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DRIVING EMPLOYEE PERFORMANCE: E-LEADERSHIP AND FLEXIBLE WORK ARRANGEMENTS IN POST-FUEL SUBSIDY NIGERIA

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ABSTRACT

The removal of fuel subsidies in Nigeria has significantly changed the country's economic environment, resulting in higher living and transportation costs. These economic pressures have had a negative effect on employee performance and livelihood, creating an urgent need for strategies to mitigate their consequences. This study investigated the combined influence of flexible work arrangements (FWAs) and e-leadership on the performance of non-teaching staff at Bayero University, Kano. The research was underpinned by the Job Demand-Resources (JD-R) Theory, which provided a framework for understanding how job demands and resources interacted to shape employee outcomes. The data was collected from 190 non-teaching staff members using non-probability sampling technique, and regression analysis was performed using SPSS version 25. The results demonstrated a significant positive relationship between e-leadership and employee performance, emphasizing the importance of digital leadership in driving productivity. In addition, one dimension of FWAs was also shown to have a significant effect on employee performance, indicating that flexible work options could assist employees in managing economic challenges more effectively. The findings highlighted practical implications for both policymakers and organisational leaders. Specifically, they suggested that adopting FWAs and strengthening e-leadership practices could serve as effective strategies for sustaining employee performance in times of economic uncertainty. Beyond its practical contributions, the study has also enriched the literature on workplace adaptability by highlighting the strategic value of FWAs and e-leadership in turbulent environments. Finally, recommendations for policy and practice are provided, alongside directions for future research to further examine the long-term impact of these interventions.

Keywords: E-leadership, flexi-work arrangements, flextime, employee performance, fuel subsidy.

INTRODUCTION

The economic environment in Nigeria has undergone a profound transformation following the recent removal of fuel subsidies by the current administration. The policy shift has significantly increased the cost of living and operational expenses across all sectors in the country. This development has escalated transportation challenges and reduced the power of disposable income of workers, thereby affecting their ability to effectively discharge their job responsibilities (Ozili & Obiora, 2023; Mekuri-Ndimele & Ukata, 2024). Empirical evidence suggests that the rise in fuel prices has negatively affected employee productivity, particularly among workers such as most civil servants in Nigeria who rely heavily on daily commuting (Mohammed et al., 2023; Wazakari & Bulus, 2025). For that reason, employee performance across both public and private sectors has been negatively affected, raising concerns about organisational efficiency and service delivery in Nigeria, particularly among tertiary institutions workers (Godwin & Aondoawase, 2025).

This situation presents a critical managerial issue that calls for organisational efforts to find ways to sustain or improve employee performance amid worsening economic and mobility challenges. The disruption caused by the subsidy removal necessitates a reconsideration of traditional work structures and management approaches. Organisations are increasingly compelled to adopt innovative and adaptive strategies that reduce operational burdens on employees while maintaining productivity levels (Harris, 2020; Gandrita et al., 2022).

One such adaptive strategy is the adoption of Flexible Work Arrangements (FWAs) (Chang, 2024; Anees & Shaikh, 2026). FWAs, including remote work and flexible scheduling, offer organisations a mechanism to mitigate transportation related-challenges and reduce employee difficulty and stress associated with the increasing cost of transportation. These arrangements have been shown to enhance work-life balance, reduce operational costs, and improve employee performance outcomes (Lewis, 2003; Chang, 2024; Anees & Shaikh, 2026). Furthermore, FWAs contribute to broader economic benefits such as reduced traffic congestion and increased labour market inclusivity (Singh et al., 2019). In contexts characterised by economic instability and infrastructural constraints, a prevailing situation in Nigeria, FWAs have become even more relevant as a strategic response to external shocks.

The implementation of FWAs gains prominence as organizations seek innovative and better solutions to balance productivity and employee well-being. FWAs which include remote work and flexible hours, offer a potential opportunity for organizations to adapt to the evolving needs of their workforce. According to Lewis (2003), among the reasons for adopting FWAs was the need to lower operating cost by allowing organizations to function based on feasible and the most convenient arrangements. Moreover, the adoption of FWAs needs a complementary approach in transformational leadership style (Abbas et al., 2019: Rimi et al., 2025). For example, leading using advanced technology, the need for electronic leadership style (e-leadership) to complement the flexible work arrangements in managing diverse work remotely (Alkhayyal & Bajaba, 2023). For this reason, the role of e-leadership in influencing positive work behavior is vital (Ahmed et al., 2022). According to Alkhayyal and Bajaba (2023), electronic leadership is the use of ICT to lead virtually. The concept has gained relevance during the Covid-19 pandemic where there was the urgent need for remote work arrangement because of the general lock down globally (Alkhayyal & Bajaba, 2023). On the other hand, a number of studies have shown the relevance of flexible work arrangements in positively influencing employee job performance.

Another important reason why organizations adopt flexible work arrangement is that, when there are changes in the work complexities of a modern organization, the flexible work arrangement will be more significant, especially when there are systemic economic difficulties relating to mobility and transportation as a result of a national economic factor (Asia-Pacific Economic Cooperation [APEC], 2021). More importantly, Singh et al. (2019) suggests that flexible work arrangements create positive economic externalities, including geographically decentralized and diversified economic growth, a more accessible and equitable labour force, and a reduction in the economic costs of traffic congestion. More importantly, it allows workers to balance their work-life relationship and consequently affect their performance positively (Chang, 2024).

