and employee engagement in Nigerian pharmaceutical firms. *Nigerian Journal of Business Administration, 10*(2), 33–49.

Bloom, N., Liang, J., Roberts, J., & Ying, Z. J. (2021). Does working from home work? Evidence from a Chinese experiment. *Quarterly Journal of Economics, 130*(1), 165–218.

Chandran, A., & Iyer, R. (2023). Digital tools and virtual teamwork in Indian multinational IT firms. *International Journal of Information Management, 14*(2), 77–92.

Chikwe, G., & Nwankwo, C. (2022). Hybrid work adoption in Nigerian pharmaceutical firms: Challenges and opportunities. *Journal of Business and Management Research, 8*(2), 33–48.

Choudhury, P., Foroughi, C., & Larson, B. Z. (2021). Work-from-anywhere: The productivity effects of geographic flexibility. *Strategic Management Journal, 42*(4), 655–683.

Daft, R. L., & Lengel, R. H. (1986). Organizational information requirements, media richness and

structural design. *Management Science, 32*(5), 554–571.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behaviour. *Psychological Inquiry, 11*(4), 227–268.

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology, 86*(3), 499–512.

Dlamini, T., & Mkhize, S. (2022). ICT tools and work output in South African insurance companies. *African Journal of Business Management, 16*(4), 88–103.

Eze, P., & Ajayi, C. (2022). Perceived work-life integration and job satisfaction in Nigerian firms. *International Journal of Human Resource Studies, 12*(1), 88–104.

Eze, M., & Udeh, A. (2023). Remote work ratio management in pharmaceutical firms in Southeast Nigeria. *Journal of Business and Organisational Studies, 15*(1), 22–39.

Gbenga, W., & Okeke, C. O. (2025). Economic factors of corporate sustainability and performance of foam manufacturing firms. *British Journal of Marketing Studies, 13*(3), 49–71.

ILO. (2021). Working from home: From invisibility to decent work. *International Labour Organisation.*

Kassa, A., Alemu, B., & Hailu, M. (2021). Workplace flexibility and employee empowerment in private banks in Ethiopia. *African Journal of Economic and Management Studies, 12*(3), 355–371.

Larson, B. Z., Vroman, S. R., & Makarius, E. E. (2021). A guide to managing your (newly) remote workers. *Harvard Business Review Digital Article*.

Lee, A. N., & Nie, S. (2021). Understanding teacher empowerment: Teachers' perceptions of principal's and immediate supervisor's empowering behaviours, psychological empowerment and work-related outcomes. *Teaching and Teacher Education, 41,* 67–79.

Lin, T., & Yao, C. (2020). Telework autonomy and employee empowerment in Taiwanese technology firms. *Journal of Organizational Behaviour, 41(*5), 481–498.

Musa, H., & Idris, Y. (2021). Digital accessibility and communication effectiveness among remote academic staff in Nigerian universities. *Journal of Educational Technology, 8*(1), 44–58.

Nunnally, J. C. (1978). Psychometric theory (2nd ed.). McGraw-Hill.

Obi, K., & Ekwe, P. (2023). Work location autonomy and academic staff empowerment in Southeast Nigerian universities. *Journal of Higher Education Management, 10*(2), 33–48.

Okafor, A. E., Okeke, C. O., & Williams, G. (2026). Talent acquisition practices and innovative business success of outsourcing firms in Delta State, Nigeria. *Journal of Emerging Trends in Management Sciences and Entrepreneurship, 8*(2).

Okeke, C. O., Akpamgbo, F. O., Dike, G. N., & Williams, G. (2025). Workplace management and organizational productivity among aluminum manufacturing firms in Anambra State, Nigeria. *International Journal of Business and Management Review, 13*(1), 16–39.

Okeke, C. O., & Williams, G. (2025). Social and environmental factors of corporate sustainability and performance of plastic manufacturing firms. *International Journal of Research and Innovation in Social Science, 9*(4).

Oladapo, F., & Salami, R. (2023). Psychological empowerment and organisational citizenship behaviour in Nigerian firms. *Journal of Business Research, 11*(1), 22–37.

Spreitzer, G. M. (2020). Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of Management Journal, 38*(5), 1442–1465.

Taro Yamane. (1967). Statistics: An introductory analysis (2nd ed.). Harper and Row.

Umeh, C., & Chukwuma, P. (2021). Hybrid work structures and employee morale in Nigerian pharmaceutical firms. *Journal of Organisational and Human Behaviour, 10*(2), 44–59.

Zhang, X., & Bartol, K. M. (2021). Linking empowering leadership and employee creativity: The influence of psychological empowerment, intrinsic motivation, and creative process engagement. *Academy of Management Journal, 53*(1), 107–128.