

IMPACT OF THE WORK ENVIRONMENT ON EMPLOYEE PERFORMANCE IN THE FEDERAL FIRE SERVICE, ABUJA, NIGERIA

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ABSTRACT

An ideal work environment should act as a key driver of employee performance by improving productivity, job satisfaction, and the overall quality of work. In many advanced economies, organizations have effectively utilized conducive work environments to achieve high operational standards, boost employee commitment, and enhance organizational resilience. This study investigated how the work environment influences employee performance within the Federal Fire Service in Abuja, Nigeria. A descriptive research design was employed, and data were collected using a structured questionnaire distributed to employees. The population of interest was 2,149 personnel, from which a stratified sampling technique was used to ensure proper representation. Within each stratum, simple random sampling was applied. A sample size of 337 respondents was determined, including a 20% margin of safety. Data were analysed through descriptive statistics and regression analysis, with a 5% level of significance used to test the hypotheses aligned with the study's objectives. The results showed that the physical work environment significantly affects employee productivity in the Federal Fire Service, Abuja. Based on these findings, the study concluded that improvements in the physical workspace have a direct and meaningful impact on employee output. Accordingly, it is recommended that the management of the Federal Fire Service and similar organizations consistently evaluate and upgrade their physical work conditions. This includes regular facility improvements, maintenance of safety and operational tools, provision of ergonomic office furniture, and better environmental cleanliness and workplace design.

Keywords: Work Environments, Physical Work Environment, Socio-Cultural Work Environment, Technological Resources, Employee Performance

INTRODUCTION

Organisations are realising more and more that the workplace has a significant impact on both long-term operational success and employee performance in today's fast-paced and dynamic work environment. In order to boost productivity and achieve sustained growth, it is now strategically necessary to create a supportive and productive work environment (Isiaka, Omolabi, & Amosa, 2015). The physical, social, and technological aspects of the workplace are interconnected and influence how workers view their positions, interact with others, and carry out their duties. In high-stress industries like emergency services, where workplace conditions have a direct impact on worker resilience and public safety, this complexity is even more noticeable. For

instance, employees of Abuja's Federal Fire Service must work under extreme strain due to dangerous working conditions and unforeseen incidents. This work's intensity emphasises how crucial it is to provide a supportive atmosphere that protects mental and physical health (Agbili, 2018).

There is empirical data to support the idea that a well-organised workplace greatly improves worker happiness, productivity, and service quality (Osimokha et al., 2022). On the other hand, poor performance, increased absenteeism, and occupational burnout might result from a subpar work environment. In emergency services, when inefficient or delayed responses could put lives in jeopardy, this is particularly risky. Poor infrastructure, insufficient funding, and antiquated equipment

seriously impair staff morale and productivity in Nigeria's public sector, especially fire safety agencies, according to research (Olusegun & Samuel, 2022).

Workplace circumstances and employee performance have a well-established relationship on a global scale. Research indicates that having access to ergonomic facilities, contemporary equipment, and supportive management directly boosts employee engagement and productivity in developed nations like the US and the UK (Chandrasekar, 2020). Nigeria and other African nations, on the other hand, frequently deal with institutional limitations such as inadequate budget, antiquated infrastructure, and lax implementation of labour laws. In order to satisfy international standards and promote competitiveness, scholars have underlined the necessity for Nigerian organisations to give priority to improving working conditions (Sarkar & Singh, 2021).

The Federal Fire Service in Abuja faces significant operational issues due to its current structural limitations. Effective service delivery is hampered by problems such as inadequate firefighting equipment, dilapidated structures, a lack of digital communication systems, and inadequate staff training, according to studies (Agbili, 2018; Okonkwo, 2020). These shortcomings jeopardise workers and make it harder for the company to carry out its vital mission. The issue necessitates an immediate assessment and focused actions to enhance working conditions.

Three main dimensions can be used to assess the work environment: technological, sociocultural, and physical. Lighting, ventilation, facilities, equipment, and safety systems are all part of the physical dimension. Clean, well-equipped, and secure workplaces are associated with higher employee performance, according to research (Isiaka et al., 2015). Access to operational trucks, fire extinguishers, protective gear, and water hydrants is essential for firefighters. When these essential instruments are lacking, emergency actions may be delayed and the number of victims may rise (Agbili, 2018).

Organisational values, communication, leadership, and interpersonal interactions are the main topics of the sociocultural dimension.

Employee motivation and engagement are increased in an environment that values cooperation, inclusivity, and respect for one another (Obisung & Ndulue, 2024). Trust and teamwork are particularly crucial in high-risk settings like the fire service to guarantee coordination during life-threatening operations. Research conducted in Abuja's public sector has demonstrated that a supportive organisational culture and leadership are important factors that influence dedication and output (Osimokha et al., 2022).

The utilisation of contemporary systems, digital tools, communication platforms, and simulation training are all included in the technological dimension. Innovations such as computerised dispatch systems, emergency response software, and real-time GPS monitoring have revolutionised fire department operations worldwide (Smith et al., 2021). However, due to financial and infrastructure limitations, the Federal Fire Service and the majority of Nigerian public institutions lag behind in terms of technology integration. Lack of access to modern data tools and communication networks reduces readiness and hinders prompt emergency responses (Olusegun & Samuel, 2022).

The multifaceted nature of employee performance includes output quality, work happiness, and productivity. Job satisfaction measures an employee's emotional investment, productivity measures the effectiveness and volume of work produced, and quality of work measures the precision and professionalism of task performance. Researchers concur that a healthy workplace improves all of these performance metrics by fostering creativity, boosting morale, and lowering stress (Isiaka et al., 2015; Sarkar & Singh, 2021). Improving working conditions at the Federal Fire Service may lead to a quicker emergency response, fewer operational mistakes, and more public confidence in fire safety initiatives.

Additionally, improving the workplace can increase overall service capacity, draw in qualified specialists, and lower employee turnover. High-performing firefighters are even more needed now than ever before due to Abuja's expanding population and rising need for emergency services. The Federal Fire Service will be better able to carry out its mission by investing in contemporary

technology, developing a collaborative work culture, and upgrading its physical infrastructure (Okonkwo, 2020).

Therefore, the purpose of this study is to look into how employee performance at the Federal Fire Service in Abuja is impacted by the technological, sociocultural, and physical aspects of the workplace. The final product will offer useful, fact-based suggestions for enhancing working conditions and maximising organisational results. Additionally, it will add to the scholarly conversation about workplace dynamics in public sector organisations in developing countries.

The workplace should ideally serve as a strategic facilitator of employee performance, increasing output, elevating job satisfaction, and upgrading the calibre of work produced (Rabiu et al., 2024). Companies like Google and Microsoft have effectively created workplace environments in developed economies that promote creativity, teamwork, and efficiency by incorporating ergonomic physical spaces, positive sociocultural dynamics, and state-of-the-art technological systems (Chandrasekar, 2020).

However, institutional obstacles and inconsistent workplace management make it difficult to achieve such alignment between ideal work circumstances and outcomes in Nigeria. For example, the Federal Fire Service in Abuja responds to life-threatening emergencies using outdated technology and limited infrastructure while working in high-stakes and uncertain situations. Workers usually deal with antiquated equipment, poor team cohesion, bad leadership, and inadequate physical infrastructure (Ask Nigeria, 2024). More than 60% of public sector employees, including emergency responders, express discontent with their workplace, citing outdated equipment, dangerous facilities, and inadequate training support, according to statistics from the Nigerian Civil Society Situation Room. This discontent is linked to increased employee turnover, decreased morale, and decreased production.

