

Ergonomic Design, Ease of Use and Aesthetics as Determinants of Employee Productivity in Hotel Operation

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Abstract

The study examined ergonomic Design, Ease of Use and Aesthetics as determinants of employee productivity in hotel operation. The study identified the influence of ease of use as ergonomic physical factor on employee productivity and examined the influence of aesthetics as ergonomic physical factor on employee productivity. The study adopted a descriptive survey approach and it covered a population of five hundred and seventy-three (573) employees of 37 registered hotels scattered across the 5 local government areas of Ebonyi South Senatorial Zone of Ebonyi State. Taro Yamane's formula was used to select a sample size of two hundred and thirty-six (236) respondents from the population. Data used in the study were gathered using four-point rating scale questionnaire and literary works of past scholars were extensively reviewed by the researcher in order to have an in-depth of the topic under discussion. Collected data were presented and analyzed using descriptive statistic such as frequency, percentage, mean and standard deviation. The decision rule for mean stated that any mean above 2.5 and above was considered positive. Regression analysis was used to run SPSS version 25 for hypotheses formulated for the study. The critical value from the SPSS output for hypotheses one is 0.956, while it is 0.967 for hypotheses two. Findings from the study showed that ease of use as ergonomic physical factor has a high significant relationship with employee productivity in hotel operation. The study also revealed that a significant relationship exists between aesthetics as ergonomic physical factor and employee productivity in hotel operation. The study showed that proper use of equipment and work environment in hotel operation increase efficiency and effectiveness, make work faster, decrease in errors and mistakes, increase employee motivation and job satisfaction and reduce wastage. The study also revealed that a well aesthetics workspace enhances creativity and innovation among employees, adequate lighting improves productivity, adequate ventilation increases productivity, aesthetically workspace reduce distraction and improve workflow efficiency. The study concluded that ease of use and aesthetics as ergonomic physical factors improves overall employee's productivity in hotel operations. The study recommended that equipment, tools, machines and workstations should be made to be in

good shape in order to increase efficiency and effectiveness in terms of productivity, make production fast and accurate, decrease errors and mistakes during production in hotel operations. Workplace environment should be designed in such a way as to enhance creativity and innovation among employees, improve high level of productivity and reduce distraction and also make workflow more effective.

Keywords: *Ergonomic Design, Ease of Use, Aesthetics, Determinants, Employee productivity*

Introduction

Employee well-being plays an important role in organizations, as it has a directly affects employee performance and contributes to organization success. Whether an employee interacts directly with customers or provides support to those who do, their performance determines how the business stands out above its competitors. A hotel is an establishment that caters to people who are away from home, providing quality meals, accommodation and other services for both the travelers and residents (Wilson-Mah, 2015). Alternatively, a hotel may be defined as an establishment whose primary purpose is to provide lodging facilities to genuine travelers, along with food, beverage and sometimes recreational facilities, on a chargeable basis (Nishan, 2018). Hotel operations refer to the day-to-day running of a hotel. They encompass all the activities and tasks employees perform to prepare for the arrival of guests, and taking care of their needs during their stay and ensure a smooth to departure (Linda, 2023). Hotel establishment is known for its fast-paced and physically demanding nature from hotel staff lugging heavy luggage and housekeepers repeatedly bending and lifting to restaurant wait staff constantly being on their feet, the industry poses several ergonomic challenges for employees. In today's fast-paced world, workplace stress is common among employees resulting in reduced job performance and lower productivity. As a result, many businesses are now realizing the importance of workplace ergonomics and well-being to improve employee satisfaction, productivity and health (Lori and Taylor, 2021). The word ergonomics comes from the Greek word "ergon" which means work and "nomos" which means laws. It's essentially the "law of work" or "science of work". Good ergonomic design removes incompatibilities between the work and the worker and creates the optimal work environment (Matt, 2023). Ergonomics has been defined as the scientific discipline that studies the interactions between humans and their environment, taking into account their capabilities, limitations and well-being with the aim of optimizing system performance, safety and user satisfaction (Paschoarelli and Carvallio, 2018). Ergonomics is a consideration in the rapidly evolving landscape of today's workplaces, where technology and innovation are at the forefront (Mallet and Md Arafat, 2024). They further stated that ergonomics is designed in a workplace to fit the needs of the people and it is a cornerstone in fostering a more productive work environment. Ergonomic office furniture and equipment support the human body's natural movements in order to perform its duties efficiently. A comfortable and well-designed workplace directly correlates with increased productivity. Ergonomic furniture and equipment enable employees to focus on their tasks without the distraction of physical discomfort. Employees who work without discomfort or pain are more likely to maintain focus for extended periods, leading to higher productivity and efficiency (Ahmed *et al*, 2023). In the modern office where the demands on employees are higher than ever, prioritizing ergonomics is not just a luxury but a necessity. Investing in ergonomic in an establishment pays dividends in terms of employee health, productivity, and overall satisfaction for both employees and customers. Ergonomics in the hotel industry will mean the application of ergonomic principles and practices to optimize the interaction between employees, their work environment and the services provided with the ultimate objective of enhancing customer satisfaction (Etezadi-Amoli, 2011). According to Espino-Radriguez and

