

Effect of Work Environment on Workers' Productivity in Nigerian Breweries Plc.

Iwuzor Odili Markanthony¹ and Onibon Modupe Titilayo Grace²

¹Ph.D. Students, Department of Business Administration, Faculty of Management Sciences, University of Abuja

²Department of Business Administration, Faculty of Management Sciences, Federal University Oye (FUOYE)

Abstract: *The condition of work environment in which workers operate determine the way they perform their work; the workers of Nigeria breweries have frequently complained about poor spacing and poor lighting in the production halls in the factory and how it slows the quantity of their output. They complain that many bulbs burnt out without immediate replacements. this research study applied descriptive survey research design while Pearson Product Moment Correlation Coefficient (PPMCC) was used with the aid of statistic package for social science (SPSS) in carrying out the empirical analysis. Findings from the study reveals that There is a negative relationship between factory lighting and worker's productivity in terms of timely product delivery. Which implies that lighting can affect commitment, competence, cost effectiveness and congruence and also have long term consequence for workers' wellbeing but may not translate to higher productivity. However, it was discovered from the study that there is a positive relationship between factory space and workers' output in Nigeria breweries plc. Which implies that production process and factory space affects work-in process and quantity of output in the organization. Based on the research study findings, the researcher recommended the followings: The management of Nigerian Breweries Plc should invest on items that reduces noise in the factory and they should make efforts on increasing the factory space to improve the quantity of output in the organization.*

Keywords: Internal Environment, External Environment, Organizational Turnover, Quality Output, Job Security, Performance, Productivity, Prospective.

Introduction

The effect of work environment on workers' productivity has become a major issue on the front burners of academic, economic and management discussion. This is consequent upon the western model of technological development in work place like the use of ICT and the over dependent on Computer related technologies for production and the dwindling workers' performance which impede on the organizational productivity in recent times.

Many organizations attribute the ability of the workers to impact positively on the organization to their strength and abilities as well as their technical knowledge and skills alone. Although that is true, but they are only individual factor which is one aspect of the complex factors that affect employee's performance in an organization. According to Judith (2011), performance of employees is affected by many factors but the most pressing problems reside in the internal work environment of the organization which is one aspect among the two categories of work environment. The internal work environment involves the variables within the controls of the organization or management which includes infrastructures, working tools as well as level of interactions in the organizations.

Nigerian Breweries Plc., is one of the leading breweries in Nigeria. It operated five breweries plant in Nigeria initially. The first was commissioned in the then Lagos colony in 1949 and five others have subsequently been established in Aba (1987) Kaduna (1963) Ibadan (1982), Enugu (1993) and Ama (2003) after the independence thus, providing a geographical spread across the country. The Nigeria breweries plant in Iganmu Lagos state and is divided into five major departments which are the Personnel department, Finance department, Production department, Technical department and Marketing department. Each headed by an administrator. Generally, the company has four major categories of employees, they are: the top managers, middle managers, supervisors and junior workers. However, the employee's performance is measured in their output. The junior workers which consisting of the operators, shift leaders, plant workers, security personnel, drivers and cleaners. (Grouped into contract and normal staff) are responsible for the output at their own level.

The factory physical structure of Nigeria breweries such as the factory itself, tools, lighting, machine etc. may go a long way to determine the employee's productivity in the organization, and the employee's moral could be hampered if the relationship between subordinate and employee is distorted

As a result of this, the researcher has selected Nigeria breweries PLC to take a look at its work environment and its impact on worker's productivity.

Statement of the Problem

In a pilot study among the junior workers in Nigerian Breweries Plc factory in Kakuri and Kudenda Industrial District of Kaduna State, it was discovered that some employees have continually complained about poor spacing and poor lighting in the production halls in the factory and how it slows their output. They complain that many bulbs burnt out without replacements.

Also in a study conducted by Ekechukwu (2015), in Nigeria Breweries Plc, it was found out that there were poor lightening facilities in the company and might be evident in the dwindling rate of production. In the Nigerian brewery sector update (Nigeria Brewery bulletin, 2010) the expected production capacity was 10mhl per annum and the company only produced 1.028mhl in 2001 (Nibrewnews: 2007) as cited in (Ugochukwu , 2007) ,9.0 mhl in 2009 (Ahmed, 2010).

The above prompted the desire to engage in a study of the effect this may have on productivity of the workers.

Objective of the Study

Generally, the purpose of this study is to investigate the effect of work environment on workers' productivity in Nigerian Breweries Plc. The specific objectives are to:

1. Examine the Effect of Factory Lighting on Timely Product Delivery.
2. Evaluate the Effect of Factory Space on Quantity of Output.

Significance of the Study

The study of the effect of work environment on workers' productivity would add to the existing body of knowledge in the area of work environment and performance study. It will be of significance to managers, employers of labor, employees, government, researchers and humanity.

The findings and recommendations motivates the managers towards effective provision and utilization of work facilities for promotion of worker

Also, helps workers to appreciate their goals and that of others thereby creating goal congruency and efficiency.

In addition, it helps the government to see the short term and long term effort of the environment and implement possible solutions.

It also provides first-hand information to the stakeholders to appreciate the need for good working environment and strive towards supporting the organization in that regard.

Finally, the study opens doors for researchers to investigate on other facts that will bring about positive change in the work environment

limitation of the study

The limitation of the study is the inability of the researcher to study other companies apart from the Nigerian Breweries Plc. Since personal observation and interviews constitutes the basic data gathering through the use of questionnaire. It is assumed to be accompanied with some degrees of inconsistency. However, these inconsistencies were put into consideration when this research work was originally provided.

