The Effect of Work Environment on Employee Productivity: A Case Study of Manufacturing Company

Muhammad Ammar Shafi, Ng Siau Le, Hafizah Zulkipli, Muhammad Asyraf Hasim, Mohd Zarir Yusoff

Faculty of Technology Management and Business, Universiti Tun Hussein Onn, Malaysia

Corresponding author: <u>ammar@uthm.edu.my</u>

Abstract - The work environment plays an important role in employee productivity. Due to the work environment is a set of relationships that exist between employees and the environment where they work. In addition, we can see that most of the common problems that affect the work environment and productivity of employees in manufacturing companies in Batu Pahat is that the workplace perspective of most companies is unhealthy and dangerous. Therefore, this study focuses on the effect of the work environment on employee productivity in a Batu Pahat manufacturing company. In this study, the researcher aims to identify the effect of the work environment on employee productivity in a Batu Pahat manufacturing company. Quantitative methods are used in this research. Questionnaires were distributed to 384 respondents in manufacturing companies in Batu Pahat. The response rate was 70.31% and data was collected and analyzed using the Statistical Package for Social Science (SPSS). The results of the descriptive analysis show that working conditions are the main effect of employee productivity in manufacturing companies in Batu Pahat. The physical work environment, working conditions and workplace layout have a significant relationship between employee productivity. This research will help research to know more about the effects of the work environment that can affect employee productivity.

Keywords - Employee Productivity, Employee, Workplace, Manufacturing Company, Work Environment

ARTICLE INFO

Received 10 April 2023 Received in revised form 25 May 2023 Accepted 8 June 2023 Published 25 June 2023

I. Introduction

Nowadays, each company usually incorporates a goal to increase the productivity of its employees. In some cases, productivity is measured by taking into consideration performance enhancements once there are fewer absences, fewer workers leave early (Amofa et. al 2017). An important issue that firms have got to take into consideration so as to increase work productivity is the comfort of the work environment. This is due to the fact that productivity is a vital need of a firm in order for its sustainability or operations to be realised (Cury & Saraiva, 2018; Dangelico, 2016; Nguyen et al., 2019; Oey et al., 2020; T. Singh & Malhotra, 2020).

The work environment has a significant impact on employee productivity. Because the office environment is a set of interrelationships that exist between the individual and the environment in which they function, it includes the physical location as well as the immediate surroundings, behavioural routines, regulations, rules, resources, and dealing relationships, all of which have an influence on employee productivity and performance. Furthermore, the work environment influences corporate workers' capacity to do their assigned responsibilities.

Employee productivity suffers as a result. A good working environment can improve performance, whereas a bad working environment can increase the number of mistakes made by employees. (Cassely et al., 2020; Husin & Kernain, 2020; Rameshwar et al., 2020; Rodrigo Alarcón et al., 2020; Saleh et al., 2020; Szlang & Bruch, 2020; Szlang & Bruch, 2020).

According to Chika Ebenezer Duru, D. S. (2017), understanding the impact of the workplace environment on labour productivity cannot be overstated or viewed as a ruse in every organization. Ability has demonstrated that representatives are directly influenced by the climate they comprehend or where their talent cannot achieve anything about efficiency if the climate is not contributing. This is material to workers' openly undertakings today, particularly in assembling organizations, and the issue of the useful idea of representatives is combined with the idea of the unfavourable climate.

Meanwhile, there are two types of workplace environment will affect employee productivity according to Aisyah, S., Deswindi, L., & Indrajaya, D (2020), namely the physical and non-physical environments A non-physical working environment includes all situations that arise as a result of work interactions, including all relationships with superiors, fellow coworker relationships, and connections with subordinates. As a result, the non-physical environment might influence staff productivity and performance. Companies should be prepared to foster positive connections among their employees so that they can help one another achieve common goals. Aside from that, our physical working environment is our natural environment, and whether or not it's clean or unclean, the things between them, as well as the way they move, shape the space. Temperature, noise, illumination, and other physical work environment elements.

