



# Multiple Regression Analysis of Job Satisfaction among Employees at ABC Factory

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## ABSTRACT

Job satisfaction is a crucial issue for the company to achieve high productivity and reduce employee turnover. If organization can give the workers satisfaction, it is not only increasing image of an organization, but it also increases motivation and productivity of all workers. Employee who satisfied with their job intention to give the best effort to the company and tend to stay long in the factory. Hence, the purpose of this research is to find out the factor that influence job satisfaction among workers at ABC factory. 80 employees at the ABC Factory completed a set of questionnaire consists of two parts, which are background of respondent and job satisfaction components. Multiple Linear Regression is used to analyze the result to achieve the objective stated. The findings revealed that among four independent variables, Work Environment and Organization have significantly effect Job Satisfaction at ABC Factory.

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## 1. Introduction

Many labor – intensive in industries burning an issues regarding employee turnover intention in short term (ETIST) for the many past decades [1]. Human resource management report that employee turnover as a serious issue [2]. Several reasons such as Gender, Productivity, Work Environment and Organization is a key determinant of lasting success in factory itself. Hence, it is important to the factory to give their employee with the best satisfaction that intention them for the



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long run in the factory. Job satisfaction is a critical motivational resource to prevent burnout during the outbreak [3]. Strong participation in many programs organized by factory indicates factory to offer appropriate working environment. This boosts indicator indirectly retaining employee and shining factory image. Job satisfaction can be defined as one pleasure or positive feelings resulting from the value of a job or work experience. High commitment from employees will reduce cost that incur due to high of stress. Hence, by satisfied with their job, employees can enjoy to produce high productivity to their company.

Employee will be satisfied and influence their commitment in daily task when they enjoy their working environment [4]. Otherwise, positive feeling encourage employee to fulfill individual responsibilities in their family as well as society [5]. These predictions can help the factory to be more efficient in developing their management system regarding their employee job satisfaction scope. Thus, employee with positive vibe at work will remain to give top performance and often strive to achieve factory need rather than a pay raises elsewhere.

Employees are the main assets to the factory. Their contribution effects the successful of the organization in order to achieve company target within the time frame. Hence, the aims of this study is to explore and elucidate which factors influence job satisfaction among the workers at ABC factory and whether Gender, Productivity, Work Environment and Organization contribute the high impact in job satisfaction.

## **2. Literature Review**

### **2.1 Gender and Productivity in Job Satisfaction**

Back then old community might prefer women to stay at home becoming a housewife or just choose a simple and easy career such as teacher and many more. However nowadays, the workforce participation in a company regarding any field by women had increase in the whole world. Gender is one of the main factors influencing a job satisfaction as mention by [6] in their paper surveyed the pharmacy faculty where men were more likely to report being extremely satisfied with their current job compared to woman. It is in contrast with [7] which stated that gender is not a necessarily a primary factor in term of job satisfaction. In addition, [8] in their research conclude that there might be inequality regimes between gender and class in an organization based on their field of work.

Another main factor is the productivity of the workers. Obviously, a happy worker will bring more quality product to their employer as support by [9] which stated that if the workers really happy with their current job, and they are an expert on how to meet the company production, they will bring a better productivity which leads to their job satisfaction.

### **2.2 Work Environment and Organization in Job Satisfaction**

Working environment consist of the relationship between employee and the employer, the condition of the working place such as safety, comfy and hygiene, the relationship between all the coworker, facilities provided and many more. Some of the employee might spend almost half of their day inside their working environment [10], so a good working environment will increase the job satisfaction among workers.

A good and humble leadership has been found to generate a positive working environment which resulting a positive behavioral outcome among the employee [11]. It is support by [12], who said that a quality relationship between managers and employees will create an ethical and productive working environment. Besides, the condition of the working place itself will help to increase the job satisfaction among employee. According to [13], employee will consider all aspect when choosing to stay at a same job if they feel comfort at their workplace such as a good work wear, shops for foods or snacking, the location of the company and also the safety features besides relationship among all the workers.

A good working environment will create a wonderful organization environment. According to [14], one way to tackle employee is to take note on the compensation of their workers. An organization who always appreciates their workers will always have a better performance compared to others. Appreciation can be shown by rewarding such as monthly best workers or towards complimentary via email or any social media. This support by [15] in their research on hotel company which stated that the turnover rate among hotel workers decrease if their employee always appreciates their hard work through complimentary awards. It is also stressed by [16] that new generation had a different perspective at their organization in terms of job satisfaction where most of them prefer an organization who allow them to work freely to express their ideas.