From the foregoing discussion, it is clear that understanding how FWAs influence employee performance is not only crucial for organizational success, but also for shaping the broader discourse on the future of work in Nigeria and the world at large.

Empirical evidence suggests that a number of studies have shown positive and significant effect of flexible work arrangements on employee behaviors, in addition to productivity and or performance (Dwomoh et al., 2024; Febriana & Mujib, 2024). Besides that, many studies have investigated the role of e-electronic leadership style on employee performance (Maheshwari et al., 2024; Elyousfi et al., 2021), Some of the studies have examined the effect of FWAs on the performance of non-teaching staff of universities (Eshun & Segbenya, 2024; Andeyo et al., 2024). However, there has been limited studies that examine the dual effect of e-leadership and FWAs on employee performance, particularly in Nigerian context. Again, a number of previous studies have called for more empirical studies to advance e-leadership and flexible work arrangements researches (Bansal & Singh, 2005; Coenen & Kok, 2014; Contreras et al., 2020; Ahmed et al., 2022; Maheshwari et al., 2024). For example, studies by Maheshwari et al. (2024) and Ahmed et al. (2022) conducted in Vietnam and India respectively, have called for the replication of their studies in other cultural settings, such as in Africa to see if their findings would differ in terms of cultural differences. This research effort will help to lead to a better understanding of the role of cultural barriers in shaping leadership outcomes. Therefore, the main aim of this study is to investigate the effect of e-leadership and FWAs on the non-teaching staff performance of employees at Bayero University Kano.

The paper is organised into six sections, starting with the introduction followed by a literature review, the study methodology, results, discussions, recommendations, and finally the limitations and suggestions for further studies.

LITERATURE REVIEW

Employee Performance

Employee performance which encompasses behaviours and outcomes that contribute to achieving goals, is crucial for organisational success, (Viswesvaran & Ones, 2000; Rotundo & Sackett, 2002). It is vital for competitive advantage through the quality and quantity of job outputs within assigned responsibilities (Choudhary et al., 2017). Most scholars define it as the effective and efficient achievement of tasks, measurable by outcomes like efficiency, growth, customer satisfaction, and quality improvements (Sung et al., 2016; Anthonia & Ukoha, 2018).

Employee performance was initially associated with tasks specified in job descriptions (Griffin & Parker, 2007; Devonish & Greenidge, 2010); however, it has evolved into a multidimensional construct. It includes task performance, citizenship or contextual performance, and counterproductive work behaviours (Rotundo & Sackett, 2002; Viswesvaran & Ones, 2000; Badawy & El-Fekey, 2017). Task performance focuses on in-role behaviours directly linked to organisational goals, while citizenship performance involves voluntary behaviours fostering a conducive work environment (Motowildo et al., 1997). Counterproductive behaviours disrupt organisational activities and harm legitimate interests (Gruys & Sackett, 2003). For the purpose of the present study, the concept of task performance is used because task performance relates to the major job outcomes by the non-teaching workers in their offices or other work settings. It is also related to a number of flexible work arrangements.

Flexible Work Arrangements

Flexible work arrangements (FWAs) are not a unidimensional construct, but comprise distinct components, notably flexitime and flexplace (also telecommuting), (Allen et al., 2013). Flexitime allows employees autonomy over their working hours, that is, the employees can do their work at any time they feel is convenient for their well-being (Chen et al., 2018; Zappalà et al., 2024; Shirmohammadi et al., 2022), while flexplace enables employees to perform their job duties from locations beyond traditional workplaces, such as working at home or while on transit (Chen et al., 2018). Research on FWAs often emphasises flexplace practices like remote work, telework, hybrid work, and working from home (Zappalà et al., 2024; Shifrin et al., 2022; Toscano & Zappalà, 2020).

Flexitime empowers employees to design their work schedules, enhancing control over their time and promoting a better balance between work and family responsibilities (Christensen & Staines, 1990). This autonomy can also improve job performance (Baltes et al., 1999; Michel et al., 2011). Moreover, workers who are allowed to choose flexible work schedules and locations that align with their preferences perceive a sense of comfort that can enhance their performance (Andeyo et al., 2024). Flexitime allows employees to structure their work in a way that increases productivity. Furthermore, adopting FWAs, such as teleworking, job sharing, compressed workweeks, and shift work, contributes to improved work-life balance. Nonetheless, the lack of a structured routine may disorient employees, potentially leading to excessive work hours or challenges in effective time management (Sesay, 2025). Therefore, flexitime and flexplace (Zappalà et al., 2024; Chen et al., 2018) constitute the adopted flexible work conceptual framework to understand the issues examined in the present study. It has also been opined that flexible work arrangements are complimented by other arrangement such as e-leadership (Alkhayyal & Bajaba, 2023).

