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Work environment and employee performance in federal college of education (Technical) Gusau, Zamfara State

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Abstract

A lot of research both home and abroad have been carried out to ascertain variables that have its impact on employees' performance. While emphases have been placed on monetary rewards; bonuses, incentives, increased salaries and wages and other cash rewards, other non-monetary factors like the serenity of work environment are seen as immaterial or irrelevant when compared with monetary rewards. Motivated by the need to ascertain non-monetary factors that might have an effect on employees' performance in public sector, this study is aimed to test a model based on three dimensions of the work environment (physical work environment, training and development and cordial working relationship) on employee performance. The study adopted a quantitative research design and data were collected using structured questionnaire. The staff strength of the college is 520 employees consisting of both academic and non-academic staff. The study used both Pearson Product Moment Correlation Analyses and Multiple Regression Analyses using SPSS 21.0 and EViews 9.0. The correlation revealed that there is a strong relationship between the three dimensions of the work environment and employees' performance. The multiple regression result showed that physical work environment and cordial working relationship have significant effects on employee performance while training and development was insignificant in predicting employee performance. This study recommends management continuous improvement of work environment dimensions because they influence employee performance.

Keywords: Cordial relationship, employee performance, physical work environment, training and development

1. Introduction

Employee performance (sometimes referred to as workforce productivity) is an assessment of the effectiveness of a worker or group of workers (Rouse 2014) ^[39]. Meneze (2005) ^[29] defined employee performance as the employee's ability to produce work or goods and services according to the expected standards set by the employers, or beyond the expected standards. The workplace is the environment where individuals co-operate for accomplishing organization targets. Kohun (2002) ^[28], is of the opinion that workplace environment is the totality of the interrelationships that exist within the employees and the environment in which they work. As indicated by Heath (2006) ^[19], this environment includes the physical location and the immediate environment, behavioural techniques, strategies, rules, culture, assets, working relationships, work area, all of which impact the ways employees' play out their work. It can likewise be characterized as the area where an errand or task is accomplished (Awan & Tahir, 2015) ^[3].

Work environment also implies frameworks, procedures, structures and apparatuses and all of these interact with employees and have positive or negative influence on workers' performance. A positive work environment is one which enables the employees' to efficiently and effectively achieve organization objectives with little or no stress as a result of satisfactory, competitive, attractive and motivating work environment while a negative work environment is one that produces strains and stress both physical and psychological on employees' hence, it affects performance. A similar view is supported by Chandrasekar, (2011) ^[7] that the factors of work environment give an immense impact on the employees'

either towards the negative outcomes or the positive outcomes. The connection or relationship between the work, work environment, tools of work had become the most important aspect of the work itself.

Mostly, people spend fifty percent of their lives within indoor environments, which deeply influence their mental status, actions, abilities and also their performance (Sundstrom, 1994) ^[46]. Employees are the most important asset of any organization and their performance is sacrosanct to the survival of the organization and anything that can affect their contribution to the development of the organization must therefore, be tackled with seriously.

Work environment assumes a critical role in an organization as majority of the issues confronted by employees are identified with the workplace. The level of profitability can be expanded through building up a healthy working condition in the organization and also the importance of work environment cannot be overemphasized. Good results and increased outputs are assumed to be the outcome of better work environment. Conducive physical environment will boost the employees and finally improve their productivity (Carnevale, 1992) ^[6].

Although, a lot of studies have established a strong relationship between work environment and employees' job performance however, the present workplace varies from the past on the grounds that employees today are working with innovation headway and better technology. Workers, especially in government sector also play variety of roles to fulfil their working needs.

From the extant literature, studies have been conducted using work environment and employees' performance but none of these studies used Zamfara state in Nigeria as a case study. Therefore, this research fills the research gap by examining effect of work environment on employees' performance in Federal College of Education (Technical) Gusau Zamfara state. The study is significant since it will add value to the existing knowledge and also help in understanding how work environment have impacted on employees' performance.

The study is carried out to investigate how employees' performance can be increased by establishing an attractive and conducive working environment and whether the selected dimensions of work environment have any effect on employees' performance.

2. Literature Review

2.1 Employee Performance

We can define employee performance as the accomplishment of work-related tasks or skills by an employee. It is the functions and activities of workers that contribute to organizational goals. It also has to do with the willingness to achieve new aspect of the job which in turn will bring about increase in the employees' productivity (Sinha, Sinha & Shekhar, 2004) ^[44].