Gil-Estallo (2013) ergonomics in the hotel operations relates to designing workspace, equipment and tasks to fit the need and comfort of employees contributing to service excellence and customer satisfaction.

Statement of The Problem

Lack of attention to ergonomic considerations in hotel operation can also have a direct impact on customer satisfaction. Employees who are fatigued, uncomfortable or in pain due to ergonomic issues may not perform at an optimal level and such impacts on employee job performance and service quality thus, diminishing the overall customer experience (Insight, 2023). Lack of sufficient attention to ergonomic in the hotel operations may lead to negative consequences on employee well-being, job performance and productivity. This problem calls for an in-depth exploration of the importance of ergonomics and the development of effective strategies and interventions to enhance employee health and productivity in the hotel operations (Rajana and Ankit, 2022).

Objective of The Study

The main objective of this study is ergonomic design, ease of use and aesthetics as determinants of employee productivity in hotel operations in Ebonyi South Senatorial Zone of Ebonyi State, Nigeria.

Specifically, this study seeks to;

- i. Examine the role of ease of use as ergonomic physical factor on productivity in hotel operations in Ebonyi South Senatorial Zone of Ebonyi State, Nigeria
- ii. Determine the role of aesthetics as ergonomic physical factor on productivity in hotel operations in Ebonyi South Senatorial Zone of Ebonyi State, Nigeria

Research Questions

The following research questions guided the study.

- i. What role does ease for use as ergonomic physical factor play on productivity in hotel operations in Ebonyi South Senatorial Zone of Ebonyi State, Nigeria?
- ii. What role does aesthetics as ergonomic physical factor play on productivity in hotel operations in Ebonyi South Senatorial Zone of Ebonyi State, Nigeria?

Research Hypotheses

The following hypotheses were tested at 0.05 level of significance to focus the study.

HO₁ There is no significant relationship between ease of use as ergonomic physical factor and productivity in hotel operations in Ebonyi South Senatorial Zone of Ebonyi State, Nigeria.

HO₂ There is no significant relationship between aesthetics as ergonomic physical factor and productivity in hotel operations in Ebonyi South Senatorial Zone of Ebonyi State, Nigeria.