E-Leadership

The advent of digital transformation has changed the industrial world, reshaping the concept of leadership into what is now known as e-leadership, which again is driven by advancements in ICT (Wiradendi Wolor et al., 2020). E-leadership represents a modern leadership paradigm where leaders achieve their objectives through computer-mediated interactions with virtual teams spread across different locations and time zones. The primary channel of communication between leaders and their followers is electronic, and primarily facilitated by computer-based technologies (DasGupta, 2011). E-leadership retains the foundational principles of traditional leadership, focusing on fostering relationships within the organisational structure (He, 2008; Avolio & Kahai, 2003). However, the difference lies in its virtual nature, where collaboration is facilitated online using ICT connections and devices. In this virtual environment, communication between leaders and followers, as well as the

exchange of information needed for organisational tasks, is mediated by technology (He, 2008). For example, an e-leader might use email lists to update members of an organisation about certain changes. Members can then discuss these updates or consult the leader through the same platform, demonstrating interaction via ICT for information sharing and feedback. Alternatively, the leader can use any of the ICT channels such as video conferencing, social media, etc, to engage, lead and effectively get things done in an organisation (Wiradendi Wolor et al., 2020).

This approach promotes active participation, inspires collaboration, and facilitates the pooling of ideas through electronic platforms, thus fostering collective engagement and strengthening relationships among organisational members and directing efforts towards achieving the desired level of employee productivity (Mohammad, 2009).

Theory and Hypotheses Development

The current study is underpinned by the Job Demand -Resources Theory (JD-R Theory) as espoused in Demerouti et al. (2001). JD-R theory explains how job demands and resources influence job performance through employee well-being, and how employees use proactive, as well as reactive work behaviours to influence the job demands and resources (Bakker et al., 2023). The JD-R model proposes that every occupation has features that influence employee well-being, which can be categorised as either job demands or job resources. Job demands refer to the physical, social, or organisational elements of a job that necessitate ongoing physical or mental effort. In contrast, job resources encompass the physical, psychological, social, or organisational factors of a job that help achieve work objectives, mitigate job demands, or foster personal growth and development (Demerouti et al., 2001).

According to Hyland (1999), the overall working conditions, encompassing job demands and job resources outlined in the JD-R model, appear to align with the benefits and challenges brought about by flexible work designs (FWDs). In the same way, the nature of the job demands of the non-teaching staff of Bayero University Kano requires them to commute from home to office and carry out their work in the office using their computers and related ICT devices or to conduct their daily assignments which can be done elsewhere, or when the workers feel is convenient for them to do so. According to Bakker and Demerouti (2014), job demands and resources can be provided for through some interventions, such as training, job redesign, etc. Contextualising the theory into the current study, it can help one to illustrate how an organisation could provide for their employees' jobs demands of high cost of living and transportation to the work place. Due to the removal of the fuel subsidy, there arose the need for job redesigning where cost effective, family-friendly and flexible methods of doing a job can be introduced. For example, the traditional method of doing work can be redesigned using flexible work arrangements to take care of the employees' difficulties and also to have autonomy as to when and the manner they want to carry out their job (Tummers & Bakker, 2021). This when done can go a long way in boosting their motivation level, job satisfaction and performance (Bakker & Demerouti, 2018). However, there will be the need for a unique leadership style as a complimentary resource to coordinate the efforts of the employees in a flexible work arrangement context (Tummers & Bakker, 2021). This is where e-leadership comes in handy and that is the reason why the dual effect of flexible work arrangements and e-leadership on work performance is examined in the current study.

Based on the foregoing discussions, it has become clear that the theory has helped to explain how e-leadership and FWAs can influence employee performance for the better. The efficacy of the theory in explaining the relationship between FWAs and employee performance has been supported by some previous studies (Naqshbandi et al., 2024; Mache et al., 2020). Previous studies have also reported the

individual effect of flexible work arrangement and e-leadership on various dimensions of employee performance. For example, the study by Febriana and Mujib (2024) examined FWAs alongside participatory leadership and found a significant positive effect on employee productivity. However, their operationalization of FWAs primarily emphasized flexitime practices, particularly flexible scheduling among Gen Z employees, with limited attention to spatial flexibility. The study also only focused on Gen Z employees which differs from the focus of the present study. Similarly, Naqshbandi et al. (2024), in their study of Nigerian university employees, explicitly distinguished between FWA dimensions and reported that while overall FWAs significantly influence employee performance, flexplace (telework) exhibited no significant effect. This finding stresses the importance of treating FWA dimensions separately, as not all forms of flexibility yield the same performance outcomes, particularly in an environment where infrastructural or technological limitations may constrain the effectiveness of remote work.

More importantly, with regard to the present study, Conradie and De Klerk (2019) point out clearly that both flexitime and flexplace are positively associated with employee performance, but their combined application produces stronger effects than when each dimension is implemented in isolation. This suggests the presence of a complementary relationship between temporal and spatial flexibility in shaping performance outcomes. Many other studies have found significant positive relationship between the FWAs and employee performance (Zappala et al., 2024; van der Lippe et al., 2024; & Wang & Xie, 2023). Therefore, the following hypotheses have been proposed in the present study:

Hypothesis 1: Flexitime positively affects employee performance.