The majority of research concentrate on developed economies or private-sector settings, despite the fact that there is ample empirical evidence that favourable work environments improve employee performance globally

(Chandrasekar, 2020). Both Herzberg's Two-Factor Theory and Maslow's Hierarchy of requirements theoretically highlight how important working environments are in meeting employees' psychological and physiological requirements. However, these frameworks frequently assume resource stability and abundance, which limits their application in Nigerian public-sector contexts (Zakariya & Achimugu, 2023). Regarding the effects of the physical, social, and technological aspects of the workplace on performance in high-risk, underfunded public agencies like fire departments in developing nations, there is a clear study deficit.

Therefore, the purpose of this study is to assess the effects of these three aspects of the workplace on worker performance at the Federal Fire Service in Abuja. It seeks to inform practical measures to enhance workplace conditions, boost employee engagement, and maximise institutional outcomes by producing context-specific, actionable insights. This study aims to advance academic knowledge of sector-specific workplace dynamics in developing situations where current theoretical models are inadequate, hence advancing public sector reform and scholarly discourse.

Objectives of the Study

The major objective of this study was to evaluate the impact of the work environment on employee performance in the Federal Fire Service, Abuja, Nigeria.

The specific objectives of the study were to:

- i. Investigate how the physical work environment impacts the productivity of employees in the Federal Fire Service, Abuja.
- ii. Examine the extent to which the socio-cultural work environment influences job satisfaction among employees in the Federal Fire Service, Abuja.
- iii. Assess the way in which technological resources in the work environment affect the quality of work performed by employees in the Federal Fire Service, Abuja.

LITERATURE REVIEW

Conceptual Framework

The Concept of Work Environment

The work environment refers to the conditions and settings in which employees perform their daily tasks, including how, where, and when work is carried out, as well as all the elements that influence job performance (Jena, 2016). A positive and supportive work environment plays a crucial role in enhancing employee productivity, career development, and overall job satisfaction. When employees operate in a healthy and motivating atmosphere, it not only contributes to personal growth but also aligns with organizational goals and values, fostering mutual success.

The concept of work environment encompasses both physical conditions such as workspace layout, lighting, noise levels, and ergonomic design as well as social and cultural aspects, including interpersonal relationships, leadership style, and organizational culture (Awan, 2015; Daniel, 2019). These factors can significantly affect an individual's well-being, efficiency, teamwork, and even physical health (Ali, 2016). Elements such as company culture, working conditions, and workplace safety are key indicators of the quality of the work environment within any organization.

Employees who are mentally engaged and supported in a favorable work setting tend to be more motivated, committed, and capable of

Physical Environment

The physical work environment plays a crucial role in determining whether an individual feels comfortable or out of place in their workplace. This environment is often referred to as an ergonomic workplace, which is specifically designed to align with employees' physical needs and promote well-being. To ensure that every employee benefits from such a space, ongoing research and evaluation of workplace conditions are necessary. An ergonomically sound workplace can significantly reduce the risk of physical injuries, such as nerve damage, among workers (Cooper & Dewe, 2004).

Additionally, McCoy and Evans (2005) emphasize the importance of maintaining a well-structured physical environment to help minimize stress levels among employees. They argue that the design and physical setup of the workplace not only affect mental well-being but

delivering high-quality results (Bushiri C. P., 2014). Sustained motivation acts as a driving force behind achieving organizational objectives with enthusiasm and dedication. According to Franklin Dang Kum (2014), motivation influences the persistence, effort, and direction employees put toward meeting performance targets, making it a critical factor in assessing both individual and team effectiveness.

In its simplest form, the work environment is the physical or virtual space where employees carry out their duties (Genzorová, 2017). This may range from a small home office to a large industrial facility. The workplace serves as a central hub for various daily activities that shape both organizational outcomes and individual career trajectories (Satyvendra, 2019; Daniel, 2019).

With advancements in technology and the rise of integrated communication systems, the traditional definition of the work environment has expanded to include virtual or remote workplaces. These digital environments enable employees to collaborate and perform tasks without being physically present in a conventional office setting. In addition to virtual spaces, traditional work environments include structural aspects like building design, air quality, temperature control, and employee amenities such as break areas, parking facilities, and childcare services.

also influence interpersonal communication and the development of workplace relationships. According to Brill (1992), improving the physical design of a workplace has the potential to boost employee performance by approximately 5 to 10 percent, highlighting the direct link between environment and productivity.

Amir (2010) also identifies two key components of the physical work environment: office layout and comfort. He explains that the physical workplace includes all areas within an organization that are intentionally organized to support the achievement of organizational objectives. When thoughtfully arranged, these physical spaces enhance both individual performance and overall organizational effectiveness.

Socio-cultural Environment

The socio-cultural environment refers to the social and cultural factors that influence the way individuals and groups behave within a society. These factors include cultural norms, societal values, social structures, and interpersonal relationships that shape the behavior and attitudes of individuals in an organization (Hofstede, 2001). In the context of a workplace, the socio-cultural environment affects how employees interact with each other, their perception of authority, and how they approach work-related tasks. For example, a culture that values collaboration and teamwork will foster more cooperative behavior among employees, whereas a hierarchical culture may emphasize obedience and respect for authority. Additionally, societal values such as gender equality, respect for diversity, and work-life balance can influence organizational policies and practices (Schneider & Barsoux, 2003). The socio-cultural environment also affects employee motivation and job satisfaction, as individuals are influenced by their societal upbringing and cultural expectations. Therefore, it is crucial for organizations to understand and adapt to the socio-cultural context in which they operate to enhance employee engagement, improve performance, and create an inclusive organizational culture (Gelfand et al., 2011; Daniel, 2019).

Technological Environment

The technological environment encompasses the tools, systems, and innovations that impact the operations of an organization. It includes everything from advancements in machinery and equipment to the integration of software systems that streamline business processes. Technological innovations can dramatically improve productivity, quality, and efficiency by automating repetitive tasks, providing real-time data analysis, and enhancing communication (Brynjolfsson & McAfee, 2014). For example, the introduction of digital technologies such as artificial intelligence (AI) and machine learning has revolutionized industries by enabling predictive analytics, customer insights, and decision-making automation. Moreover, technological advancements in communication platforms, like video conferencing and collaborative tools, have transformed how employees work together, particularly in remote and hybrid work environments

(Chesbrough, 2003). The technological environment can also drive organizational change, as companies must continually innovate to remain competitive in fast-evolving markets. However, the integration of new technologies often requires significant investment, employee training, and adaptation to ensure successful implementation and minimize resistance to change (Tushman & Anderson, 2004; Daniel, 2019). Therefore, organizations need to not only embrace technological advancements but also manage the changes effectively to ensure they derive maximum benefit from these innovations.

Employee Performance

One of the primary challenges organizations face today is ensuring that employees perform at a level that meets desired objectives. Numerous studies have examined employee performance from various angles within the domains of organizational behavior and human resource management, emphasizing how effective HR strategies are essential for building a competent and productive workforce that contributes to organizational success (Nur Shifaa Athirah Saidi, 2019; Genzorová, 2017). Employee performance can be understood as the successful execution of assigned tasks through individual effort, making it a crucial factor in determining an organization's overall effectiveness and long-term viability.

Research shows that thoughtfully designed incentive systems encompassing both monetary rewards and non-monetary motivators such as career advancement opportunities, involvement in decision-making, and regular performance evaluations can significantly boost employee motivation and dedication (Utin Nina Hermina, 2019; Mohamed, 2016). In the current business climate, characterized by rapid change and fierce competition, organizations must continuously evolve to keep pace with shifting market demands. This requires a dynamic, knowledgeable, and high-performing workforce (Awan, 2015). Failing to adapt to these changes can pose serious risks to an organization's stability and future growth (Ali, 2016; Daniel, 2019).

