



Carnegie Mellon University

IFDA- Second Progress Report

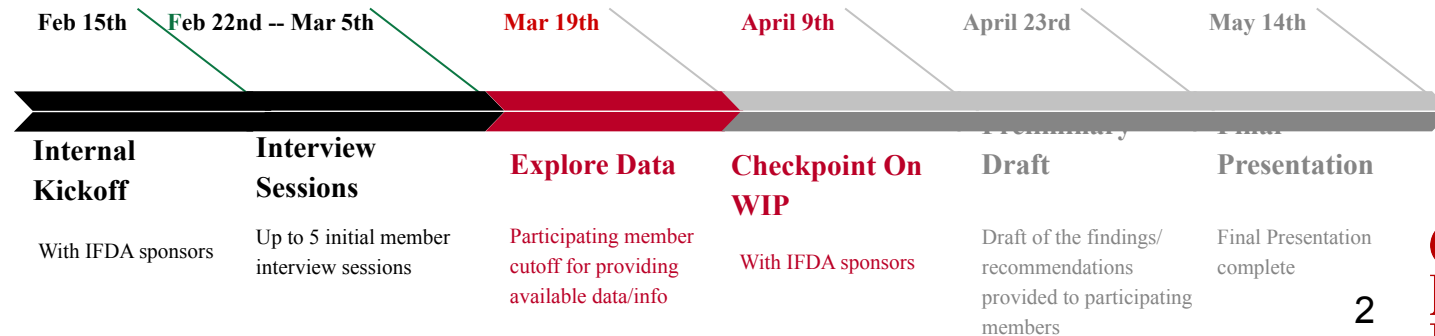
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3/20/2021

Client Point of Contact: Annika Stensson

Faculty Advisors: Jamie McGovern, Brian Junker

Introduction:

- IFDA members are facing challenges in recruiting warehouse and driver positions.
- **Objective:** Determine pain points and relevant information using internal and public data to strategize a recruitment and retention improvement plan for foodservice distributors.
 - Validate the hypothesis that competition for qualified candidates has been increasing, including from eCommerce companies
 - Propose a roadmap to attract more job applicants and improve retention
- Held semi-structured interviews with five IFDA-member companies to understand the varying perspectives on recruitment for warehouse and truck driver roles



Data:

- Bureau of Labor Statistics (BLS)
 - Sectors: Wholesale trade (Non-durable goods), Food & Beverage stores, Transportation & Warehousing
 - Data collected (from 2017 - 2019):
 - *Employment, Employment RSE, Hourly Wage, Annual Wage, Interquartile Ranges for Hourly & Annual Wage*
- Client Data (Currently 2 out of 5 clients)
 - Client #1: Turnover, Turnover Rate, Wage data, Application data, Demographic data
 - Client #2: Turnover Rate, Hourly wage by distribution center, Application data
- Qualitative Data
 - Interviews with all five IFDA-member clients