Additionally, there are a number of problems with creating new offices; both the parties engaged and their clients encounter a number of challenges and problems. They must take into account more strategic factors like occupancy costs, the efficacy of the work environment, and environmental impact in addition to more pragmatic considerations like the need for space, long-distance connectivity, IT equipment, and furnishings. One of the most important concerns about office ideas in the early stages is: what style of office design best suits the work processes and organizational culture? Should all employees have their own workstations, or will they share desks? Is it better to work in a closed office or a more open environment? Maybe the answer in the middle is the best? How many and type of meeting rooms do we need? (Wangechi, N. M., & Ndeto, M., 2019).

Besides that, an understanding of the impact of the work environment on the productivity of workers can't be overstressed or seen as a magnification in any organization. According to Rabiat Bola Abdulmumeen (2021), poor working conditions endanger workers' health, causing them to work with less joy and enthusiasm. It'll hinder and interfere with the progress of the worker. According to Rabiat Bola Abdulmumeen (2021), experience has shown that workers are directly influenced by the environment in which they find themselves, as their ability to succeed means nothing in terms of productivity if the environment is not conducive. The success of any organization is closely tied to the duties and performance of its employees. Thus, having an applicable work environment helps in reducing the quantity of absences and, as a result, will improve performance in today's competitive and dynamic business world. The sort of work environment set will have an effect employee productivity either positively or negatively.

The approach within the workplace of most organizations is hazardous and damaging, which is one of the most common issues affecting the work environment and the productivity of employees in manufacturing companies in Batu Pahat. Inadequate furniture, workstation construction, air quality, noise level, lighting, personal protective equipment, and safety measures are all examples (Wangechi, N.M., & Ndeto, M. 2019). As a result, those who work in such conditions are greatly weakened by the presence of infectious illnesses and are unable to achieve their full potential. Having a healthy atmosphere is important because, as stated by Shimawua, C.E.D. & D. (2017), each organization exists to accomplish a certain goal. One prevalent issue in certain workplaces is a lack of basic amenities such as air conditioning, carpeting or tiling, and state-of-the-art ventilation systems. There might be some overlap between offices and divisions within the firm. Many workplaces are dreary and unappealing places to work. Some of them are missing crucial features like louvres and heavy timbers on their roofs, while others are too light and have unfinished surfaces.

When compared to other outside employment opportunities, the current situation does not look promising. Some workplaces are filthy and inefficient. Most departments have modest floor spaces with goods such as tables, chairs, papers, files, and other items strewn around. Because of the association between colour alternatives and worker morale, some workplaces were provided with them while others were not. Several of these facilities are painted in an extremely dark manner, making the workplace appear dreary, and several of the department's global services are poorly ordered.

Therefore, to achieve the research objectives are to determine the relationship between physical work environment, working condition, workplace layout and employee productivity in Batu Pahat manufacturing companies. This research looks at the impact of the work environment on employee productivity in Batu Pahat manufacturing firms. The researcher's goal in this study is to determine the influence of the work environment on employee productivity in Batu Pahat manufacturing enterprises. Furthermore, researchers might investigate the link between physical conditions and staff productivity in Batu Pahat industrial firms. Furthermore, researchers can discover the association between work conditions and employee productivity in Batu Pahat manufacturing firms, as well as the relationship between office architecture and staff productivity.

II. Literature Review

Employee Productivity

Several important factors that enhance worker skills have an impact on employee productivity. For instance, stress the fact that employees with a lot of in-depth knowledge of the role will perform better as their abilities and competencies grow. Additionally, training and development are essential to the growth and development of worker productivity because training influences productivity through the acquisition of specialised knowledge and skills as well as enhanced task performance abilities. The achievement of worker productivity is influenced by several distinct factors. The physical working environment, tools, meaningful work, productivity goals and feedback, rewards for good or risky systems, standard operating procedures, knowledge, skills, and attitude are some examples of these factors.

Employee productivity, according to Wangechi, N. M., & Ndeto, M. (2019), depends on internal motivation. On the other hand, internal factors like the skills, knowledge, and resources needed to complete the activity unquestionably play a role. In order to ensure that employee productivity meets the necessary standards, businesses must offer adequate working circumstances.**2.4** Working Condition

According to the business dictionary, "working conditions" refers to the working environment and every situation impacting employees at the workplace, including job hours, physical features, legal rights and obligations, organisational culture, workload, and training. Muhammad & Muhammad (2016) defined working circumstances as "conditions formed by the interaction of a worker with their structural environment and including both psychological and physical working conditions."