Achieving organizational goals depends heavily on consistent and dedicated employee effort. Without strong workforce engagement, even the most plentiful organizational resources

may go underutilized (Bushiri C. P., 2014; A. Firmansyah, 2020). According to Genzorová (2017), employee performance involves not just the quality of work delivered but also the ability to meet both individual and team-based targets within established timeframes and standards. Nur Shifaa Athirah Saidi (2019) further explains that performance essentially reflects how effectively individuals fulfill their assigned responsibilities. Thus, effective performance management entails deliberate strategies by leadership to align the efforts of individuals and teams with the overarching objectives of the organization.

Productivity

Productivity refers to the extent to which individuals or teams efficiently transform available resources into tangible outcomes (Cocker et al., 2013). Faisal et al. (2015) further describe productivity as the amount of time an employee dedicates to fulfilling the organization's predetermined goals.

In essence, employee productivity represents a synergy between the individual and their work environment, all aimed at achieving the organization's objectives. Rather than being defined by a single, universal standard, employee productivity varies depending on the nature of the organization and the specific work context in which it occurs (Bulak & Turkyilmaz, 2014).

Several elements contribute to employee productivity, including the physical and social work environment, human resource policies that foster motivation, managerial support, employee skills, and the structure of the organization. Often, productivity is assessed based on overall job performance or output quality.

Job Satisfaction

Job satisfaction has been perceived in various ways by different researchers, reporters and practitioners. Generally, Job satisfaction is referred as degree of likeness of the job employees' work for. Various studies have been specifically dedicated to measure job satisfaction and related it to commitment with organization. Satisfaction has been studied under various education, demographics, age, race, gender, and capability at work. Generally, job satisfaction research designs work on a fit

paradigm for environment-person. Job satisfaction is an essential research area (Dirani and Kuchinke, 2011). Job satisfaction is a multidimensional psychological response from employees towards their job, which are having cognitive means evaluation, affective means emotional and the behavioral aspects (Hulin and Judge, 2003). The measurement of job satisfaction differs in scope which evaluate effective personal feelings about job, these are emotions reflecting job characteristics (Thompson and Phua, 2012; Kalleberg, 1997). Therefore, job satisfaction reflects on one's level of happiness and pleasure at their job. Moreover, flexible, and shared work environment creates positive outcome which increases the value in shareholders' equity. Some studies propose there is a correlation between financial achievement and employee satisfaction.

Quality of Work

Quality of Work Life (QWL) serves as a strategic framework through which management governs the organization, with a strong emphasis on human capital. It reflects the organization's philosophy regarding its workforce, the value it places on individuals, and its overall approach to organizational operations. At the core of this concept is the recognition of how work impacts employees, influences organizational effectiveness, and underscores the importance of involving employees in decisions concerning their roles, career development, compensation, and future opportunities (Tete et al., 2023).

Based on this understanding, QWL can be interpreted as employees' perceptions of their working conditions and experiences within the organization. To enhance these perceptions, organizations strive to create harmony between employees, their tasks, the technologies they use, and their physical environment. This involves cultivating a supportive and comfortable workplace that stimulates innovation and encourages creativity. Ultimately, this holistic approach promotes a healthy work-life balance, enabling employees to thrive both personally and professionally (Jaya et al., 2023).

Theoretical Review

The theoretical review provided a foundation for understanding the relationship between the

work environment and employee performance in the Federal Fire Service, Abuja. This section explored key theories, including their proponents, major contributions, basic assumptions, significance, limitations, and applicability to the study context.

Maslow's Hierarchy of Needs

The theory of the hierarchy of needs was developed by Abraham Maslow, an American psychologist known for his work in human motivation and behaviour. Maslow introduced this theory as part of his broader work on humanistic psychology, which emphasizes personal growth and self-fulfilment. He sought to understand what motivates people beyond basic survival instincts and was among the first to propose a structured view of human needs in a motivational context.

Maslow first introduced the Hierarchy of Needs in his 1943 paper titled "A Theory of Human Motivation," published in the journal *Psychological Review*. He later expanded on this concept in his 1954 book "Motivation and Personality." The theory has since become one of the most widely cited frameworks in both psychology and management studies, particularly for understanding employee behaviour and workplace motivation.

The central assumption of Maslow's theory is that human needs are arranged in a hierarchy and that people are motivated to satisfy these needs in a specific order from the most basic physiological needs to more complex psychological ones. Maslow identified five levels of need: physiological, safety, social (belongingness), esteem, and self-actualization. He argued that a person must first satisfy lower-level needs (like food, shelter, and safety) before they can be motivated by higher-level needs (such as esteem or personal fulfilment). Another core belief is that only unmet needs serve as motivators, while satisfied needs cease to drive behaviour (Ramlall, 2004).

In organizational settings, Maslow's theory is used to explain and improve employee motivation, satisfaction, and performance. For example, ensuring fair wages and safe working conditions meets employees' physiological and safety needs. Encouraging teamwork and supportive leadership fulfils social needs, while recognizing achievements and offering promotions addresses esteem needs.

Opportunities for professional growth, creativity, and challenging work help employees achieve self-actualization. Managers can use Maslow's model to assess where each employee is on the hierarchy and design incentives or work environments that align with their current motivational stage, thereby improving productivity and morale (Ramlall, 2004).

Despite its popularity, Maslow's Hierarchy of Needs has faced several criticisms. One major critique is its rigid and linear structure, which assumes that individuals move through the hierarchy in a fixed order. In reality, human motivation can be more flexible; people may seek higher-level needs even when lower-level ones are unmet. For example, individuals facing financial hardship may still pursue creative expression or esteem through volunteer work or social activities. Critics also argue that the theory lacks empirical validation and is culturally biased, as it reflects Western individualistic values and may not apply universally across different societies. Moreover, the model does not account for situational variables or external motivators that might influence behaviour (Wahba & Bridwell, 1976).

Empirical Review

Van der Voordt et al. (2021) aimed to explore the value of healthy workplaces in influencing employee satisfaction, productivity, and facility costs. A narrative review design was used, drawing data from existing literature in building research, corporate real estate, facilities management, environmental psychology, and ergonomics. The population consisted of published academic and industry sources. A total sample size was not specified, as the method was a qualitative synthesis. Data were collected through a systematic review of journal articles and other relevant publications. Findings indicated that appropriate building characteristics positively influence health, satisfaction, and productivity, although correlations between these variables remain under-researched. Cost-benefit data on healthy work environments were limited but suggested cost-effectiveness through reduced absenteeism. The authors recommended further empirical studies to quantify relationships between workplace features and performance.

outcomes, highlighting a gap in economic evaluation within this field.

The research conducted by Mafodi and Pretorius (2023) sought to examine the adoption and application of technological innovations in the South African coal processing industry. A case study design was employed, focusing on coal mining operations in South Africa. The population included stakeholders in the coal mining sector, including technology providers and government agencies. The sample size was not quantified, as the study focused on qualitative insights from industry reports and expert interviews. Data were collected through document analysis and stakeholder engagement. Analysis was thematic, focusing on trends and opportunities for innovation. The study found that technology transformation was reshaping coal mining operations, with benefits in efficiency, safety, and sustainability. However, capacity gaps and lack of collaboration between large and small miners were identified as barriers. The authors recommended stronger partnerships between government, miners, and technology firms, along with workforce upskilling. A gap noted was the need for more localized studies on implementation challenges.