REVIEW OF LITERATURE

The chapter is concerned with the review of related literature on the topic under investigation. The review discusses the Conceptual Frame Work of the Study, Work Environment, Internal Work Environment, External Work Environment, Employee's Performance, Performance Indicators, Productivity, Employee's Moral, Employee's Productivity, Working Environment Factors that Influence Employee's Performance, Factory Physical Structure, Level of Interaction, Working Tools and Empirical Review

Conceptual frame work

Concept of Work environment

An organization exist as a system and interact with its environment, this is so because it exists in an environment where it interacts with other variables and co-exist for mutual survival work (Hicks, 2010). Work environment is more than just where individual perform job related tasks (Laure, 2005) as cited by Ugu (2011), in line with Ugu (2011). It also includes variety of things like location

of the organization, size of the organization, work condition, nature of the duty, fellow employees, the local, state, and federal regulation that apply to the industry, the link with competitors, the connection with the general public, the managerial philosophy, the leadership styles and therefore the organizational structure. any one of which can be considered the most influential element by different people. Wells (2000) also opined that environment of workers may be referred to as the environment where people work that include physical setting, job profile, culture and native market condition, it's the sum of the interrelationship that exists within and between the workers and therefore the environment within which they work, put simply, the full variables which comprises all the workers, what they do and other proxies that are in the prevailing and are presenting far reaching effects by interfacing with the work of employees and impact on their output and time product delivery.

There is nothing a worker can do without the environment being friendly, conducive supportive and attractive. a pretty and supportive work environment may be described as an environment that draws individuals into the organization, encourages them to stay within the workforce and enables them to perform effectively (Oswald, 2012). Within the opinion of Smith (2011), Today's workplace is different, diverse, and constantly changing. the everyday employer/employee relationship of old has been turned the other way up. Workers reside in a very growing economy and have almost limitless job opportunities. this mix of things has created an environment where the business needs its employees over the workers need the business (Smith, 2011). Work environment is largely grouped into two; the interior environment and also the external environment. this is often because the performance of worker is influenced by a good range of internal and external variables and also the organizational environment may be a subset of the inner environment.

Internal Work Environment

Internal work environment is seen because the surroundings like things concerned with the operation of a corporation, firm or industry. per Molokwu (2009), it encompasses the buildings, furniture's, layout, further because the physical conditions under which employees operate. In his opinion, the degree of integration, percentage of capacity, size and stability of production, etc. could also be considered Organizational and Technical factors while labor- management relations, social and psychological conditions of labour, wage incentives, physical fatigue, organization practices, etc. are human factors:

Stallworth and Kleiner, (1996) opined that the past Working environment may be divided into two components namely physical and behavioral components. In their opinion, the physical environment consists of elements that relate to the office occupiers' ability to physically connect with their office environment while behavioral environment consists of components that relate to how well the office occupiers connect with one another, and also the impact the office environment can wear the behavior of the individual. Haynes (2008), is of the view that the physical environment with the productivity of its occupants falls into two main categories office layout (open- plan verses cellular offices) and office comfort (matching the office environment to the work processes), and also the behavioral environment represents the 2 main components namely interaction and distraction.

From the same view point, Opperman is of the opinion that the past work environment may be a composite of three major sub-environments that has the technical environment, the human environment and therefore the organizational environment (Opperman, 2002) he also added that Technical environment refers to tools, equipment, technological infrastructure and other physical or technical elements. Personally, I believe technical environment should be classified as changes in technology, equipment's, e-business facilities like information and communication technologies and machines etc. which are the external factors in technology that affect business operation. Human environment is meant in such a fashion that encourages informal interaction within the work place so the chance to share knowledge and exchange ideas might be enhanced. this is often a basis to achieve maximum productivity. Management has control over organizational environment. as an example, measurement system where people are rewarded on quantity hence workers will have little interest in helping those workers who try to enhance quality.

Therefore, all efforts in work place should be geared towards providing those conditions like enough space, good ventilated office, adequate light and other materials that may enhance the employee's performance that's work environment designed to suit employee's satisfaction and free flow of exchange of ideas could be a better medium of motivating employees towards higher performance adding that employment environment when appropriately designed, motivates employees toward higher productivity and thereto management of any organization must identify factors that are in a job situation and within the psychology of the workers that best motivated them and make adequate provision see to the required factors so as to spice up employee's performance (Brenner ,2004).

Brenner (2004) is also of the opinion that "the ability to share knowledge throughout organizations depends on how the work environment is designed to enable organizations to utilize work environment as if it were an asset to improve the organization. Adding that the work environment can be conducive and toxic .The employee's work environment can be said to be conducive if it gives pleasurable experience to employees and enable them to actualize their abilities and behavior (Kyko ,2005).kyky 2005 also added that if the environment is conducive , an irresponsible employee can change into a responsible employee but the reversal is the case in toxic work environment, such environment is accompanied with an opaque management, biased boss, unfavorable

company's policies, unfavorable working conditions, interpersonal relationship and low pay such that the experience of workers in such environment is unpleasant and it is capable of changing a responsible and sensible into irrational and irresponsible employee as a survival strategy.

In this contest of this study, the view of Molokwu (2009), is adopted since he perceives the work environment from the physical side as an environment that consist of the lighting, space, and other physical condition and surroundings of work.

External Work Environment

Kochan (2007), is of the opinion that external work environment is exhaustively discussed as under the following environment contexts such as economic context, public, policy context Molokwu (2009) sees external work environment as a result of factors such as custom and laws of the community within which the business operates, weather condition, policies and so on outside the work environment. Among which climate, geographic distribution of raw materials, fiscal and credit policies, adequacy of public utilities and infrastructural facilities, and so on may be categorized as General factors:

For the purpose of this study, this internal work environment forms the boundary in this research since it covers the basic components of the organizational work environment.

