

Effect of Workplace Physical Environment on the Productivity of Employees in Public Organization: A Study of the Central Bank of Nigeria, Jalingo Branch, Taraba State

Article History

Received: 05 December, 2020**Revised:** 05 January, 2021**Accepted:** 14 January, 2021**Published:** 21 January, 2021

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Abstract: This study sought to identify the effect of workplace physical environment on the productivity of employees. A case study approach was employed in this study and the Central Bank of Nigeria, Jalingo Branch served as the study area. The population of this study comprised of all the permanent staff of the Central Bank of Nigeria, Jalingo Branch which is made up of 70 employees; (executive's staff cadre 10, senior staff 35 and Junior staff 25). The probability sampling technique was adopted to select elements from each cadre to give a sample frame of 60. Questionnaire that was validated and tested for reliability served as data collection instrument. Collected data were presented in frequency and percentage tables, and this formed the basis for data analysis. The null hypotheses were tested using Chi-Square statistical tool aided by SPSS version 23. Findings indicate that: Spacious physical work environment increases the productivity of employees. The productivity of employees increases in a work environment with availability of suitable equipment. Lastly, findings show that workplace environment with open communication increases employee productivity. Following the findings of this study, it is proposed that: organizations should provide spacious workplace physical environment for their employees because this substantially increases employees' productivity. For the fact that the productivity of employees increases in a work environment with availability of suitable equipment, it means that organizations should act in accordance with this finding if they are to achieve employee productivity. Following the findings that work place environment with open communication increases productivity, it behooves on organizations to create work place environment charged with open communication and supportive to team spirit.

Key words: Workplace, Physical Environment, Spacious, Suitable Equipment and Open Communication.

1. Introduction

Human beings are influenced by activities in their environment. An environment is the place or surroundings one works. The physical work environment represents the tangible factors that influence worker productivity and performance. It is the setting within which someone interacts with different people. A healthy work environment is friendly and well-designed, a safe area, with necessary facilities and effective communication, to enhance productivity.

A well-designed, arranged offices, and work space makes is vital to how people feel regarding their work. Work surroundings convey some messages regarding how the organization value workers and therefore the result it expects from them (Murlis and Armstrong, 2007). For an organization or individual to excel in any productive activity, it should think about the underlying surroundings. This is because individuals and their efforts in the organization are influenced by their environment. Human effort in organization is indispensable. It constitutes an important factor to managers as it is believed that each behavior is goal directed. The nature of the employees' work environment impact on their motivation level and therefore performance (Heath, 2006). Once workers have the will and show passion, then their performance will increase (Boles et al., 2004). In support, Chandrasekar (2011) explains that having healthy work surroundings helps in reducing the degree of absenteeism and as a result will increase worker performance in today's competitive and dynamic business world.

This means that work environment impacts worker morale, productivity, and engagement. Additionally, a happy and diligent worker is a big asset of any organization. As well, good work surroundings encourage the staff to perform their job better and this ultimately helps in the growth of an

organization, and the economy of a nation. Lambert *et al.* (2001) Confirms this, by saying that environmental factors are necessary determinant of job satisfaction.

Money spent in acquiring buildings, equipment, technology, processes and procedures are meaningless unless those that make use of them who constitute part of the environment are motivated because a business cannot exist without people. Puneet (2017) reports that enhancements in the physical design of the work environment leads to a 5-10 percent increase in worker productivity. Generally, management's new challenge is to form surroundings that attracts, and retains its manpower because, a comfortable work surroundings motivates workers, and increases their productivity and performance to a large extent.

1.1. Statement of the Problem

Employees spend fifty percent of their time inside work environments, and this have an effect on their state of minds, aptitudes, and actions. This affects their work performance and productivity (Sundstrom *et al.*, 1996). Observation shows that people that work in unconducive environment are prone to job-related risks that impact negatively on their productivity.

Killefer and Mendonca (2006) had reported that productivity achieved in government organizations has not kept pace with the growths discovered in the non-governmental sector. Sometimes some public servants do not stay long at their duty posts. Most of them report to work late, and many absent themselves frequently. It is a typical observation that physical infrastructural facilities in most public organizations are in unsafe or unhealthy state. Chandrasekar (2011), reported that environmental factors like temperature, lighting and ventilation have an immediate impact on health for example, high temperatures cause heat stress and exhaustion.

