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PHYSICAL WORK ENVIRONMENT AND PERFORMANCE OF SMALL MEDIUM ENTERPRISES (SMES) IN ABUJA

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Abstract

The physical work environment plays a pivotal role in shaping the performance of small and medium enterprises (SMEs), yet its impact remains underexplored, particularly in developing regions like the Federal Capital Territory (FCT), Abuja. This study investigates the relationship between the physical work environment and SME performance, focusing on two dimensions of the physical work environment workplace design and layout, and health and safety conditions and their influence on operational efficiency and employee productivity and well-being. Using a descriptive research design, data were collected from 299 SME owners/managers and employees through structured questionnaires. The sample was drawn from a population of 2,184 registered SMEs in FCT-Abuja using simple random sampling. Multiple regression analysis was employed to test the hypotheses, with results indicating that work place design and layout, as well as health and safety conditions, significantly influence SME performance. Specifically, workplace design and layout positively impacted operational efficiency, while health and safety conditions enhanced employee productivity and well-being. The findings underscore the importance of investing in functional and safe workspaces as a strategic lever for improving SME performance in resource-constrained environments. Based on these results, the study recommends that SME owners prioritize ergonomic workplace designs and robust health and safety measures, while policymakers provide financial incentives and strengthen regulatory enforcement. These insights contribute to the broader discourse on SME performance and offer practical guidance for fostering sustainable economic development in FCT-Abuja.

Keywords: *Physical work environment, SME performance, workplace design, health and safety, operational efficiency, employee productivity*

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Introduction

The physical work environment has emerged as a critical factor in shaping organizational outcomes across industries and geographies. From a global perspective, the physical work environment encompasses all tangible aspects of the workplace that influence how employees interact with their surroundings and perform their duties (Davis et al., 2017). These include factors such as lighting, ventilation, spatial arrangements, and safety protocols. As organizations increasingly recognize the importance of employee well-being and operational efficiency, the design and management of physical workspaces have gained prominence. Scholars argue that the physical work environment is not merely a backdrop for work but a dynamic element that can either enhance or hinder organizational performance (Knight & Haslam, 2010). This relevance is particularly pronounced in small and medium enterprises (SMEs), where resources are often limited, and the impact of environmental factors on productivity can be disproportionately significant.

The concept of the physical work environment refers to the tangible and spatial conditions within which work activities are carried out. It serves as a foundation for fostering productivity, collaboration, and employee satisfaction. Two key dimensions of the physical work environment have been identified by scholars: workplace design and layout, and health and safety conditions (Vischer, 2007). Workplace design and layout pertain to how space is organized to facilitate workflow, communication, and comfort. For instance, an open-plan office may encourage collaboration but could also lead to distractions if not properly managed. Health and safety conditions, on the other hand, ensure that employees work in environments free from hazards, with adequate lighting, ventilation, and ergonomic considerations. Both dimensions are critical to SME performance because they directly affect employee morale, retention, and operational efficiency. Poorly designed spaces or unsafe conditions can lead to decreased productivity, increased absenteeism, and even reputational damage, all of which are particularly detrimental to SMEs operating in competitive markets.

Small and medium enterprises (SMEs) play a pivotal role in driving economic growth and innovation globally, contributing significantly to job creation and GDP. In developing economies like Nigeria, SMEs account for over 90% of businesses and employ approximately 84% of the workforce (National Bureau of Statistics, 2020). Despite their importance, SMEs face numerous challenges, including limited access to capital, inadequate infrastructure, and suboptimal work environments. In Abuja, the Federal Capital Territory (FCT), SMEs operate in a unique context characterized by rapid urbanization, infrastructural deficits, and evolving regulatory frameworks. The performance of SMEs in this region is often measured using two key dimensions: operational efficiency and employee productivity and well-being. Operational efficiency refers to the ability of an enterprise to utilize resources effectively to achieve its goals, while employee productivity and well-being focus on the output and satisfaction levels of workers. These dimensions are interlinked, as a conducive physical work environment can enhance both operational efficiency and employee outcomes.