Concept of Worker's Performance

According to Armstrong, (2000) as cited in Anem (2013) Performance means both behaviour and result. Behavior emanates from the performer and is transformed into action. He added that behavior is not just a means to an end but also an outcome in itself, the product of mental and physical effort utilized in completing any task. According to Byars (2005) as cited in Oswald (2012), Employee performance is a combined result of effort, ability and perception of tasks. It is a step towards achieving organizational goals. Therefore, efforts are needed to improve employee performance. Dharma (1991) as cited in Oswald (2012), states that performance is something that is done on the products/services produced or provided by any persons or group of people.

Although, Nmadu (2013) opined that employees' performance deals with the knowledge of what activities and outputs are designed, observing whether they occur and providing feedback to help employees meet expectation, he added that it is accompanied with a degree of accomplishment of task(s) that make up an employee's job. According to Judith (2011), Performance is a function of the three factors acting together. Ability which implied a person's capability to do a task. Motivation is a measure of whether a person wants to do it. Opportunity is about accessibility; a person can't do a task if she is not given a chance or if she is denied access to necessary resources or amenities (Judith, 2011).

According to Gibson (2009), employee's performance is measured in terms of productivity, job satisfaction, turnover and absenteeism." He considered these variables, looking at employee's performance as being influenced by complex proxies that impact on the ability of the person to do a task. All of these factors must be supported by the work environment in order to enhance worker's performance. Therefore, best practices in work environment can help. Provide the right mix of ability, motivation and opportunity to enhance employee's performance.

Worker's Productivity

There are multiplicities of authors with plurality of definition on the concept of productivity. According to Hameed and Amjad, (2009) when people produce something with least effort, this is known as productivity. (Rolloos, 1997) also defines the productivity as that which people can produce with the minimal level of effort. Sutermeister, (1976) as cited in Hameed and Amjad 2009 defined productivity as output per employee hour, quality considered. Hameed and Amjad, (2009) also added that productivity is the increased functional and organizational performance, including quality. They further explained that productivity is the ratio how well an organization converts input resources into goods and services. They also discussed that productivity measure carries different meaning at factory settings and at workplace setting. The performance of employees in factory can be measured by the number of units produced per employee per hour. While in formal workplace setting performance increase is considered when there is less absenteeism. Awan and Tahir, (2015) defines subjective performance measure as an indicator used to assess individuals' aggregated perceptions, attitudes or assessments toward an organizations product or service.

(Springer, 1996) ranked factor which impact productivity according to their significance. Include furniture, noise, flexibility, comfort, communication, lighting, temperature and the air quality. In another Study by (Springer Inc, 1996) he added that "an insurance company in a study discovered that the best ergonomic furniture improved performance of employees by 10 to 15 percent."

Effect of Work Environment on Workers Productivity

Work environment has many effect on the productivity of employees and moving on, according to Gnaft (2011), work environmental factors contributes to employee's productivity, quality output, level of wastage and rate of turnover. He further postulates that unhealthy depressing and unsafe work environment results in job dissatisfaction and eventually low productivity. He went further to say that when an office is grossly deficient in stimulation, the resultant effects are absenteeism, lateness, wastage of resources, disobedience and lots of other negative attitudes.

Hicks (2010), poor working environment expose employees to injuries, discomfort and helps to scale back performance, therefore a corporation needs to provide a conducive environment which will protect them under emergency conditions. The physical environment is our greatest assets. without relatively clean air, pure or clean water and hygienic surroundings, people become unfit to figure and for living. within the opinion of Flippo (1993) if air isn't polluted, the protection of employees are going to be protected for higher productivity which is feasible by ensuring that air isn't polluted and also the physical environment should be destitute of any injury or threat to the lifetime of workers.

Furthermore, Hicks (2010) discussed that a corporation doesn't exist in an exceedingly vacuum, it exists in something, and there's nothing a worker can do without the environment being friendly and conducive. As a results of this, all efforts should be geared towards providing those conditions like enough space, good ventilated office, adequate light and other materials which will enhance the productivity of the workers. Oliver (2014), states that an unsafe soundness gives rise to accident of which employees are certain to sustain injuries in their working place. Unsafe equipment and tools, polluted air with toxic substance, poor ventilation and inadequate personal protective equipment pose an excellent danger to the health and lifetime of employee. these items drastically help to cut back productivity of the worker. He went further to urge employers of labor to supply good working environment that's safe without risk to health and also provide facilities that may make sure the welfare of employees at work.

The effect of labor environment that the occupation may wear an employees' health depends on the exposure (expressed quantitatively) to relevant agents, and on host factors. Taking a history is usually vital in identifying relevant exposures and linking them to ill-health. The concept of "cumulative exposure" that's a quantitative measure of the intensity of exposure and also the duration of exposure is very important, since generally it's the most determinant of risk. Health could also be harmed by occupational exposures in many alternative ways, and practically any organ system is often affected. Some examples are starting with the lungs and skin, the organs of first contact for many chemical occupational exposures.

additionally, work environment can predict the prevalence and severity of depression in most occupational groups. Every worker has relationship with others, whether these are supportive, neutral, or filled with conflicts. the extent of social support can modulate the effect of labor stress on depression. A "socially isolated" status means neither supportive co-workers nor supervisors presence. On the opposite hand, an excessive amount of interaction with others are often also troublesome. Conflict at workplace result to Violence, threatening, bullying, and molestation may be a number of cases of stress from other workers. Employment in occupations involving exposure to work-related threats and violence may be a strong risk factor for depression and stress-related disorders in both genders.