Ergonomics or human factors, involves applying scientific principles and practices to design work systems, tasks, equipment and environments that optimize human wellbeing, comfort, safety and performance. Its aim is to establish a harmonious alignment between the demands of the work and the capabilities of the individuals carrying out the tasks (Ahmed *et al*, 2023). In addition to improving safety, ergonomics also enhances productivity and efficiency, as workers are less likely to experience fatigue and discomfort (Centers for Disease Control and Prevention CDC, 2019). Despite the benefits of ergonomics some employers may overlook its importance, either due to lack of knowledge or cost concerns. However, the costs of not implementing ergonomic principles can be significant, including increased absenteeism, reduced productivity and potential legal liabilities (Coenrad, 2023). Afshari *et al*, (2019)

defined ergonomics as an interdisciplinary science that focuses on the design and evaluation of work systems, considering human capabilities, limitations and needs, aiming to optimize safety, comfort and efficiency. Megawangi *et al*, (2020) see ergonomics as the study of the interaction between people, their equipment and the physical work environment, utilizing holistic approaches to optimize system performance, occupational health and wellbeing. By implementing ergonomic practices, organizations can enjoy various advantages, such as enhanced employee wellbeing, increased productivity, improved job satisfaction and decreased risks of work-related injuries or illnesses (Hoffmeyer *et al*, 2015, Pheasant and Haslegrave (2018). Ergonomics, focuses on optimizing the workplace to match the abilities and requirements of individuals, exerts a significant influence on various facets of job performance (Bhatia and Arora, 2021). Ergonomic consideration has a substantial impact on the physical well-being of employees. Thoughtfully designed workspaces, ergonomic chairs and properly adjusted equipment contribute to physical comfort, reducing the likelihood of discomfort, pain or physical strain. When employees experience physical comfort, they are better able to maintain focus and concentration on their tasks, leading to overall job performance and customer loyalty (Richardson *et al*, 2020).

Furthermore, ergonomics plays a vital role in mitigating errors and cognitive fatigue. Through the reduction in awkward postures and repetitive movements, ergonomics design minimizes the chances of mistakes that may arise from physical discomfort. Working in ergonomically optimized environments helps employees experience less mental fatigue, leading to enhanced cognitive function. This in turn, positively impacts decision-making and problem-solving abilities, thereby improving employee job performance. (Sotirios *et al*, 2022). Ergonomics is closely tied to efficiency and productivity in the workplace thoughtfully designed ergonomic solutions optimizes workflow processes by providing employees with streamlined access to tools, resources and information. This reduces unnecessary movements and minimizes time wastage. As a result, tasks can be completed more swiftly and efficiently, leading to increased overall productivity and consequently, improved job performance (Chintada, 2022). Hotel business is a major contributor to global economic growth and job creation and should be dedicated to giving customers high-quality services (Khairy and Lee, 2018). Hotel employees, such as housekeepers, bellhops, restaurant waiters, front desk staff etc are often required to perform physically demanding tasks, such as lifting heavy luggage, cleaning rooms and standing for extended periods. Failure to implement ergonomics in hotel can result in work-related injuries and musculoskeletal disorders, which can lead to high healthcare costs and employee turnover (Dainoff, 2018)

According to Rempel and Barr (2014), to promote ergonomics in hotels employers can implement various measures, such as providing ergonomic equipment, designing workstations to fit the employees' body size, and training employees on proper lifting techniques. For example, housekeepers can use lightweight vacuums and adjustable cleaning carts to reduce strain on their bodies, while front desk staff can use adjustable-height workstations to improve comfort and reduce the risk of back pain. By implementing ergonomic principles, employees can promote safety, comfort and productivity, while reducing the risk of injuries and musculoskeletal disorders. It is essential for employers to recognize the importance of ergonomics and take steps to ensure that their employees have a safe and comfortable work environment which leads to employee well-being and job performance (Coenrad, 2023).

Ease of use as Ergonomic Physical Factor

Ease of use means how easy it is to complete a specific task. Employers should not intentionally or unintentionally create work that is physically difficult for a person to complete. Employees should be able to perform tasks using easy physical movements that do not put stress on the body (Maria, 2022). This also helps to prevent musculoskeletal injury.

