

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 lead 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:

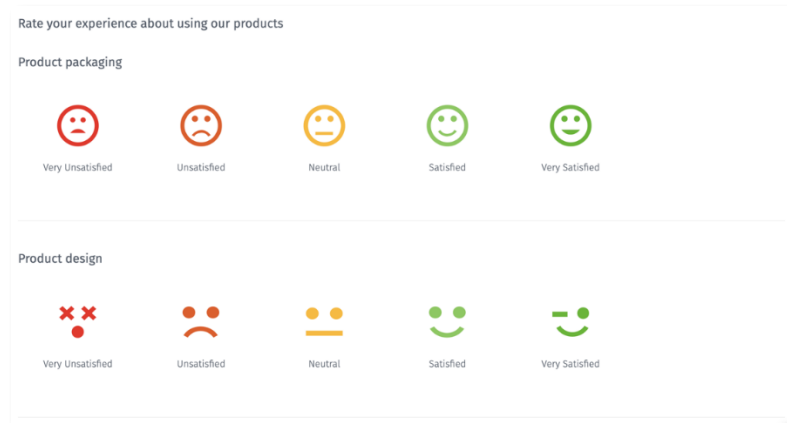
INDEPENDENT VARIABLES:

- Satisfaction of job
- 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.).



The screenshot displays a survey interface with the title "Rate your experience about using our products". It features two sections: "Product packaging" and "Product design". Each section has a 5-point Likert scale represented by five icons: a red sad face with a frown, a red sad face with a slight frown, a yellow neutral face with a straight line, a green happy face with a slight smile, and a green happy face with a wide smile. Below each icon is a label: "Very Unsatisfied", "Unsatisfied", "Neutral", "Satisfied", and "Very Satisfied".

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

Career Growth Opportunities: Self-assessment questionnaire regarding 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 indicate that higher values of that variable are associated with a higher likelihood of turnover, while negative coefficients would indicate the 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 predicted relationships between the variables and turnover, Jordan's Tech Company can use this information to implement 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.

If the results do not turn out as predicted, it would show that other factors might be affecting the high turnover rate, which may require further investigation and potentially 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 capture all relevant variables affecting turnover; individual career goals or market factors.
- The study doesn't account for unobservable factors that might affect turnover.