

An Empirical Study on the Factors of Workplace Environment on the Employee Performance: A Case of Manufacturing Company

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Abstract: This study is to investigate the effect of workplace environment's factors which consist of job aid, supervisor support and physical workplace environment towards employees' performance. Method in this study is through the survey method which 139 number of questionnaires had been collected at three main workplaces of Manufacturing Company. Based on the output result, it shows that there is only one variable which is the supervisor support that is not significant towards the employees' performance. Meanwhile, the other two variables which are job aid and physical workplace environment are having a significant relationship towards the employees' performance. By having this study, there are some limitations that occur in order to further this study. Some of the limitations effect the elaboration of points in this research study.

IndexTerms - Job Aid, Supervisor Support, Physical Workplace Environment, Employees Performance.

1. Introduction

Factors of workplace environment play an important role towards the employees' performance. The factors of workplace environment also give a big impact to the employees' whether towards the negative outcomes or the positive outcomes (Chandrasekar, 2001). Over the last decades, the factors of work environment of the office workers had changed due to the changes of some several factors such as the social factor, information technology factor and also the flexible ways of organizing work processes factor (Hasun & Makhbul, 2005). According to Boles, Pelletier and Lynch (2004), when the employees' are physically and emotionally have the desire to work, then their performance outcomes will increased. Moreover, they also stated that by having a proper workplace environment, it will help in reducing the number of absenteeism and thus will increase the employees' performance which will leads to the increasing number of productivity at the workplace. Some research had shown that there are some positive affects when applying a proper workplace environment such as the machine design, job design, environment and facilities design (Burri & Halander, 1991).

Therefore, Chandrasekar, 2011 had stated that the connection or relationship between the work, workplace, tools of work had becomes the most important aspect in their work itself. In this project, several factors on the workplace environment that affects the employees' performance will be determined and also be discussed. The factors of workplace environment that had been determined are job aid, supervisor support or relationship, opportunity to get promoted, performance feedback, goal setting, workplace incentives, mentoring, coaching and also the physical work environment. The present study has examined three main factors of workplace environment will be focused on. The three main factors are the job aid, supervisor support and physical work environment.

2. Literature Review

Employees' performance level is depending on the quality of the employees' factors workplace environment which are the job aid, supervisor support and also the physical workplace environment. The three factors determine on how the employees' get engaged or attached to the organization. By conducting this research, the researcher could be able to identify the factors that could contribute to workplace environment that affect employees' performance. Therefore, the main purpose of this project is to investigate and to get a clearer picture on the factors that affect employees' performance from three different working place at Manufacturing Company. Nowadays, organizations must be aware of their potential workforce due to the competitive business environment. There are key factors in the employees' workplace environment that could give a great impact towards the motivation and performance level. The factors of workplace environment also give a great impact towards the changes of lifestyle, work-life balance and also the health fitness whether towards the positive or negative impact (Chandrasekar, 2011).

Referring to this matter, research need to be done in order to identify the main contributor to the employee's performance and investigate on how the workplace environment in term of the job aid, supervisor support or relationship and physical work environment affect employees performance at the workplace. The concept of 'workplace performance' means that the factor of workplace environment that is being provided by the employer to their employees that could support the employees performance at work (Clements –Croome, 2006). By having a high level performance of employees, it will increase the levels of the corporate productivity and thus will increase the company's profit.

According to Leaman, 1995, he stated that those employees who have their performance affected by the workplace environments are those who always complaints on the discomfort and dissatisfaction at the workplace. Some of the example of

variables that could lead towards the discomforts of the employees are such as the lightings, ventilation and also noise (Evans & Cohen, 1987). The functional comfort can be defined as in which level that the employees can perform their task in their current factors of workplace environment (Visher, 2008). In the other hand, the factors of work environment are associated with the effects on work on health (Ettner & Grzywacs, 2001). Based on the research done by Ettner and Grzywacs, they stated that most of the respondent rated that the factors of work environment gives impact on their job. Therefore, it also shows that workplace environment factor has a very strong relationship towards the health, facilities and performance (Shikdar and Sawaqed, 2003). The workplace design might result in physiological and psychological reactions whether direct or indirectly. This might result into a long term reaction which includes the decreased in performance (De Croon, 2005).