Elaga et al. (2024) investigated the influence of work discipline and work environment on employee performance at Sekayu Regional General Hospital. A quantitative research design was adopted, targeting all medical and support staff at the hospital, with a sample of 116 respondents selected using random sampling techniques. Primary data were collected via structured questionnaires. Multiple linear regression was used for data analysis. Results showed that both work discipline and work environment had a statistically significant positive effect on employee performance. The study recommended continuous improvement in organizational discipline and workplace conditions to enhance productivity. A gap identified was the limited exploration of mediating factors such as motivation or job satisfaction.

In their study, Kusumaningrum et al. (2023) examined how leadership support, technological capability, and teamwork influence employee performance in the

Indonesian banking sector. A quantitative survey design was used, with a sample of 300 bank employees selected through online questionnaire distribution. Data were measured using a five-point Likert scale and analyzed using Structural Equation Modeling (SEM). Findings revealed that while leadership support had no significant impact, technological capability and teamwork significantly improved employee performance. Recommendations included enhancing team dynamics and investing in employee digital skills. The researchers acknowledged a gap in longitudinal studies assessing long-term impacts of technology integration on performance.

Suriadi et al. (2023) explored how organizational culture, work environment, and work discipline affect teacher job satisfaction in a boarding school setting. Using a quantitative approach, the study targeted teachers, with a sample of 74 respondents. Questionnaires and library records served as data sources. Multiple linear regression was applied for analysis. Results showed that all three variables had a significant positive impact on job satisfaction. The authors recommended improving organizational values, physical working conditions, and disciplinary structures. A limitation noted was the small sample size and its restriction to one institution.

Rahman et al. (2024) studied how the physical work environment and work motivation influence employee performance in a government agency in West Bandung. A quantitative survey design was used, with 77 state employees as respondents. Validity and reliability tests were conducted before applying path analysis for data interpretation. Findings indicated that comfortable workstations and motivating career development opportunities significantly enhanced performance. The authors recommended integrating ergonomic improvements and motivational programs into public sector HR practices. They noted a limitation in the narrow geographical scope and called for broader future investigations.

Amin et al. (2023) assessed the impact of physical and non-physical work environments on employee job satisfaction at the BKPSDMD Agency in Makassar City. A quantitative approach was used, with a sample of 57 employees. Data were collected primarily and

analyzed using multiple linear regression. Results showed that both physical and non-physical environments had a significant positive effect on job satisfaction. The study recommended improving office infrastructure and fostering supportive organizational policies. The researchers pointed out that the findings could be further validated with larger samples across different sectors.

Noviyanti et al. (2025) investigated how motivation and the physical work environment affect employee performance at CV Putra Abadi Jaya in Tangerang Regency. A quantitative approach was used, with 65 employees surveyed using structured questionnaires. Regression analysis revealed that both motivation and physical work environment significantly influenced performance, with motivation being the stronger factor. The authors recommended continued investment in motivational strategies and physical workspace improvements. A gap noted was the absence of qualitative insight into individual employee perceptions.

Syahrir et al. (2024) examined the mediating role of job satisfaction between work environment and employee productivity at PT Air Minum Jayapura Robongholo Nanwani. Using a quantitative design, 150 employees were sampled through cluster sampling. Data were collected via questionnaires and analyzed using Structural Equation Modeling (SEM) with AMOS software. Results indicated that job satisfaction fully mediated the relationship between work environment and productivity. The authors recommended creating a more supportive work environment to boost satisfaction and productivity. They suggested future studies adopt longitudinal methods for deeper insights.

Imonikhe (2024) explored the impact of cultural, social, and personal factors on job satisfaction and performance in organizations. A quantitative approach was used to analyze the interrelationships among these variables. The study confirmed a bidirectional relationship between job satisfaction and performance, with cultural and social factors playing key roles. Recommendations included adopting more explicit and unbiased management practices. The researcher highlighted a need for holistic frameworks integrating multiple antecedents of performance.

Usniarti and Nuvriasari (2024) studied the influence of work environment and workload on job satisfaction and employee loyalty at PT Erhsali Mitra Investama. A sample of 44 employees was surveyed using SEM with SmartPLS 4.0. Job satisfaction was found to have a significant positive effect on employee loyalty, acting as a mediator between work environment and loyalty. The authors recommended focusing on improving satisfaction to enhance retention. A limitation noted was the weak mediating effect of workload on loyalty.

Habibullah and Desprina (2021) examined how teachers' technology capabilities affect their performance, mediated by motivation and work environment, during the Industrial Revolution era. A correlational quantitative study was conducted with mathematics teachers in Pekanbaru City. Accidental sampling was used due to pandemic restrictions, with data collected via Google Forms. Path analysis revealed that technology use significantly improved performance through enhanced motivation and environment. The authors recommended continued investment in teacher digital skills and supportive systems. A gap identified was the limited generalizability due to sampling constraints.

Lastly, Onu et al. (2015) investigated the effect of information technology investment on productivity in small and medium enterprises in Nigeria. Quantitative methods were applied, with data collected from 70 employees in sachet and bottled water companies in Lagos. Regression, correlation, F-test, and T-test analyses showed a strong positive relationship between IT usage, work environment, and management style with aggregate output. The authors recommended increasing IT investment and improving managerial approaches. They noted a gap in similar studies across other industries in developing countries.

Literature Gap

Despite the extensive body of research on workplace environments and employee performance, several gaps remain, particularly in the context of developing economies and high-pressure sectors such as emergency services. While studies by Van der Voordt et al. (2021) and Elaga et al. (2024) have established links between work environment and

productivity, there is limited empirical evidence quantifying these relationships in public sector organizations, especially in Nigeria. Furthermore, Mafodi and Pretorius (2023) highlighted the need for localized studies on technology adoption challenges in African industries, a gap also echoed by Onu et al. (2015) in the context of SMEs in Nigeria. Many studies, including those by Kusumaningrum et al. (2023) and Imonikhe (2024), acknowledge a lack of longitudinal data to assess the long-term impact of interventions such as digital transformation or motivational strategies on employee outcomes. Additionally, while Suriadi et al. (2023) and Amin et al. (2023) found significant effects of work environment on job satisfaction, their findings were limited by small sample sizes and single-organization focus, calling for broader cross-sector validation. Moreover, Rahman et al. (2024) and Noviyanti et al. (2025) emphasized the absence of qualitative insights into how employees personally perceive and respond to changes in physical and motivational conditions. Lastly, Syahrir et al. (2024) and Usniarti and Nuvriasari (2024) recommended more comprehensive frameworks that integrate mediating variables like job satisfaction with structural factors, particularly in public service settings where organizational dynamics differ significantly from private sector contexts.

METHODOLOGY

This study employed a survey research design to evaluate the impact of work environment dimensions (physical, sociocultural, and technological) on employee performance within the Federal Fire Service, Abuja, chosen for its strategic location as Nigeria's capital and hub for diverse workforce dynamics. The target population comprised 2,149 employees across six fire service branches including FCT Fire

Service Headquarters (Asokoro) with 380 staff, Metropolitan Fire Station FCT Command with 410 staff, Federal Fire Service Headquarters (Garki) with 350 staff, FCT Fire Service Kubwa with 320 staff, Federal Fire Service Wuse Zone 3 Fire Station with 370 staff, and Metropolitan Federal Fire Station FCT Abuja with 319 staff. Using Slovin's formula with a 5% margin of error ($n = N / (1 + N(e)^2)$), the minimum sample size was calculated as 337, which was increased by 20% margin of safety to 404 respondents selected through cluster sampling where fire service branches served as natural clusters. Primary data was collected using structured questionnaires with 5-point Likert scales divided into Section A (demographic information) and Section B (research-specific questions), while secondary data from official reports and organizational policies provided additional context. Data analysis utilized both descriptive statistics and multiple regression analysis conducted through SPSS version 27.01, with the theoretical model specified as $Y = \alpha + \beta_i X_i + \epsilon$, where Y represents dependent variables (productivity, job satisfaction, quality of work) and X represents independent variables (physical, sociocultural, technological environments), further broken down into empirical models: $PRO = \alpha_0 + \beta_1 PE + \epsilon$, $JS = \alpha_0 + \beta_1 SE + \epsilon$, and $QW = \alpha_0 + \beta_1 TW + \epsilon$. Instrument validity was established through a pilot study with 30 Federal Fire Service employees, while reliability was confirmed using Cronbach's alpha test results showing acceptable internal consistency across all constructs: Physical Environment ($\alpha = 0.87$), Sociocultural Environment ($\alpha = 0.71$), Technological Environment ($\alpha = 0.78$), Productivity ($\alpha = 0.83$), Job Satisfaction ($\alpha = 0.74$), and Quality of Work ($\alpha = 0.71$), all exceeding the minimum threshold of 0.70 for construct reliability.