Employee performance involves a micro level of actions and behaviours of an employee that contributes to the goals of the organization (Campbell, 1990) ^[5]. It can be measured through the level of organizational achievements from the perspective of the judging party (Hersey & Blanchard, 1993) ^[18]. Kazmi, Amjad and Khan (2008) ^[26], Job performance is the after-effect of three variables: skills, effort and the nature of work conditions. The skills incorporate learning, capacities and capabilities the worker

brings to the job; effort is the level of inspiration the employee advances toward taking care of business or getting things done and the working condition is the degree of accommodation of these conditions in facilitating the employee's productivity or efficiency.

We define employee performance as the amount of employees' commitment, motivation, attitude, error rate and the efficiency and effectiveness that employees used to get work done over a specific period of time. Job performance is a function of how effective and efficient an employee get work done and applies himself to the job with little or no error, high motivation and work attitude.

2.2 Physical Workplace Environment

Physical work environment involves the geographical location as well as the immediate surroundings of the workplace. It is primarily composed of the office building, lighting system (natural and artificial), noise level, comfort level, ventilation, heating, quality of air, adequate parking space, temperature and humidity, office furniture and equipment, working conditions etc. in an organization (Awan & Tahir, 2015; Temessek, 2009) ^[3].

Physical work environment also entails an environment in which workers perform their work (Chapin, 1995) ^[8]. It is composed of three major sub-environments which include the technical, the human and the organizational environment (Yusuf & Metiboba, 2012) ^[47]. It can be seen as an ergonomic workplace which helps the employees from not getting the nerve injury (Cooper & Dewe, 2004) ^[10]. An effective workplace environment is an environment where results can be achieved as expected by management (Shikdar, 2002) ^[43]. Physical environment is an aspect of work environment which have direct impact on human sense and subtly changed interpersonal interactions and productivity (Smith, 2011).

In this study, we define physical work environment as the totality of concrete environment internally controlled and influenced comprising of office structure, ventilation, furniture, arrangement, illumination, work tools and spaces in the organization that confront the employees on a daily basis.

H₀₁: Physical Work Environment has no significant effect on employee performance.

2.3 Training and Development

Training focuses on formal and systematic modification of behaviour through learning which occurs as a result of education, instruction, development and planned experience (Armstrong, 2000) ^[2]. It is necessary to train the employees in an organization to be able to handle work schedule and workload effectively and efficiency in order to improve their performance on the job. The aim behind training employees is achieving cost effective high performance that leads to quality assurance. Also, it increases and refines the knowledge and skills of employees for better performance. Training and Development is seen here as both on and off the job training, feedbacks, career talk, tutoring, mentoring and therapeutic counselling that the employees receive in the organization for improved performance.

H₀₂: Training and development has no significant effect on employee performance.

2.4 Cordial Relationships among Co-Workers

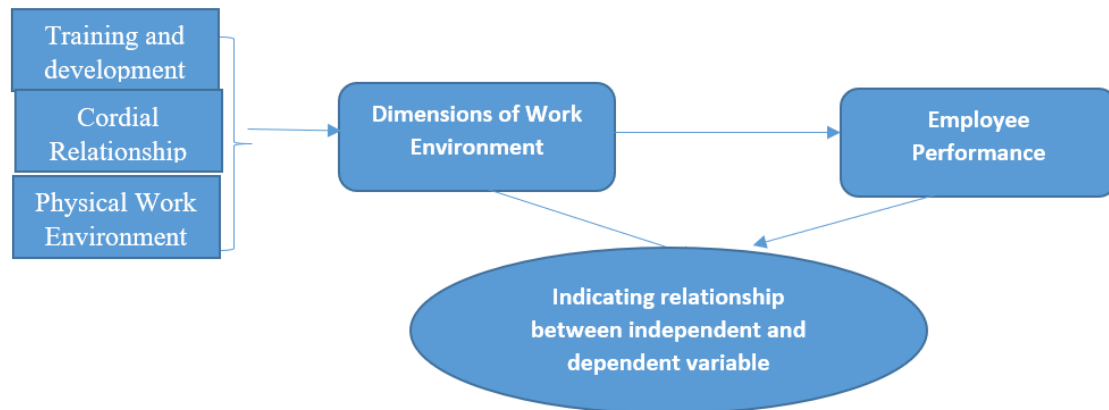
This is the formal and informal working relationships that exist between workers and the organization which enhances job performance (Hall & Atkinson 2006). The co-workers provide a sense of identity, support and friendship to other individuals based on trust (Bowler & Brass, 2006). The levels of trust among employees emanating from cordial working relationship have significant effect on the work behaviour of the workers. Therefore, performance enhances productivity when there is a cordial working relationship

among employees in an organization.