Employees' performance of manufacturing company. Is the most important aspect towards maintaining the profit made by the company? Therefore, the factors of workplace environment majority in the industry could affect the employees' health and performance and thus gives a great impact towards the employees' performance. Employees' performance is the most important dependent variables in an industrial and organizational psychology. Some main application need to be applied as to improve the employees' performance (Borman, 2004). The job aid, supervisor support and physical workplace environment are the factors of workplace environment in an organization that could affect the employees' performance. Furthermore, as part of the work itself, it consists of the relationship between work, tools of work and workplace. The workplace environment also could lead to the unsafe and unhealthy environment in an organization (Chandrasekar, 2011). Therefore, based on this problem, a study on this topic need to be done as to determine whether the factor of workplace environment which are job aid, supervisor support and physical workplace environment could affect the employees' performance.

The most important dependent variable is the employees' performance (Borman, 2004). According to Sinha (2001), he stated that employees' performance is depending on the willingness and also the openness of the employees itself on doing their job. He also stated that by having this willingness and openness of the employees in doing their job, it could increase the employees' productivity which also leads to the performance. An employees' performance can also be determined as a person's ability to perform also including the opportunity and willingness to perform as well. The meaning of willingness to perform means that the desire of the employees in putting as much effort towards their job (Eysenck, 1998). However, Howell (2004) has a different point of view regarding this employees' performance. Howell stated that employees' performance is all about social standing which also related to the point of view that being stated by Greenberg and Baron (2000). Greenberg and Baron had stated that it gives a positive impact on the relationship in between of the job performance and also the vocation.

There are several factors that being described by Stup (2003) towards the success of the employees' performance. The factors are such as physical work environment, equipment, meaningful work, performance expectation, and feedback on performance, reward for good or bad system, standard operating procedures, knowledge, skills and attitudes. Stup (2003) also explained that to have a standard performance, employers have to get the employees task to be done on track as to achieve the organization goal or target. By having the work or job done on track, employers could be able to monitor their employees and help them to improve their performance. Furthermore, a reward system should be implemented based on the performance of the employees. This is to motivate the employees in order to perform more on their task.

There are two types of employees' behavior that could lead to the employees' performance (Borman and Motowidlo, 1993). The two types of employees' behavior are the task performance and also the contextual performance (Kiker and Motowidlo, 1999). According to Motowidlo and Van Scotter (1996), a task performance can be measured by seven criteria and based on the result of the job analysis, it could be used for the identification of task and behavior of the employees. In the other hand, in term of the contextual performance, based on the previous study, twenty-five contextual performances were generated. Some tools had been generated and being implemented in the city. As to monitor the employees' performance effectively, a system should be implemented. This system is called the employees' review system. This system usually consist of on-the-job coaching, performance appraisals, counseling session, interviews and also the performance improvement plans which shows the improvement of employees performance (Stark & Flaherty, 1999).

A job aid is called a repository to gain information, the process and also the perspectives. A job aid is the external aid to an individual. The purpose of this job aid is to support the work activity (Rossett & Gauier-Downes, 1991). But, according to Wurman, 1989, he stated that a job aid is not information until a person who gets the job aid had gained knowledge or understanding from the job aid itself. A job aid can represent a company with a self-service workplace which employees will learn on their job by themselves (Van Dam, 2005). According to the article written by Moore, a job aid means that a written tool which provides guidance to the employees in an organization. The example of job aid is such as the steps of the instruction on how to complete the appraisal form. It will help the employees get it done efficiently. Job aid has their own role play of helping the employees to deal with the challenges around them (Carr, 1992).