Physical factors in the workplace such as poor layout of work spaces, and at times overcrowding are the common cause of accident like tripping or falling against objects. This of course, adversely have an effect on the productivity of workers in organizations and desires immediate attention. But in the real sense once people provide things that suite their physical and mental skills, the right match between the people and task is accomplished. In support of these, El-Zeiny (2013) reported that a well-designed workplace; that is spacious and safe, with equipment/facilities and effective communication plays important role towards workers' performance and productivity in any organization. Undoubtedly enhancements in the physical state of the work environment make workers to feel comfortable and this increases their productivity.

On the basis of the foregoing, the workplace environment is supposed to be manipulated by man to suite people and against health-related issues, but this is not often the case, making one wonder if it has nothing to do with employee productivity. Again, observation shows that studies conducted in Nigeria on the physical work environment and productivity performance is scanty. This creates a research gap that this study intends to fill. It is for the afore-mentioned vexing problems that this study was designed.

1.2. Objective of the Study

The major aim of this study is to identify the relationship between workplace physical environment and productivity of employees in the Central Bank of Nigeria, Jalingo Branch. The specific objectives of the study are:

- I. To examine if a specious workplace physical environment has significant relationship with the productivity of employees of Central Bank of Nigeria, Jalingo Branch.
- II. To find out if a workplace physical environment with suitable equipment has significant relationship with the productivity of employees of Central Bank of Nigeria, Jalingo Branch.
- III. To identify if a workplace physical environment that gives room for effective communication has significant relationship with the productivity of employees of Central Bank of Nigeria, Jalingo Branch.

1.3. Research Questions

In an effort to evaluate the effect of workplace physical environment or surroundings and workers' productivity in the Central Bank of Nigeria, Jalingo Branch, the study hopes to address the following questions:

1. Is there relationship between specious workplace physical environment and the productivity of employees of Central Bank of Nigeria, Jalingo Branch?

2. Is there relationship between workplace physical environment with suitable equipment and the productivity of employees of Central Bank of Nigeria, Jalingo Branch?
3. Is there relationship between workplace physical environment that gives room for effective communication and the productivity of employees of Central Bank of Nigeria, Jalingo Branch?

1.4. Research Hypotheses

To further guide this research, the underlisted null hypotheses were designed.

H₀₁: There is no significant relationship between specious workplace physical environment and the productivity of employees of Central Bank of Nigeria, Jalingo Branch.

H₀₂: There is no significant relationship between workplace physical environment with suitable equipment and the productivity of employees of Central Bank of Nigeria, Jalingo Branch.

H₀₃: There is no significant relationship between workplace physical environment that gives room for effective communication and the productivity of employees of Central Bank of Nigeria, Jalingo Branch.

1.5. Scope of Study

The study sought to investigate the impact of workplace physical environment on employees' productivity performance in government organizations. The population of this research is comprised of all the permanent employees of the Central Bank of Nigeria, Jalingo Branch only.

1.6. Significance and Contribution of the Study

This study will benefit organizations and people. It will health to spotlight the effect of work physical surroundings has on the productivity performance of workers in organizations, especially in the Central Bank of Nigeria, Jalingo branch. This will guide the management to examine the issues concerning their operating environment with a view to make improvement. It will motivate the management to create healthy work environment for employees to attain optimum productivity.

The study will create awareness in the management that financial incentive alone cannot encourage workers to raise their productivity level when the environment they operate on is unhealthy. This is because a healthy environment is necessary and indispensable to growing desires of employees.

The study will increase existing literature on work surroundings and worker productivity. Thus, will be helpful to prospective students and organizations that would need some data contained in this work to guide their future analysis in areas associated with this study. By and large, this study will also help in developing existing theories with new dimensions within which the theories are to be viewed and applied.

Since environmental factors represent the immediate job-related challenge to performance, this study will help the readers to understand that work surroundings impact greatly on the employee's level of motivation and productivity performance. This is for the fact that a well-designed and safe work environment that has facilities, equipment, spacious and supports effective communication signals the values and identity of a successful organization.