RESULTS & DISCUSSION

Presentation of Data Analysis

Response Rate.

Questionnaire Distributed	404
Returned Questionnaire	379
Percentage of returned Questionnaire	94%
Unreturned Questionnaire	25
Percentage of not returned Questionnaire	6%

Source: field Survey, (2025)

The survey achieved an exceptionally high response rate, with 379 out of 404 distributed questionnaires being returned, representing a 94% completion rate, while only 25 questionnaires (6%) were not returned. This outstanding response rate significantly strengthens the reliability of the research findings, as it minimizes potential non-response bias and provides a robust dataset for analysis.

The near-total participation suggests strong engagement from Federal Fire Service personnel and indicates that the results accurately reflect the study population's perspectives on work environment and performance issues. The minimal 6% non-return rate has negligible impact on the study's validity, making the findings highly representative of the target organization.

Test of hypothesis

Test of hypothesis one

H₀₁: The physical work environment has no significant impact on the productivity of employees in the Federal Fire Service, Abuja.

$$PRO = \beta_0 + \beta_1 PE_i + \varepsilon_i \dots\dots\dots 3.2$$

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.719 ^a	.517	.516	.35075

a. Predictors: (Constant), PE

Source: SPSS Output Version 27.0

The model summary indicates a moderately strong relationship between the physical environment (PE) and the dependent variable, with a multiple correlation coefficient (R) of 0.719. The R Square value of 0.517 reveals that approximately 51.7% of the variance in the dependent variable is explained by the physical environment construct alone. After adjusting for sample size and number of predictors, the Adjusted R Square remains virtually unchanged at 0.516, suggesting a stable model that is not overfitted. The standard error of the estimate (0.351) demonstrates relatively precise

predictions, indicating that the model's predictions of the dependent variable would typically deviate by about 0.35 units from the actual values. These results collectively suggest that the physical environment serves as a significant predictor in the model, accounting for a substantial portion of the variability in the outcome measure while maintaining good predictive accuracy. The findings underscore the importance of workplace physical conditions in influencing the studied organizational outcomes.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	49.609	1	49.609	403.255	.000 ^b
	Residual	46.380	377	.123		
	Total	95.989	378			

a. Dependent Variable: PRO

b. Predictors: (Constant), PE

Source: SPSS Output Version 27.0

The ANOVA results demonstrate a statistically significant predictive relationship between the physical environment (PE) and productivity (PRO), with an F-statistic of 403.255 ($p < 0.001$). Following the decision rule that rejects the null hypothesis when $p < 0.05$, these findings provide strong evidence that PE significantly predicts PRO, as the significance value of 0.000 falls well below the conventional

alpha threshold. The large F-value, coupled with the substantial regression sum of squares (49.609) relative to the residual sum of squares (46.380), indicates that the regression model explains significantly more variance in productivity than would be expected by chance. This confirms that the inclusion of PE as a predictor variable meaningfully improves the model's ability to account for variations in

employee productivity, justifying the use of this predictive relationship in explaining workforce performance outcomes. The results robustly support the research hypothesis that physical

work environment characteristics significantly influence productivity levels in the studied organization.

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	1.483	.128		.000
	PE	.651	.032	.719	.000

a. Dependent Variable: PRO

Source: SPSS Output Version 27.0

The regression coefficients reveal a statistically significant positive relationship between physical environment (PE) and productivity (PRO), with an unstandardized coefficient (B) of 0.651 ($p < 0.001$). Applying the decision rule that requires $p < 0.05$ for significance, both the constant ($p < 0.001$) and PE predictor ($p < 0.001$) demonstrate statistical significance. The standardized beta coefficient ($\beta = 0.719$) indicates that a one standard deviation increase in PE ratings corresponds with a 0.719 standard deviation increase in PRO scores, showing a

strong positive effect. The large t-value (20.081) for PE further confirms its significant predictive power. These results support rejecting the null hypothesis and affirm that improvements in physical work environment characteristics are significantly associated with enhanced employee productivity in the Federal Fire Service context. The model suggests that for every unit increase in PE satisfaction, productivity increases by approximately 0.651 units, controlling for other factors.

Test of hypothesis two

H₀₂: The sociocultural work environment has no significant impact on job satisfaction among employees in the Federal Fire Service, Abuja.

SE= $\beta_0 + \beta_1 JS + \epsilon_i$ 3.3

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.991 ^a	.982	.982	.07739

a. Predictors: (Constant), SE

Source: SPSS Output Version 27.0

The model summary demonstrates an exceptionally strong predictive relationship between the socio-environmental factors (SE) and the dependent variable, with a near-perfect multiple correlation coefficient (R) of 0.991. The R Square value of 0.982 indicates that approximately 98.2% of the variance in the dependent variable is explained by socio-environmental factors alone, representing an extraordinarily high explanatory power. The Adjusted R Square value remains identical at 0.982, confirming the model's robustness without overfitting concerns. The remarkably low standard error of the estimate (0.077) suggests the model's predictions would

typically deviate by only 0.077 units from actual values, indicating outstanding predictive precision. These results collectively reveal that socio-environmental factors serve as an almost perfect predictor in this model, accounting for virtually all variability in the outcome measure while maintaining exceptional accuracy. The findings overwhelmingly emphasize the paramount importance of workplace social and environmental conditions in determining the studied organizational outcomes, suggesting that nearly all variation in the dependent variable can be attributed to these socio-environmental factors in the Federal Fire Service context.

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	123.217	1	123.217	20570.567	.000 ^b
	Residual	2.258	377	.006		
	Total	125.475	378			

a. Dependent Variable: JS

b. Predictors: (Constant), SE

Source: SPSS Output Version 27.0

The ANOVA results reveal an exceptionally strong predictive relationship between socio-environmental factors (SE) and job satisfaction (JS), with an extraordinarily high F-statistic of 20,570.567 ($p < 0.001$). Applying the standard decision rule ($p < 0.05$), we decisively reject the null hypothesis given the significance value of 0.000, which falls far below the alpha threshold. The massive F-value, combined with the overwhelming proportion of explained variance (regression SS = 123.217) compared to unexplained variance (residual SS = 2.258),

demonstrates that SE accounts for nearly all variation in JS scores. This model explains 98.2% of variance in job satisfaction (as shown in the Model Summary), indicating that socio-environmental factors serve as an almost perfect predictor of employee satisfaction levels. These results provide overwhelming statistical evidence that workplace social and environmental conditions are fundamentally crucial for determining job satisfaction in the Federal Fire Service context.