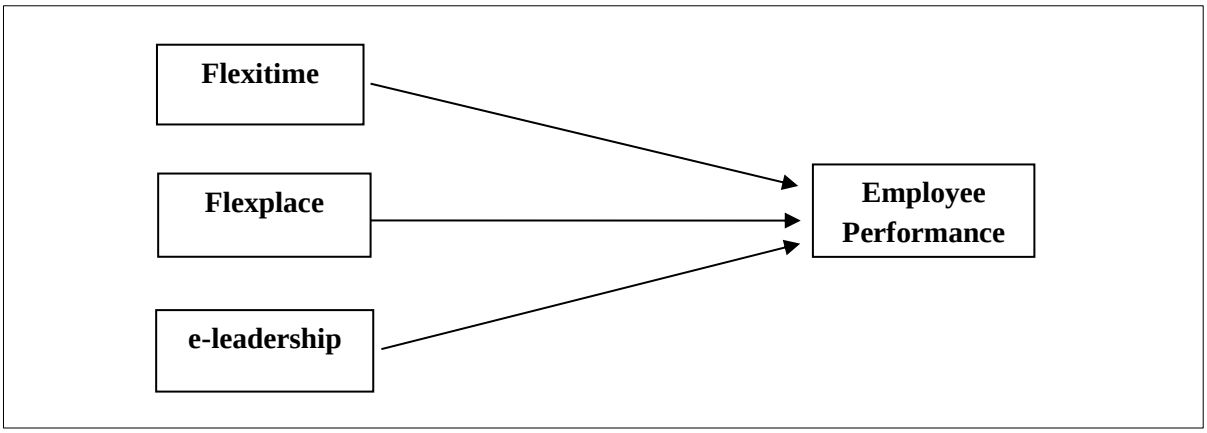
Hypothesis 2: Flexplace positively affects employee performance.

A number of studies have shown the important influence of e-leadership on employee performance. A study by Jacobis et al. (2024) on 97 employees has found a significant relationship between e-leadership and employee performance, however some limitations have been observed, as well. A study by Maheshwari et al. (2024) examined the impact of e-leadership on employee performance in the higher education sector. The results from the 445 samples of the study indicated a significant effect of perceived e-leadership on employee work engagement and the OCB (? Stands for). Likewise, a study by Cabrera (2022) found a significant effect of e-leadership on work motivation and employee performance. There have been previous studies that investigated the effect of e-leadership on employee performance, and as expected most of the studies have found significant effects from the relationship (Elyousfibet et al., 2021). This cannot be disconnected from the fact that, managing employee using on any of the FWAs cannot be possible without the complimentary effort of e-leadership as some of the employees will need to be monitored and directed remotely. Based on previous empirical evidence demonstrating a significant positive relationship between leadership style and employee performance, the present study has hypothesised that:

Hypothesis 3: e-leadership positively affects employee performance.

Figure 1

Research Conceptual Framework Showing Relationship Links among Variables



Notes. Source is the author (2025).

METHODOLOGY

Sample and Procedure

A total of 190 respondents were purposively selected from the non-teaching staff of Bayero University Kano. The choice of purposive sampling was informed by the specific objectives of the study, which had required the inclusion of respondents possessing relevant characteristics, knowledge, and experience related to the variables under investigation (Etikan et al., 2016). It enables a researcher to deliberately select participants who are most suitable for providing rich and relevant data, particularly in organizational studies where specific staff categories are of interest (Iqbal et al., 2024). In this regard, the focus on the non-teaching staff at Bayero University Kano is consistent with this practice.

Thus, to minimise potential bias associated with non-probability sampling, measures were taken to ensure adequate representation across various departments and units within the university. Hard copies of the questionnaires were distributed to the non-teaching staff across various sections of the institution with the assistance of a research aide. This approach ensured improving the diversity of responses and reducing location-specific bias.

After data collection, data cleaning procedures were conducted to address issues related to missing data and non-responses. After this process, 190 valid responses were retained for subsequent analysis. Notwithstanding these efforts, the use of non-probability sampling may constrain the generalisability of the findings beyond the study context. As such, the results should be interpreted with caution, particularly when extending conclusions to other institutions or sectors. However, the approach remains appropriate for generating context-specific insights and supporting analytical inferences within similar organisational settings.

Measures

The present study contains four variables, namely FWAs which include the following: flexitime and flexplace, e-leadership, and employee performance. These variables were measured using scales adapted from previous studies, for example, employee performance was measured using a task performance scale adapted from William and Anderson (1991), which consists of seven items. These seven items include; "I adequately complete my assigned duties", "I perform a task that is expected of me". Employees indicated their agreements based on a 5 point-Likert scale with a range from "strongly agree" to "strongly disagree." The 5-point Likert scale was chosen because some scholars were of the view that the fewer the points on the Likert scale the better the responses, was less time consuming and enhanced reliability for the measures (Frary, 1996).