In this research, we define this concept as mutual and healthy friendship that exist among all the employees in the organization resulting in employees helping one another to achieve set goals and objectives.

H₀₃: Cordial Relationship among Co-workers has no significant effect on employee performance.

2.5 Conceptual Framework



Source: Authors Workplace-Performance Model (2020)

2.6 Social Exchange Theory

Social exchange theory is based on a core premise that the exchange of material and social resources is a basic form of human interaction (Murdvee, 2014) ^[32]. Emerson (1981) ^[13] observed that social exchange involves two persons, each of whom provides some benefits to the other, and based upon rewards from the other. It emphasizes reciprocation of behaviour, rewards and mutual benefits between two parties. Nunkoo (2016) noted actors in an exchange process are dependent on one another for outcomes they value. For instance, management of any organization values optimal performance from their employees and will do every possible to improve performance at all times. The employees on the other hand valued job resource like conducive work environment, training and development, cordial working relationship, supervisory support, organizational support, quality and equity reward system, performance appraisal feedback, job crafting and job aid to mention a few. Both parties need trust an important ingredient for the relationship to blossom (Blau, 1964). There has to be trust in reciprocity, meaning that without trust, a party might not be willing to return the benefits (Schroeder, n.d). Holthausen (2013) ^[21] stressed that trust is major determining factor of commitment in a relationship and through a trustful exchange relationship, the chance for a continuation of this relationship is higher.

2.7 Empirical Framework

A number of studies have been conducted on the relationship between workplace environment and job performance. (Machui 2018; Sinnappan 2017; Hamid 2015; Awan & Tahir, 2015; Zábrodská, Mudrák, Květon, Blatný, Machovcová & Šolcová, 2014; Amusa, Iyoro & Olabisi 2013) ^[31, 45, 3, 16, 48, 1] to mention a few.

Machui (2018) ^[31] explored the influence of workplace environment factors on employee's performance: A case study of off grid electric/solar companies in Arusha Municipal. The study adopted descriptive research design,

purposive sampling procedure, semi-structured interview, observation and questionnaires data collection methods upon collection of primary data and secondary data. The study revealed that good physical conditions such as temperature regulation, air circulation, lighting, arrangement and hygienic of the office buildings and noises conditions and availability of tools and good communication practices among colleagues that affect employee's performance positively. It further revealed that bad communications practices and interrelationship between the employees and supervisor/managers as well as poor supervisor support that influenced employees' performance negatively.

Sinnappan (2017) ^[45] the examined the influence of working environment on employee's performance due to the organisational changes that had taken place in the 2016 in company AV. The study identified ten predictors of employee performance. A qualitative study with 16 interviewed in order to analyze if an employee's performance is influenced by working environment. The study concluded that employees were affected with the organisational change and this has impacted their performance.

Parveen, Sohail, Naeem, Azhar and Khan (2015) ^[37], examined the effect of office facilities and workplace milieu on employees' performance: A Case Study of Sargodha University. The study investigated the effect of office facilities and work environment milieu on representatives' execution in a college of Sargodha. A sample of 150 respondents of male and female workers of both teaching and non-teaching classification were chosen. Chi-square and Gamma test were applied to interpret the discoveries of the study. The finding of the investigation proposed that working environment had no significant effect on employees' performance. The consequences of the effect of incentives on the workplace positively affected employees' performance at the University of Sargodha. The after effects of an excessive workload on employees' performance contrarily are rejected.

Awan *et al.* (2015) [3], investigated the impact of working environment on employee's productivity: A case study of Banks and Insurance Companies in Pakistan. The research concluded that working environment is helpful in increasing employees' level of productivity. Factors like supervisor support, good relation with co-workers, training and development, attractive and fast incentives and recognition plans and adequate workload are helpful in developing a working environment that has a positive impact on employees' level of productivity in the organization. They recommended that, the organization must observe continuously the dynamic nature of the environment and that the management must develop a win- win approach in the organization and try to develop the concepts of synergy and teamwork among the employees.