Meanwhile, Harless (1986) which also known as the father of job aid had stated that a job aid can reduce the number of time taken compared to attending a training program. The time taken by the training program is four to five time more than using a job aid. Therefore, by using a job aid, it will help by not wasting the employees' time. The statement was being supported by Levy (2004) which she also agreed that the employees do not have much time attending courses searching for information that they needed. A job aid is being used by the employees as to support them in term of giving direction or procedure. A procedure is a

sequence of action that shows the steps of a certain job. A job aid that determine the procedure will include the action, order and results (Pipe, 1986).

According to Rossett and Gauier, 1991, they stated that the purpose of job aid is to direct and guide as to enlighten the employees performance. Job aid also helps in order to support the employees' performance. Moreover, Moore had stated in her article that the job aid is being used to guide the job performance in real time. In this article, it means that by having this job aid it will support the employees to perform. She also stated that the job aid needs to be plan as for the development so that it can be used as to obtain the optimal use for performance. An example of a military performance had been reviewed by Duncan (1985) regarding the military reliance on job aids between 1958 and 1972 which is significant and positive contribution toward the military performance. Duncan also stated that based on the results of military analysis, a job aid saved money without jeopardizing employees work performance. There are three way to increase performance based on the job aid (Cavanaugh, 2004). The first way is through the external support which means that the employees need to take leave from work and look for the source as for their reference to their job. The second way is through the extrinsic support. An extrinsic support means that the job aid is being given within the system itself. As for the third way, it is called the intrinsic support. An intrinsic support is an insider or software that is being used as for the efficiency of workflow.

According to Blau, 1964, there is a framework in visualizing the relationship between the employees and supervisor. The purpose of having the framework is to see the commitment of the supervisor toward the employees. A supervisor is a force bind relationship to the employees which they will need to be attached together (Meyer & Herscovitch, 2001). An informal mentoring need to be done by the supervisors in order to create a mutual understanding and relationship in between the supervisor and the employees. By having this mutual understanding, it will create a mutual satisfaction between them (Allen, Poteet, & Russell, 2000; Olian, Carroll, & Giannantonio).

A supervisor is also known as a person with an experience leader, a person who can solve problem and also the role model at the first level of organizational management (Adair, 1988; Nijman, 2004). Therefore, as an experience leader, the supervisors had always being involved in conducting a training program. The training program that is being conducted are such as establishing the objectives, selecting the trainer, developing a lesson plans, selecting the program method and techniques that is being used, preparing the materials, scheduling the program and also conduct a training needs analysis (Adair, 1988 ; Elangovan and Karakowsky, 1999). According to Rabey, 2007, she stated that a supervisor could be a trainer to the employees as the trainer will assist the employees in getting their job done by guiding the employees on the operational process especially when it comes to a new operational procedure. There are a few aspects that could be seen in a role of a supervisor based on an academic point of view. The aspects are such as the style, the level of competency, and also the characteristic (Moses, 1994; Zubir Skerit, 1994 and Zhao, 2003).

A supervisor support could leads to the employees' performance but there is in a case that the supervisor had failed in supporting their employees. For an example of the miscommunication between the employees and the supervisor in term of delivering the information or process on the job to the employees (Harris et. al., 2000; Sisson, 2001). As a result to this miscommunication, it will leads to the employees' job performance (Chiaburu and Takleab, 2005; Tsai and Tai, 2003). In the other hand Foxon, 1993 and Nijman, 2004 stated that if the supervisor is having a very good communication skill especially during the training program, the employees will probably increase their competency and job performance. In order to gain the employees performance, both party in between the employees and supervisor needs to play their part which is to commit with the relationship. If full commitment is given, it will leads to positive result to the performance from the employees (Blau, 1964; Gouldner, 1960). Nowadays, a different mindset is being argue as to create the commitments between the employees and supervisors which will explain on the employee's performance. Therefore, Meyer, Becker and Vandenberghe's (2004) had stated that the supervisor commitment mindset may be the intermediaries between the employees' commitment and performance.