The interplay between the physical work environment and SME performance is complex and multifaceted. A well-designed workspace can foster creativity, improve communication, and reduce errors, thereby enhancing operational efficiency. Similarly, a safe and healthy environment can boost employee morale, reduce stress, and increase productivity. For instance, studies suggest that natural lighting and proper ventilation can lead to higher levels of concentration and reduced fatigue among employees (Al Horr et al., 2016). Conversely, poor physical work conditions may result in lower engagement, higher turnover rates, and diminished overall performance. While these relationships are widely acknowledged, the specific dynamics in the context of SMEs in Abuja remain underexplored. This gap underscores the need for a nuanced understanding of how physical work environments influence SME performance in this unique setting.

Despite their potential, SMEs in the FCT-Abuja face significant challenges related to their physical work environments. Many operate from informal or makeshift spaces that lack basic amenities such as proper lighting, ventilation, and safety measures. Additionally, the high cost of renting commercial spaces in prime locations often forces SMEs to compromise on the quality of their work environments. These challenges are compounded by inadequate regulatory enforcement and limited awareness of the importance of ergonomics and workplace safety. Such conditions not only hinder performance but also pose risks to employee health and well-being. Addressing these issues requires targeted interventions and a deeper understanding of the specific needs and constraints faced by SMEs in Abuja.

This study is imperative for several reasons. First, it seeks to fill a critical knowledge gap by examining the relationship between physical work environments and SME performance in Abuja, a context that has received limited scholarly attention. Second, the findings could inform policymakers and practitioners about the importance of investing in conducive workspaces as a strategy for enhancing SME performance. Finally, the study aims to provide actionable recommendations that can guide SME owners and managers in optimizing their physical work environments to achieve better outcomes. By shedding light on these issues, this research contributes to the broader discourse on sustainable business practices and inclusive economic development in Nigeria.

Statement of the Problem

In developed contexts, the physical work environment has long been recognized as a critical determinant of organizational performance. Scholars and practitioners alike have emphasized the importance of creating workspaces that are not only functional but also conducive to employee well-being and operational efficiency (Knight & Haslam, 2010). In such settings, businesses typically invest in ergonomic furniture, proper lighting, ventilation, and safety measures, all of which contribute to enhanced productivity and reduced absenteeism. However, in the Federal Capital Territory (FCT) of Abuja, Nigeria, the reality for small and medium enterprises (SMEs) has been markedly different. Many SMEs in this region operate in suboptimal physical work environments characterized by inadequate infrastructure, poor spatial arrangements, and insufficient attention to health and safety standards. These deficiencies have likely hindered their ability to achieve optimal performance, particularly in terms of operational efficiency and employee productivity. Despite the acknowledged importance of the physical work environment, empirical studies exploring its impact on SME performance in the FCT-Abuja remain scarce. For instance, while Vischer (2007) and Al Horr et al. (2016) have highlighted the significance of workplace design and health conditions in enhancing performance, these insights have rarely been applied to the unique context of SMEs in Abuja.

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This lack of contextualized research represents a significant empirical gap, as existing studies often focus on larger organizations or developed economies, leaving the challenges faced by SMEs in developing regions underexplored. The objectives of this study are formulated to address the research questions and provide a clear direction for the investigation:

i. To assess the influence of workplace design and layout on operational efficiency among SMEs in FCT-Abuja.
ii. To evaluate the impact of health and safety conditions on employee productivity and well-being in SMEs operating in FCT-Abuja.

Research Hypotheses

(H_{o1}): Workplace design and layout have no significant influence on operational efficiency among SMEs in FCT-Abuja.

(H_{o2}): Health and safety conditions have no significant impact on employee productivity and well-being in SMEs operating in FCT-Abuja.

LITERATURE REVIEW

Conceptual Review

Physical Work Environment

The physical work environment refers to the tangible and spatial conditions within which employees perform their duties. It encompasses all aspects of the workspace that influence employee behavior, satisfaction, and productivity. Scholars such as Vischer (2007) have emphasized that the physical work environment is not merely a passive backdrop but an active contributor to organizational outcomes. Poorly designed or unsafe environments can lead to decreased morale, inefficiency, and even health risks for employees. Conversely, well-structured physical environments can enhance collaboration, creativity, and overall performance. In the context of small and medium enterprises (SMEs), where resources are often limited, optimizing the physical work environment becomes even more critical. This optimization can serve as a cost-effective strategy to improve performance, particularly in competitive markets like FCT-Abuja.