Consistent with Yesufu (1984), as cited in Muhammad & Muhammad (2016), the physical condition under which workers work is vital to output. Offices and factories that are too hot and ill-ventilated are debilitating to effort. There ought to be adequate provisions to protect consumer goods, drinking water, rest rooms, toilets, aid facilities, and so on. Every manager and employee ought to be safety-conscious at all time, and therefore the factory's minimum desires ought to be respected.

Work Environment/ Conditions

Employees perform their everyday tasks in the work environment. Employees can perform at their greatest level in a supportive work environment that fosters a sense of safety (Afanasyev et al., 2020; Idoko et al., 2020; Revin et al., 2020; Reves Romero et al., 2020; Tryma et al., 2020; Turanina et al., 2020). The workplace has an effect on employees' emotional states. A worker who enjoys his workplace will feel at home there and work harder to complete the task at hand (Alhamda et al., 2020; Alzamel et al., 2020; Chalikias et al., 2020; Gulzar et al., 2020; Liao et al., 2020; Riyadi et al., 2020). This will ensure that his time is used effectively and that his positive work performance is high.

In addition, working environments, which include inside, outdoors, at the table, and within the region, express the significance of those environments in your workplace in a very literal sense, according to Rabiat Bola Abdulmumeen (2021). Additionally, it describes a person's positive, unfavourable, or sociable disposition. It is stated that a positive work environment encourages interaction between employees and performance. The standard of an employee's working environment is intimately related to job performance, and several managers in a company have begun to recognise the importance of the workplace environment in developing good employees. In fact, the office environment's quality has the strongest impact on employee engagement and job performance.

Physical and Non-Physical Work Environment

The physical workplace environment determines whether a person or employee will be a good fit or a soul mate there. The physical setting of the workplace will be identified as a technology workplace. To identify a match or analyse the physical office environment for each employee within the company, research on this topic is necessary. Their company's technologically advanced physical work environment lowers the possibility of employees suffering from nerve injuries. (K. Nadeem, A. Ahmad, & 2017). Numerous physical aspects of the workplace, including lighting, office design, furniture, and slick floors, need to be upgraded. They came to the conclusion that the physical aspects of the workplace should be suitable so that employees don't feel stressed out as they complete their responsibilities.

They also discovered via their research that elements of the physical environment are crucial in the development of networks and partnerships at work. Employee performance will increase by 5 to 10% if the physical environment of the workplace is changed. According to Nadeem, K., and Ahmad, A. (2017), the physical work environment is connected to a number of factors. The layout of the office and its level of comfort, which together make up the two most crucial factors, are the same. Ahmad, A., and Nadeem, K. (2017). To meet the structural and personal goals, the physical work environment should be set up in a way that supports achieving the necessary goals.

The non-physical work environment, according to Senisab, N. R (2019), includes all scenarios that take place at work that are related to work relationships, like interactions with superiors, coworkers, and subordinates.

According to Senisab, N. R. (2019), businesses must be able to replicate the conditions that foster cooperation between managers, employees, and others in related roles. A supportive home environment, together with great communication and self-control abilities, are necessary conditions.

Based on these concepts, the psychological work environment, which refers to the non-physical conditions that surround the workplace, is another name for the non-physical work environment. Although this work environment cannot be accurately recorded by the five human senses, its presence can be felt. Given the framework, it is possible to deduce that the non-physical work environment is one that can only be sensed and cannot be captured by the five senses of humans. Through interactions between coworkers, subordinates and superiors, and superiors and subordinates, staff can detect this non-physical work environment.

Conceptual Framework

Figure 2.1 displays the conceptual foundation for this investigation. The effects of the work environment, including the physical work environment, working conditions, and office layout, are the model's independent variables. The productivity of the workforce is a dependent variable.



Figure 2.1: Conceptual foundation

Research Hypotheses

There are three research hypotheses of the study:

- H₁: There is a relationship between the physical work environment of the work environment and employee productivity.
- H₂: There is a relationship between the working conditions of the work environment and employee productivity.
- H₃: There is a relationship between the workplace layout of the work environment and employee productivity.