2. Conceptual Framework

2.1. Concept of Work Physical Environment

Many students have tried conceptualizing the work environment, otherwise called surroundings. Generally, it refers to the physical surroundings associated with employee's work and conditions of employment. In a simplest term, it is the settings, situations, conditions and circumstances under which individuals work. It is made up of the physical setting, workers, and the task itself.

This implies that work environment is the totality of the interrelation that exists among the staff and the employers and therefore the surroundings within which they work. It incorporates the technical, the human and therefore the organizational surroundings.

The term work environment is employed to explain the encompassing conditions in which worker operates. The work environment consists of physical conditions, like workplace temperature, equipment/instruments, computers, work processes or procedures, etc. The work environment is also be related to the nature of the building. Healthy work environments are free from issues related to poor building designs; poor ventilation or off-gassing of chemicals used during construction, the buildup of molds and mildew can also cause poor building syndrome.

The work environment is man-made and he manipulates this for his existence. Wrongful manipulation makes the environment unsafe and this impedes the performance and productivity of people.

The physical work setting affects workers in the performance of their tasks. This is because the work setting directly affects the human sense and modifies social interactions and productivity. This can be as a result of its characteristics. A healthy work setting facilitates and fosters social interaction with peers, subordinates, and managers.

Today's work place environment is totally different, diverse, and ever-changing. This has affected the everyday employer/employee relationship and output. The nature of a workplace is created by the interaction of workers within their environment. If the workers have negative perception of their operating conditions, they are bound to show negative attitude to work; be absent, have stress and health related problems, and their productivity and commitment tend to be low. On the other hand, organizations that have friendly, trusting, and safe work environment experience good communication, creativity, and increase in productivity performance.

Ismail and Mohammed (2010) explain that the nature of physical work environment influences the employees' functions and it will validate the well-being of organizations. They physical work setting embraces the layout, comfort level, ventilation and heating/temperature, lighting (both artificial and natural), furniture and fittings. Others are aesthetic facet, the ornamentation and style.

The layout, (closed office plan, that gives room for each employee to have a separate office of their own or a few people in each office, allows employees a greater amount of privacy than open plan office layout). It allows employees to work in peace and quiet, keeping them focused on their tasks without a much distraction. This also offers employees a thinking frame and creativity without much interference. Physical elements play an important role in developing the network and relationships at work. Vischer (2008) Stressed that for the fact that a conducive workplace environment provides support to the employees in carrying out their jobs, it should be conducive enough.

2.2. Importance or Need for Good Workplace Physical Environment

There are ten key reasons why a good workplace physical environment is important for successful business (Vischer, 2008). These are:

- Happiness has a multiplying effect: happiness is contagious and, once inspired, will unfold throughout entire organization. Employers desirous to improve productivity need to create enabling or healthy work place environment for their workers. This encourages them to additionally take joy in their work and perform better.
- Happy employees are successful employees: workers that sincerely appreciate their work are more productive, happier, and more successful. This increases self-confidence and encourages greater performance and success for the employer.
- Happy employees have the right attitude: had workers have a negative attitude which will permeate their work and stifle job performance, and power. Happy workers, on the other hand, have a positive dynamic perspective that makes them to succeed.
- Reducing stress and will increase productivity: stressed-out workers are distracted workers. This may have a devastating impact on productivity. Managing stress and worry will result in a productivity boost. A healthy work setting improves productivity and reduces cost associated with absenteeism, employee turnover, workers' compensation, and medical claims.
- A positive work environment encourages risk-taking: business goes beyond playing safe all the time. It involves taking measured risk for the right rewards. It is the happy workers that are more likely to take measured risks; their unhappy counterparts are more likely to play it safe.
- Happy employees support each other: happy, fully involved workers have team spirit. They are more supportive to and encourage their colleagues. As well, they are more likely to ask for support if needed.
- Happy employees are not afraid to make mistakes: a good work environment encourages team to learn from their mistakes. A mistake is a good learning tool that can lead to unanticipated success. Employees that are afraid to make mistakes normally miss important learning opportunities.
- Leaders lead by example: managers who take real pleasure in their jobs, and encourage their workers to enjoy their work inspire confidence, dedication and loyalty. Leaders who set positive examples are a vital component of the success of any business.
- Happiness inspires creativity: innovation is the lifeblood of any business. Happy workers are inspired, creative workers that will develop the solutions a business needs to succeed.