Workplace Design and Layout

Workplace design and layout refer to how space is organized to facilitate workflow, communication, and comfort. This dimension of the physical work environment has been extensively studied in the context of its impact on organizational performance. According to Knight and Haslam (2010), the arrangement of furniture, the allocation of private versus shared spaces, and the integration of technology all play pivotal roles in shaping employee experiences and productivity. For instance, open-plan offices are often associated with increased collaboration but may also lead to distractions if not properly managed. On the other hand, enclosed spaces can foster concentration but may hinder communication. In SMEs, where resources are constrained, the challenge lies in balancing these trade-offs to create a functional and efficient workspace. Studies have shown that businesses investing in thoughtful workplace design experience higher levels of operational efficiency and employee satisfaction (Davis et al., 2017). Therefore, understanding the nuances of workplace design and layout is essential for enhancing SME performance.

Health and Safety Conditions

Health and safety conditions constitute another critical dimension of the physical work environment. These conditions ensure that employees work in spaces free from hazards, with adequate lighting, ventilation, and ergonomic considerations. Al Horr et al. (2016) argue that poor health and safety standards can lead to increased absenteeism, reduced productivity, and even legal liabilities for organizations. In SMEs, where budgets are often tight, neglecting health and safety can have severe repercussions. For example, inadequate lighting or poorly ventilated spaces can cause fatigue and stress, directly impacting employee well-being and productivity. Furthermore, ergonomic considerations, such as the provision of comfortable seating and proper desk arrangements, are crucial for preventing musculoskeletal disorders. Ensuring compliance with health and safety regulations not only protects employees but also enhances their morale and commitment to the organization. Thus, prioritizing health and safety conditions is a strategic imperative for SMEs aiming to optimize performance.

Performance

Performance in the context of SMEs refers to the ability of an enterprise to achieve its goals efficiently and effectively. It is a multidimensional construct that encompasses various aspects of organizational functioning, including operational efficiency, financial stability, and employee outcomes. Scholars such as Ojo (2018) have highlighted that performance is influenced by both internal and external factors, with the physical work environment being a significant internal determinant. For SMEs in FCT-Abuja, where competition is fierce and resources are limited, understanding the drivers of performance is crucial for survival and growth. By focusing on key dimensions such as operational efficiency and employee productivity and well-being, SMEs can identify actionable strategies to enhance their overall performance.

Operational Efficiency

Operational efficiency refers to the ability of an enterprise to utilize its resources such as labor, capital, and materials in the most effective manner to achieve desired outcomes. In the context of SMEs, operational efficiency is often a matter of survival, as inefficiencies can lead to resource wastage and reduced profitability. According to Davis et al. (2017), the physical work environment plays a pivotal role in determining operational efficiency. For instance, a well-organized workspace with clear pathways and accessible tools can streamline workflows and reduce errors. Similarly, technological integrations facilitated by thoughtful workplace design can enhance productivity and reduce costs. In FCT-Abuja, where SMEs often operate under infrastructural constraints, optimizing operational efficiency through improvements in the physical work environment can provide a competitive edge. By addressing challenges such as inadequate space utilization or outdated equipment, SMEs can significantly enhance their operational capabilities.

Employee Productivity and Well-being

Employee productivity and well-being are critical dimensions of SME performance, as they directly influence output quality and organizational sustainability. Productivity refers to the quantity and quality of work produced by employees, while well-being encompasses their physical, emotional, and psychological health. Research by Al Horr et al. (2016) suggests that a conducive physical work environment is strongly correlated with higher levels of productivity and improved well-being. For example, natural lighting and proper ventilation have been shown to reduce fatigue and enhance concentration, leading to better performance. Additionally, safe and ergonomic workspaces contribute to employee satisfaction, reducing turnover rates and fostering a positive organizational culture. In SMEs, where human capital is

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often the most valuable asset, prioritizing employee productivity and well-being is essential for long-term success. By addressing deficiencies in the physical work environment, SMEs in FCT-Abuja can create a supportive atmosphere that motivates employees to perform at their best.

Theoretical Framework

The theory selected for this study is the Stimulus-Organism-Response (S-O-R) Model, originally proposed by Mehrabian and Russell in 1974. This model posits that environmental stimuli (S) influence an individual's internal state or organismic responses (O), which in turn affect their behavioral outcomes or responses (R). The major assumption of the S-O-R model is that external factors, such as the physical work environment, act as stimuli that shape employees' emotional and cognitive states, ultimately influencing their performance and productivity.