Introducing easier working methods that can help workforce perform well on the job and also achieve greater productivity that will enable them complete more work at a faster pace because the work is not causing them to get tired quickly (Maria, 2022). Most people believe that standing for long hours, may help in keeping fit as part of a workout routine. However, standing for long periods of time at work is often counter-productive. Most of the employees end up with back and heel pain.

You can optimize performance and productivity by lowering the number of hours that staff members stand. Standing desks should be supplemented with standard workstations. You can also redesign workplaces where staff members serve customers while seated. When you take these steps, common foot issues can be avoided. Employees who use ergonomic equipment make fewer errors. Workers who work in ergonomic workstations concentrate better at what they are doing. In contrast, employees who are uncomfortable tend to be distracted from their work by the discomfort and end up making errors that they would have otherwise not made. This is very important, especially where workers are doing physically demanding jobs or operating machinery. Simple errors when operating machinery can lead to wastage of raw materials or severe injuries. On the other hand, mistakes when doing calculations, making measurements and other industrial activities may hurt the quality of the products. Avoid all these by researching on the best postures or sitting positions for your employees and invest in ergonomic furniture and equipment (Smith *et al*, 2020).

Aesthetics as Ergonomic Physical Factor

Generally, people prefer to be in aesthetically pleasing environments. How a space looks will have a psychological impact on employees, which will affect their moods. A drab and unwelcoming space will have a negative impact, which will in turn negatively impact how productive they will be. On the other hand, when a space has been designed thoughtfully, employees will feel more welcomed and more motivated to work. (Leitz, 2023)

As well as employee satisfaction, good workplace aesthetics can also affect employee well-being. Aesthetically pleasing interiors will reduce stress, especially when natural themes and artwork can be incorporated. When workers are forced to work in dreary or dysfunctional offices, it can increase stress levels and reduce performance and productivity. The aesthetics of the workplace not only includes how it looks but also the layout. If employees have to navigate an office environment that isn't set up properly, it can just add even more tasks to their to-do list or require them to work inefficiently to get around the issues. Office design should also incorporate environmental considerations. This could be with adequate lighting or ventilation and indoor air quality. Indoor air pollution can cause discomfort for employees and even lead to health issues. Including air purifiers in your office design can help to create a better working environment and help to maintain good health for your employees. With high levels of employee satisfaction and well-being comes a high level of performance and productivity. Employees will be more motivated to work when they are in a positive environment. There have been numerous studies that show how interiors can boost job performance and productivity, using features such as natural light and plants and even artwork and specific colours. A study conducted by Craig Knight (2019) on Beyond Aesthetics: The Relationship between Artwork and productivity at Workplace at University of Exeter, United Kingdom showed that employees who worked in an environment that was decorated with plants and artwork were 17% more productive than those who worked in environments that were functional but bare. When a workplace has been thoughtfully designed, it can result in higher standards of work and more opportunities in higher standards of work and more opportunities for ideas and improved ways of working amongst the team. This can be through the aesthetic design of the work environment, but also in the types of spaces that are provided for employees, such as breakout rooms for collaboration working. A functional

and comfortable workspace will also mean employees can work more efficiently, with fewer distractions. Ergonomic design can help to improve and maintain employee health, so they are able to work comfortably and avoid aches and pains that can come from long periods of office work. This might involve an ergonomic office stool, standing desk converter and other ergonomic office equipment to create a bespoke ergonomic work station for each employee.

How Aesthetics can improve the work environment

Below are the best ways to use aesthetics to improve job performance, well-being and productivity I workspace.

➤ **Lighting:** Natural light has a direct impact on job performance, well-being and productivity. It can help employee to feel energized and focused, whereas a reliance on harsh electric lighting can cause fatigue. Personal desk lamps can help to improve the lighting in an office and also reduce the eye strain associated working on bright computer screens for long periods of time. You should also consider where screens are positioned to reduce glare. An adjustable laptop stand can make it easy for individuals to move their screen to work in the most comfortable position.