- People like to work with happy people: being motivated in work can yield huge benefits by improving relationships between workers and the employer. Happy workers are more enthusiastic to work as a team for a common good. More so, they are likely to encourage organizational loyalty, and strong team building that is vital to an organization's success.

2.3. Features or Characteristics of a Healthy Workplace Physical Environment

A healthy work environment is key to a fulfilling and rewarding career. It should have all of the characteristics presented below:

- Functional and pleasant surroundings: A healthy working environment is usually practical, safe and pleasant. Safety is perhaps the most pressing thing to watch out for. A company that cares about its employees' safety and takes the necessary precautions is a good company to work for.
- A positive work environment: Some studies have shown that workers are satisfied with specific workspace features. These features are significant to their productivity and workspace satisfaction; they are lighting, ventilation rates, access to natural light and acoustic environment as well, lighting and other factors like ergonomic furniture has been found to have positive influence on employee's health (Veitch and Newsham, 2000) and consequently on productivity. This is so because light has a profound impact on workers physical, physiological and psychological health, and on their overall performance at the workplace.
- Open communication: One of the ways to gauge an organization's culture is to see how people communicate freely with each other without office gossip. In a healthy work environment people will talk openly and willingly to each other with shared visions and goals. This kind of structure leads to a happier, more productive workplace with a relaxed and friendly atmosphere.
- Equality: Another way to see what kind of work environment a person is currently in (or entering) is to see how the people occupying the lower organizational chain are treated. If superiors look down on the lower paid or unskilled staff, this signals a bad work environment. If there are stigmatization and people make flippant and rude remarks behind the backs of others, this indicates a bad environment.
- Flexibility and adaptability: Lastly, the flexibility and adaptability of an organization's culture mean a lot of what a work environment is like. A healthy work environment is accommodating, relaxed, professional, and productive. Maintaining flexibility in a work environment helps to respond quickly to changes. A negative work environment can often fall apart as a result of remaining rigid in the face of obstacles or challenges.

2.4. Concept of Productivity

Generally, productivity refers to the association between the input provided and also the output generated by a production or service system. Thus, productivity is the economical use of resources like labor, land, capital, materials, energy and data within the production of assorted product and services (Prokopenko, 1987).

Productivity is the ability of individuals to be effective and efficient in the deployment of resources. It is accomplishing more with the same quantity of resources or achieving higher output in terms of volume and quality for constant input additionally depicts higher productivity (Prokopenko, 1987). Productivity may be referred to as how well a company (individual, business or country) converts input resources (labor, materials, machines); (product and services). Additionally, productivity relates with operating conditions that are associated with, the adoption of latest methods and technologies.

It is usually not enough to supply workers with the required resource inputs and expect that productivity can increase mechanically. This is because; productivity can only increase if workers are motivated to accomplish their assigned tasks. Therefore, the utilization of methods that helps to achieve worker's satisfaction, health, and morale by firms can increase employee productivity.

Alternatively, productivity is viewed as the relationship between results and the time it takes to accomplish them. Thus, the less time it takes to realize desired results, the higher the productive of a system (Prokopenko, 1987). Again, a worker's productivity depends on the amount of time an individual puts in, the effort made, and the degree to which that individual is "mentally present" at a job.

2.5. Theoretical Foundation of the Study

Many theories are advanced to clarify the link between work environment and employee performance. The study is grounded on two theories and they are: the two factor Theory and also the Affective Events Theory.

2.6. The Two Factor Theory

The two-factor theory was advanced by Herzberg in 1959. Herzberg outlined two sets of things that direct employees' attitudes and levels of performance, named motivation and hygiene factors. He explained that motivation factors measure intrinsic factors that may increase employees' job satisfaction; whereas hygiene factors measure external factors to forestall any employees' discontentment. The idea here is that the surroundings within which a work is performed influences employee work performance. Herzberg's theory concentrates on the importance of internal job factors as motivating forces for workers. He reported that workers require time in designing their activities and evaluating their work. The content of the idea has been widely accepted as relevant in motivating staff to present their best in organizations.