### 3. Methodology

A dataset has been collected primarily among the employees at ABC Factory through a direct questionnaire. A questionnaire was adopted from [17] and distributed to a total of 80 employees across various departments and different positions. The respondents are conveniently participating in this study.

There are five variables included in this study which are Gender, Productivity, Work Environment, Organization and Job Satisfaction. This study carried out Multiple Linear Regression (MLR) using IBM SPSS version 23 to evaluate the influence of Gender, Productivity, Work Environment and Organization towards Job Satisfaction at ABC Factory. Figure 1 shows a conceptual framework in this study.

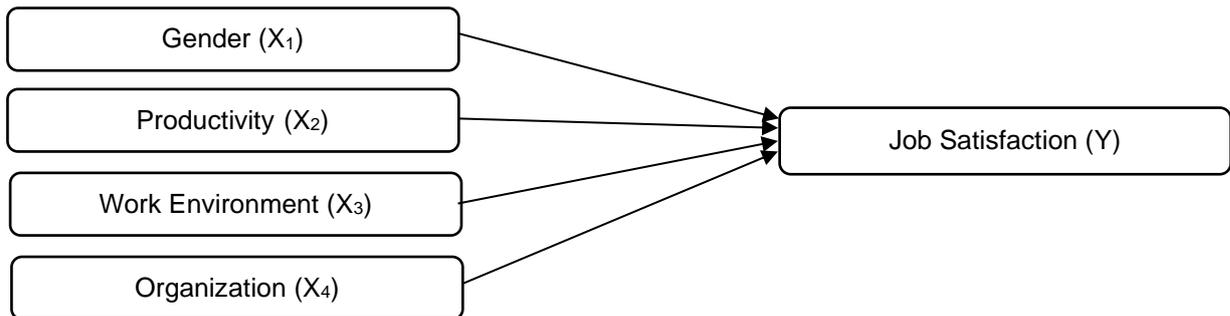


Figure 1. Conceptual Framework of the study

MLR is a quantitative statistical technique that applied in purpose of investigating the contribution of more than one independent variable towards dependent variable. The general multiple linear regression model is as in (1).

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \varepsilon \quad (1)$$

where Y is the dependent variable,  $X_1, X_2, \dots, X_n$  are the independent variables,  $\varepsilon$  is the error term while the  $\beta$ 's are the regression coefficients with  $\beta_0$  is the constant term [18].

The initial procedure to apply this method is by exploring its assumptions. There are four assumptions that must be fulfilled first before performing Multiple Regression analysis to ensure the results are reliable and valid. The assumptions are as follow [18]:

- a) The values of the residuals are normally distributed.
- b) The values of the residuals are independent.
- c) No multicollinearity exists.
- d) There is no outlier exist in dependent variable.

The hypothesis would be tested in this study are as follows:

$H_0$ : Gender, Productivity, Work Environment and Organization are not affecting Job Satisfaction at ABC Factory.

$H_1$ : Gender, Productivity, Work Environment and Organization are affecting Job Satisfaction at ABC Factory.

The  $H_0$  will be rejected if  $p\text{-value} \leq \text{significance value } (\alpha) = 0.05$  where it indicates that the variable(s) is significantly affecting Job Satisfaction.

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## 4. Results and Discussions

### 4.1 Assumptions of Multiple Linear Regression

#### a) Results of normality test of residuals

The normal P-P plot for the residuals of the model has been developed to test the normality assumption as shown in Figure 2. The closer the dot lie to the diagonal line, the closer to normal the residuals are distributed. In this study, the assumption of the normality for the residuals is not violated since all the dots closer to the diagonal line.