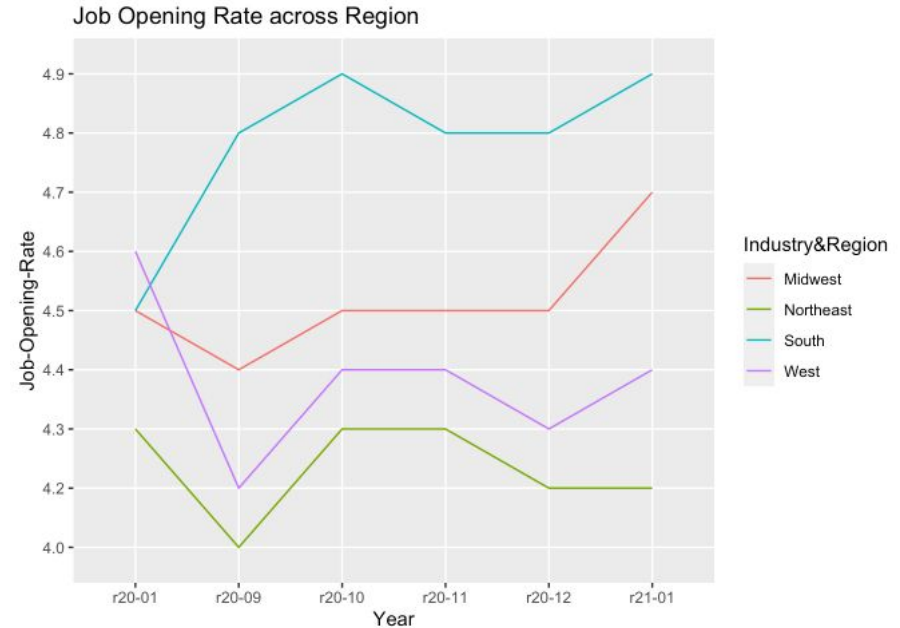
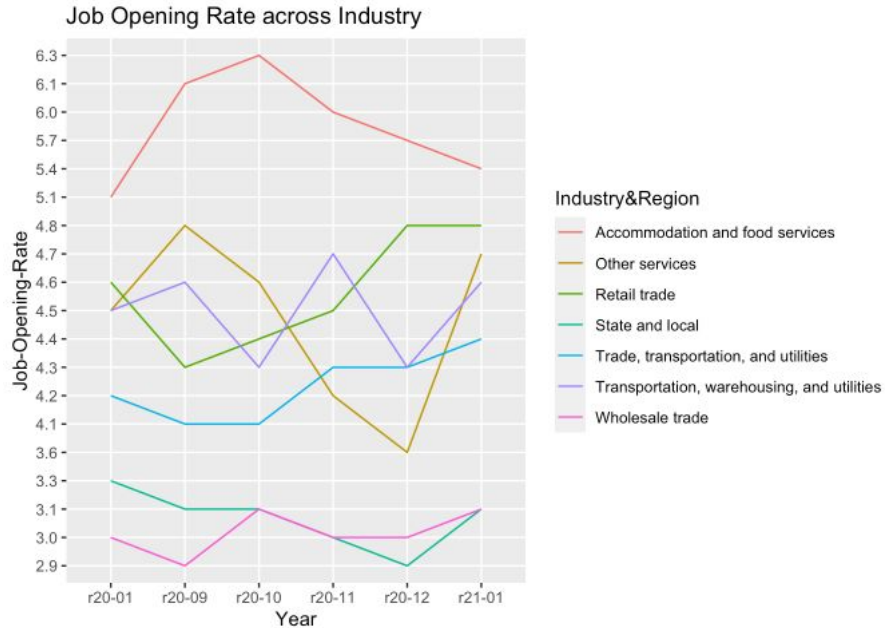
Methods:

- Compare public data with client data from five client companies
 - Turnover rate
 - Hourly wage
 - Hire rate
- Conduct statistical analysis on client data based on received data
 - E.g. Time series analysis of metrics
- Draw insights from responses of client interviews

Economics Data - Description

- **Job openings** are the number of job openings on the last business day of the month.
- The job openings rate is the number of job openings on the last business day of the month as a percent of total employment plus job openings.
- **Layoffs** and discharges are the number of layoffs and discharges during the entire month.
- The layoffs and discharges rate is the number of layoffs and discharges during the entire month as a percent of total employment

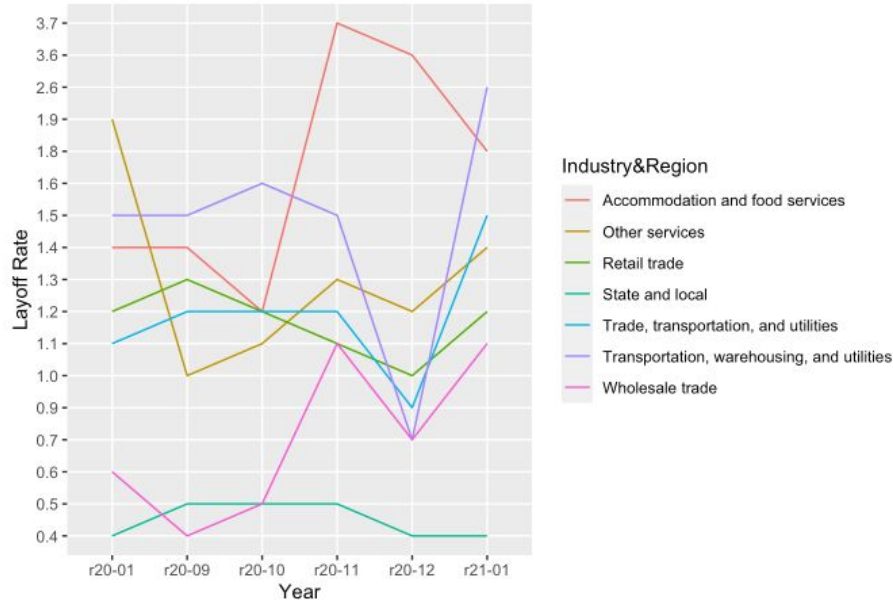
Economics Data - Job Openings Rates by Industry and Region, Seasonally Adjusted