2.7. Affective Events Theory (AET) or Emotive Events Theory

The theory was advanced by Howard M. Weiss and Russel Cropanzano in 1996. The emotive events theory explains the link between employees' internal influences and their reactions to incidents that occur in their work surroundings that have effect on their performance, structure, commitment and job satisfaction. It proposes that positive-inducing as well as negative emotional incidents at work have important psychological impact on employees' job satisfaction. This means that work environment trigger emotive responses is depicted in worker's behavior. They maintain that AET through empirical observation and in theory is restricted to events and measure internal to the organization. It means that positive and negative events or things that really happen at work have an effect on the well-being of staff and therefore affect their performances.

2.8. Empirical Review of Literature

Akinyele (2014) conducted a research on the influence of work environment on workers' productivity: A case of selected oil and gas industry in Lagos, Nigeria. The respondents were randomly chosen from four selected oil and gas industry in Lagos metropolis. Primary data used for this study were collected with the aid of a close ended structured questionnaire. T-test was used to test the research hypotheses. The results of T-test indicate that conducive work environment stimulates creativity of workers, hence their productivity. It means that unhealthy working conditions contribute to low productivity of employees.

Hope *et al.* (2018) examined the nature of relationship that exists between physical working environment and employee performance in selected Brewing Firms in Anambra State. The work was anchored on the human relation theory. The work adopted a survey research design. The population of the study was 550 and sample size was 233 arrived at using Taro Yamane formula while the questionnaire was allocated using Bowley's proportion allocation formula. Pearson's Product Moment Correlation statistics was utilized in the test of hypotheses. The finding revealed that there is a significant relationship between ergonomic and job satisfaction in the studied firms. The study recommended that equipment and machineries should be made to suit the workers, manning them by management of the focused firms, and as well, they should put the employee's health into consideration in situating machineries as this will lower the hazard rate and also lower error rate of the workers.

Chika and Dominic (2017) investigated the effect of work environment on employee productivity using Edo City Transport Service. The objective was to ascertain whether the nature of work environment led to low productivity, absenteeism and lateness among employees. From the research findings, good office environment goes a long way to enhance employee morale and performance. Also, if the office is neat, noiseless, properly arranged well lighted and ventilated, employees will feel a sense of belonging and this will make them to work efficiently and effectively.

Naharuddin and Sadegi (2013) studied the factors of workplace environment and its effect on employee's performance: A case study of Miyazu Malaysia. Data was collected through the survey method; a total of 139 employees participated from three main workplaces of Miyazu, Malaysia. Result from the study shows that job aid and physical workplace environment have significant relationship towards the employees' performance.

Christian (2015) investigated the effects of work environment on employee's productivity in government organizations in Obuasi Municipality. 100 questionnaires were administered to the employees

of Obuasi Municipal Assembly. A response rate of 78% was achieved. The data collected from the employees was analyzed using multiple regression and descriptive statistics. It was found that, each of the components that define work environment were statistically significant to productivity of the Municipal Assembly.

Findings by [Ajala \(2012\)](#) indicate that workplace environmental elements such as sufficient light, absence of noise, proper ventilation and layout arrangement substantially increase employees' performance. [Puneet \(2017\)](#) Affirm that a positive work environment is important for worker's satisfaction, health, and even productivity.

A research by [Roelofsen \(2002\)](#) indicates that improving the working environment reduces complains and absenteeism while increasing productivity. Better physical workplace environment will boost the employee and ultimately their performance. A related study done by Chevalier (2004) revealed that when environmental supports are sound, employees are better equipped to do what is expected of them. [Chandrasekar \(2011\)](#) also reported that unsafe and unhealthy workplace environment in terms of poor ventilation, inappropriate lighting, excessive noise etc., affect workers' productivity and health.

3. Methodology

3.1. Research Design

The research design adopted in this study was the case study approach. The design is preferred because it helps to carry out indebt study of a thing. Both qualitative and quantitative data analysis was done to ensure complete description of the situation, making sure that there is minimum bias in the collection of data and reduce errors in the interpretation of the data.