Hamid and Hassan (2015) [16] also investigated the relationship between work environment and job performance in selected government offices in Shah Alam, Selangor Malaysia. The study collated data from 10 Government offices using a simple random technique where 150 respondents were chosen from the 10 government offices. Copies of questionnaires were personally circulated with 100 percent rate of return. The data generated were analysed using Statistical Package for Social Science (SPSS) for both Descriptive Statistics and Pearson Product Moment Correlation test. The study found out that two key components in the workplace; workplace environment and job performance have a weak association.

Záborská, Mudrák, Květon, Blatný, MMachovcová and Šolcová, (2014) [48], investigated the connection between the workplace and the well-being of Academic Faculties in Public Czech Universities. It introduced discoveries from a pilot study directed at a Faculty of Arts at a major Czech College. The points of the examination were to portray the Faculty's workplace and to look at the effect of particular workplace factors on the well-being of academic representatives. Altogether, 236 academic participants took interest in the investigation. The outcomes demonstrated generally high employment fulfillment and high work engagement at all academic levels. The Faculty's authoritative atmosphere was defined by high autonomy and involvement in decision making, as well as relatively low pressure to produce.

Nnamani and Agu (2014) [35] the study investigated the effect of environmental factors on organizational performance in Nigeria. A study of Juhel Company Ltd. Emene, Enugu in Enugu Metropolis. It aimed to explore the relationship between the employees and their working environment, to study the extent and level of employee performance on productivity and to find out the extent environmental factor has improved performance. Structured questionnaires were used to solicit response from the respondents. The population size of the study is 1,152 from which a sample size of 297 was selected using Taro Yamane formula. Pearson's correlation coefficients and z-test statistical tools were used to test the formulated hypotheses. The study revealed that within the organization there was unhealthy and unsafe work environment, lack of innovation, poor motivation, high cultural interference and bias. The study recommended sustainable motivation of employees for enhanced productivity and utilization of SWOT analysis as a tool for scanning the environment.

Amusa, Iyoro and Olabisi (2013) [1]. conducted a study on work environment and job performance of librarians in the

Public Universities in the South-west Nigeria. Questionnaires were used to elicit information from 189 librarians, the data collected were analyzed using frequency count percentage and ANOVA analysis at 0.05 level of significance. The findings revealed that the work environment of librarians in terms of physical facilities, open communication and motivation are fairly favourable while personnel emolument (salaries and wages) was considered not to be favourable at all. To alleviate poor work environment and underperformance in libraries, the study recommended improvement in the level of physical facilities, personnel emolument, open communication and adequate funding.

3. Research Methodology

The study employed a quantitative research design. Responses were solicited from the respondents via structured questionnaire. The use of questionnaire is advantageous because it is economical, accurate, speedy and large amount of data can be derived from respondents in so little time. The study domain is Federal College of Education (Technical) Gusau, Zamfara state. The college was established in 1989 as a female only higher institution in Nigeria. The population of the study consists of the entire staff strength of Federal College of Education (Technical) Gusau. The staff strength of the college is 520 employees. The sample size of 226 was derived using Yaro Yamane Formula. For the purpose of increase representation, 30% of the sample size as recommended by Israel (2013) was added bring the total to 294 ($226 + 30\% = 226 \times 1.3 = 294$). This should cover for other unavoidable errors such as filling questionnaire incorrectly and unreturned questionnaire. The questionnaires were given to the participating employees using simple random sampling technique to ensure that every staff has equal chance of being selected at of which 270 questionnaires were filled and returned representing 92% percent success rate.

$$n = \frac{N}{1 + N(e)^2} \quad (1)$$

Where n = Sample Size, N = population size and e = margin error (assume 5%)

$$n = \frac{N}{1 + N(0.05)^2}$$

$$n = \frac{520}{1 + (520)(0.05)^2}$$

$n = 226$

3.1 Measurement and Instrument

The study is quantitative in nature and primary data were used. Instrument from previous study were adapted to measure the construct of the study. For Employee Performance 12- Indicator Task Performance Questionnaire of Pradhan and Jena (2017) [38] was used with 0.80 reported Cronbach alpha. To measure Physical Work Environment the study adopted 5-item Physical Workplace Aspect Questionnaire of Gitachi, Waiganjo and Koima (2015) [15, 40] with Cronbach alpha of 0.89. Nanzushi (2015) [34] 3-Item Questionnaire was used to measure Training and Development. While Employee Cordial Relationship was measured using Co-worker Support (4 items) from