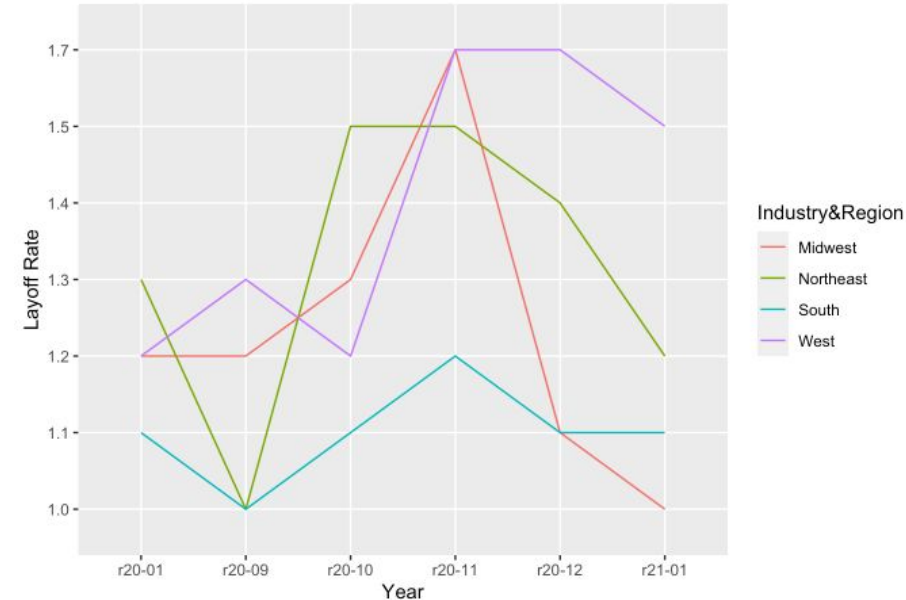
Job Openings rate: the number of job openings on the last business day of the month as a percent of total employment plus job openings.

Economics Data - Layoff Rates by Industry and Region, Seasonally Adjusted

Layoff Rate across Industry

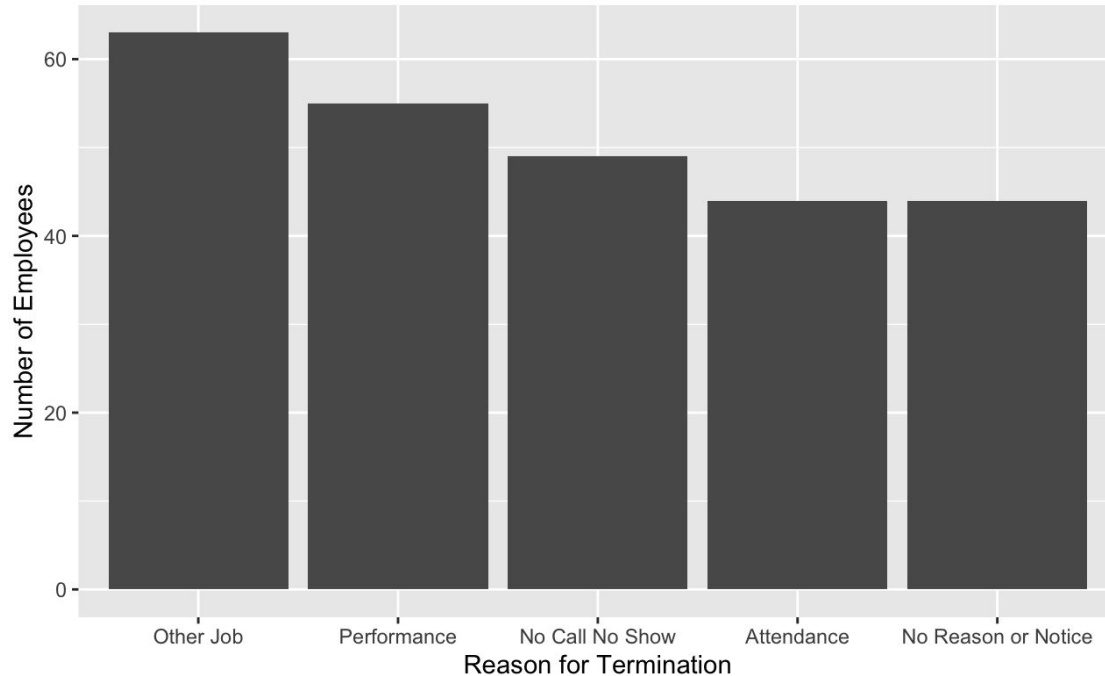


Layoff Rate across Region



The layoffs Rate : the number of layoffs and discharges during the entire month as a percent of total employment