3.2. Area of Study

This study was carried out at Central Bank of Nigeria, Jalingo Branch. The Central Bank and apex monetary authority of Nigeria was established by the CBN act of 1958 and commenced operation July 1, 1959. The major regulatory objectives of the bank as stated in the CBN act are to: maintain the external reserve of the country, promote monetary stability and a sound economic environment, and to act as banker of last resort and financial adviser to the federal government. The CBN has branches in all the states of the federation and the federal capital territory Abuja. Jalingo branch was established November, 2010.

3.3. Population of Study

The target population of this study comprised of all 70 permanent employees of Central Bank of Nigeria, Jalingo Branch which is made up of employees: (executives staff cadre 10, senior staff 35 and Junior staff 25).

3.4. Sample and Sampling Technique

Chris Morgan sample estimator model was adopted to arrive at the sample frame of 60 employees who took part in this study. The researcher employed a probability ratio sampling approach to select elements from each cadre to arrive at the sample size of 60 for the study. This is in conformity with [Mugenda and Mugenda \(2003\)](#) who postulated that at least 10% of the accessible target population is appropriate for statistical reporting.

3.5. Instrument for Data Collection

The research was carried out by the use of a questionnaire guided by a likert type of scale because this is an excellent means of measuring the attitude of respondents towards an attribute.

3.6. Reliability and Validity of Data Collection Instrument

The reliability of the measuring instrument was established through a pilot test of administering 10 copies on the senior staff of CBN, Jalingo branch, after, two weeks, the same instrument was administered to the same staff and the two results correlated and analyzed using Spearman Rank Correlation statistical tool. Since the correlation coefficient was 0.86, it means the instrument was highly reliable. The validity of the instrument was ascertained by giving it a critical look on its suitability in terms of content and coverage before use.

3.7. Method of Data Analysis and Decision Rule

The formulated null hypotheses were tested using Chi Square statistical tool aided by SPSS version 23.

The null hypotheses are to be rejected if p-value is lower than 0.05 and vice versa at significance level of 5%. This means the researcher places 95% level of confidence on the accuracy of the results of the study. This however leaves a 5% level of significance that is degree of risk.

3.8. Data Presentation and Analysis

Table 1. Spacious physical work environment and productivity of employees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	40	57.1	57.1	57.1
	Agree	20	28.6	28.6	85.7
	Undecided	2	2.9	2.9	88.6
	Strongly disagree	5	7.1	7.1	95.7
	Disagree	3	4.3	4.3	100.0
	Total	70	100.0	100.0	

Source: Survey Data, 2019

In [table 1](#) above, responses indicate that 40 (57.1%) strongly agreed to the measured dimension, 20 (28.6%) agreed, 2 (2.9%) were undecided, 5 (7.1%) strongly disagreed, and 3 (4.3%) disagreed.

Table 2. Employee concentration at work increases in a spacious work environment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	32	45.7	45.7	45.7
	Agree	30	42.9	42.9	88.6
	Undecided	4	5.7	5.7	94.3
	Strongly disagree	2	2.9	2.9	97.1
	Disagree	2	2.9	2.9	100.0
	Total	70	100.0	100.0	

Source: Survey Data, 2019

In [table 2](#) above, responses show that 32 (45.7%) strongly agreed to the measured dimension. 30 (42.9%) agreed, 4 (5.7%) were undecided, 2 (2.9%) strongly disagreed and 2 (2.9%) disagreed.

Table 3. Employees do not feel pleasant and motivated to work in a work place that is spacious

		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly agree	5	7.1	7.1	7.1
	Agree	8	11.4	11.4	18.6
	Undecided	1	1.4	1.4	20.0
	Strongly disagree	33	47.1	47.1	67.1
	Disagree	23	32.9	32.9	100.0
	Total	70	100.0	100.0	

Source: Survey Data, 2019

In [table 3](#) above, responses show that 5 (7.1%) strongly agreed to the measured dimension. 8 (11.4%) agreed, 1 (1.4%) were undecided, 33 (47.1%) strongly disagreed and 23 (32.9%) disagreed.

Table 4. Productivity of employees increases in a work environment with availability of suitable equipment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	35	50.0	50.0	50.0
	Agree	25	35.7	35.7	85.7
	Undecided	3	4.3	4.3	90.0
	Strongly disagree	4	5.7	5.7	95.7
	Disagree	3	4.3	4.3	100.0
	Total	70	100.0	100.0	

Source: Survey Data, 2019

In table 4 above, responses show that 35 (50.0%) strongly agreed to the measured dimension. 25 (35.7%) agreed, 3 (4.3%) were undecided, 3 (4.3%) strongly disagreed and 3 (4.3%) disagreed.