Research study had been done by Landry and Vandenberghe (2011). The research study is mainly about how the supervisor commitment can influence the commitment of employees towards the job performance. Research had found that the willingness of the mentoring the employees could result to employees performance (Bauer & Green, 1996; Graen, 1989; Lapierre & Hackett, 2007). Moreover, there is also a present study on how do the commitments being combined together as to predict the employees' performance. Based on the result, it shows a major outcome of the dyadic relationship (Gerstner & Day, 1997; Kirkpatrick, 1982; Yuki, 2010). Moreover, they also stated that supervisor can leads to enhancing the employees' behavior. Enhancing employees' behavior are such as sharing information, giving support, feedback, recognition and reward. Meanwhile, supervisor also supports the employees in making the resources for the employees. The examples of the resources are such as the time, tool and providing training.

A physical work environment can result a person to fit or misfit to the environment of the workplace. A physical work environment can also be known as an ergonomic workplace. Researches on the workplace environment need to be done in order to get an ergonomic workplace for every each of the employees. By having this ergonomic physical workplace at their workplace, it will help employees from not getting the nerve injury (Cooper & Dewe, 2004). Moreover, based on Brill, Margulis and Konar (1985), they had stated that there are a few factors of physical work environment that need to be improved. The factors are such as lightings, the floor configuration, office layout and also the furniture layout. According to McCoy and Evans (2005), they stated that the elements of physical work environment need to be proper so that the employees would not be stress while getting their job

done. In their article, they also stated that the physical element plays an important role in developing the network and relationship at workplace. Result of the employees’ performance can be increased from five to ten percent depending on the improvement of the physical workplace design at their workplace (Brill, 1992). According to Amir and Sahibzada (n.d), there are elements that related to the physical environment. There are two main elements which are the office layout plan and also the office comfort. Amir and Sahibzada (n.d) also stated that a physical workplace is an area in an organization that is being arranged so that the goal of the company could be achieved.

There are a few factors that could affect employees’ performance in term of the physical work environment. The factors are such as the lightings of the workplace (Boyce, Veitch and et. 2003). There are also some other disturbance that could affect the employees performance. The other disturbances are such as noise which will cause discomfort on the employees and thus reduce the employees’ productivity (Hedge, 1986). In addition, the satisfaction of the employees can result to the performance of the employees. Therefore, in order to make the employees satisfied, the factor of physical workplace that had been mentioned by Brill, Margulis and Konar (1985) need to be applied to all workplace. Furthermore, McCoy and Evans (2005) stated that once the employees had become stressors at the workplace, the employees have the high potential of getting their job done very slowly and it will affect the employees’ performance. An employees could be affected depending on the task they are given and also the environment of the place they are working. By having a good environment, the employees could apply their energy and their full attention to perform work (Visher, 2007).