➤ **Colours:** Different colours in the workplace will inspire different feelings and results. Too much white and grey will create a drab and boring environment, which could hinder productivity and job performance. Warmer colours can be more stimulating and cooler tones can be more calming.

A study by the University of British Columbia found that blues and greens can create a calm and focused environment. As such, these tones are often used in workplaces as they can boost use in creative industries, as these tones more optimistic and can boost creativity. Using the right colours in the right areas of your establishment can help to boost job performance and productivity and help employees produce the best result.

➤ **Plants:** Plants are an easy way of incorporating natural element into your workspace. Plants can help to boost both employee mood and productivity/performance, and also create a tranquil and relaxing environment. Another benefit of plants is that they can help to improve the air quality within a space. When plants are incorporated into a work environment, it creates a more welcoming place and people will be happier to spend time there.

➤ **Office Furniture:** The furniture you use in your workspace should combine style and functionality. You should choose designs that reflect your establishment; whether that's sleek and minimal or vibrant. You should use quality, durable furniture that is built to last. They initial investment will probably save you money in the long run, as you won't have to replace it as quickly and also won't lose any working hours if something breaks and prevents an employee from being able to work. Quality furniture will usually be more comfortable for employees too, keeping their morale high to perform their duties.

➤ **Personalization:** You should allow employees to personalize their own workstation. People spend a lot of time at work, so being able to create an environment that suits them and makes them happy will help to keep morale, perform well at job and productivity high. In fact, the study by the University of Exeter showed that employees who were able to decorate their own workspace were 32% more productive than employees who worked in bare spaces.

➤ **Breakout Rooms and Collaborative Spaces:** When thinking about your office design, you should also think about the spaces that are available for your employees. Having

breakout room available for employees will give people a space to relax, unwind, and recharge. Employees will need to take regular break to ensure they can stay working productively and giving people a space to do that away from their desk can be really beneficial.

➤ **Keeping Your Office Space Clean and Organized:** A cluttered and disorganized workspace can hinder performance and productivity and contribute to stress. Establish a system for organizing documents, supplies and equipment. De-cluster your desk regularly and create designated storage spaces to keep everything in its place. Additionally, maintain cleanliness by regularly dusting surfaces, vacuuming the floor and wiping down electronic devices. A clean and organized home office promotes a clear mind and greater focus. Creating an aesthetic and ergonomic work environment for wellness is essential for anyone spending significant time working. By understanding the importance of aesthetics and ergonomics, planning the layout, selecting the right furniture, incorporating wellness elements, and maintaining your workspace, you can create an inviting and productive environment that promote overall well-being and enhances job performance (Better You, 2024).

Ergonomics and Employees Productivity

Ergonomics is a strategy that helps organizations to keep their best employees. Its aim is to improve workplace ergonomics in order to get the most work done for the least amount of money (Ranjana and Ankit, 2022). When ergonomics at work are improved, employee work better and are less likely to miss work or quit (Kahare, 2014). Risk factors in ergonomics include lighting, noise, temperature, vibration, heavy lifting, repetitive motion, workstation design, tool design, machine design, machine design, chair design and shoe design (Merino-Salazar, *et al*, (2022) ergonomics takes into account workers, organizational, environmental, social, physical and mental factors when designing the workplace, products, jobs, system and environment to make sure they fit their needs, abilities and limitations (Akinbola and Popoola, 2019). Ergonomics tries to improve both human health and overall principles, data and techniques. It is a scientific system that focuses on how people interact with other parts of a system (Ahmadi *et al*, 2015). So, ergonomics is a way to organize work so that tools are easy for workers to get to and the work environment is good for them. This leads to more work getting done (Mihartescu *et al*, 2021). In the same way, workplace ergonomics is a broad science that looks at many things that can affect an employee comfort and health such as lighting, temperature, heavy lifting, workstation design, repetitive motion, noise, vibration, tool design, machine design, chair design and show design, among others (Merino-Salazar *et al*, 2017). When we talk about productivity, we mean both what needs to be done and how it can be done. Productivity has become an important facet of work culture in the organization. In general terms, productivity refers to the conversion of inputs such as human resources, money, time into outputs (Shivangi and Nirmala, 2022). Nowadays, organizations are becoming more concerned on how to increase the productivity of employees (Yunus and Ernawati, 2017). Mainstream research revealed that the productivity of employees is associated with organization performance, the higher the employee productivity the better will be the organizations performance. Yunus and Ernaweti (2017) defined employee productivity as the capability to produce goods and services in order to achieve the organizational goal. Moreover, employees can be motivated by Maslow's hierarchy theory of needs through its lower level needs to higher-order needs entailing physiological needs, safety or security needs, social needs, self- esteem needs and self-actualization needs to be productive at the work place (Shivangi and Nirmala, 2022). Apart from these, there are also various other factors influencing employee productivity and the most important of them all is