III. Methodology

Research Design

A quantitative approach was appropriate and used to gather data. The researcher decided to use questionnaires as a method of data collection. The respondents were chosen at random from a group of Batu Pahat-area manufacturing businesses. The data were then evaluated using the SPSS software system for a range of analyses, including reliability analysis, descriptive analysis, normality check, and correlation, in order to achieve the study's objectives.

Statistical methods used to look at the relationships between dependent and independent variables of the research and expressing the patterns with numbers. It also helps the researcher to make decision on accept or reject those hypotheses of the study which to determine the relationship between both variables. Quantitative methods are normally used for multiple regression which rely on questionnaires, surveys or scales and relationship between both variables.

The purpose of quantitative research is to isolate the independent variable and manipulate it to observe the effect of dependent variable. A quantitative strategy was applicable and used in this investigation to collect data. Questionnaires were chosen as a technique to help the researcher collect data. The responders were selected at random from a population of manufacturing enterprises in the Batu Pahat area. In order to meet the study objectives, the data were then analysed using the SPSS software system for a variety of analyses, including reliability analysis, descriptive analysis, normality check, and correlation.

Data Collection

Primary data collected were employed in the research to acquire details on the subject. The primary sources used were questionnaires, interviews, and observation. It is direct knowledge from the respondent. Primary data is more trustworthy and valid if it hasn't been published, updated, or changed by humans (Kabir, 2016). The core data for this study was gathered from respondents using a questionnaire.

Data Analysis

To fulfil the research objectives, which include reliability analysis, descriptive analysis, normalcy analysis, and correlation analysis, quantitative statistical software programmes will be used.

(a) Descriptive analysis

The initial step in the entire data analysis process is descriptive analysis. It is used to provide the data in more understandable and descriptive formats. measurements of central tendency and measurements of variability are the two types of descriptive analysis. The mean or average of the data was measured in this study using a measure of central tendency. The range of mean values between 1.00 and 2.33 is considered weak, 2.34 to 3.67 is considered moderate, and 3.68 to 5.00 is considered high. In this study, the respondent profile which includes details on gender, age, education level, department, position, and duration of service is described using descriptive analysis. Additionally, the organization's profile listed its years of existence, the number of full-time employees, and the ownership structure..

(b) Reliability Analysis

A distinctive evaluation of the internal consistency and reliability of the variables under examination is provided by the reliability analysis. Examining the consistency between the pilot and main studies is the aim of the reliability test. Cronbach's alpha, also known as reliability coefficients, ranges from 0.80 to 0.90, with values of 1.00 indicating complete reliability, 0.00 indicating complete unreliability, and 0.00 indicating complete unreliability of the surveys.

(c) Normality Analysis

In order to determine whether the data set was adequately modelled and to estimate the probability that the data will be regularly distributed for random variables, normality analysis is utilised. Two well-known tests for normalcy are the Shapiro-Wilk Test and the Kolmogorov-Smirnov Test. Kolmogorov-Smirnov was chosen since the sample size was larger than 50, whereas Shapiro Wilk was used because it was less than 50.

(d) Correlation Analysis

The relationship between a dependent variable and a number of independent variables is discovered through correlation analysis. Employee productivity is the dependent variable, and working conditions, workplace design, and the physical work environment are the independent variables that affect it. Pearson and Spearman correlations were often employed in study correlation analysis. The Pearson correlation is employed if the data has a normal distribution; otherwise, the Spearman correlation is used. The Pearson correlation gauges the strength of linear relationships by dividing the sample values of the two variables by the sum of their standard deviations. Because there are no significant linear relationships between the variables, Pearson correlation has a weak correlation coefficient. Since it is sensitive to outliers, the correlation coefficient is not robust against them (Dudovskiy, 2018). Spearman Rank Correlation, in accordance with Dudovskiy (2018), necessitates sorting the data and allocating each value a separate rank, with 1 being the lowest value. Additionally, if a single data value occurs multiple times, its average rank will be shown.

IV. Results and Discussion

Response Rate

The questionnaires which 384 questionnaires were given to the manufacturing company's employees by the researchers. According to Krejcie & Morgan (1970), 384 respondents are required in order for the surveys to be completed. 270 sets of questionnaires, however, have been successfully returned to the researcher. This study's response rate is 70.31%. The response rate to the survey is shown in Table 1 below.