FWAs were measured using adapted scales from Hyland (1999), Shockley and Allen (2007); McNall et al. (2009) and Mache et al. (2020). The decision to use many items from multiple sources was informed by the multidimensional nature of FWA, which comprises dimensions such as flexitime, flexplace, and compressed work schedules. The items were carefully selected based on their conceptual relevance and consistency with the study context. In addition, minor modifications were made to the wording to ensure clarity and suitability within the Nigerian higher education environment. Flexitime was measured using four items, namely sample items which included the following: "my organisation allows me flexibility on how I start or end my work day", "My organisation offers me the freedom to vary my work schedule." Each response was measured on the 5-point Likert Scale ranging from 'Entirely true" to "Entirely not true." On the other hand, flexplace was measured using three sample items which included the following: "I have the freedom to work wherever is best for me, either at home or at work" and "I regularly work remotely with my colleagues." Each response was measured on a 5-point Likert scale, ranging from "Entirely true" to "Entirely not true."

With regard the construct of e-leadership, it was measured using a four-item scale adapted from Elyousfi et al. (2021). Sample items included the following: "My supervisor can easily monitor and manage work and their team remotely" and "My supervisor and I are always in sync with each other virtually." Each response was measured on a five-point Likert scale, ranging from "Entirely true" to "Entirely not true."

RESULTS

This section presents the data on the profile of respondents collected from the non-teaching staff of Bayero University Kano. The analysis was structured to address the research objectives and hypotheses outlined in the study. Both descriptive and inferential statistical tools were employed to analyse and interpret the responses, ensuring that the findings would be meaningful and aligned with the study's aims. Descriptive statistics such as frequencies and means were used to summarize the demographic characteristics of respondents and highlight general patterns in the data. Regression analysis was then used to test the hypotheses formulated and draw conclusions and findings.

Profile of the Respondents

The demographic analysis revealed that the majority of the respondents were male (77.1%) and female (22.9), which supported the World Bank's (2015) claims that, job distribution in Northern Nigeria was culturally skewed in favour of males. With regards to the issue of age, the largest components of the

respondents fell within the 30–39 years bracket (48%), followed by 40–49 years (40.1%), over 50 years (7.6%), and 20–29 years (4.3%). These findings indicate that most of the participants were middle-aged employees.

In terms of educational qualifications, most of the respondents held a Bachelor's degree (37.8%), followed by a Higher National Diploma or its equivalent (31.7%), while the remaining were National Diploma/NCE (22.3) and Master's degree holders (8.2%). This aligned with their professional profiles, as the majority of the respondents were identified as senior staff members.

Regarding work experience, 10.4% of the respondents had less than 2 years of experience, 25.9% had 2–5 years, 31.1% had 6–10 years, 21.6% had 11–16 years, and 10.0% had over 16 years of experience. The majority of the respondents had 6–10 years of work experience at Bayero University Kano.

Validity and Reliability of the Research Instruments

Instrument validity ensures accurate measurement of the intended concept (Hair et al., 2010). Sekaran and Bougie (2016) highlight the role of experts in validating research instruments. Accordingly, the questionnaire was reviewed by professors and post-PhD fellows at Bayero University Kano to ensure face and content validity. The experts assessed item relevance, leading to the removal of redundant items and rewording of ambiguous or complex statements. They also ensured contextual suitability within the Nigerian higher education environment and adequate coverage of FWA dimensions. These revisions improved the clarity, relevance, and overall quality of the instrument prior to data collection.

Table 1

Summary of Reliability Analysis of Variables

Variables	Cronbach's alpha
Employee Performance	.954
Flexitime	.901
Flexplace	.730
e-Leadership	.894

Table 1 shows the reliability test results. Reliability reflects an instrument's consistency and freedom from error (Hair et al., 2010), ensuring stable measurements of study variables (Sekaran & Bougie, 2016). Cronbach's alpha which is a common measure of internal consistency, indicates reliability levels, with values below 0.60 considered as poor, around 0.70 as acceptable, and above 0.80 as good (Sekaran & Bougie, 2016). The general acceptable lower limit for Cronbach's alpha is 0.7 (Hair et al., 2010).

Pearson Correlation Coefficient

Pearson correlation was used to determine the correlation coefficient among the variables of the present study. The correlation analysis was conducted to explain the relationships among all the variables for the study.

Table 2

Correlation Matrix

Constructs	1	2	3	4
Flexitime	1			
Flexplace	.446	1		
e-leadership	.406	.705	1	
Employee Performance	.424	.699	.726	1

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

The general rule of thumb is that the correlation coefficient should not exceed 0.75. Furthermore, Cooper and Schindler (2003) indicated that correlations of 0.8, or higher are problematic because it shows perfect correlation. Thus, this study indicated positive and strong correlation among the variables of the study.

Regression Analysis

For reliable conclusions from multiple regression analysis, it is essential to meet assumptions of normality, collinearity, linearity, homoscedasticity, and independence of residuals (Tabachnick & Fidell, 2001; Pallant, 2005). These assumptions pertain to the dependent variable, the independent variables, and their overall relationship.

One of the approaches to assess the normality assumption is through histogram residual plots.