One of the strengths of the S-O-R model is its versatility, as it can be applied across various contexts to explain the relationship between environmental factors and human behavior. However, a limitation of the model is its relative simplicity, as it does not account for complex interactions or mediating variables that may influence outcomes. Despite this, the model provides a robust framework for understanding how the physical work environment impacts SME performance.

In the context of this study, the S-O-R model can be applied to examine how workplace design and layout, as well as health and safety conditions, act as stimuli (S) that influence employees' internal states (O), such as motivation, satisfaction, and stress levels. These internal states then determine behavioral outcomes (R), including operational efficiency and employee productivity and well-being. For instance, a well-designed workspace (stimulus) may evoke feelings of comfort and focus (organismic response), leading to higher productivity (response). By applying the S-O-R model, this study aims to provide insights into the mechanisms through which the physical work environment influences SME performance in FCT-Abuja.

Empirical Review

A study conducted by Davis et al. (2017) explored the relationship between workplace design and layout and operational efficiency in small businesses across the United Kingdom. The researchers found that organizations with well-structured spatial arrangements, such as clearly defined work zones and ergonomic furniture, experienced a 15% improvement in task completion times compared to those with poorly designed spaces. The study highlighted that open-plan layouts fostered collaboration but also led to distractions if not complemented by quiet zones or private areas for focused work. Additionally, the integration of technology-friendly spaces, such as charging stations and high-speed internet access points, further enhanced workflow efficiency. These findings underscore the importance of tailoring workplace design to the specific needs of SMEs, particularly in resource-constrained environments like FCT-Abuja, where optimizing operational efficiency is critical for survival.

Al Horr et al. (2016) conducted a comprehensive review of literature on the impact of health and safety conditions on employee productivity in office settings. Their analysis revealed that workplaces with adequate lighting, proper ventilation, and ergonomic furniture reported a 20% increase in employee productivity compared to those lacking these features. The study emphasized that poor health and safety conditions, such as inadequate lighting or poorly ventilated spaces, led to physical discomfort, fatigue, and stress, which directly reduced employees' ability to perform effectively. Furthermore, organizations that implemented health and safety regulations, such as regular equipment maintenance and emergency protocols, observed higher levels of employee satisfaction and retention. These findings are particularly relevant for SMEs in FCT-Abuja, where suboptimal physical work environments often hinder employee performance and organizational outcomes.

Ojo (2018) investigated the combined effects of workplace design and health and safety conditions on the overall performance of SMEs in Nigeria. Using a sample of 300 SMEs, the study found that businesses with both well-designed workspaces and robust health and safety measures achieved a 25% higher performance score compared to those with deficiencies in either dimension. The researchers identified that a conducive physical work environment acted as a catalyst for operational efficiency and employee well-being, leading to better financial performance and customer satisfaction. However, the study also noted that many SMEs in Nigeria struggled to balance these dimensions due to financial constraints and lack of awareness. This highlights the need for targeted interventions to help SMEs in FCT-Abuja optimize their physical work environments for improved performance.

Knight and Haslam (2010) examined the role of employee well-being as a mediator between the physical work environment and organizational outcomes in Australian SMEs. Their findings indicated that employees working in environments with natural lighting, proper ventilation, and ergonomic furniture reported significantly higher levels of well-being, which translated into better job performance and lower absenteeism rates. The study also revealed that employees who perceived their workspaces as safe and comfortable were more likely to exhibit organizational citizenship behaviors, such as going above and beyond their job requirements. These results suggest that investing in a supportive physical work environment can yield substantial benefits for SMEs, including enhanced employee morale and organizational resilience. For SMEs in FCT-Abuja, addressing deficiencies in the physical work environment could serve as a strategic lever to improve employee well-being and overall performance.

Methodology

The study adopted a descriptive research design, which was deemed appropriate given its aim to explore and describe the relationship between the physical work environment and the performance of SMEs in the FCT-Abuja. Descriptive research designs are particularly useful for examining phenomena in their natural settings and providing a detailed account of variables without manipulating them (Creswell, 2014). The population of the study consisted of 2,184 registered small businesses in the FCT-Abuja, as obtained from the Enterprise and Commerce Unit of the FCT Administration. The unit of analysis for this study included both small business owners/managers and employees, as they provided complementary perspectives on the physical work environment and its impact on performance.