Work Environment Factors that affects Employee's Productivity

Research has shown that working environment factors includes a direct effect on the productivity workers. These factors are as explained below. Factory Space and natural object Tyler (2000), suggests that these elements of the factory's physical structures are characterized by features in factory environments, like lighting, temperature, existence of windows, free air movement and then on, which constitutes an influence to employee's behaviors, satisfaction, performance and productivity Tyler, (2000). Physical factors within the factory like poor layout of buildings and infrastructures or overcrowding can cause common styles of accident like tripping or striking against objects. Among the factors affecting employee's performance, other Physical factors like office block space have also been strongly related to worker's performance within the private sector office employees.

These environmental factors like office layout, level of interaction and therefore the comfort level of office have had a major effect on worker's performance. plenty of studies are applied concerning this area as an example Scott, (2000), reports that working conditions associates with employee job involvement and job satisfaction. Strong, Jeanerette, McPhail, & Bleckley, (1999) in a very study observed that social, organizational and physical context function the impetus for tasks and activities, and considerably influence worker's performance. Level of Interaction it's easier to speak with someone whom you'll be able to see more easily than someone adjacent/distant or separated by objects from you. The open office creates egalitarian system with equal working conditions that reduces the gap between employee's space and improves communication flow. Noise is one in every of the leading causes of employees' distraction, resulting in reduced productivity, serious inaccuracies, and increased job-related stress. Effective workplace communication may be a key to cultivation of success and professionalism. However, a company determines what motivates its

employees and sets up formal and informal structures for rewarding employees' behavior. This comes in form of Human Resources Management (HRM) interventions like combined interventions of participatory, interactive training, job aids and strengthening communications systems are often successful in improving workers' performance Oswald (2012)

Moreover, Quilan (2001), asserts that an organization that communicates throughout the workplace in an effective manner is more likely to avoid problems with completing the daily procedures, and less likely to be problematic, when employees communicate effectively with each other, productivity will increase because effective communication means less complaints and more work getting done Quilan, (2001).

Working tools

Workers have to be provided with tools in order that their work would be made easier and help minimize error rates and patient's dissatisfaction. These can include templates, guidelines, equipment's and models e.t.c. Psychological methods of improving employee productivity are great, but they're useless without the correct tools. and therefore the right tools mean the proper technology. For an employee to be efficient and productive in today's job environment means equipping employees with the correct gear. Facilities, which ignore the requirement for tools like, equipment will run the danger of diminished employee productivity Oswald, (2012).

Review of Related Empirical Studies

Ofilu (2012), assessed the Effect of Internal Environment on Employee Performance in PHCN, Enugu distribution Company. The study used structured questionnaire to gather responses from the study population sample. The study population involve a definite number of 250 employees including top and junior staff, Yaro Yemani formula was applied to reach a sample of 154 employees. The hypotheses were tested using the Chi-Square method. The findings reveal that to a precise extent in PHCN, Enugu Internal Environment Effect Employee Performance.

A stronger and more efficient tool of research would have been considered to analyze the information. Ordinary least square tool of study are more efficient than Chi square tool of research analysis. Emmanuel (2014), studied the influence of workplace environment on workers welfare and productivity in government parastatals of Ondo State, Nigeria. A methodology known as ex-post facto type of descriptive survey research. The sampling technique was to select 350 respondents. A structured questionnaire with three sub-sections were went to collect data that were analyzed with mean values and straightforward percentages. It was discovered that work environment affects the welfare and productivity of the organization. it recommended that industrial social workers should advocate with management to form a conducive workplace environment and good communication network that may attract, keep, and motivate its workers to improve their welfare and productivity. They researchers considered only government parastatals in Ondo state as case study within the experiment which is insufficient, Ex post facto research design employed in the study doesn't give respondents equal chance of being selected, thereby giving room for bias.

Egwu (2011), studied effects of internal environment on employee performance: a case study of Unilever Nigeria Plc, Aba. A survey research design was employed, sample was drawn randomly selected and questionnaires was designed for data collection. Both primary and secondary methods of knowledge collection were used for this study. The population for this study consists of selected employees of Unilever Nigeria Plc, Aba Office. the quantity of employee's samples is 80. it had been see that the work environment will be made conducive and improved upon to reduce going out of the staff within the organization and to research whether promotion opportunities make staff stick with an organization and whether money is that the main motivating factor so on. The study concluded that relevance working environment increases workers' performance. The study considered only eighty-five (80) sample size which is just too small for the manufacturing firms utilized in the study. They should have considered more sample size, the sample size of a minimum of 100 and fifty (150) should are more useful for the study.

Akintayo (2012), investigates the connection among working environment, workers' morale and perceived productivity in industrial organizations in Nigeria include Nigerian Breweries Plc., Guinness Nigeria Plc, Wema Bank of Nigeria Plc., Nigerian Telecommunication Plc and Nigerian National Petroleum Corporation. 311 respondents were selected using a descriptive survey research method, from public and personal organizations were selected for the study using stratified proportionate sampling technique. For data collection, multivariate analysis, Pearson Product Moment Correlation and t-test statistics were used for data analysis. The finding of the study revealed that a big relationship exists among working environment, workers' morale and perceived productivity.

This study considered 300 and eleven (311) respondents because the population and sample of the study. they'd have considered a more definite population and sample would be received employing a valid sample determination technique, Taro Yamane formula should are more useful for the study sample size determination.