Item	Description
Population	100000
Sample Size	384
Questionnaire distributed	384
Questionnaire form that returned back to the researcher	270
Percentage of respondents' feedback	70.31%

Reliability Analysis

Reliability analysis was used to determine the internal consistency which the same data can be obtain in the same statement more than one time (Mohajan, 2017). Cronbach's alpha (α) is the most common measurement for the reliability analysis.

(a) Reliability of Pilot Study

A total of 15 questionnaires has been used which was random distributed from the sample size of the research conduct this pilot test. The result of the questionnaire was analyzed using SPSS software.

	Cronbach's Alpha	N-item in scale	Interpretation
Independent Variables			
Physical Work Environment	0.84	5	Good
Working Condition	0.85	5	Good
Workplace Layout	0.82	5	Good
Dependent Variable			
Employee Productivity	0.82	5	Good

Table 2 Reliability for Pilot Study Result

(b) Reliability for Actual Study

Actual study was conducted after the result of pilot study that the questionnaires were reliable and valid. Table 3 shows the result of reliability test conducted for the actual study. The respondents were 270 employees represented from manufacturing company.

Table 3 Reliability for Actual Study Result

	Cronbach's Alpha	N-item in scale	Interpretation
Independent Variables			
Physical Work Environment	0.80	5	Good
Working Condition	0.82	5	Good
Workplace Layout	0.77	5	Good
Dependent Variable			
Employee Productivity	0.81	5	Good

Demographic Analysis

Table 4 showed how the part A question's design connected to the respondent's demographic data. Questions on gender, age, ethnicity, education, department, work experience, manufacturing sector kinds, years since company establishment, and ownership of the company were often asked. All of the information from the questionnaire responses was analysed, and the results were presented in a table and pie chart with frequency and percentage.

Table 4 Demographic Information of Respondents

Demographic	Details	Frequency	Percentage (%)
Gender	Male	132	48.9
	Female	138	51.1
Age	18-25 years old	57	21.1
	26-35 years old	107	39.6
	36-50 years old	86	31.9
	51-65 years old	20	7.4
Ethnicity	Malay	104	38.5
	Chinese	119	44.1
	Indian	47	17.4
Education Level	O-level/SPM	49	18.1
	Certificate/STPM	56	20.7
	Diploma	74	27.4
	Degree	79	29.3
	Master/PhD	12	4.4
Department	Finance	50	18.5
	Human Resource	56	20.7
	Marketing	40	14.8
	Operation	70	25.9
	Production	52	19.3
	Packing	1	0.4

Journal of International Business, Economics and Entrepreneurship e-ISSN :2550-1429 Volume 8, (1) June 2023

	Sales	1	0.4
Work Experience (Total)	Less than 4 years	72	26.7
	5 to 10 years	129	47.8
	More than 10 years	69	25.6
Types of Manufacturing Sector	Basic of metals	19	7.0
	Food product and beverages	41	15.2
	Textiles and wearing apparel	38	14.1
	Wood and of products of wood and cork	27	10
	Paper or paper products	21	7.8
	Chemicals and chemical products	26	9.6
	Rubber and plastics products	21	7.8
	Computer, electric, electronic and optical equipment	22	8.1
	Furniture	31	11.5
	Motor vehicles, trailers and semi-trailers	15	5.6
	Sticker printing	9	3.3
Years of Company's Establishment	Less than 3 years	12	4.4
	4 to 10 years	32	11.9
	More than 10 years	226	83.7
Company Ownership	Malaysian Owned	153	56.7
	Foreign Owned	117	43.3

Descriptive Analysis

(a) Descriptive Data for Level of Effect of Work Environment

According to Table 5, my office has a lot of natural light, which has the highest mean value for the physical work environment (4.49) and my workstation is pleasant enough for me to work for long stretches of time without becoming tired (4.31). The following result had a mean of 4.26, and the respondents agreed that I had enough windows in my workspace to meet my needs for light and fresh air. The average illumination level in my workstation, which allows me to work comfortably without putting too much pressure on my eyes, is 4.18. The lowest mean is 4.08, and I will be more productive in a quiet environment.