the work environment in which people work (Awan and Tahir, 2015).

Ergonomic practices in workplace optimize employee interactions and make performing duties efficient and easy (Riya, 2019). When building work environments, it's important to think about people, social issues, work design and physical factors. Improving work conditions, lowering physical exhaustion and reducing stress caused by activities all improve human's well-being and quality of life at work (Hoff and Oberg, 2015). Poorly designed work environments can have a big effect on how well employees do their work and how happy they are, which in turn affect how much they produce. The idea of environmental comfort goes beyond just recognizing the need for a safe and healthy place to work.

Environmental comfort, which includes physical, psychological and functional comfort, should be used to see if workers have the tools, they need to do their jobs (Al Horr *et al*, 2016). The physical working environment has a big impact on how well and happy workers do their jobs. Most establishment try to make their workplaces more comfortable and the number of organizations using ergonomics to do so has been growing (Soewardi *et al*, 2016). By using good ergonomics, employee's health and safety could be improved which would lead to more work being done (Ahmadi *et al*, 2015). Ergonomics is used to cut costs, boost productivity, increase employee engagement and spread a safety culture, among other things (Socacio, 2015). Better lighting in the workplace can help workers avoid accidents, improve eye-hand coordination and increase productivity while lowering reject/defective rates (Ajala, 2015). Organizational culture, organizational structure, desk heights in relation to the monitor and keyboard, improper sitting, lighting, workflows, space in the workspace, design, and temperature can all affect how productive and committed employees are. Taking these things into account when it comes to ergonomics practices in an organization helps workers do their work better, improves the overall performance of the establishment and makes the business more profitable (Akinbola and Popoola, 2019). The hotel industry involves submitting to the client's desires. That is in terms of entertainment and satisfaction. Therefore, various activities are done daily, including reaching, lifting and repetitive movement. As a result, the body may lead to muscle strains leading to serious injuries. Thus, to prevent such injuries, the hotel industry should embrace ergonomics (Vance, 2022). Since ergonomics works as a preventive measure and increase productivity, it's considered a priority in all setups in hotel industry. The facility planning should incorporate strategies that create a user-friendly and safe workspace. Businesses in hotel industry require an environment that can accommodated future instability like diseases, disability, injury and aging. Keeping that in mind, facility planners use science of ergonomic principles for guidance, thus helping identify people's strength, size differences and senses. As a result, it creates several options for better lighting, space planning, people movement better furniture, noise management and improved layout (Vance, 2022).

Scientific Management Theory

This theory was propounded by Frederick Taylor in 1909. In this, he proposed that by optimizing and simplifying jobs, productivity would increase. He also advanced the idea that workers and managers needed to cooperate with one another. This was very different from the way work was typically done in businesses beforehand. A factory manager at that time had very little contact with the workers, and he left them on their own to produce the necessary product. There was no standardization and a worker's main motivation was often continued employment, so there was no incentive to work as quickly or as efficiently as possible. Taylor believed that all workers were motivated by money so he promoted the idea of "a fair days pay for a fair day's work". In other words, if a worker didn't achieve enough in a day, he didn't deserve to be paid as much as another worker who was highly productive.