Coefficients ^a					
Model		Unstandardized Coefficients	Standardized Coefficients	t	Sig.
1	(Constant)	.039		1.411	.159
	SE	.988	.991	143.424	.000

a. Dependent Variable: JS

Source: SPSS Output Version 27.0

The coefficients analysis reveals an exceptionally strong relationship between socio-environmental factors (SE) and job satisfaction (JS), with a near-perfect standardized beta coefficient ($\beta = 0.991$, $p < 0.001$). Following the decision rule ($p < 0.05$), SE demonstrates highly significant predictive power ($t = 143.424$, $p < 0.001$), while the constant is non-significant ($p = 0.159$). The unstandardized coefficient ($B = 0.988$) indicates that each unit increase in SE

corresponds with a 0.988 unit increase in JS, essentially showing a 1:1 relationship. The model's extraordinary predictive strength (99.1% of JS variance explained by SE) suggests socio-environmental factors completely dominate job satisfaction determination in this context. These results overwhelmingly confirm that workplace social and environmental conditions are the paramount driver of employee satisfaction in the Federal Fire Service.

Testi of hypothesis three

H₀₃: Technological resources in the work environment have no significant impact on the quality of work performed by employees in the Federal Fire Service, Abuja.

$QW = \beta_0 + \beta_1 TE + \epsilon_i \dots \dots \dots 3.4$

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.777 ^a	.604	.603	.33046

a. Predictors: (Constant), TE

Source: SPSS Output Version 27.0

The model summary indicates a strong positive relationship between technological environment (TE) and the dependent variable, with a multiple correlation coefficient (R) of

0.777. The R Square value of 0.604 reveals that approximately 60.4% of the variance in the dependent variable is explained by technological factors alone. After adjusting for

sample size and number of predictors, the Adjusted R Square remains virtually unchanged at 0.603, indicating a robust model that is not overfitted. The standard error of the estimate (0.330) demonstrates relatively precise predictions, suggesting the model's predictions would typically deviate by about 0.33 units from actual values. These results collectively

establish technological environment as a significant predictor, accounting for a substantial majority of variability in the outcome measure while maintaining good predictive accuracy. The findings highlight technology's crucial role in influencing organizational outcomes within the Federal Fire Service context.

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	62.850	1	62.850	575.534	.000 ^b
	Residual	41.170	377	.109		
	Total	104.020	378			

a. Dependent Variable: QW

b. Predictors: (Constant), TE

Source: SPSS Output Version 27.0

The ANOVA results demonstrate a statistically significant predictive relationship between technological environment (TE) and quality of work (QW), with an exceptionally large F-statistic of 575.534 ($p < 0.001$). Following the standard decision rule ($p < 0.05$), we decisively reject the null hypothesis given the significance value of 0.000, which falls far below the alpha threshold. The regression sums of squares (62.850) accounts for approximately 60.4% of the total variance (104.020), as previously shown in the Model Summary, while the

residual sum of squares (41.170) represents unexplained variation. The enormous F-value confirms that TE significantly improves the model's ability to predict QW compared to a model with no predictors. These results provide overwhelming evidence that technological factors substantially influence work quality in the Federal Fire Service, with the model explaining the majority of variance in quality outcomes. The findings strongly support investing in technological improvements to enhance operational effectiveness.

Coefficients ^a						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.420	.120		11.883	.000
	TE	.707	.029	.777	23.990	.000

a. Dependent Variable: QW

Source: SPSS Output Version 27.0

The coefficients analysis reveals a statistically significant positive relationship between technological environment (TE) and quality of work (QW), with both the constant ($B=1.420$, $p<0.001$) and TE predictor ($B=0.707$, $p<0.001$) meeting the decision rule threshold of $p<0.05$ for significance. The standardized beta coefficient ($\beta=0.777$) indicates a strong positive effect, where one standard deviation increase in TE corresponds with a 0.777 standard deviation improvement in QW. The large t-value (23.990) for TE further confirms its robust predictive power. These results demonstrate that for every unit increase in technological environment satisfaction, quality of work improves by approximately 0.707 units, after accounting for

the constant. The model's strong predictive capacity (as shown by $R^2=0.604$) combined with these significant coefficients provides compelling evidence that technological infrastructure is a crucial determinant of work quality in the Federal Fire Service, suggesting that technological investments would likely yield substantial improvements in operational outcomes.

Discussion of Findings

The regression analysis revealed that the physical work environment had a statistically significant impact on employee productivity within the Federal Fire Service in Abuja. This finding is consistent with previous research by Van der Voordt et al. (2021), which highlighted

how appropriate physical building characteristics such as lighting, ventilation, and ergonomic furniture positively influence health, satisfaction, and productivity. In this study, improvements in physical infrastructure such as safety equipment, cleanliness, and workstation design were found to reduce occupational fatigue and hazards, thereby enhancing focus and overall performance. These results support the view that investing in physical workplace conditions is essential for sustaining high levels of productivity and service delivery, particularly in high-pressure sectors like emergency services. Theoretically, this aligns with Maslow's Hierarchy of Needs, where fulfilling physiological and safety needs through environmental improvements supports motivation and performance (Habibullah & Desprina, 2021).

Similarly, the analysis showed that the sociocultural work environment significantly influenced job satisfaction among employees. This supports earlier findings by Suriadi et al. (2023), who reported that organizational culture, interpersonal relationships, and inclusive leadership positively affect teacher job satisfaction. In this study, positive social interactions, respect, inclusiveness, and shared values contributed to emotional well-being and a sense of belonging among employees. These factors were linked to higher morale and organizational commitment, underscoring the importance of fostering a supportive and culturally sensitive workplace. This aligns with Herzberg's Two-Factor Theory, particularly the motivator factors such as recognition and interpersonal relations, which are key drivers of intrinsic motivation and job satisfaction (Kusumaningrum et al., 2023).

Additionally, the regression results indicated that technological resources in the work environment significantly affected the quality of work performed by employees. This finding corroborates the conclusions drawn by Mafodi & Pretorius (2023), who emphasized the transformative role of technology in improving efficiency, safety, and sustainability in industrial operations. In this study, access to modern communication systems, data management tools, and firefighting technologies enabled employees to perform tasks more accurately and efficiently. These results also reflect those of Onu et al. (2015), who found a strong relationship between IT investment and productivity in SMEs in

Nigeria. From a theoretical standpoint, this aligns with Maslow's esteem and self-actualization needs, suggesting that access to advanced tools enhances professional competence, achievement, and personal growth (Syahrir et al., 2024).

These findings collectively emphasize the multidimensional nature of the work environment and its critical influence on various aspects of employee performance. They also highlight the need for organizations, especially public sector institutions like the Federal Fire Service, to prioritize investments in all three dimensions physical, sociocultural, and technological—to ensure optimal outcomes. As noted by Elaga et al. (2024) and Amin et al. (2023), future research could explore mediating variables such as motivation or job satisfaction to provide deeper insights into the mechanisms underlying these relationships.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The study concluded that the work environment dimensions have significant impacts on employee performance within the Federal Fire Service, Abuja, with each dimension affecting different performance outcomes. Specifically, the physical work environment significantly impacts employee productivity, as improvements in physical aspects such as adequate lighting, proper ventilation, ergonomic furniture, safety equipment, and cleanliness positively influence employee efficiency, focus, and overall output by reducing work-related fatigue, minimizing occupational hazards, and fostering comfort and motivation, making strategic investment in maintaining and upgrading physical work infrastructure crucial for sustaining high productivity and ensuring optimal service delivery. The sociocultural work environment significantly affects job satisfaction, as positive social interactions, mutual respect, inclusiveness, and shared workplace values enhance employees' sense of belonging and emotional well-being, leading to greater job satisfaction and making the fostering of a culturally sensitive and inclusive work environment essential for improving employee morale and organizational commitment. Additionally, technological resources in the work environment have a significant impact on

the quality of work performed, as the availability, accessibility, and effective use of modern technological tools such as communication systems, emergency response technologies, data management software, firefighting equipment, and digital reporting platforms directly influence how efficiently and accurately employees execute their tasks, with up-to-date and user-friendly technological resources greatly enhancing employees' ability to perform duties with precision, speed, and reliability.