To determine the sample size, the Taro Yamane formula was used, which is widely regarded for its simplicity and effectiveness in social science research. The formula is expressed as:

$n = 1 + N(e2)N$

Where:

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n = Sample size

N = Population size (2,184)

e = Margin of error (set at 0.05 for this study)

Substituting the values:

$n = 1 + 2184(0.052)2184 = 1 + 5.462184 = 6.462184 \approx 338$

Thus, the sample size was determined to be 338 respondents. This approach ensured a representative sample while maintaining feasibility in data collection. Simple random sampling was employed to select participants, as it provided an equal chance for every registered SME to be included in the study. This technique was justified on the grounds of its ability to minimize bias and ensure generalizability of findings (Saunders et al., 2019).

Data for the study were sourced primarily through a structured questionnaire administered to the selected respondents. The questionnaire was designed to capture information on the dimensions of the physical work environment (workplace design and layout, health and safety conditions) and SME performance (operational efficiency, employee productivity, and well-being). Reliability of the instrument was assessed using Cronbach's alpha, with coefficients of 0.82 for workplace design and layout, 0.86 for health and safety conditions, and 0.89 for SME performance. These values exceeded the threshold of 0.7, indicating high internal consistency (Tavakol & Dennick, 2011). Content validity was established by consulting experts in organizational behavior and SME management, who reviewed the questionnaire to ensure its relevance and comprehensiveness.

Data analysis was conducted using simple regression analysis with the aid of SPSS version 23. This technique was chosen because it allowed for the examination of the strength and direction of the relationship between the physical work environment and SME performance. Regression analysis is particularly suited for identifying predictors of outcomes, making it ideal for addressing the research objectives (Field, 2013). The study employs a multiple regression model to examine the relationship between the physical work environment and the performance of small and medium enterprises (SMEs) in FCT-Abuja. The model is specified to test the influence of two dimensions of the physical work environment workplace design and layout, and health and safety conditions on two dimensions of SME performance: operational efficiency and employee productivity and well-being. The specific models for each dimension of SME Performance are:

$Y1=\beta0+\beta1X1+\beta2X2+\epsilon$……*3.0.*

$Y2=\beta0+\beta1X1+\beta2X2+\epsilon$……*3.1*

Where:

$Y1$: Operational efficiency.

$X1$: Workplace design and layout.

$X2$: Health and safety conditions.

$Y2$: Employee productivity and well-being.

$X1$: Workplace design and layout.

$X2$: Health and safety conditions.

Results and Discussion

The study distributed 338 questionnaires to small business owners/managers and employees in the Federal Capital Territory (FCT), Abuja, based on the calculated sample size using the Taro Yamane formula. This approach ensured a representative sample that could provide reliable insights into the relationship between the physical work environment and SME performance. Previous studies have emphasized the importance of achieving an adequate sample size to enhance the validity and generalizability of findings (Saunders et al., 2019). Out of the 338 questionnaires distributed, 299 were successfully retrieved, representing a response rate of approximately 88.5%. Preliminary analysis revealed that all 299 questionnaires were complete and suitable for further analysis, as they contained no missing or inconsistent data.

Demographic Characteristics of Respondents

The demographic characteristics of the respondents are presented in Table 1 below. These variables include age, gender, and educational level, which provide insights into the composition of the sample.

Table 1: Demographic Characteristics of Respondents (N = 299)

Variable	Category	Frequency	Percentage (%)
Age	18–30 years	110	36.8
	31–45 years	145	48.5
	46 years and above	44	14.7
Gender	Male	162	54.2
	Female	137	45.8
Educational Level	Secondary School	48	16.1
	Diploma/Certificate	76	25.4
	Bachelor's Degree	121	40.5
	Postgraduate	54	18.0

The results indicate that the majority of respondents (48.5%) fell within the age range of 31–45 years, followed by those aged 18–30 years (36.8%). Males constituted slightly more than half of the sample (54.2%), while females accounted for 45.8%. In terms of educational attainment, respondents with a Bachelor's degree formed the largest group (40.5%), followed by those with diplomas/certificates (25.4%) and postgraduate qualifications (18.0%). Only 16.1% of respondents had secondary school education as their highest qualification.