Research Design

This study employed a survey research design. This design is preferred because it enables the researcher describe the area of research and explain the collected data in order to investigate the differences and similarities within a given period of time (time of research).

Population for The Study

The population for the study includes the staff of all the registered hotels in Ebonyi South Senatorial Zone of Ebonyi State Nigeria. Thus, the population for the study includes all the employees of the 37 registered hotels scattered across the 5 local government areas in Ebonyi South Senatorial Zone. The population for the study was 573 employees of the different categories of hotels from the study area.

Sample Size Determination

Taro Yamane's mathematical formula to determine the sample size as thus;

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

Where N = population size

n = Sample size

e = level of significance (0.05), i.e 5%

Therefore,

$$n = \frac{573}{1+573(0.05)^2}$$

$$n = \frac{573}{1+573(0.0025)}$$

$$n = \frac{573}{1+1.4325}$$

$$n = \frac{573}{2.4325}$$

$$n = 236 \text{ respondents}$$

Instrument for Data Collection

The instrument for this study was a structured questionnaire. Is an adapted version of a research instrument used in a study carried out by Arunfred (2017)? The instrument is a 4-point rating scale of Strongly Agree (4), Agree (3), Disagree (2), and Strongly Disagree (1).

Method of Data Collection

The instruments (structured questionnaire) for the study were administered to the respondents in their work places by the researcher and 2 research assistants through drop-and-pick method. This was done to ensure that a reasonable number of copies of the instrument are retrieved. The research assistants were trained on how to administer the instruments.

Method of Data Analysis

Data generated for this study were analyzed using both descriptive and influential statistics. Descriptive statistic such as frequency, percentage and mean were deployed in analyzing

demographic variables and the research questions for the study. The decision rule was to accept any mean score from 2.5 and above otherwise it is rejected.

Regression analysis was run SPSS version 25 for the hypotheses formulated to determine the relationship between ergonomics physical factors, employee well-being and job performance in hotel operations in the study area at 0.5 percent significance level ($\alpha=0.05$).

Results and Discussion

Table 1: Influence of ease of use as ergonomic physical factor play on productivity in hotel operations in Ebonyi South Senatorial Zone of Ebonyi State, Nigeria.

S/N	Ease of use Items	Frequency	Mean	Decision
1.	Increase efficiency and effectiveness	236	3.3	Accepted
2.	Makes work faster	236	3.1	Accepted
3.	Decrease in errors and mistakes	236	3.1	Accepted
4.	Increase employee motivation and Job satisfaction	236	3.2	Accepted
5.	Reduce wastage	236	3.0	Accepted
	Total	1,180	15.7	
	Grand mean	3.1		

Source: SPSS Extract, 2026

The table 1 reveals that the mean responses of increase efficiency and effectiveness, makes work faster, decrease in errors and mistakes, increase employee motivation and job satisfaction and reduce wastage are 3.3, 3.1 3.1, 3.2 and 3.0 respectively. Since the decision rule is to accept any mean score from 2.5 and above, all the items under ease of use were accepted and this indicates that ease of use influences productivity in hotel operations.

Table 2: Influence of aesthetics as ergonomic physical factor play on productivity in hotel operation in Ebonyi South Senatorial Zone of Ebonyi State, Nigeria.

S/N	Aesthetics Items	Frequency	Mean	Decision
1.	Well-designed workspace enhances Creativity and innovation among employees	236	3.1	Accepted
2.	Adequate lighting improves Productivity	236	3.0	Accepted
3.	Adequate ventilation increases Productivity	236	3.4	Accepted
4.	Indoor air quality increases productivity	236	3.0	Accepted
5.	Aesthetically workspace reduce distraction and improve workflow efficiency	236	3.4	Accepted
	Total	1,180	15.9	
	Grand mean	3.2		

Source: SPSS Extract, 2026

The table 2 reveals a that mean responses of well-designed workspace enhances creativity and innovation among employees, adequate lighting improves productivity, adequate ventilation increases productivity, aesthetically workspace reduce distraction and improve workflow efficiency are 3.1, 3.0, 3.4, 3.0 and 3.4 respectively. Since the decision rule is to

accept any mean score from 2.5 and above, all the items under aesthetics were accepted and this indicates that aesthetics influences productivity in hotel operations.