Figure 2

Histogram

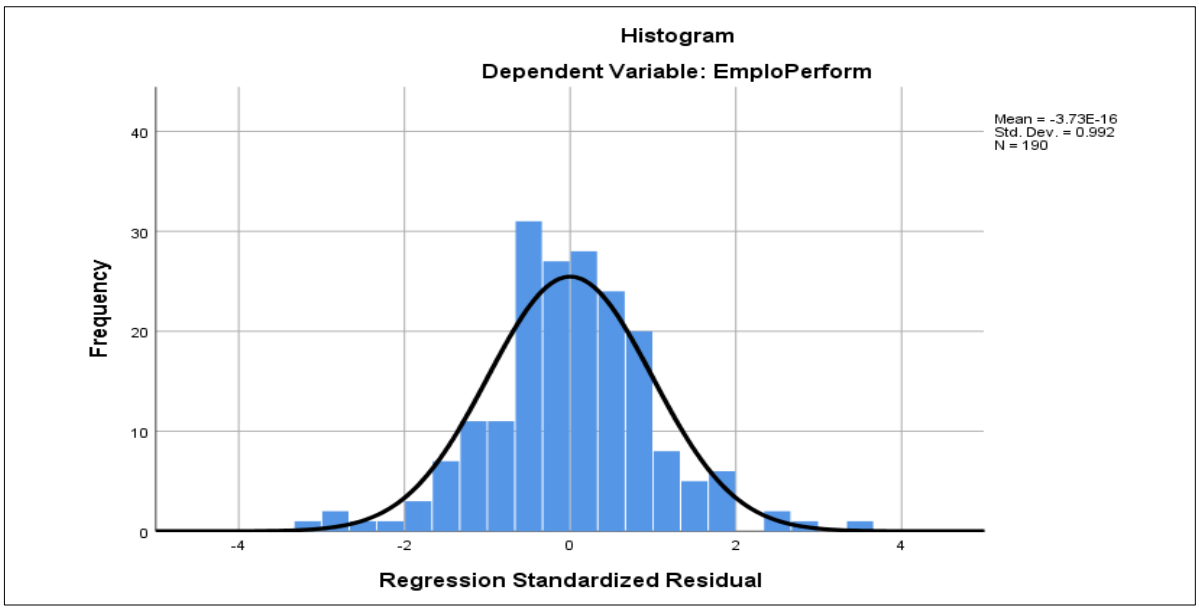
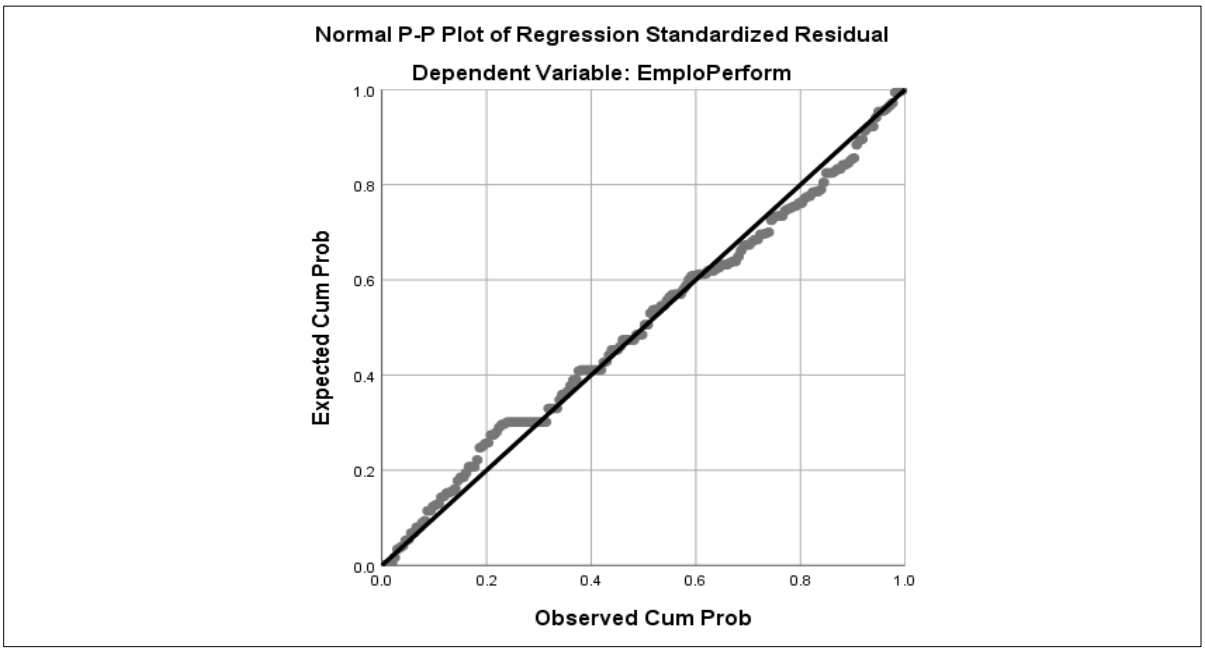


Figure 2 illustrates the normal histogram, demonstrating that the normality assumption was met as the bars closely aligned with the normal curve.

Figure 3

Normal P-P plots



These results indicate the presence of a linear relationship between the independent and dependent variables. The assumption of homoscedasticity was also satisfied, which is in line with Norusis (1999). The residuals were randomly distributed around the zero line without any discernible pattern, suggesting constant variance.

Multicollinearity, defined as a high level of intercorrelation among independent variables (Hair et al., 2010), was assessed using both the correlation matrix and collinearity diagnostics. The findings in Table 2 show no significant correlations indicative of multicollinearity.