Table 5 The Physical Work Environment of Employee Productivity Descriptive Analysis

	Statement	Mean	Interpretation
1.	My workspace is comfortable enough for me to work for extended periods of time without feeling exhausted.	4.31	High
2.	Noise free environment will increase my productivity.	4.08	High
3.	Number of windows in my work area complete my fresh air and light need.	4.26	High
4.	Ample amount of natural light comes into my office.	4.39	High
5.	My workspace is provided with efficient lighting so that I can work easily without strain on my eyes.	4.18	High
	Total Average	4.24	High

Table 6 shows the highest mean of working condition of employee productivity where I am content with the workload I have been assigned since it allows me to strike a healthy work-life balance and employees and management at my workplace collaborate to ensure the safest possible working conditions with the mean at 4.39. Next, I am satisfied with the working condition at work is the second highest mean which is 4.30.

At my workplace, I have the necessities for feeling at ease and working comfortably has the mean at 4.26 while the lowest mean is 4.25 which is the management where I work places a major focus on worker safety. Overall, the total average of working condition is 4.32, which is still within the high central tendency level of range.

	Statement	Mean	Interpretation
1.	I am satisfied with the working conditions at work.	4.30	High
2.	I am content with the workload I have been assigned since it allows me to strike a healthy work-life balance.	4.39	High
3.	At my workplace, I have the necessities for feeling at ease and working comfortably.	4.26	High
4.	The management where I work places a major focus on worker safety.	4.25	High
5.	Employees and management at my workplace collaborate to ensure the safest possible working conditions.	4.39	High
	Total Average	4.32	High

Table 6 The Working Condition of Employee Productivity Descriptive Analysis

Based on Table 7, the highest mean in the workplace layout of employee productivity as one of the effect of work environment is 4.27 which the respondents answered for the building provides sufficient formal and informal spaces for group collaboration. While, there are two statements have the same value of mean in 4.21. The statements are the building provides pleasant spaces (e.g. indoor or outdoor green spaces, breakout areas) for rest and relaxation and the design of my workspace enables me to do my work without being bothered or interrupted. Next, my usual workspace can be customized (or altered) to fit my priorities has the mean at 4.26 while the layout of the office and work space here is good has the mean 4.22. The result of analysis indicates that they have a high central tendency level of range.

Table 7 The Workplace Layout of Employee Productivity Descriptive Analysis

	Statement	Mean	Interpretation
1.	The building provides pleasant spaces (e.g. indoor or outdoor green spaces, breakout areas) for rest and relaxation.	4.21	High
2.	The layout of the office and work space here is good.	4.22	High
3.	The design of my workspace enables me to do my work without being bothered or interrupted.	4.21	High
4.	My usual workspace can be customised (or altered) to fit my priorities.	4.26	High
5.	The building provides sufficient formal and informal spaces for group collaboration.	4.27	High
	Total Average	4.23	High

(b) Descriptive Data for Level of Employee Productivity

Table 8 Employee Productivity Descriptive Analysis

	Statement	Mean	Interpretation
1.	I accomplish tasks quickly and efficiently.	4.21	High
2.	I have high standards of task achievement.	4.26	High
3.	I've been provided with the opportunity to upgrade myself and learn new skills.	4.21	High
4.	In my workplace, we have used the latest technology and techniques to improve the efficiency of the employees.	4.18	High
5.	At my job, the employee's thoughts on the work environment and any ideas they have for making it better.	4.26	High
	Total Average	4.22	High

Table 8 showed that 4.26 is the highest mean of the employee productivity among employees which respondents agreed that I have high standards of task achievement and at my job, we will ask employees for their thoughts on the work environment and any ideas they have for making it better. Moreover, there are two statements have the same value of mean in 4.21. The statements are I accomplish tasks quickly and efficiently and I've been provided with the opportunity to upgrade my and learn new skills. While the lowest mean in this variable is 4.18 for in my workplace, we have used the latest technology and techniques to improve the efficiency of the employees. The result shows that the employee productivity among employee has the high average mean score of 4.22. This indicated that they have high central tendency level of range.

Normality Test

Based on Table 9, the p-value for the employee productivity-dependent variable is 0.000. The result of the test for normality shows that the p-values for the dependent variables are less than 0.05. So, because this data is not normally distributed, the research will proceed with the Spearman correlation analysis.