Akinyele and Taiwo (2000), studied the influence of labor environment on workers' productivity: a case of selected oil and gas industry in Lagos-Nigeria. a sample of sixty-one (61) was used for this study which were de-escalated as follows; Texaco plc 14. Agip plc 16 and Oando plc 19 and Total plc 12. Study data was generated through structured questionnaires with close ended questions. Frequencies were wont to examine the pattern of response to every variable under investigation and T-test was accustomed test the research hypotheses. It was discovered that Conducive work environment stimulates creativity of workers.

The study considered only eighty-one (61) sample size which is simply too small for the oil and gas firms utilized in the study. They should have considered more sample size, the sample size of a minimum of 100 and fifty (150) should are more useful for the study.

METHODOLOGY

Research design

This research adopted descriptive survey research design, Descriptive survey aims at collecting data and describing it in a systematic manner the characteristic, features or facts about the given population (Nworgu, 1998). The reason for using survey research design is to collect relevant data from respondents in the field comprising the target respondents who are employees of Kaduna plants branch of Nigerian Breweries Plc and make analysis and interpretation easy.

Population and sample size

The population of this study includes all the staff of Kaduna plant branch of Nigerian Breweries Plc. The entire population is 3,195. Generally, the company has five departments and four major categories of employees but we focused on junior workers and top managers because their productivity directly affect the companies output.

Sample Size: for the purpose of this study, the sample size was determined approximately to be 286 and the distribution was random.

Methods of data collection

Both primary sources were used in collection of data for this study. The primary sources include questionnaire, interview and personal observation. The questionnaire was scientifically structured; divided into three sections. Section A seeks information on the biographical data of respondents. Section B sought information on the relationship factory lighting and timeliness of product delivery. Section C sought information on factory space and output.

Data Analysis

There is a greater need to analyze the data collected from respondents through questionnaire for clarity, simplicity and easy understanding. The presentation and analysis of data percentages was used. Total number of four hundred copies of questionnaire was sent out while three hundred copies and forty-four were retrieved. For effective analysis and to enhance better understating the data obtained were tabulated and the percentage were worked out to show the proportion of the respondent and Pearson Product Moment Correlation Coefficient (PPMCC) was used with the aid of statistic package for social science (SPSS) to determine and analyses the effect of factory lighting on timely product delivery and the effect of factory space on quality output are also determine and analyzed.

Relationship between factory lighting and timely product delivery

Table 1. The factory lighting condition in your company is poor for production activities

		Frequency	Percent	Cumulative Percent
Valid	SA	65	19.4	19.4
	A	124	37.0	56.4
	U	12	3.6	60.0
	D	131	39.1	99.1
	SD	3	9	99.7
				100.0
	Total	335	100.0	

--	--	--	--

Source: Field Survey, 2021.

Table 1 shows that a total of 124 respondents representing 39.1 % agreed that the factory lighting condition in the company is poor, 65 respondents representing 19.4 % strongly Agreed, 12 of the respondents representing 3.6 % were undecided, while 131 and 3 respondents representing 39.1 % and 0.9 % disagreed and strongly disagreed respectively. This indicates that majority of the respondents disagreed that The factory lighting condition in the company is poor, that means that company may not really have poor lighting condition

Table 2. The interior surface available in your factory is not conducive for working

		Frequency	Percent	Cumulative Percent
Valid	SA	49	14.6	14.6
	A	69	20.6	35.2
	U	26	7.8	43.0
	D	180	53.7	96.7
	SD	11	3.3	100.0
	Total	335	100.0	

Source: Field Survey, 2021.

Table 2 shows that a total of 69 respondents representing 20.6 % agreed that the interior surface available in the factory is not conducive for working, 49 respondents representing 14.6 % strongly Agreed, 26 of the respondents representing 7.8 % were undecided, while 180 and 11 respondents representing 53.7 % and 3.3 % disagreed and strongly disagreed respectively. This indicates that majority of the respondents disagreed that The interior surface available in the factory is not conducive for working, that means that company interior surface area may conducive enough for workers to perform their work effectively.

Table 3. The factory temperature from the surroundings within which you work is encouraging

		Frequency	Percent	Cumulative Percent
Valid	SA	14	4.2	4.2
	A	109	32.5	36.7
	U	88	26.3	63.0
	D	62	18.5	81.5
	SD	62	18.5	100.0
	Total	335	100.0	

Source: Field Survey, 2021.

Table 3 shows that a total of 109 respondents representing 32.5 % agreed that the factory temperature from the surroundings is encouraging, 14 respondents representing 4.2 % strongly Agreed 88 of the respondents representing 26.3% were undecided, while 62 respondents representing 18.5 disagreed and strongly disagreed. This indicates that majority of the respondents agreed that the factory temperature from the surroundings within which they work is encouraging, that means that the factory temperature from the surroundings is really encourage ng for the factory workers to perform their work effectively.

Table 4. Noise is the major setback to effective productivity in your company

		Frequency	Percent	Cumulative Percent
Valid	SA	19	5.7	5.7
	A	163	48.7	54.3
	U	22	6.6	60.9
	D	38	11.3	72.2
	SD	93	27.8	100.0
	Total	335	100.0	

Source: Field Survey, 2021

Table 4 shows that a total 163 of respondents representing 48.7 % agreed that Noise is the major setback to effective productivity in the company, 19 respondents representing 5.7 % strongly Agreed 22 of the respondents representing 6.6 % were undecided, while 38 and 93 respondents representing 11.3 % and 27.8 % disagreed and strongly disagreed respectively. This indicates that majority of the respondents agreed that the Noise is the major setback to effective productivity in your company, that means that the major setback in level of the company productivity can be attributed to noise.