Table 3

Tolerance and VIF Values

Independent Variables	Collinearity Statistics	
	Tolerance	VIF
Flexitime	.472	2.117
Flexplace	.784	1.275
e-Leadership	.492	2.031

In addition to multicollinearity diagnostics, Variance Inflation Factor (VIF) and tolerance values were evaluated as recommended by Hair et al. (2010). All VIF values were below 10, and tolerance values exceeded 0.10, confirming the absence of multicollinearity (see Table 3).

Table 4

Model Summary[b]

Model	R	R Square	Adjusted R2 Square	Std Error of the Estimate	Durbin Watson
1	.776[a]	.603	.596	.51495	2.269

Notes. a. Predictors: (Constant), e-Leadership, Flexplace, Flexitime
b. Dependent Variable: Employee Performance

The coefficient of determination (R^2) for the model was 0.603, indicating that 60.3% of the variance in employee performance was explained by the independent variables included in the study, while the remaining 39.7% might be attributed to other factors, such as environmental influences. This implies that the model demonstrates strong explanatory power.

To assess the independence of error terms, the Durbin–Watson statistic was employed. According to Norusis (1999), values between 1.5 and 2.5 indicate no violation of this assumption. In this study, the Durbin–Watson value of 2.269 (see Table 4 above) confirmed that the independence of errors assumption was satisfied.

Table 5

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig
1	Regression	74.841	3	24.947	94.080	.000[b]
	Residual	49.322	186	.265		
	Total	124.163	189			

Notes. a. Predictors: (Constant), e-Leadership, Flexplace, Flexitime
b. Dependent Variable: Employee Performance

It can be seen from Table 5 that the ANOVA results indicate that the overall model was statistically significant ($F(3, 186) = 94.080$, $p < .001$). The significance level confirmed that the model met acceptable statistical standards, demonstrating that it provided a good fit for the data.

Hypothesis Testing

The model summary in Table 4 in the preceding section reveals an R^2 value of 0.603, indicating that 60.3% of the variance in employee performance was significantly accounted for by the independent variables in the study. Table 6 highlights the contribution of each variable.

Table 6

Coefficients[a]

Model	B	Understandardised Coefficients Std. Error	Standardised Coefficients Beta	t	Sig.
(Constant)	.879	.210		4.166	.000
Flexitime → Employee Performance	.351	.068	.345	5.136	.000
Flexplace → Employee Performance	.082	.049	.088	1.696	.092
e-Leadership →Employee Performance	.415	.061	.446	6.774	.000

The regression results further reveal differential effects of the independent variables on employee performance, as is shown in Table 6.

Specifically, flexitime demonstrated a significant positive effect on employee performance ($\beta = .345$, $SE = .068$, $t = 5.136$, $p < .001$), suggesting that temporal flexibility enhanced employees' ability to perform effectively. And therefore, accepting Hypothesis 1 which states that "Flexitime positively affects employee performance". Conversely, the effect of flexplace on employee performance was positive, but not statistically significant ($\beta = .088$, $SE = .049$, $t = 1.696$, $p = .092$), indicating that spatial flexibility did not meaningfully predict employee performance in the present context. This leads to the rejection of Hypothesis 2 which states that "Flexplace positively affects employee performance".

Lastly, e-leadership exhibited a strong and statistically significant positive influence on employee performance ($\beta = .446$, $SE = .061$, $t = 6.774$, $p < .001$), indicating that the use of digital leadership practices played a critical role in improving employee outcomes. Consequently, accepting Hypothesis 3 which states that "e-leadership positively affects employee performance".

In summary, the findings indicate that while flexitime and e-leadership significantly predicted employee performance, flexplace did not exert a statistically significant effect. Accordingly, Hypothesis 1 and Hypothesis 3 are supported, whereas Hypothesis 2 is not supported.

DISCUSSIONS OF FINDINGS

While previous studies have examined the effects of flexible work arrangements (FWAs) and e-leadership separately, the empirical evidence on their combined influence on employee performance, particularly within the Nigerian context, remains limited. The current study's finding contributes to the literature by integrating these constructs into a unified model and provides context-specific insights from a public sector tertiary institution context.

The findings reveal that flexitime had a significant and positive effect on employee performance, supporting Hypothesis 1. This means that allowing employees temporal autonomy, such as flexibility in scheduling work hours enhances their productivity and effectiveness. This result aligns with the findings of previous studies, such as in Zappalà et al. (2024), Conradie & De Klerk (2019), van der Lippe et al. (2024) and Wang & Xie (2023), which emphasise the performance enhancing benefits of temporal flexibility. In the Nigerian context, this finding is particularly salient given the economic realities after the fuel subsidy removal. Rising transportation costs and commuting challenges impose

substantial strain on employees, making rigid work schedules increasingly difficult. Flexitime, therefore, serves as a practical coping mechanism that enables employees to better manage work demands alongside external constraints, ultimately improving performance outcomes.

