

# **SPSS Project Report**

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Based on IBM HR Data

July 2025

## **1. Attrition Report**

### **1.1 Predicting Attrition by Monthly Income**

This section examines whether employees' monthly income levels are associated with their likelihood of attrition. A Logistic Regression was conducted to examine how salary and stock option can predict the attrition of employees. The result was that salary and stock, can predict 83.3% totally of the employee attrition and ( $p\_value < 0.001$ ) shows that these two variables can significantly predict the attrition. So, it means the one who earn more salary and receive more stock options, the probability of leaving its job is low.

### **1.2 Predicting Attrition by Relationship Satisfaction**

This analysis explores the impact of relationship satisfaction on employee attrition. A Logistic Regression was conducted to predict Attrition based on Relationship Satisfaction. The result shows that Relationship Satisfaction 83.3% predicts Attrition and as ( $p\_value = 0.054$ ), we can consider this prediction significant. This predictions shows that the quality of employee relationship in workspace, affects on its Attrition.

### **1.3 Correlation between Attrition and Total Working Years**

A Pearson correlation was conducted to examine the relationship between total working years and attrition. The correlation coefficient was  $r = .182$ , indicating a weak but statistically significant relationship ( $p < .001$ ). This suggests that while the relationship is not strong, employees with more work experience may be slightly less likely to leave the organization.

### **1.4 Predicting Attrition by Education, Training Times Last Year, and Total Working Years**

This analysis combines educational background, training frequency, and total working experience to assess their combined effect on attrition. At first, I use Exploratory Factor Analysis(EFA) to

create a variable from Education, Training Times Last Year and Total Working Years and that variable was called FAC1\_1. Created component, shows that Education and Total Experience have high impact in created variable based on Component Matrix. Cronbach's Alpha was conducted between those 3 variables and Alpha=0.036 which seems too weak. After EFA, Logistic Regression Conducted between FAC1\_1 and Attrition. Overall percentage 83.3% and ( $p\_value < 0.001$ ) which shows significant prediction. This model seems weak because it could not predict the employees that leave the company based on Classification Table.

## **2. Job Involvement Analysis in Different Fields of Study**

A one-way ANOVA was conducted to examine whether Job Involvement scores differ significantly across different Fields of Study. The result showed the differences ranges in (2.69,2.75) with ( $p\_value = 0.943$ ), which means there is no significant difference of Job Involvement score, in different Fields of Study existing among employees.

## **3. Income Differences Across Marital Status Groups**

A one-way ANOVA was conducted to examine whether Monthly Income differ significantly across Marriage Status. Based on the result Single and Married( $p = 0.018$ ), Single and Divorced( $p = 0.106$ ), Single, Married and Divorced( $p = 0.968$ ), The result revealed the only significant difference exists between Single employees and Married Employees which the amount of difference is \$688.

#### **4. Path Analysis: The Effects of Relationship Satisfaction, Environment Satisfaction, and Job Level on Job Satisfaction and Monthly Income**

A Path Analysis was conducted to examine whether relationship satisfaction, environment satisfaction, and job level influence job satisfaction, and whether job satisfaction, in turn, affects monthly income.

The regression results showed that none of the predictors had a statistically significant effect on job satisfaction (all those three  $p\_value > 0.05$ ). Also, job satisfaction did not significantly predict monthly income ( $p\_value = 0.806$ ). It means that monthly income did not meaningfully influenced by job satisfaction and also job satisfaction, did not meaningfully influenced by Relationship Satisfaction, Environment Satisfaction, and Job Level.