Table 5. Employee's level of productivity has improved in terms of timely product delivery

		Frequency	Percent	Cumulative Percent
Valid	SA	35	10.4	10.4
	A	45	13.4	23.9
	U	53	15.8	39.7
	D	122	36.4	76.1
	SD	80	23.9	100.0
	Total	335	100.0	

Source: Field Survey, 2021.

Table 5 shows that a total of 35 respondents representing 10.4 % agreed that the Employee's level of productivity has improved considerably overtime, 45 respondents representing 13.4 % strongly Agreed 53 of the respondents representing 15.8 % were undecided, while 122 and 80 respondents representing 36.4 % and 23.9 % disagreed and strongly disagreed respectively. This indicates that majority of the respondents disagreed that the Employee's level of productivity has improved considerably overtime, that means that company level of productivity may has not have increased for a period of time presently.

Hypothesis 1 There is no positive significant relationship between Factory Lighting and timely product delivery

Table 6 Correlations

		Factory lighting	Interior Surface Available	Factory temperature	Noise	Timely product delivery
Factory Lighting	Pearson Correlation	1	-.006	.125(*)	-.013	-.047
	Sig. (2-tailed)		.917	.023	.815	.389
	N	335	335	335	335	335
Interior Surface Available	Pearson Correlation	-.006	1	-.032	.031	-.018

Factory temperature	Sig. (2-tailed)	.917		.563	.567	.737
	N	335	335	335	335	335
	Pearson Correlation	.125(*)	-.032	1	-.021	.061
Noise	Sig. (2-tailed)	.023	.563		.706	.269
	N	335	335	335	335	335
	Pearson Correlation	-.013	.031	-.021	1	.043
Timely product delivery	Sig. (2-tailed)	.815	.567	.706		.432
	N	335	335	335	335	335
	Pearson Correlation	-.047	-.018	.061	.043	1
	Sig. (2-tailed)	.389	.737	.269	.432	
	N	335	335	335	335	335

* Correlation is significant at the 0.05 level (2-tailed).

Source: data output using SPSS, 2021

The above results show the correlation results on the relationship between work environmental variables: Factory Lighting (FL), Interior Surface (IS), Factory temperature (FT) and Noise (N), and Productivity variable; Timely Product Delivery. The result indicates that there is a negative relationship between FL, IS and TPD at 0.05% level of significance with correlation co-efficient of -0.047, -0.018. Also there is a significantly high and moderate relationship between (FT), (N) and productivity with correlation co-efficient of 0.061, 0.043, this result indicates that both variables have a positive effect on workers, though the parameter of the variables under consideration is significant at 0.05% level of significance.

The analysis indicates that the coefficients for Factory Temperature (FT) and noise (N) in Nigerian Breweries Plc Kaduna are positive in improving employee's productivity and enhance timely product delivery. This implies that the work environment variable in the form of Factory temperature (FT) and Noise (N) level in the factory may lead to improvement timelines of product delivery due to high workers' productivity. And the coefficients of factory lighting (FL) and the interior surface (IS) area in Nigerian Breweries Plc. are negative and may not improving the timeliness of products delivery.

This implies that the timeliness of product delivery may decrease with availability of Factory Lighting. thus the null hypothesis is accepted, while the alternative hypothesis is rejected, that there is no positive significant relationship between relationship between Factory Lighting and timely produce delivery in Nigeria breweries plc.

Factory Space and quality of organisational output

Table 7: The factory space in your company is small for production work

		Frequency	Percent	Cumulative Percent
Valid	SA	92	27.5	27.5
	A	66	19.7	47.2
	U	27	8.1	55.2
	D	120	35.8	91.0
	SD	30	9.0	100.0
	Total	335	100.0	

Source: Field Survey, 2021.

Table 7 shows that a total of 66 respondents representing 19.7 % agreed that the factory space in the company is small, 27 of the respondents representing 8.1 % were undecided, while 120 and 30 respondents representing 35.8 % and 9.0 % disagreed and strongly disagreed respectively. This indicates that majority of the respondents disagreed that the factory space in the company is small, that means that the factory space in Nigerian breweries plc. Is big enough for production work.

Table 8: The work processes and procedures which you perform your work is commendable

		Frequency	Percent	Cumulative Percent
Valid	SA	20	6.0	6.0
	A	63	18.8	24.8
	U	96	28.7	53.4
	D	133	39.7	93.1
	SD	23	6.9	100.0
	Total	335	100.0	

Source: Field Survey, 2021.

Table 8 shows that a total of 63 respondents representing 18.8 % agreed that the work processes and procedures which they perform their work is commendable, 20 respondents representing 6.9 % strongly Agreed 96 of the respondents representing 28.7% were undecided, while 133 and 23 respondents representing 39.7 % and 6.9 % disagreed and strongly disagreed respectively. This indicates that majority of the respondents disagreed that the work processes and procedures which they perform work is commendable that means that the work processes and procedures employed in the workplace is not really support for the junior workers to enough them in performing their work.

Table 9: The rate of overcrowding in your workplace slows down your level of output

		Frequency	Percent	Cumulative Percent
Valid	SA	32	9.6	9.6
	A	90	26.9	36.4
	U	54	16.1	52.5
	D	122	36.4	89.0
	SD	37	11.0	100.0
	Total	335	100.0	

Source: Field Survey, 2021.