Test of Hypothesis

All hypotheses stated were tested.

Table 3: Ease of use as ergonomic physical factor and productivity

Regression Summary	R	R-Square	Adjusted R-square	Std Error of the Estimate
	0.965	0.956	0.979	0.40822

Source: Author's Computation using SPSS 26 statistical package

Significant at $P < 0.05$; $R = 0.965$; $R^2 = 0.956$; Adjusted $R^2 = 0.979$ and $F = 0.40822$

Table 3 above, the value of R-squared is 0.956. This indicates about 95.6 percent of the total variations observed in the criterion variable (ease of use as ergonomic physical factor on productivity), is explained by the predictor variable (Reduce wastage, increase employee motivation and satisfaction, make work faster, increase efficiency and effectiveness, decrease error and mistakes). This implies that the productivity explained about 95.6 percent of the total variations observed in ease of use as ergonomic physical factor. Also, the adjusted R-squared value is 0.979. This implies that the proportion of the total variations observed in the dependent variable by the independent variables is about 97.9 percent, meaning that ease of use as ergonomic physical factor has about 97.9 percent influence on productivity in hotel operations.

Table 4: Aesthetics as ergonomic physical factor and productivity in the study area.

Regression Summary	R	R-Square	Adjusted R-Square	Std Error of The Estimate
	0.946	0.967	0.953	0.04814

Source: Author's Computation using SPSS 26 statistical package

Significant at $P < 0.05$; $R = 0.946$; $R^2 = 0.967$; Adjusted $R^2 = 0.953$ and $F = 0.04814$

Predictors: (constant), aesthetically workspace reduces distraction and improves workflow efficiency, indoor air quality increase productivity, well designed workspace enhances creativity and innovation, adequate ventilation increase productivity, and adequate lightening improves productivity. Table 4 above, the value of R-squared is 0.967. This indicates about 96.7 percent of the total variations observed in the criterion variable (aesthetics as ergonomic physical factor on productivity), is explained by the predictor variable (Reduce wastage, increase employee motivation and satisfaction, make work faster, increase efficiency and effectiveness, decrease error and mistakes). This implies that the productivity explained about 96.7 percent of the total variations observed in aesthetics as ergonomic physical factor. Also, the adjusted R-squared value is 0.953. This implies that the proportion of the total variations observed in the dependent variable by the independent variables is about 95.3 percent, meaning that aesthetics as ergonomic physical factor has about 95.3 percent influence on productivity in hotel operations.

Findings

From the data collected and analyzed on the research questions and tested hypotheses, the following findings were made.

1. Ease of use as ergonomic physical factor increase efficiency and effectiveness in terms of

productivity, make production faster, decrease in errors and mistakes during production in hotel

2. A well-designed workspace enhances creativity and innovation among employees, improve productivity and reduce distractions and improve workflow efficiency in hotel operations.

Conclusion

On the strength of the findings of this study, it is concluded that ease of use and aesthetics as ergonomics physical factor have significance influence on productivity in hotel operations in the study area.

Recommendations

In view of the findings, the following recommendations are made:

1. Equipment, tools, machines and workstations should be made to be in good shape in order to increase efficiency and effectiveness in terms of productivity, make production fast and accurate, decrease errors and mistakes during production in hotel operations.
2. Workplace environment should be designed in such a way as to enhance creativity and innovation among employees, improve high level of productivity and reduce distraction and also make workflow more effective.

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