Table 9	Result	of Norn	nality test
---------	--------	---------	-------------

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig
Dependent Variable						
Employee Productivity	.332	270	.000	.812	270	.000

a. Lilliefors Significance Correction

Correlation Analysis

Table 10 shows the results of Spearman's Correlation Coefficient, r is 0.791 which was a strong relationship between physical work environment and work environment. The correlation analysis supports a significant positive relationship between physical work environment and work environment. Therefore, H1 is supported. Next, the results of Spearman's Correlation Coefficient, r is 0.477 which was a moderate relationship between working condition and work environment. The correlation analysis supports a significant positive relationship between working condition and work environment. Therefore, H2 is supported. There is a strong relationship between workplace layout and work environment where the r is 0.715. The correlation analysis supports a significant positive relationship between workplace layout and work environment. Therefore, H3 is supported

Table 10 Result of Spearman' Correlation

	PWE	WC	WL	EP
PWE	1.000			
WC	.546**	1.000		
WL	.668**	.747**	1.000	
EP	.791**	.477**	.715**	1.000

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

Note: PWE: Physical Work Environment; WC: Working Condition; WL: Workplace Layout; EP: Employee Productivity

Summary of Hypotheses

Based on the result, H1 to H3 are supported. So, we can conclude that the questions in this survey are related to the work environment and there is relationship between work environment and employee productivity.

Table 4.11 Summary of Hypotheses

Hypothesis	Result
H ₁ : There is a relationship between physical work environment and employee	Supported
productivity.	
H ₂ : There is a relationship between working condition and employee productivity.	Supported
H ₃ : There is a relationship between workplace layout and employee productivity.	

V. CONCLUSION

The study shows that there is a considerable correlation between the workplace and employees' productivity. It shows that conducive working conditions encourage a positive and productive workplace. Besides that, an employee's level of productivity is greatly influenced by the environment in any particular firm. A positive work environment improves productivity and gives employees more motivation to carry out their daily responsibilities. The study's findings also led to the conclusion that the workplace has a big impact on employee productivity. Through the data analysis and discussion, the objectives of the research have been achieved and are supported by previous research.

Acknowledgements

The authors would also like to thank the Faculty of Technology Management and Business, Universiti Tun Hussein Onn Malaysia for its support.

References

- Abdul Basit, A., Hermina, T., & Al Kautsar, M. (2018). The Influence of Internal Motivation and Work Environment on Employee Productivity. *KnE Social Sciences*, 3(10), 790–800. <u>https://doi.org/10.18502/kss.v3i10.3424</u>
- Aisyah, S., Deswindi, L., & Indrajaya, D. (2020). Are Physical and Non-Physical Working Environment Effect Employees Productivity with Motivation as an Intervening Factor? 149(Apmrc 2019), 242–247. <u>https://doi.org/10.2991/aebmr.k.200812.042</u>
- Almaamari, Q. A., & Alaswad, H. I. (2021). Factors Influencing Employees' Productivity- Literature Review. *Academy of Entrepreneurship Journal*, 27(3), 1–7.
- Al-Omari, K., & Okasheh, H. (2017). The influence of work environment on job performance. *International Journal of Applied Engineering Research*, *12*(24), 15544–15550. <u>http://www.ripublication.com</u>
- Atmaja, N. P. C. D., & Puspitawati, N. M. D. (2018). Effect of Physical Work Environment Through Productivity Employes Job Satisfaction as an Intervening Variable. *International Journal of Business, Economics and Law*, 17(5), 98–104.
- Fitri, V. S., & Arini, E. (2021). The Influence of Dual Role Confectionary and Work Environment On Employee Performance. *BIMA Journal (Business, Management, & Accounting Journal)*, 2(2), 97–109. <u>https://doi.org/10.37638/bima.2.2.97-109</u>
- Foldspang, L., Mark, M., Rants, L. L., Laurits, R. H., & Langholz, C. C. (2017). Working environment and productivity. <u>http://dx.doi.org/10.6027/TN2014-546</u>
- Hafee, I., Yingjun, Z., Hafeez, S., Mansoor, R., & Rehman, K. U. (2019). Impact of Workplace Environment on Employee Performance: Mediating Role of Employee Health. *Business, Management and Education*, 17(2), 173–193. <u>https://doi.org/10.3846/bme.2019.10379</u>
- Irawan Setiyanto, A., Jurusan Manajemen Bisnis, N., Negeri Batam, P., & Jurusan Manajemen Bisnis, I. (2017). Impact of Work Environment on Employee Productivity in Shipyard Manufacturing Company. *Journal of Applied Accounting and Taxation Article History*, 2(1), 31–36.
- Johnson, B., Zimmermann, T., & Bird, C. (2021). The Effect of Work Environments on Productivity and Satisfaction of Software Engineers. *IEEE Transactions on Software Engineering*, 47(4), 736–757. https://doi.org/10.1109/TSE.2019.2903053
- Korang-Yeboah, B., & Buobi, R. (2021). Working conditions and employee's productivity: Evidence from a health centre in Ghana. In *Journal of Management Info* (Vol. 8, Issue 1, pp. 13–27). <u>https://doi.org/10.31580/jmi.v8i1.1736</u>
- Massoudi, D. A. H., & Hamdi, D. S. S. A. (2017). The Consequence of work environment on Employees Productivity. *IOSR Journal of Business and Management*, 19(01), 35–42. <u>https://doi.org/10.9790/487x-1901033542</u>
- Mora, Z., Suharyanto, A., & Yahya, M. (2020). Effect of Work Safety and Work Healthy Towards Employee's Productivity in PT. Sisirau Aceh Tamiang. Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences, 3(2), 753–760. <u>https://doi.org/10.33258/birci.v3i2.887</u>
- Mumeen, R. B. A. (2017). Influence of Workplace Environment on Worker's Productivity in Kwara State. 80.
- Nadeem, K., & Ahmad, A. (2017). Impact of Work Environment Factors on Employee Performance; Empirical Evidence from Manufacturing Industry of Lahore. *Manajemen Sciences*, *11*(03), 422–436.
- Prasetya, R. G. (2017). The Effect of Work Environment on Employee Productivity: A Case Study of Edo City Transport Service Benin City, Edo State Nigeria. *European Journal of Business and Innovation Research*, 5(5), 6–18.