Test of Hypotheses

The analysis aims to determine the extent to which workplace design and layout, as well as health and safety conditions, influence operational efficiency and employee productivity and well-being. The results of these tests provide empirical evidence to address the research objectives and answer the research questions posed in this study. The regression analysis was conducted to test the hypotheses proposed in this study. The results are presented below for each hypothesis, along with the corresponding statistical findings.

Hypothesis 1:

DOI: 10.5281/zenodo.19843493

(Ho_1): Workplace design and layout have no significant influence on operational efficiency among SMEs in FCT-Abuja.

$$Y1=\beta0+\beta1X1+\beta2X2+\epsilon$$

Table 1: Regression Results for Operational Efficiency (Y_1)

Variable	Coefficient (β)	Standard Error	t-value	p-value	Significance
Constant ($\beta0$)	0.45	0.12	3.75	0.000	Significant
Workplace Design ($X1$)	0.38	0.09	4.22	0.000	Significant
Health & Safety ($X2$)	0.27	0.08	3.38	0.001	Significant
R^2	0.46				
Adjusted R^2	0.45				
F-statistic	45.67			0.000	Significant

The coefficient for workplace design and layout ($\beta1$=0.38, p < 0.001) indicates a statistically significant positive relationship with operational efficiency. This suggests that improvements in workplace design and layout significantly enhance operational efficiency among SMEs in FCT-Abuja. The p-value for $X1$ is less than 0.05, leading to the rejection of the null hypothesis (Ho1). Therefore, it can be concluded that workplace design and layout have a significant influence on operational efficiency. The model explains 46% of the variance in operational efficiency ($R2$=0.46), indicating a strong explanatory power.

Hypothesis 2:

(Ho_2): Health and safety conditions have no significant impact on employee productivity and well-being in SMEs operating in FCT-Abuja.

$$Y2=\beta0+\beta1X1+\beta2X2+\epsilon$$

Table 2: Regression Results for Employee Productivity and Well-being (Y_2)

Variable	Coefficient (β)	Standard Error	t-value	p-value	Significance
Constant ($\beta0$)	0.40	0.11	3.64	0.000	Significant
Workplace Design ($X1$)	0.25	0.08	3.12	0.002	Significant
Health & Safety ($X2$)	0.42	0.09	4.67	0.000	Significant
R^2	0.51				
Adjusted R^2	0.50				
F-statistic	52.34			0.000	Significant

The coefficient for health and safety conditions ($\beta2$=0.42, p < 0.001) indicates a statistically significant positive relationship with employee productivity and well-being. This suggests that better health and safety conditions significantly improve employee productivity and well-being in SMEs operating in FCT-Abuja. The p-value for $X2$ is less than 0.05, leading to the rejection of the null hypothesis (Ho2). Therefore, it can be concluded that health and safety conditions have a significant impact on employee productivity and well-being. The model explains 51% of the variance in employee productivity and well-being ($R2$=0.51), indicating a strong explanatory power.

Discussion of Findings

The regression analysis conducted in this study revealed significant relationships between the physical work environment and SME performance, specifically in terms of operational efficiency and employee productivity and well-being. These findings align with prior empirical studies and provide valuable insights into the dynamics of SME performance in FCT-Abuja. Below, the results are discussed in detail, drawing on relevant empirical reviews to contextualize and support the findings.

The first hypothesis tested the relationship between workplace design and layout and operational efficiency. The regression results indicated a statistically significant positive relationship ($\beta1$ =0.38,p<0.001), confirming that improvements in workplace design and layout significantly enhance operational efficiency among SMEs in FCT-Abuja. This finding is consistent with the study by Davis et al. (2017), which demonstrated that well-structured spatial arrangements, such as ergonomic furniture, clear pathways, and technology-friendly spaces, improve task completion times and reduce errors. In resource-constrained environments like FCT-Abuja, where SMEs often operate from informal or suboptimal spaces, optimizing workplace design can serve as a cost-effective strategy to boost operational efficiency. For instance, creating dedicated zones for specific tasks and ensuring accessibility to tools and resources can streamline

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workflows and minimize disruptions. The findings also underscore the importance of balancing open-plan layouts with private spaces to foster collaboration while reducing distractions—a key recommendation from Davis et al. (2017).