Table 5. Work environment with good lighting, ventilation and access natural light increases employee productivity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	32	45.7	45.7	45.7
	Agree	24	34.3	34.3	80.0
	Undecided	3	4.3	4.3	84.3
	Strongly disagree	5	7.1	7.1	91.4
	Disagree	6	8.6	8.6	100.0
	Total	70	100.0	100.0	

Source: Survey Data, 2019

In table 5 above, responses show that 32 (45.7%) strongly agreed to the measured dimension. 24 (34.3%) agreed, 3 (4.3%) were undecided, 5 (7.1%) strongly disagreed and 6 (8.6%) disagreed.

Table 6. Workplace environment with availability of suitable equipment does not reduce stress among employee

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	4	5.7	5.7	5.7
	Agree	8	11.4	11.4	17.1
	Undecided	4	5.7	5.7	22.9
	Strongly disagree	34	48.6	48.6	71.4
	Disagree	20	28.6	28.6	100.0
	Total	70	100.0	100.0	

Source: Survey Data, 2019

In table 6 above, responses show that 4 (5.7%) strongly agreed to the measured dimension, 8 (11.4%) agreed, 4 (5.7%) were undecided, 34 (48.6%) strongly disagreed and 20 (28.6%) disagreed.

Table 7. Workplace environment with open communication increases productivity

		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly agree	30	42.9	42.9	42.9
	Agree	26	37.1	37.1	80.0
	Undecided	1	1.4	1.4	81.4
	Strongly disagree	6	8.6	8.6	90.0
	Disagree	7	10.0	10.0	100.0
	Total	70	100.0	100.0	

Source: Survey Data, 2019

In table 7 above, responses show that 30 (42.9%) strongly agreed to the measured dimension. 26 (37.1%) agreed, 1 (1.4%) were undecided, 6 (8.6%) strongly disagreed and 7 (10%) disagreed.

Table 8. Workplace environment which encourages shared vision and goals increases employee productivity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	41	58.6	58.6	58.6
	Agree	23	32.9	32.9	91.4
	Undecided	1	1.4	1.4	92.9
	Strongly disagree	3	4.3	4.3	97.1
	Disagree	2	2.9	2.9	100.0
	Total	70	100.0	100.0	

Source: Survey Data, 2019

In table 8 above, responses show that 41 (58.6%) strongly agreed to the measured dimension. 23 (32.9 %) agreed, 1(1.4%) were undecided, 3 (4.3%) strongly disagreed and 2 (2.9 %) disagreed.

Table 9. Employees do not support each other (team spirit) in a workplace environment that encourages effective communication

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	2	2.9	2.9	2.9
	Agree	6	8.6	8.6	11.4
	Undecided	2	2.9	2.9	14.3
	Strongly disagree	36	51.4	51.4	65.7
	Disagree	24	34.3	34.3	100.0
	Total	70	100.0	100.0	

Source: Survey Data, 2019

In table 9 above, responses show that 2 (2.9 %) strongly agreed to the measured dimension. 6 (8.6%) agreed, 2 (2.9%) were undecided, 36 (51.4%) strongly disagreed and 24 (34.3%) disagreed.

Table 10. Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Spacious physical work environment and productivity of employees	70	1.7286	1.10232	1.00	5.00
Productivity of employees increases in a work environment with availability of suitable equipment	70	1.7857	1.06176	1.00	5.00
Workplace environment with open communication increases productivity	70	2.0571	1.30646	1.00	5.00

Source: Survey Data, 2019

Table 10 above, shows that the mean and standard deviation of the measured indicators are within the range (minimum value). It indicates that the values are properly distributed.

3.9. Tables for Hypotheses Test

Table 11. Spacious physical work environment and productivity of employees

	Observed N	Expected N	Residual
Strongly agree	40	14.0	26.0
Agree	20	14.0	6.0
Undecided	2	14.0	-12.0
Strongly disagree	5	14.0	-9.0
Disagree	3	14.0	-11.0
Total	70		

Source: Survey Data, 2019

Table 11 above shows values of observed and expected frequency including the residual values for the measured parameter. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 14.0. This table was derived from table 3 (Spacious physical work environment and productivity of employees).