Eisenberger, Stinglhamber, Vandenberghe, Sucharski, Rhoades (2002) [12] with reported Cronbach alpha of 0.86

3.2 Data Analyses Technique

Data were analyzed with the aid of Statistical Package for Social Science (SPSS) Version 22 for Pearson Correlation while for Multiple Regression Analysis, E-views Statistical Software Version 9.0 was used to investigate the effect of the work environment dimensions on the employee performance

Correlation Model Statistical Model is stated below

$$r = \frac{(\sum xy) - \frac{\sum x \sum y}{n}}{\sqrt{[\sum x^2 - \frac{(\sum x)^2}{n}][\sum y^2 - \frac{(\sum y)^2}{n}]}} \quad (2)$$

r = correlation coefficient, Σ = Summation, x = dependent variable (EP= Employees' Performance), n = number of variable or sample size, y = independent variable (TD= Training and Development, SS= Supervisory Support, WB=

Work Balance, CW= Cordial Working Relationship Among Co-workers, AW= Adequate Workload, PWE= Physical Work Environment.)

Multiple linear regression model is used to test for H₀ is mathematically stated below

$$Y = a + bx \quad (3)$$

Where y = dependent variable, a= constant, b= coefficient, x = independent variable (s)

The Multiple Regression Statistical Model is stated below

$$EP = \beta_0 + \beta_1 PWE + \beta_2 TD + \beta_3 CW + \mu \dots \text{equ. (4)}$$

EP= Employees Performance, PWE= Physical Work Environment, TD= Training and Development, CW= Cordial Working Relationship Among Co-workers, μ= Error term capturing other explanatory variables not explicitly included in the model, β₀ = Constant Parameter, β_s = Coefficient of the independent variable.

4. Results and Discussions

Table 1: Pearson Correlation Result

		Employee Performance	Training and Development	Cordial Relationship	Physical Environment
Employee' Performance	Pearson Correlation	1	.811**	.887**	.926**
	Sig. (2-tailed)	0	0	0	0
	N	270	270	270	270
Training and Development	Pearson Correlation	.811**	1	.812**	.848**
	Sig. (2-tailed)	0	0	0	0
	N	270	270	270	270
Cordial Relationship	Pearson Correlation	.887**	.812**	1	.935**
	Sig. (2-tailed)	0	0	0	0
	N	270	270	270	270
Physical Work Environment	Pearson Correlation	.926**	.848**	.935**	1
	Sig. (2-tailed)	0	0	0	0
	N	270	20	270	270

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

The table 1 above showed that the dependent variable employees' performance is positively correlated with the independent variables; Training and Development, Cordial Relationship Between Employees', and Physical Work Environment. The results showed that there exists a significant positive relationship between the three of independent variables; Training and Development (.811**), Cordial Relationship Between Employees' (.887**), Physical Work Environment (.926**) and Employees' Performance at 1% significant. In other words, increase in any of the independent variables (Training and Development Cordial Relationship Between Employees, Physical Work Environment) will lead increase in workers' performance; meaning that there is a strong positive correlation between the three dimensions of the work environment and employees' performance. For example, when the Physical Work Environment is well ventilated, structured, illuminated/lightened, where furniture is comfortable, flexible to adjust, easy to rearrange or

reorganize, not congested and the office premises is devoid of noise population these will motivate the employees to do well in the job. Physical Work Environment has the highest level of linear correlation (.926**) followed by Cordial Relationship Between Employees (.887**). For instance, when there are mutual respects between co-workers', helping each other achieve set goals, mutual commitment and friendship and love. These will help motivate the employees to be committed to achieving set goals and objectives. The importance of Cordial employees' relationship cannot be over-emphasized since the average employees spend more time in the workplace/offices with their colleagues than even their families on a daily basis. Training and Development; employees' knowledge of roles & responsibilities, clearly stated organizational career path, work's non-interference with family roles and on and off the job training have positive impact on workers' performance (.811**).