Table 9 shows that a total of 90 respondents representing 26.9 % agreed that the rate of overcrowding in the workplace slows down the level of output, 32 respondents representing 9.6 % strongly agreed, 54 of the respondents representing 16.1 % were undecided, while 122 and 37 respondents representing 36.4 and 11.0 % disagreed and strongly disagreed respectively. This indicates that majority of the respondents disagreed that the rate of overcrowding in the workplace slows down your level of output, that means that overcrowding in the workplace do not slows down the level of output.

Table 10. The factory layout at your workplace is poor for production

		Frequency	Percent	Cumulative Percent
Valid	SA	20	6.0	6.0
	A	85	25.4	31.3
	U	153	45.7	77.0
	D	59	17.6	94.6
	SD	18	5.4	100.0
	Total	335	100.0	

--	--	--	--

Source: Field Survey, 2021.

Table 10 shows that 20 and 85 respondents representing 6.0 % and 25.4 % strongly agreed and agreed respectively that the factory layout is poor, 153 of the respondents representing 44.5 % were undecided, while 59 and 18 respondents representing 17.6 % and 5.4 % disagreed and strongly disagreed respectively. This indicates that majority of the respondents are undefined that the factory layout in workplace is poor while a good number of respondent's 25.4 percent agreed to the question, that means that employees perform may have been effective due to poor factory layout.

Table 11: The quality of output has improved overtime in your company

		Frequency	Percent	Cumulative Percent
Valid	SA	87	26.0	26.0
	A	10	3.0	29.0
	U	15	4.5	33.4
	D	207	61.8	95.2
	SD	14	4.2	99.4
	44	2	.6	100.0
	Total	335	100.0	

Source: Field Survey, 2021.

Table 11 shows that 87 and 10 respondents representing 26.0 % and 3 % strongly agreed and agreed respectively that employee's turnover has improved, 15 of the respondents representing 4.5 % were undecided, while 207 and 14 respondents representing 61.8 % and 4.2 % disagreed and strongly disagreed respectively. This indicates that majority of the respondents disagreed that employee's turnover of the company has improved overtime, that means that employees morale may not have improved overtime.

Hypothesis 2: There is no positive significant relationship between factory space and quality of output

Table 12. Correlations

		Space	Work process	Overcrowding	Factory layout	Quality of output
Space	Pearson Correlation	1	.018	.094	.002	.313(*)
	Sig. (2-tailed)		.736	.087	.976	.015
	N	335	335	335	335	335
Work process	Pearson Correlation	.018	1	-.098	.031	.048
	Sig. (2-tailed)	.736		.072	.577	.377
	N	335	335	335	335	335
Overcrowding	Pearson Correlation	.094	-.098	1	-.059	.010
	Sig. (2-tailed)	.087	.072		.281	.850
	N	335	335	335	335	335
Factory layout	Pearson Correlation	.002	.031	-.059	1	.017
	Sig. (2-tailed)	.976	.577	.281		.761
	N	335	335	335	335	335

Quality of output	Pearson Correlation	.313(*)	.048	.010	.017	1
	Sig. (2-tailed)	.015	.377	.850	.761	
	N	335	335	335	335	335

* Correlation is significant at the 0.05 level (2-tailed).

The above results show that the correlation results on the relationship between work environmental variables: factory space (FS), work process (WP), rate of overcrowding (RO), factory layout (FL), and quality of output (QO). The result indicates that there is a no relationship between WP, RO, FL and QO at 0.05% level of significance with correlation co-efficient of 0.048, 0.010, and 0.017. While there is a weak positive relationship between FS and QO with correlation co-efficient of 0.313.

This analysis indicates that the coefficients for relationship between factory spaces (FS) in the work environment of Nigerian Breweries Plc. is positive but moderate degree (.313) in improving inventory turnover.

Meaning that quality of output has a moderate positive relationship (.313) with factory space thus the null hypothesis is rejected, while the alternative hypothesis is accepted, that there is positive relationship between relationship between factory space and inventory turnover in Nigeria breweries plc.

Summary

The use of questionnaire was structured by the researcher in a way that the research question will enable him solve the research problem. The researcher made the questionnaire available to the supervisor for verification and correction which he agrees. The researcher personally traveled to the company's premises to deliver the questionnaire and to collect them back after answering for analysis. Data collected were analyzed using correlation and the outcome of the data analyzed were interpreted as the research conclusion that all employees deserve to have conducive atmosphere to remain productive at all times. Here is the detailed research study conclusion below.

Conclusion

The following conclusions were obtained from the result analyzed:

There is a negative relationship between factory lighting and timelines of product delivery. This implies that employee's productivity may decrease despite the availability of factory lighting

There is a moderate relationship between factory space and quality output in Nigeria breweries plc. This implies that improvement in factory space will lead to an increase in quality output.

Recommendations

The following recommendations are considered below:

The management of Nigerian Breweries Plc should invest on items that reduces noise in the factory

The management of Nigerian Breweries Plc should make efforts on increasing the factory space since factory space has an effect on the quality output of the organization.

Suggestion for Further Studies

Since the study examined the effect of work environment on workers' productivity in Nigerian Breweries Plc. Another research can be carried out to improve the work by considering other manufacturing companies in Nigeria.

References

- Ahmed, R. (2010). Nigeria breweries sector brewing growth, malting value: NSC, vetiva research, Victoria Island Lagos
- Akintayo (2012). The relationship productivity in industrial organizations in Nigeria among working environment, workers' morale and perceived; unpublished
- Akinyele, S.T. (2009). Examination of motivation and work performance in of the sales people; Role of supervisors' Behaviour. J. Contemp. Manage. 3(1): 20-27.

