Final Project Option 1

Jordan Unfred  
2023SU2 STAT METHODS/BUS/ECO (CIDM-6300-70)

# A) Business Problem:

Problem: Jordan’s Tech Company has recently been experiencing higher turnover rates among its software developers. A large number of developers are leaving the company within the first two years of employment which has been negatively impacting knowledge retention, continuity of projects, and overall team morale of the company’s future.

Why Research is Needed: The high turnover rate among software developers is a large concern for Jordan’s Tech Company as the turnover has led to increased costs, lower productivity, and potential damage to the company's reputation as a potential employer to future hires. Research is needed to help understand the reasons for the high turnover rate to improve employee retention.

# B) Proposed Method of Collecting Data:

## Variables of Interest:

Independent Variables:

* Satisfaction of job
* Work-life balance
* Career-growth opportunities
* Pay
* Team Collabs

Dependent Variable: Turnover status (0 = still employed, 1 = left).

## Operational Definitions:

Job Satisfaction: Measured utilizing a 5-point Likert scale survey, with higher scores showing higher job satisfaction (QuestionPro, n.d.).

Work-Life Balance: Measured by the number of reported overtime hours per week.

Career Growth Opportunities: Self-assessment questionnaire about opportunities for advancement inside of Jordan’s Tech Company

Compensation: Measured as the annual salary of each employee and provided bonuses if any were given.

Sample Size: 500 software developers from Jordan’s Tech Company.

## Data Collection Method:

Conduct an online survey targeting current and recently departed software developers. This survey would include questions related to job satisfaction, work-life balance, career growth opportunities, compensation, and team collaboration; HR records will need be used to gather data on turnover status and relevant demographic information.

# C) Statistical Tests:

## Multiple Regression Analysis:

Null Hypothesis (H0): There is no significant relationship between job satisfaction, work-life balance, career growth opportunities, compensation, team collaboration, and turnover.

Alternative Hypothesis (H1): There is a significant relationship between at least one of the independent variables and turnover.

# D) Predicted Results:

If the p-value from the multiple regression analysis is less than 0.05, it indicates that at least one of the independent variables is significantly related to turnover. The coefficients associated with each independent variable will show the strength and direction of their relationship with turnover. Positive coefficients would show that higher values of that variable are met with a higher likelihood of turnover, while negative coefficients would indicate a potential opposite.

If the coefficient for job satisfaction is negative and significant, it would mean that there is higher job satisfaction compared with a lower likelihood of turnover. If the coefficient for work-life balance is positive, it could suggest that longer overtime hours are linked to a higher chance of turnover.

# E) Study Implications:

If the results confirm the relationship between the variables and turnover, Jordan’s Tech Company can use this information to use strategies to improve employee retention; If career growth opportunities are found to be a playing factor, the company could focus on creating more pathways for skill development. However, if they do not turn out as predicted it would show that other factors might be affecting the high turnover rates, which may need further investigation and maybe a different research approach.

## Strengths and Weaknesses of the Study:

### Strengths:

* Uses self-reported survey data / HR records for an analysis.
* Helps understand multiple variables on turnover.
* Provides insights to address the turnover rate.

### Weaknesses:

* Relies on self-reported data which might be influenced by bias.
* May not see all important variables affecting turnover, individual career goals or market factors.
* The study might not account for unobservable factors that affect turnover.

# References

QuestionPro. (n.d.). *Likert scale questions - How it helps measure respondent attitude*. Retrieved from QuestionPro: https://www.questionpro.com/article/likert-scale-survey-questions.html