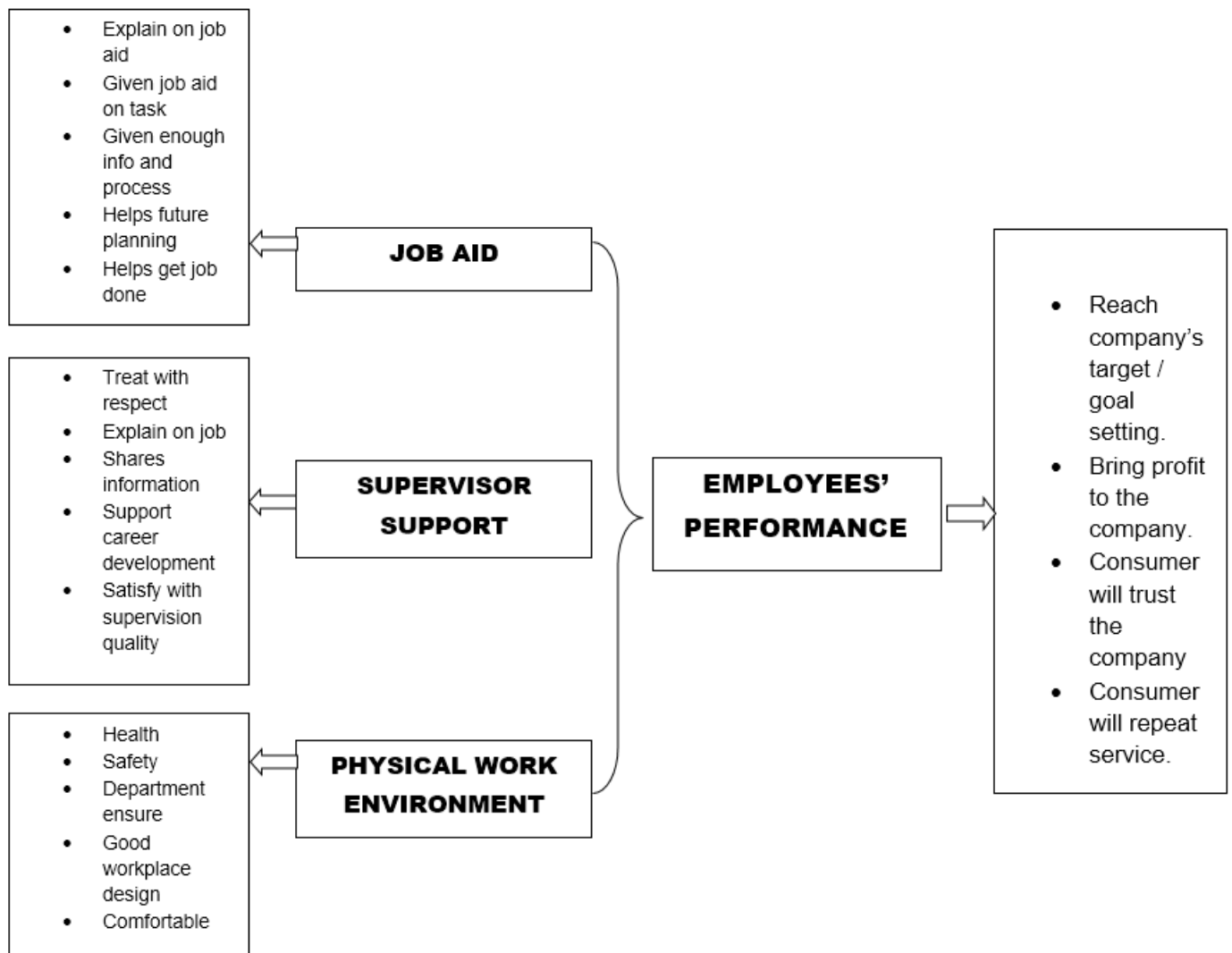


Figure 1. Research Framework

3. Methodology

In this research, the population would be the employees of manufacturing company. The questionnaire will be distributed to the selected employee which will be pick randomly no matter from which department., and following are detail operational definition for variables as hypothesized.

a) Job Aids

A job aid is also known as a checklist. It requires a few steps in order to make it complete the certain task (Harmon, 2011). A job aid is something that people rely on. Job aid helps in term of providing procedure for the employees towards their task (Pipe, 1986).

b) Supervisor Support

Supervisors have the responsibilities of leading the subordinates in their group task and the groups in the organizations. As a supervisor, they are the first line managers (Elangovan & Karakowsky, 1999; Goldstein & Ford, 2002; Noe, 2008).

c) Physical Work Environment

Is the environment where these human beings are fit with their job? This physical work environment might include the lightings, ventilation and also the temperature (Stup, 2003).

d) Employees Performance

According to Sinha (2001), he stated that employees' performance is depending on the willingness and also the openness of the employees itself on doing their job. He also stated that by having this willingness and openness of the employees in doing their job, it could increase the employees' productivity which also leads to the performance.

