Not so fast! Preventing Quick-Quits
Research Design Proposal

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Overview

- Target Audience: Senior Management of Operations and Human Resources at MSJJ Foods Company
- The MSJJ Foods Company hires Customer Route Sales & Distribution Representatives (Delivery Representatives), who deliver products to the backroom freezers of grocery stores and stock the shelves. Training a Delivery Representative takes a few months, and hirees must obtain special licenses to drive trucks.
- The problem is that many Delivery Representatives are resigning within 6 months of hiring, with a 50% “quick quit” rate among the whole department. Certain levels of turnover are natural, but the rate in this department is highly unusual compared to the 15% company-wide turnover rate, costing the company lots of time and money.
- Our goal is to identify the factors causing quick quits in Delivery Representatives. We propose collecting employee data through the company, and using conventional statistical methods to isolate the factors unique to quick quits.
- The results will help the executives of Operations and HR implement changes to the Delivery Representatives’ jobs, which should help reduce the number of quick quits. In addition, this study can be adapted to other job titles with the relevant accompanying data.
- The rest of the document outlines the proposed design.

Research Question

- What causes a high rate of quick-quits in the Customer Route Sales & Distribution Representatives job?
- Sub-questions:
    - What is the impact of pay?
    - What is a standard number of DOT (dept of transportation) people in one team?
    - What is the landscape overall (i.e., the same position at other similar companies) like for these positions?
    - What is the overall influence of hours and days of the week worked? Are employees expected to work weekends?
    - How satisfied are employees with their job?

Data

- We will use proprietary data collected by the company including: current wage, payment scheme, bonus scheme, wage growth, benefits, and average employment tenure to examine possible reasons why employees have left the company. In addition we will collect some basic data about the working conditions including: employee costs,

company costs, working environment, and hours worked to assist in this process throughout the duration of the study on a monthly basis. We will send out monthly surveys to employees with similar questions, marking this task as mandatory in Workday. Finally, when an employee quits anytime over the next year we will give them the option to fill out an exit survey, with a financial incentive of $25 with information regarding their treatment, working conditions, wage, comments about upper and immediate management, and overall experience at the company.

- We will also collect open source data from the Bureau of Labor Statistics (BLS) regarding the wage growth and average wage for employees of similar occupations. This data includes the statistics for all employees in Minnesota in similar roles, giving us insights into competing jobs, and an idea of our company's career opportunities in relation to the market. The main function of this dataset will be to act as a control group or baseline to compare the company's internal data to, and examine possible causes to explain why employees left.
    - https://www.bls.gov/oes/current/oes533032.htm

Study Design

- To understand the causes of quick-quits, we propose an observational study to collect employee data including salary, previous licenses, age, months worked, location, and the companies they moved to.
- We will be gathering data from all Delivery Representatives. By gathering solely from the Representatives, we will be able to observe potential reasons why certain representatives stay versus why other representatives quit quickly. This study will continue for 12-months to capture two cycles of employees quitting within 6 months of hiring.

    1. We will survey all Delivery Representatives anonymously to gain a sense of their satisfaction with the company as well as any potential influences work has had on their personal lives for the 12-month period.
    2. We will also gather general information about employees salary, benefits, hours/days worked per week, and track these changes over the course of the study.
    3. We will also take data from the U.S. Bureau of Labor Statistics on "Heavy and Tractor-Trailer Truck Drivers" in order for a comparison to the data we collected on the Delivery Representatives. The data from the U.S. Bureau of Labor Statistics includes information such as wages in this industry and general information for understanding about the industry.
        a. https://www.bls.gov/oes/current/oes533032.htm
    4. We can then pass the employee data into a decision tree, which will tell us what data is unique to quick-quits.
- The end result should inform us on the causes of quick-quits, and thus inform executive-level changes to Operations and HR.

Sample

- Approximately 50% of the 2000 employees on the Delivery Representatives in the Sales & Distribution quit within the first 6 months of employment at MSJJ Food Company. Of the 7500 people employed at this company, these 2000 people are a crucial component.
- To understand why this happens, we will send out surveys to each of the 2000 Delivery Representatives with the hope that 70% of these employees respond. This survey will be sent out monthly over a 12-month period. These surveys will be in conjunction with the data we collect from MSJJ company at the end of the 12 months from the employees.
- By sampling the Delivery Representatives, we can compare the reasons for those who quit versus why others do not. All information encompassing the employees work life will be tracked.