- Prasetyo, I., Aliyyah, N., Rusdiyanto, Chamariah, Syahrial, R., Nartasari, D. R., Yuventius, Wibowo, H., Sanjayanto, & Sulistiyowati. (2021). Discipline and work environment affect employee productivity: Evidence from Indonesia. *International Journal of Entrepreneurship*, 25(5), 1–32. <u>https://doi.org/10.20944/preprints202105.0112.v1</u>
- Ratnasahara Elisabeth, D., Suyono, J., & Sukaris. (2020). The effect of work environment and social security on employees' productivity of production department in textile industry. *Journal of Physics: Conference Series*, 1573(1). <u>https://doi.org/10.1088/1742-6596/1573/1/012008</u>
- Riyanto, S., Sutrisno, A., & Ali, H. (2017). International Review of Management and Marketing the Impact of Working Motivation and Working Environment on Employees Performance in Indonesia Stock Exchange. *International Review of Management and Marketing*, 7(3), 342–348. http://www.econjournals.com
- S.E., N. I., S.A.B, N. R., & M.A, B. P. (2019). The Influence of Non-Physical Work Environment and Job Characteristics on Employee Performance at PT. Daliatex Kusuma in Bandung. *International Journal of Social Sciences Perspectives*, 4(1), 22–37. <u>https://doi.org/10.33094/7.2017.2019.41.22.37</u>
- Shukla, S. (2020). Concept of Population and Sample. *How to Write a Research Paper, June,* 1–6. https://www.researchgate.net/publication/346426707_CONCEPT_OF_POPULATION_AND_SAMPLE
- Sukdeo, N. (2017). The effect of the working environment on employee satisfaction and productivity: A case study in a clothing manufacturing factory. *Proceedings of the International Conference on Industrial Engineering and Operations Management*, 2017(OCT), 1112–1121.
- Sunarto, A., & Maulana, D. (2021). The Effect of Discipline and Physical Work Environment on Employee Productivity at PT. Liebra Permana Gunung Putri Bogor. 9(2), 318–335.
- Wangechi, N. M., & Ndeto, M. (2019). Influence of Workplace Environment on Employee Productivity in Nairobi City County. International Academic Journal of Human Resource and Business Administration, 3(7), 117–139.