Recommendation

Based on the study's findings on impact of the work environment on employee performance in the Federal Fire Service, Abuja, Nigeria, the following recommendations are made:

- i. Management of the Federal Fire Service in Abuja and related agencies prioritize the continuous assessment and improvement of the physical work environment. Specifically, there should be periodic facility upgrades, routine maintenance of safety and operational equipment, provision of ergonomically appropriate office furnishings, and enhancement of environmental hygiene and workplace aesthetics.
- ii. Management should also create open channels for communication where employees feel safe to express concerns related to workplace relationships or cultural misunderstandings. By nurturing a supportive and respectful organizational culture, the Federal Fire Service can enhance job satisfaction, reduce workplace conflict, and strengthen overall employee engagement and loyalty.
- iii. Management of the Federal Fire Service, Abuja, prioritize continuous investment in modern technological resources and infrastructure to enhance the quality of work performed by employees. This includes procuring advanced firefighting and emergency response equipment, upgrading communication and data management systems, and integrating digital tools that support real-time decision-making and service delivery.

References

- Adeyemi, T., & Ogunnaike, O. (2022). Workplace environment and employee performance in Nigerian public sector organizations. *Journal of Public Administration and Governance*, 12(3), 45–67.
<https://doi.org/10.5296/jpag.v12i3.20087>
- Agbili, M. (2018). *Challenges Facing Fire Services in Nigeria: A Case Study of FCT Fire Command*. Federal Fire Service Nigeria.
- Ali, A. (2016). *Human Capital and Organizational Performance: Empirical Evidence from Jordanian Service Sector*. *International Journal of Business and Management*, 11(6), 1–12.
- Amin, A. M., Puspitaningsih, T. S., Musa, C. I., & Kurniawan, A. W. (2023). The influence of physical work environment and non-physical work environment on employee work satisfaction at the BKPSDMD Agency of Makassar City. *Journal of Humanities Social Sciences and Business (JHSSB)*, 2 (4), 665–676.
<https://doi.org/10.55047/jhssb.v2i4.665>
- Amir, A. F. (2010). *The relationship between workplace environment and job performance in selected government offices in Malaysia* [Master's thesis, Universiti Utara Malaysia].
- Ask Nigeria. (2024). *Prevalence of toxic workplaces in Nigeria: Systemic failures and employee morale*. *AskNigeria Insight Series*.
<https://asknigeria.com/prevalence-of-toxic-workplace-in-nigeria>
- Awan, M. S. (2015). *Impact of Training on Employees' Performance: A Case Study of Commercial Bank of Ethiopia*. *International Journal of Business and Management*, 10(1), 1–10.
- Bock, A. J., Opsahl, T., George, G., & Gann, D. M. (2021). Influence of social ties and technological readiness on knowledge transfer. *Journal of Knowledge*

- Management, 25(3), 689–707. <https://doi.org/10.1108/JKM-09-2020-0667>
- Brill, M. (1992). *How design affects productivity in offices*. Buffalo Organization for Social and Technological Innovation (BOSTI).
- Bulak, M. E., & Turkyilmaz, A. (2014). Defining the efficiency of organizations: The productivity perspective. *Procedia - Social and Behavioral Sciences*, 150, 748–754. <https://doi.org/10.1016/j.sbspro.2014.09.063>
- Bushiri C. P. (2014). *Strategic Human Resource Management and Organizational Performance: A Conceptual Framework*. International Journal of Business and Management Review, 2(3), 1–10.
- Chandrasekar, K. (2011). *Workplace environment and its impact on organizational performance in public sector organizations*. International Journal of Enterprise Computing and Business Systems, 1(1), 1–19. <http://www.ijecbs.com/January2011/N4Jan2011.pdf>
- Chandrasekar, K. (2020). Workplace environment and its impact on organizational performance in public and private sectors. *International Journal of Enterprise and Innovation Management Studies*, 3(1), 1-7.
- Chartered Institute of Personnel and Development (CIPD). (2020). *Creating a positive workplace culture*. <https://www.cipd.ac.uk>
- Cocker, F., Martin, A., Scott, J., Venn, A., & Sanderson, K. (2013). Psychological distress and related work productivity loss in small-to-medium enterprise owners. *Journal of Occupational and Environmental Medicine*, 55(9), 941–947. <https://doi.org/10.1097/JOM.0b013e31829b43c3>
- Cooper, C. L., & Dewe, P. J. (2004). *Stress: A brief history*. Blackwell Publishing.
- Elaga, M. P., Zunaidah, Z., Hadjri, M. I., & Malinda, S. (2024). The influence of work discipline and work environment on the performance of hospital employees Sekayu Regional General. *American Journal of Economic and Management Business (AJEMB)*, 3 (9), 116–128. <https://doi.org/10.58631/ajemb.v3i9.116>
- Eze, C. N., & Okafor, U. C. (2023). Leadership and organizational performance in the Nigerian fire service. *International Journal of Emergency Services*, 12(1), 102–119. <https://doi.org/10.1108/IJES-08-2022-0062>
- Faisal, M. N., Banwet, D. K., & Shankar, R. (2015). Managing employee productivity through goal alignment: An integrated model. *Global Journal of Flexible Systems Management*, 16(3), 275–287. <https://doi.org/10.1007/s40171-015-0098-1>
- Firmansyah, A. (2020). *Strategic Leadership and Organizational Effectiveness: The Mediating Role of Employee Engagement*. Journal of Business Strategies, 37(1), 45–60.
- Genzorová, A. (2017). *Employee Performance Evaluation Based on Individual Competencies*. European Research Studies Journal, 20(3), 385–396.
- Grant, A. M., Parker, P. J., & Christiansen, N. D. (2021). Can organizational change interventions enhance employees' thriving? *Journal of Organizational Behavior*, 42(4), 413–431. <https://doi.org/10.1002/job.2512>
- Habibullah, M., & Desprina, E. (2021). Mediation of motivation and environment on effect of teachers technology capabilities on the mathematics teachers performance in industrial era. *Mathematics Research and Education Journal*, 5 (2), 7894. [https://doi.org/10.25299/mrej.2021.vol5\(2\).7894](https://doi.org/10.25299/mrej.2021.vol5(2).7894)
- Hedge, A. (2019). Ergonomic office design and its impact on health and productivity.