Table 2: Results of Multiple Linear Regression

Dependent Variable: EP				
Method: Least Squares				
Date: 08/04/20 Time: 14:50				
Sample: 1 270				
Included observations: 270				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.850265	0.118057	7.202187	0.0000
CR	0.247191	0.080682	3.063777	0.0026
TD	-0.176339	0.095794	-1.840806	0.4676
PWE	0.601937	0.077141	7.803045	0.0000
R-squared	0.700556	Mean dependent var		2.900000
Adjusted R-squared	0.626656	S.D. dependent var		1.379089
S.E. of regression	0.443337	Akaike info criterion		1.253792
Sum squared resid	30.07182	Schwarz criterion		1.388331
Log likelihood	-93.30334	Hannan-Quinn criter.		1.308423
F-statistic	230.9261	Durbin-Watson stat		2.193714
Prob(F-statistic)	0.000000			

Source: Authors Report. (2020)

The degree of influence of selected variables is examined by multiple linear regression analyses that is presented above. Table 2 above shows regression coefficients for the selected variables. The results of multiple regression analysis confirmed the relationship between the dependent variable and the independent variables.

The analysis indicates that the coefficient of Work Environment in terms of Physical Work Environment positive and significant in achieving employee performance. Employee performance will increase by 60% for every 1% increase in Physical Work Environment. The t-statistics of 7.803 is positive and above the stipulated threshold of 1.96 making p-value = 0.000 positive and also significant at 1%. Therefore, the first hypothesis (H_{01}) which states that physical work environment has no significant effect on employee performance is hereby not supported. Physical work environment in the study was found to be the highest predictor of employee performance. This is in tandem with the work of (Amusa, Iyoro & Olabisi 2013; Naharuddin & Sadegi, 2013) [1, 33] but differs with the work of Samson, Waiganjo & Koima (2015) [15, 40] and Hamid *et al.* (2015) [16] as both argued that physical work environment does not have significant impact on employees' performance.

The second hypothesis (H_{02}) which states that training and development has significant effect on employee performance is hereby supported. The t-statistics is -1.840 is negative and insignificant in predicting employee performance. The t-statistics is below the stipulated threshold of 1.96 and p-value is not significant at 1%, 5% and even 10%. The work environment dimension of training and development from the findings is negative and does not have significant effect on employee performance. This differs greatly with the work of Awan *et al.* (2015) [3] and Imran *et al.* (2011) [23] who both found that training and development is a positive predictor of employee performance in the workplace.

The third hypothesis (H_{03}) which states that cordial relationship among employees has no significant effect on employee performance is hereby not supported. The t-statistics = 3.064 is positive and significant at 1%. Employee performance will increase by 25% for every 1% increase in Cordial Relationship among Employees. Finally, cordial working relationship between employees' helps create team work thus increase employees' performance. The result also

proved Awan *et al.* (2015) [3]; who argued that co-operation among employees' help improve their productivity.

Adjusted $R^2 = 0.63$ or 63% and F-statistic = 230.9261 significant at 1% confirms the Model's Fitness. The Adjusted R^2 shows that the independent variables; Training and Development (TD), Cordial Relationship Between Employees (CR) and Physical Work Environment (PWE) account for 63% variations in Employees' Performance while the other 37% is explained by other variables not included in the equation.

5. Conclusion and Recommendations

The study was conducted to examine the effect of work environment on employee performance in Federal College of Education (Technical) Gusau. Structured questionnaire was distributed to staff of the college. The study concluded that the work environment dimensions of physical work environment and cordial relationship among employees are significant predictors of employee performance in the workplace. But uncover that training and development does not have any significant effect on employee performance in the workplace. The correlation result showed that there is a very strong positive relationship between Training and Development, Cordial Relationship among Employees, Physical Work Environment and Employees' Performance. The following recommendations are advanced based on study findings;

1. The dynamic, complex and ever-changing nature of the environment should be consistently and continuously monitored.
2. The organization via the HR should train and retrain employees on and off-the-job to improve performance
3. Management should ensure that the office environment is devoid of unnecessary noise population and congestions.
4. The organization should organize daily physical exercise which will keep the employees physically fit at work.
5. The atmosphere in the organization should be friendly, cordial and non-hostile to create a forum where there is mutual respect between all parties
6. Team spirit within the organization should be encouraged to advance organization's objectives and goals.

6. Limitations of the study

The following limitations were encountered during the process of conducting this result;

1. The study is limited to academic institution making it difficult to generalize findings of the study
2. The study concentrated only on direct relationship between work environment and employee performance. Future studies can incorporate indirect relationship by introducing a moderator or mediator
3. Self-report questionnaire on work environment and employee performance can be subjective and bias because respondent may not necessary be sincere when responding to the study questionnaire.
4. The study failed to employ Structural Equation Modeling as a tool of analysis to study individual construct. A better tool of analysis to investigate complexities of the variables.

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