Table 12. Availability of suitable equipment and employee productivity

	Observed N	Expected N	Residual
Strongly agree	35	14.0	21.0
Agree	25	14.0	11.0
Undecided	3	14.0	-11.0
Strongly disagree	4	14.0	-10.0
Disagree	3	14.0	-11.0
Total	70		

Source: Survey Data, 2019

Table 12 above shows values of observed and expected frequency including the residual values for the measured parameter. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 14.0. This table was derived from table 5 (Productivity of employees increases in a work environment with availability of suitable equipment)

Table 13. Workplace environment with open communication and Employee Productivity

	Observed N	Expected N	Residual
Strongly agree	30	14.0	16.0
Agree	26	14.0	12.0
Undecided	1	14.0	-13.0
Strongly disagree	6	14.0	-8.0
Disagree	7	14.0	-7.0
Total	70		

Source: Survey Data, 2019

Table 13 above shows values of observed and expected frequency including the residual values for the measured parameter. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 14.0. This table was derived from table 8 (Workplace environment with open communication increases productivity).

Table 14. Chi-Square Test Statistics

	Spacious physical work environment and productivity of employees	Productivity of employees increases in a work environment with availability of equipment	Workplace environment with open communication increases productivity
Chi-Square	75.571 ^a	64.571 ^a	48.714 ^a
Df	4	4	4
Asymp. Sig.	.000	.000	.000

Source: Survey Data, 2019

4. Discussion of Findings

Result of Chi-Square test for the three null hypotheses is shown in table 14 above.

The calculated values; 75.371, 64.571 and 48.714 are higher than table value (3.36) at 4 degrees of freedom, we reject the three null hypotheses.

The test of Hypothesis one shows that the p-values is 0.000. Since the p-value is less than 0.05, it means that we reject the null hypothesis and accept the alternative. This is inconformity with our decision rule in chapter three. By rejecting the null hypothesis, it implies that spacious physical work environment increases the productivity of employees. This finding is supported by the findings of [Ajala \(2012\)](#) which shows that workplace environmental elements such as sufficient light, absence of noise, proper ventilation and layout arrangement substantially increase employees' performance.

The test of Hypothesis two shows that the p-values is 0.000. Since the p-value is less than 0.05, it means that we reject the null hypothesis and accept the alternative. This is inconformity with our decision rule in chapter three. By rejecting the null hypothesis, it means that productivity of employees increases in a work environment with availability of suitable equipment. In support of this result is the findings of [Hope et al. \(2018\)](#) which reports that equipment and machineries should as much as possible be made to suit the workers manning them.

The test of Hypothesis three shows that the p-values is 0.000. Since the p-value is less than 0.05, it means that we reject the null hypothesis and accept the alternative. This is inconformity with our decision rule in chapter three. By rejecting the null hypothesis, it indicates that workplace environment with open communication increases productivity. In consonance with this finding, [Albrecht \(2012\)](#) found out that employees are motivated and engaged in an organization that creates open, supportive and fair organizational and team culture.

5. Summary, Conclusion and Recommendation

5.1. Summary

Chapter one served as the introduction of this study. In chapter two literatures related to the dependent and independent variables of the study were presented. Chapter three was basically on the method employed to conduct this study. Chapter four centered on data presentation and analysis. The summary, conclusion and recommendation were presented in chapter five. Based on the findings of this study, it was discovered that workplace physical environment has relationship with the productivity performance of employees.

5.2. Conclusion

From the result of this study, we conclude that work place physical environment has relationship with the productivity performance of employees.

5.3. Recommendation

Based on the findings of this study, it is recommended that:

Organizations should provide spacious work physical environment for their employees because this substantially increases employees' productivity.

For the fact that the productivity of employees increases in a work environment with availability of suitable equipment. It means that organizations should act in accordance with this finding if they are to achieve employee productivity.

Work place environment with open communication was found to increase productivity in this study. It now behooves on organizations to create work place environment with open communication that supports team to spirit.

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