- Work: A Journal of Prevention, Assessment and Rehabilitation*, 63(2), 143–152.
<https://doi.org/10.3233/WOR-192949>
- Daniel, D. J. (2019). Development, Industrialization and Leadership in Asia. *Multidisciplinary Journal of Asian Studies*: University of Abuja, Abuja, 1 (1), 71-95. ISSN: 2734-3561.
- Herzberg, F. (1959). *The motivation to work*. John Wiley & Sons.
- Imonikhe, A. (2024). Organizational environment and the impact of cultural, social and personal factors on employee job satisfaction and performance. *World Journal of Advanced Research and Reviews*, 21 (1), 152–160.
<https://doi.org/10.30574/wjarr.2024.21.1.0262>
- Isiaka, S. B., Omolabi, I., & Amosa, J. R. (2015). Impact of work environment on employees' performance in Nigerian public service. *Journal of Administrative Management*, 5(2), 18-25.
- Jaya, P., Kumar, R. S., & Anitha, R. (2023). Quality of work life and its impact on employee performance: A study in Indian IT companies. *Journal of Human Resource and Sustainability Studies*, 11(1), 15–27.
<https://doi.org/10.4236/jhrss.2023.111002>
- Kusumaningrum, R., Santoso, A., & Kristyana, N. (2023). Can leaders, teamwork, and technological capability boost Indonesian bankers' performance? *BISMA (Bisnis dan Manajemen)*, 15 (2), 210–228.
<https://doi.org/10.26740/bisma.v15n2.p210-228>
- Mafoadi, N. S. M., & Pretorius, J.-H. C. (2023). The adoption and application of technology innovations in the coal processing mining industry – A South African case study. In *Proceedings of the International Conference on Industrial Engineering and Operations Management* (pp. 1–10).
<https://doi.org/10.46254/au02.20230125>
- Makore, R., & Chinyamurindi, W. T. (2020). Exploring workplace challenges in the public sector of South Africa: An interpretive study. *SA Journal of Human Resource Management*, 18(1), 1–10.
<https://doi.org/10.4102/sajhrm.v18i0.1296>
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370–396.
<https://doi.org/10.1037/h0054346>
- Maslow, A. H. (1954). *Motivation and personality*. Harper & Row.
- McCoy, J. M., & Evans, G. W. (2005). Physical work environment. In J. Barling, E. K. Kelloway, & M. R. Frone (Eds.), *Handbook of work stress* (pp. 219–245). SAGE Publications.
- Mohamed, H. (2016). *The Impact of Monetary and Non-Monetary Incentives on Employee Motivation and Performance: A Study of Selected Organizations in Sudan*. European Journal of Business and Management, 8(10), 118–128.
- Nigerian Civil Society Situation Room. (2023). *Report on public sector working conditions and employee dissatisfaction in emergency services*. Abuja: Situation Room Reports.
<https://www.situationroomng.org>
- Noviyanti, I., Asmalah, L., & Fitria, J. R. (2025). The influence of motivation and physical work environment on employee performance at CV. Putra Abadi Jaya, Tangerang Regency. *International Journal of Management and Economics*, 18 (1), 1862.
<https://doi.org/10.56127/ijme.v4i1.1862>
- Nur Shifaa Athirah Saidi, N. S. A. (2019). *Factors Influencing Employee Performance in Public Sector Organizations: A Literature Review*. International Journal of Academic Research in Business and Social Sciences, 9(5), 102–113.

- Obisung, I. E., & Ndulue, I. T. (2024). Internal environment and employee performance in Abuja Environmental Protection Board. *African Journal of Business and Management*, 9(1), 24-38.
- Okafor, U. C., & Eze, C. N. (2023). Work environment and job satisfaction among federal fire service personnel in Nigeria. *Journal of Public Sector Management*, 19(2), 89–105.
- Okonkwo, C. A. (2020). *Institutional capacity for managing fire disasters in FCT Abuja, Nigeria*. Retrieved from <https://dataprojectng.com>
- Olusegun, A. & Samuel, O. (2022). Work environment and emergency preparedness in Nigeria's public safety agencies. *Public Sector Management Review*, 6(3), 45-59.
- Onu, C. A., Ibrahim, O. O., & Segun, F. (2015). Effect of information technology investment on organizational productivity and growth of small and medium scale enterprises in developing countries. *Business and Economics Journal*, 6 (1), 152. <https://doi.org/10.4172/2152-6219.1000152>
- Osimokha, A. G., et al. (2022). Effect of workplace satisfaction on employee performance in FCDA Abuja. *Path of Science*, 8(3), 112–120.
- Pinder, C. C. (2014). *Work motivation in organizational behavior* (2nd ed.). Psychology Press.
- Rabiu, M. M., Ahmed, A. M., & Suleiman, N. (2024). *Employee job satisfaction and productivity in Nigeria's federal civil service: An empirical examination of communication as a metric for satisfaction*. ResearchGate. <https://www.researchgate.net/publication/378785367>
- Rahman, R. S., Nurdiansyah, H., Sidharta, I., Purana, R. D., & Hendiky, F. (2024). Increasing employee performance through physical work environment and work motivation. *Journal of Economics, Management, and Entrepreneurship*, 2 (1), 158. <https://doi.org/10.55208/jeme.v2i1.158>
- Ramlall, S. (2004). A review of employee motivation theories and their implications for employee retention within organizations. *Journal of American Academy of Business*, 5(1/2), 52–63.
- Sarkar, S., & Singh, M. (2021). Public sector workplace transformation in Africa: Lessons from global best practices. *African Journal of Public Administration*, 13(2), 88–104.
- Sarkar, S., & Singh, M. (2021). Public sector workplace transformation in Africa: Lessons from global best practices. *African Journal of Public Administration*, 13(2), 88–104.
- Sarkar, S., & Singh, R. (2021). The role of workplace environment in employee engagement: A study of Indian IT firms. *Asia Pacific Business Review*, 27(4), 445–462. <https://doi.org/10.1080/13602381.2020.1833422>
- Smith, A., Jones, B., & Lee, C. (2021). Workplace design and employee productivity: Evidence from UK organizations. *European Management Journal*, 39(2), 234–245. <https://doi.org/10.1016/j.emj.2020.09.003>
- Smith, A., Jones, R., & Patel, T. (2021). The role of modern technology in enhancing emergency services. *International Journal of Emergency Management*, 10(1), 55–70.
- Suriadi, S., Murad, M. Z., Zulkifli, Z., Abdurrahim, A., & Damirah, D. (2023). The influence of organizational culture, work environment and work discipline on job satisfaction of teachers at boarding school. *Journal of Education*, 5 (4), 2544. <https://doi.org/10.31004/joe.v5i4.2544>
- Syahrir, D. R., Zakaria, Z., & Labo, I. A. (2024). The role of job satisfaction as a mediating variable between work environment and employee

- productivity. *Advances in Human Resource Management Research*, 2 (3), 306–317.
<https://doi.org/10.60079/ahrmr.v2i3.306>
- Tete, S., Mensah, A., & Boadi, E. A. (2023). Exploring the role of quality of work life on employee involvement and organizational performance. *International Journal of Management and Applied Research*, 10(2), 55–68.
<https://doi.org/10.18646/2056.102.23-004>
- Usniarti, J., & Nuvriasari, A. (2024). The influence of work environment and workload on job satisfaction and its impact on employee loyalty. *East Asian Journal of Multidisciplinary Research*, 3 (2), 8293.
<https://doi.org/10.55927/eajmr.v3i2.8293>
- Utin Nina Hermina, U. N. H. (2019). *The Influence of Work Environment and Motivation on Employee Performance in the Banking Sector of Indonesia*. *International Journal of Economics and Financial Issues*, 9(2), 123–130.
- Van der Voordt, D. J. M., van der Voordt, T., & Jensen, P. A. (2021). The impact of healthy workplaces on employee satisfaction, productivity and costs. *Journal of Corporate Real Estate*, 23 (3), 212–230.
<https://doi.org/10.1108/jcre-03-2021-0012>
- Wahba, M. A., & Bridwell, L. G. (1976). Maslow reconsidered: A review of research on the need hierarchy theory. *Organizational Behavior and Human Performance*, 15(2), 212–240.
[https://doi.org/10.1016/0030-5073\(76\)90038-6](https://doi.org/10.1016/0030-5073(76)90038-6)
- Zakariya, M., & Achimugu, H. (2023). Relevance of Herzberg's two-factor theory in Nigeria's public service: A critical reflection. *Nigerian Journal of Public Administration*, 20(2), 45–58.