Moreover, the strong explanatory power of the model ($R2$=0.46) highlights the critical role of workplace design and layout as a determinant of operational efficiency. This suggests that SME owners and managers in FCT-Abuja should prioritize investments in functional and ergonomic workspaces to achieve better resource utilization and higher productivity levels. Such interventions could be particularly impactful in enhancing the competitiveness of SMEs operating in challenging economic conditions.

The second hypothesis examined the relationship between health and safety conditions and employee productivity and well-being. The regression results revealed a statistically significant positive relationship ($\beta 2$=0.42,p<0.001), indicating that better health and safety conditions significantly improve employee productivity and well-being. This finding is supported by the empirical review conducted by Al Horr et al. (2016), who found that workplaces with adequate lighting, proper ventilation, and ergonomic furniture reported a 20% increase in employee productivity compared to those lacking these features. In FCT-Abuja, where many SMEs operate in suboptimal environments characterized by poor lighting, inadequate ventilation, and insufficient attention to ergonomics, addressing these deficiencies could yield substantial benefits. For example, providing natural lighting and proper ventilation can reduce fatigue and stress, leading to higher levels of concentration and job satisfaction.

Furthermore, the findings resonate with Knight and Haslam's (2010) study, which emphasized the role of perceived safety and comfort in fostering organizational citizenship behaviors. Employees who feel safe and comfortable in their workspaces are more likely to exhibit higher morale, commitment, and discretionary effort. This is particularly relevant for SMEs in FCT-Abuja, where human capital is often the most valuable asset. By prioritizing health and safety measures, SMEs can not only improve employee productivity but also enhance retention rates and organizational resilience. The high explanatory power of the model ($R2$=0.51) further underscores the importance of health and safety conditions as a driver of employee outcomes.

While the hypotheses focused on individual dimensions of the physical work environment, the regression models collectively highlight the combined effects of workplace design and layout, as well as health and safety conditions, on SME performance. Both variables emerged as significant predictors of operational efficiency and employee productivity and well-being, with coefficients suggesting a complementary relationship. This finding aligns with Ojo's (2018) study, which demonstrated that businesses with both well-designed workspaces and robust health and safety measures achieved a 25% higher performance score compared to those with deficiencies in either dimension. For SMEs in FCT-Abuja, this implies that a holistic approach to optimizing the physical work environment is essential for achieving sustainable performance improvements.

For instance, integrating ergonomic furniture with proper lighting and ventilation can create a supportive atmosphere that enhances both operational efficiency and employee well-being. Similarly, implementing safety protocols alongside thoughtful spatial arrangements can mitigate risks while fostering collaboration and focus. These insights are particularly relevant in the context of FCT-Abuja, where infrastructural challenges and resource constraints often force SMEs to compromise on one or more dimensions of the physical work environment. By addressing these gaps, SMEs can unlock their full potential and contribute more effectively to the local economy.

Conclusion

This study investigated the impact of the physical work environment on the performance of small and medium enterprises (SMEs) in FCT-Abuja, focusing on two key dimensions of the physical work environment workplace design and layout, and health and safety conditions and their influence on operational efficiency and employee productivity and well-being. The findings revealed that both workplace design and layout, as well as health and safety conditions, significantly influence SME performance. Specifically, workplace design and layout were found to enhance operational efficiency, while health and safety conditions positively impacted employee productivity and well-being. These results align with prior empirical studies and highlight the critical role of the physical work environment as a determinant of organizational outcomes. For SMEs in FCT-Abuja, where resource constraints and infrastructural challenges are prevalent, optimizing the physical work environment represents a strategic opportunity to improve performance and competitiveness. By addressing deficiencies in workplace design and health and safety measures, SMEs can create supportive environments that foster operational excellence and employee satisfaction.

Recommendations

Based on the findings of this study, the following recommendations are proposed for SME owners:

i. Invest in Functional Workplace Design: SME owners should prioritize investments in functional and ergonomic workplace designs to enhance operational efficiency. This includes creating dedicated zones for specific tasks, ensuring accessibility to tools and resources, and balancing open-plan layouts with private spaces to foster collaboration while minimizing distractions.

ii. Enhance Health and Safety Conditions: SMEs should implement robust health and safety measures, such as proper lighting, ventilation, ergonomic furniture, and safety protocols, to improve employee productivity and well-being. Regular maintenance of equipment and compliance with health and safety regulations should also be prioritized.

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