The population consisted of three different workplace environments. A sample size is the amount numbers of respondent that being chosen to answer the questionnaire by the researcher. By having a different total number of employees at the three different workplace environment of manufacturing company, the researcher had determined the sample size of this research by distributing 200 questionnaires to three different location of the company. As for this research, data will be collected in two ways which are through the primary data and also secondary data. A plan of data analysis is the result that being counted based on the questionnaire that had been distributed. Once the questionnaire had been collected, all the details of the data will be analyzed using the Statistical Package for Social Science (SPSS).

4. Findings

Analysis of data collected by the questionnaires had become the findings to this research study. 200 questionnaires had been distributed to the three main workplace of manufacturing company. 139 questionnaires had been distributed to the respondents and there are only 139 questionnaires had been collected and being analyzed.

Table 1: Respondents' Demographics

	Percentage (%)		Percentage (%)
Respondent's Gender		Respondent's Marital Status	
Male	84.9	Single	59.7
Female	15.1	Married	40.3
Respondent's Age		Respondent's Ethnicity	
30 or less	64.7	Malay	99.3
31 to 40 years	23.7	Chinese	0.7
41 to 50 years	11.5	Indian	-
50 and above	-	Others	-
Respondent's Qualification		Respondent's Job Status	
High School	43.9	Manager	7.9
Certificate	10.1	Supervisor	24.5
Diploma	20.1	Production Worker	43.2
Degree	25.2	General Worker	24.5
Others	0.7		
Respondent's Number of Years in Service		Place Of Work	
Less than 2 years	25.2	Headquarters	20.1
2 to 5 years	41.7	Stamping Plant	45.3
5 to 10 years	22.3	Tooling Plant	34.5
10 years and above	10.8		

Table 1 refers to the demographic section result gathered from the respondents of this research study gained by the questionnaires. According to the table, the percentage of the male respondent is 84.9. Meanwhile, as for the female respondent, the percentage is lower with 15.1 percent. Majority of the respondent were aged less than 30 years with 64.7 percent. Also most of their qualification is below high school level with 43.9 percent. According to the table, it shows that most of the respondents were single (59.7%) which also comes from the Malay ethnicity (99.3%). The largest number of the respondent comes from the production workers with 43.2% and most of them had been in the service for 2 to 5 years (41.7). Based on the 3 main workplace of manufacturing company., most of the respondents comes from the stamping plant with 45.3%.

Table 2: Mean and Standard Deviation of the study Variables

	N	Mean	Std. Deviation
Job Aid	139	3.44	0.88
Supervisor Support	139	3.83	0.69
Physical Work Environment	139	3.16	1.09
Employees Performance	139	3.31	0.81

Table 2 shows the result of the descriptive analysis for the research variable. The mean value of these variables are in between 1.01 to 2.84. Meanwhile, a standard deviation is the dispersion value which indicates the gap in between one respondent to another respondent. The standard deviation can be considered as good when the value is smaller. According to table 2, the highest standard deviation is in the physical work environment. Meanwhile the lowest is the supervisor support with 0.69.

Reliability test shows how does the items in a set is positively related to each other in the reliability coefficient. According to the result of the reliability test, the closer the Cronbach's Alpha is to 1, the higher the internal consistency reliability. If the reliability is less than 0.60 then it is considered as poor. Meanwhile if it is in the range of 0.70, it is considered as acceptable. As for those which are more than 0.80, it is considered as good (Sekaran, 2007).

Table 3: The Reliability analysis for Independent and Dependent Analysis

Variable	No of Item	Cronbach's Alpha
Job Aid	5	0.926
Supervisor Support	5	0.944
Physical Work Environment	5	0.967
Employees Performance	5	0.880

Table 3 refers to the Cronbach's Alpha for the independent variables and also for the dependent variables. According to the table above, the analysis shows that the Cronbach Alpha for the job aid is 0.926, for supervisor support is 0.944, for physical work environment is 0.967 and employees performance is 0.880. All of the variables are considered as good because it is more than 0.8.