In contrast, flexplace has no significant effect on employee performance, leading to the rejection of Hypothesis 2. This finding suggests that spatial flexibility such as remote work or teleworking did not significantly influence performance among non-teaching staff at Bayero University Kano. The explanation lies in the institutional and infrastructural context. Many administrative roles within Nigerian universities are inherently office-bound and rely on physical presence, documentation, and face-to-face coordination. Another essential point to note is that limitations in digital infrastructure, inconsistent power supply, and organisational norms that prioritise physical supervision may hinder the effectiveness of remote work arrangements. This finding is consistent with Naqshbandi et al. (2024), who also reported an insignificant effect of telework within a Nigerian sample, reinforcing the argument that the benefits of flexplace are highly context dependent.

Furthermore, the study finds that e-leadership had a strong and significant positive effect on employee performance, supporting Hypothesis 3. This implies that the use of digital tools and communication technologies by leaders to coordinate, supervise, and support employees plays a critical role in enhancing performance. In practice, supervisors and unit heads increasingly rely on electronic communication platforms to manage tasks, provide feedback, and maintain workflow continuity, particularly when physical presence is constrained. This finding is consistent with previous studies such as Jacobis et al. (2024) and Cabrera (2022), which has highlighted the effectiveness of e-leadership in influencing engagement, improving communication, and sustaining performance in modern work environments.

Holistically, the findings suggest that not all dimensions of FWAs exert uniform effects on performance. While flexitime emerges as a significant driver of employee performance, flexplace does not yield similar benefits within the studied context. However, the strong effect of e-leadership indicates its critical role in complementing flexible work systems. These results highlight the importance of adopting a context-sensitive and multidimensional approach to flexible work design, particularly in developing economies where structural and technological constraints may shape the effectiveness of different flexibility practices.

THEORETICAL AND PRACTICAL IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

Theoretical Implications

The current study contributes to the literature on flexible work arrangements, e-leadership and employee performance evidence from the Nigerian context. The study was conducted during a period of significant economic challenges after the removal of fuel subsidy in the country. The findings support the existing theoretical perspectives by showing that flexible work arrangements, particularly flexitime has significant positive effect on employee performance. The result supports the assumption of work-life balance and job designs theories, which maintain that granting employees greater control over their work schedules can improve motivation, well-being and productivity.

Furthermore, the findings have shown that e-leadership has a significant positive effect on employee performance. The findings support the proposition that leadership effectiveness can be enhanced and maintained through digital communication and technological interactions. The findings validate modern leadership theories that emphasise adaptability, digital competence, and virtual relationship management in achieving organisational outcomes.

On the other hand, the non-significant effect of flexplace shows the context-specific nature of flexible work practices. Though previous studies have reported positive outcomes associated with telecommuting, the current findings suggest that the effectiveness of flexplace may have to be better supported by digital infrastructures, organisational culture, managerial support and employee readiness. This finding contributes to the literature by indicating that flexible work arrangements should not be viewed as universally effective, but rather as practices whose outcomes differ across organisations and national context.

Practical Implications

Considering the significance of flexitime in the current study, we recommend that both public and private organisations address their employees' difficulties with regard to mobility and work-family balance by providing arrangements and policies that allow employees to carry out their work in a manner that is most convenient for them. Employees can be allowed to work at whatever hours they prefer, provided the work is not of an emergency nature. When implemented, this can significantly reduce workers' hardships caused by the removal of the fuel subsidy, as many of them can work at flexible times. However, without proper monitoring, evaluation, and clearly outlined routines, employees may feel confused, work excessive hours, or struggle to manage their time effectively.

Organisations should cautiously and gradually develop telecommuting (flexplace) capabilities, rather than fully institutionalising it as a standard work practice immediately. Even though flexplace was found not to have a significant effect on employee performance in this study, this outcome likely reflects contextual constraints such as limited digital infrastructure, inadequate remote work systems, and entrenched organisational practices that favour physical presence.

Nevertheless, organisations are encouraged to invest in telecommuting, including reliable hardware, appropriate software platforms, stable internet access, and targeted training for both managers and employees. Strengthening these capabilities will better position organisations to leverage e-leadership, which was found to have a strong positive effect on employee performance. Therefore, telecommuting should be viewed not as an immediate performance-enhancing practice, but as a strategic, long-term organisational capability that, when properly implemented and supported, can complement e-leadership and potentially yield performance benefits in the future.

Even though flexplace was not significant in the present study, other studies have found it significant in influencing employees' performance, as such organisation may adopt a policy that allows their workers to take home some of their work for convenience and to manage their time and resources. This could serve to motivate the employee to perform at their best, knowing that organisation considers their welfare and will help them to balance work and family or personal interest.

Limitations and Future Research Directions

Despite the success of the current study, there are several limitations that should be addressed in future studies. The study employed a purposive sampling method, which is a non-probability sampling technique. As a result, the ability of the study to generalise its findings is limited, providing an opportunity for future studies to utilise probability sampling techniques. Again, the study is limited by its focus on university non-teaching staff, a sample population representing a specific public organisation. Future research could examine the same model in a business organisation to determine whether the nature of the organisation can affect the findings, the model can also be tested in other cultural set ups, as well as in other organisations or contexts where flexplace is practice or allowed, because the present study did not find a significant relationship between flexplace and employee performance. Finally, future studies could explore moderating variables, particularly demographic factors such as age or gender, to assess how these variables influence the current findings. For example, variations in age among the sample might affect their reactions to flexible work arrangements and e-leadership.

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