- Akinyele, T. (2000). The influence of work environment on workers' productivity: a case of selected oil and gas industry in Lagos-Nigeria.
- Armstrong, M. (2011). Handbook of human resource management practices. 12th Edn., New York: Prentice-Hall.
- Brenner, P. (2004). Workers physical surrounding. Impact Bottom Line Accounting: Smarts Pros.com on employee performance: a case study of Unilever Nigeria Plc, Aba
- Emmanuel, C.M. (2014). Workplace environment and its impact on organisational performance in public sector organisations. International Journal of Enterprise Computing and Business Systems, 1(1) Retrieved December 20, 2021 from <http://www.ijecbs.com/January2011/N4Jan2011.pdf>.
- Emmanuel, (2014). The influence of workplace environment on workers welfare and productivity in government parastatals of Ondo State, Nigeria: Unpublished
- Ekeckukwu, H., (2015). Impact of conflict on employees' performance in Nigerian Breweries Plc: Iganmu Lagos; unpublished
- Flippo, B.A. (2000). Effective communication in the workplace. Retrieved February 27, 2021 from <http://www.Improvemybusiness.com.au/managr-staff/staff development>.
- Gibson, E.A. (2009). Impact of Work Environment on Employees Performance in the Banking Sector
- Gnaft, E.S. (2011). Impact of office design on employees' productivity: A case study of banking organisations of Abbottabad, Pakistan. Journal of Public Affairs, Administration and Management, 3(1), 2009. Retrieved January 18, 2015 from <http://www.scientificjournals.org/journals2009/articles/1460.pdf>.
- Griffin, R.W. (2010). Management, 8th ed. New York, Houghton Mifflin Company,
- Groft, S.A. (2002). Open versus enclosed workspace: The impact of design on employee reactions to their office: Behavioural issues in office design. NY: Van Nostrand Reinhold.
- Hameed, A., Amjad, S. (2009). "Impact of Office Design on Employees' Productivity. A Case Study of Banking Organizations of Abbottabad, Pakistan" Journal of Public Affairs, Administration and Management Volume 3, Issue 1.
- Hicks, C.I. (2010). Exercised control, lighting choices and energy use: An office simulation experiment. Journal of Environmental Psychology, 20(3), 219-237.
- Igbaekemen and Idowu, (2014). The impact of organizational commitment on employee's productivity: a case study of Nigeria brewery, plc: unpublished
- Judith H. (2011). Design, Productivity and Well Being: What Are the Links?" March 12-14,
- Meyer, J.P. (2001). Organizational commitment: Personnel psychology and HRM. London, England:
- Kochan, U.A. (2007). A new conceptual framework to improve the application of occupational health and safety management system. In proceeding of the European safety and reliability conference, 2006. Estoril, Portugal: Taylor & Francis Publishers.
- Leaman, E.S. and Bordass, O.P. (2014). Visual workplace: How you see performance in the planet and in the office. International Journal of Financial Trade, 11(3), 250-260
- Linz, S. J., Good, L. K., and Huddleston, P. (2006). Worker morale in Russia: An exploratory study. Journal of Managerial Psychology, Vol. 21 (5) pp. 415-437. 8.
- Nigerian Breweries Plc annual report and accounts, (2014). Historical Background of Nigerian Breweries Plc: Published in Iganmu Lagos 2014.
- Nworgu, B. G. (1998). Educational research, basic issues and methodology. Nigeria: Wisdom Publisher Limited.
- Odugbami, M.M. (2000). Research Methodology: A Concise Way of Solving Societal Problems through Scientific Procedures.
- Ofili, (2012). The Effect of Internal Environment on Employee Performance in PHCN, Enugu distribution Company. Unpublished
- Onibon, K.L. (2008). Creating a psychologically healthy workplace: The role of communication. Retrieved February 27, 2010 from <http://www.phwa.org/resources/creating a healthy workplace>.
- Opperman, C.S. (2002). Tropical Business Issues. Partner Price Water House Coopers.
- Oswald, A. (2012). The Effect of Working Environment on Workers Performance: The Case of Reproductive and Child Health Care Providers in Tarime District.
- Quilan, B.Y. (2001). Identification of ergonomic issues that affect workers in oil rigs in desert environment. International Journal of Occupational Safety and Ergonomic, 10(8), 169-177
- Robins S. P. (2010). Management, 10th ed. India, Prentice Hall (Pearson), Coulterm. and Vohra N.
- Ryan, F.Q., Deci, R.K. (2000). Work environment and Employees Performance, perceived control and performance decrement in the physical environment. Journal of Environmental Psychology, 16, 269- 276.
- Scott, K. D., Jusanne, M., & Steven, M. E. (2000). Factors influencing employee benefits beliefs that, pay is tied to performance. Journal of Business and Psychology, 2000. 14, 553-562.
- Stallworth, J., Kleiner, B. (1996). Recent developments in office design. Journal of Facilities, 14 (1/2), pp. 34-42.
- Strong, M. H., Jeanneret, P. R., McPhail, S. M., & Bleckley, B. (1999). Work context, taxonomy and measurement of the work environment. American Psychological Association (Houston TX), 1999. 86 : 12767
- Sundstrom, E.V. (2013). External environmental factors that limit Workers performance in the Brewery Industry.

- Taiwo a.s.(2010).The influence of work environment on workers productivity: A case of selected oil and gas industry in Lagos, Nigeria African Journal of Business Management Vol. 4 (3), pp. 299-307, School of Business,
- Tyler,U.V. (2000). Workers place of work and its effects on their general wellbeing. Journal of Applied Psychology, 85(5), 779-783.
- Ugochukwu m. (2011). The Impact of Managerial Techniques on Productivity Capacity of Nigerian Breweries Plc Aba (2004-2008); Unpublished