Variables and/or Intervention

- Within our observational study, the variables we plan to include to understand employee turnover within this role are:
    - Employee Survey: Our survey will track factors such as satisfaction, commute distances, and the current the city resided in. Employment satisfaction would be covered in questions focused on hours they perceive themselves as working, what they believe they should be paid, and whether they are satisfied with the management and environment of the company. Commutes would be recorded to note the possible concerns with distance to work and the city so we can then research the average income and cost of living of this area.
    - Data Collection from MSJJ Food Company: This will be collected through HR and will collect the necessary data on file. Data will be collected on information such as employee age, employee turnover (when an employee joined and when they left), their wage and salary, hours worked per week per employee, any benefits included, workplace environment and company lifestyle from the managerial perspective, and what licenses are needed to operate machinery and who has those.
    - BLS Information: This data will be used to understand market averages (average wages, industry employment rates, similar types of employments)

Statistical Methods

- We plan on comparing our results to the industry average by analyzing our data alongside the Bureau of Labor Statistics dataset for similar positions working in food manufacturing in comparable areas (https://www.bls.gov/oes/current/oes533032.htm). This will help determine if our problem is in or outside of our company. In addition we will use the data to build a decision tree model to help predict when and why an employee would leave. To narrow down the features and analyze variables on a more micro scale we will conduct a regression analysis on the variables versus the average time worked at the company (our way of telling if someone is a ‘quick quit’).

Potential Risks

- Privacy - workers would need to opt into releasing their information to us which could put their personal data at risk. To reduce privacy risks, it would be best to stray away from too personal questions from being asked and make the forms anonymous responses.
- Data Bias - we are collecting data from specifically the company so this study could only be applied within this group and their specific demographics in this group. Also, it is hard to predict whether employees who are close to quitting (or not) will be more willing to respond to the survey.
- Sample size - it is possible we may not see significant data results due to lack of response or minimal content from responses.
- Variable Exclusion - The possibility of some important variables not being taken into consideration since we prioritized others we thought were more important.

Deliverables

- September 1, 2021: All necessary past employee information will be gathered and anonymized.
- November 1, 2021: A first draft of survey questions will be designed.
- December 1, 2021: Survey questions will be finalized, and submitted to the HR department for approval.
- January 1, 2022: The survey and observational study will begin.
- April 1, 2022: The first 3 months of results will be analyzed and a progress report will be submitted to the management team to reveal our results.
- July 1, 2022: The second progress report will be given over the previous 6 months.
- October 1, 2022: The third progress report will be released with information over the previous 9 months.
- February 1, 2023: The final report will be presented to management which includes the data, our analysis (including the decision tree), and concrete methods to encourage employees to stay for longer periods of time.

Statement of Contribution

Marcus: I developed the Data, Statistical Methods, and Deliverable sections of the document. This included brainstorming and researching: internal and external datasets, statistical methods to use in the analysis, and pinning down our final deliverables. I believe that our group did a good job of completing our assignment in a timely and efficient manner. We worked together well and were able to overcome any disagreements that we faced. One thing that could be done better for future projects is to think about what the end-user/client would desire and incorporate those things into the project.

Shanie: I helped format overview, worked on study design, variables and/or intervention, and potential risks. We all brainstormed together the outline and draft of our research design, bouncing ideas off each other to create our final result, and that worked well to have been thinking collaboratively instead of splitting up the work and doing our individual parts. A way to

have made our design better if we could have more datasets to choose from and other companies to conduct this research in in order to compare and contrast.

Josefina: I helped to develop the research question, created the sample/observation size section, and chose the most important variables to focus on as well as potential risks. I also aided in the rewriting of the paper After our writing was completed, I went back and formatted the paper to be cohesive. For our presentation, I helped to make macro decisions on the slide deck layout, the flow of the slides, and the formatting of each page (including the company logo which I created). I believe our team was good at working through problems together and managing our workload evenly. We are successfully able to submit our project a day early because of this.

Jeremy: I developed the original project idea, overview, research questions, and study design. I also proofread the design document. Planning the meeting times and dividing the work went particularly well. Everyone was productive, and that allowed us to get the project started and finished early. To improve the design, we could look at past research projects and improve or adapt those methods to our study.