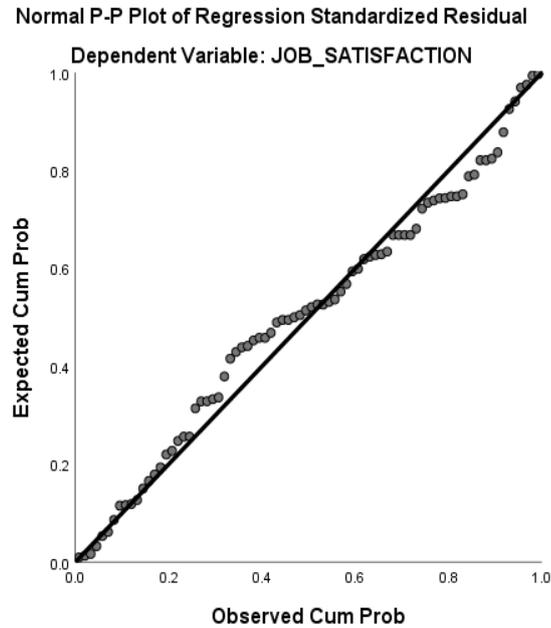


Figure 2. The normal P-P plot for the residuals of the model

#### b) Results of the independent for the residuals

Durbin-Watson statistic was considered to test the assumption of residuals to be independent or uncorrelated. This study found the Durbin-Watson statistics was 1.472, it indicated the independent for the residuals assumption, as the value lies between 1 and 3.

#### c) Results of multicollinearity test

Table 1 displayed the collinearity statistics that being referred to test the existence of multicollinearity. The analysis of collinearity results showed this assumption are met as Tolerance scores were over 0.2 meanwhile Variance Inflation Factor (VIF) scores were below 10. Hence, there is no multicollinearity exists in the data.

Table 1. Collinearity statistics

Variables	Collinearity Statistics	
	Tolerance	VIF
Gender	0.963	1.038
Productivity	0.802	1.247
Work Environment	0.745	1.342
Organization	0.674	1.484

d) Results of the existence for the outliers

This assumption is tested using Cook's Distance values as shown in Table 2. It found that Cook's Distance values were all less than 1, it means individual cases were not improperly influencing the model. This proved that no significance outliers exist which may influence the model.

Table 2. Residuals statistics

Cook's Distance	Statistics
Minimum	-0.01985
Maximum	0.02315
Mean	0.00000
Standard Deviation	0.00823
N	80

#### 4.2 Multiple Regression Analysis

The F-Statistics obtained was 394.027 with p-value is 0.000 and less than 0.01 indicating that the estimated regression is valid and is statistically significant at the significance level of 0.05. Based on Table 3, the regression results showed that Work Environment and Organization are significant at the level of 0.05 where it implies these two variables are significantly affecting the employees' Job Satisfaction at ABC Factory. It also found that these two variables are positively correlated with Job satisfaction. The estimated coefficients are 0.027 and 0.125 respectively. Thus, we reject the null hypothesis and state that Work Environment and Organization have an impact on employees' Job Satisfaction at ABC Factory. The equation was written as in equation (2).

$$\hat{Y} = 0.088 + 0.027X_3 + 0.125X_4 \quad (2)$$

For Work Environment, the coefficient of 0.027 can be explained for each additional in Work Environment, the Job Satisfaction level will increase by 0.027 when the other independent variables are held constant. Then, for each additional on Organization, the Job Satisfaction level will increase by 0.125 if the other independent variables are remains constant. The R square value is 0.955, it presents that the total variation of Job satisfaction is explained by the total variations of Independent variables by 95.5%.

Table 3. Regression analysis results

Model	B	Standard Error	t	p-value
Constant ( $\beta_0$ )	0.088	0.013	6.724	0.000***
Gender ( $X_1$ )	-0.004	0.002	-1.952	0.055
Productivity ( $X_2$ )	-0.001	0.003	-0.235	0.815
Work Environment ( $X_3$ )	0.027	0.012	2.175	0.048***
Organization ( $X_4$ )	0.125	0.004	31.605	0.000***

Note: \*\*\*p-value  $\leq$  0.05, Multiple R = 0.977, Multiple R square = 0.955

#### 5. Conclusion

This study essentially focused on the potential factors that may affecting Job Satisfaction level among employees at ABC Factory by considering some factors such as Gender, Productivity, Work Environment and Organization. Multiple Linear Regression has been performed to achieve the objective stated in this study where it concluded that amongst four independent variables, Work Environment and Organization have significantly effects on Job Satisfaction at ABC Factory. Since job satisfaction play a crucial rule in a an organization, the finding of this study help the company to give well-articulate action to their employee in order to boost company productivity and reduce employee turnover intention in short term (ETIST).

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