Table 4: Correlation Analysis Result for all variables

	Job Aid	Supervisor Support	Physical Work Environment	Employees Performance
Job Aid	0.01	.302**	.811**	.805**
Supervisor Support	.302**	0.01	.087	.150
Physical Work Environment	.811**	.087	0.01	.828**
Employees Performance	.805**	.150	.828**	0.01

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

In order to inspect the relationship between all the variables in the research model, the correlations analysis had been used. This is because, this research study is using the interval scale. Based on the correlation, the significant is at the level 0.01 and 0.05. According to Sekaran (2007) on the Davis scale, that is being used to interpret the relationship between the dependent and independent variables which are as follows:

0.70 & above	very strong relationship
0.50 – 0.69	strong relationship
0.30 – 0.49	moderate relationship
0.10 – 0.29	low relationship
0.01 – 0.09	very low relationship

Table 4 shows the relationship between each variables. Based on the table, it shows that there is a low relationship between supervisor support and physical workplace environment with the correlation of 0.087. It is followed by the moderate relationship between supervisor support and job aid with the correlation of 0.302. Meanwhile, the others had been identified as a very strong relationship which is in between job aid and physical workplace environment, job aid and employees performance, and also physical workplace environment and employees performance with the correlations of 0.811, 0.805 and 0.828 respectively. A linear analysis is being used as to measure the independent and dependent variable. This regression helps by making a statement on how well the independent variables predict the value to the dependent variable. These independent variables will also be tested again by the multiple regression analysis. The reason of using a multiple regression analysis is to provide the correlative coefficient and also to measure the relationship in between the independent and dependent variable.

Table 5: Linear Regression those evaluates the Relationship of the Independent Variables and Employees Performance.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.859 (a)	.738	.732	.42121

R Square Change	F Change	df1	df2	Sig. F Change
.738	126.4633	3	135	.000

- a. Predictors : (Constant), Physical Work Environment, Supervisor Support, Job Aid.
- b. Dependent Variable: Employees Performance.

Table 5 shows the results of regression for the total of three independent variables toward the dependent variable which is the employees performance. Based on the table, it shown that the value of R is 0.859 (a). The R value is the correlation of the three independent variables with the dependent variable. The table shows that 0.738 of the variance or also known as the R square of the employees performance had been contributed by the three independent variables. Meanwhile, the adjusted R Square value shows the value of 0.732. Therefore, it could be concluded as 73 percent of the variation from the dependent variable is being attributed from the independent variable.

Table 6: Result of Multiple Regressions

Variable	β	Sig.
Job Aid	0.730	0.00
Supervisor Support	-0.18	0.754
Physical Work Environment	0.374	0.00

This multiple regression analysis is being done as to test the three independent variables which are the job aid, supervisor support and the physical work environment influence the employees' performance. According to Table 6, it shows that there are

only two independent variables which are significant to the dependent variables. The two independent variables are the job aid and also the physical work environment. Referring to the table, the Beta result shows positive result of 0.730 for job aid and 0.374 for the physical work environment. As for the significant result, it shows 0.00 respectively for both independent variables. In the other hand, one of the independent variables which is the supervisor support is not significant to the dependent variable. According to the result of the Beta, the supervisor support shows -0.18 which is a negative relationship. Meanwhile the significant result shows 0.754 which means that the supervisor supports is not significant to the employees' performance.

5. Conclusion and Recommendation

In this research study, a mixed of result had been gained. This result is to clarify the factor of workplace environment that could affect the employees' performance at manufacturing company. Based on the past research study by Chandrasekar (2011), he had predicted that there are several factors that affecting the employees' performance. The three independent variables in this research study also being included in Chandrasekar's research study which could influence the employees' performance. But, according this research study that being done at manufacturing company, there are only two independent variables that is significantly affects the employees' performance. The two independent variables are job aid and physical workplace environment. Meanwhile the other one independent variable which is the supervisor support is not significantly affecting the employees' performance. Therefore, the supervisors at manufacturing company need to improve their supervision towards the subordinates in order to create a significant relationship in between the supervisor and the employees.

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