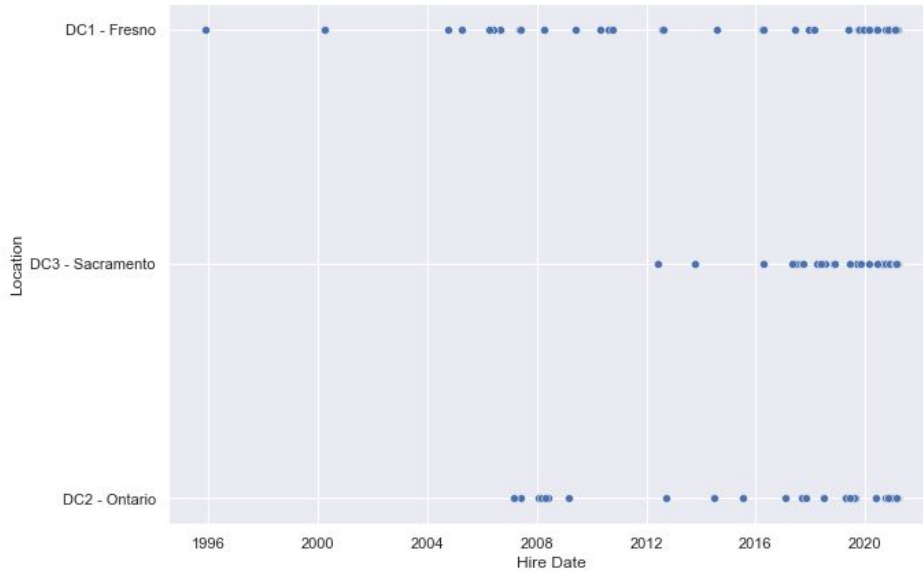
Client Data (Top 5 Reasons for Termination) - Client #1



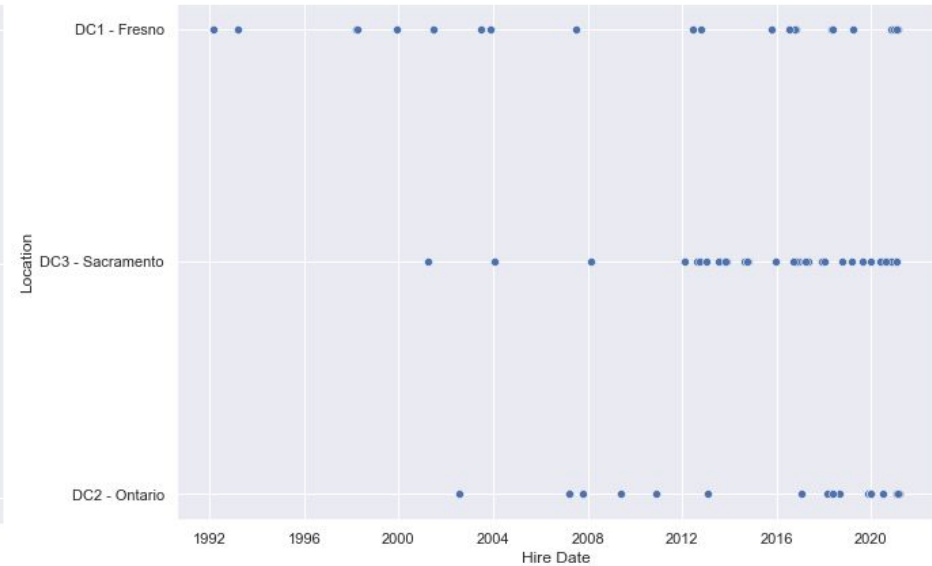
- **Number of New Hires:** 322
- **Number of Terminated Employees:** 361
- **Number of terminated employees who were new hires:** 229

Client Data (Hire Date vs. Location) - Client #1

Warehouse

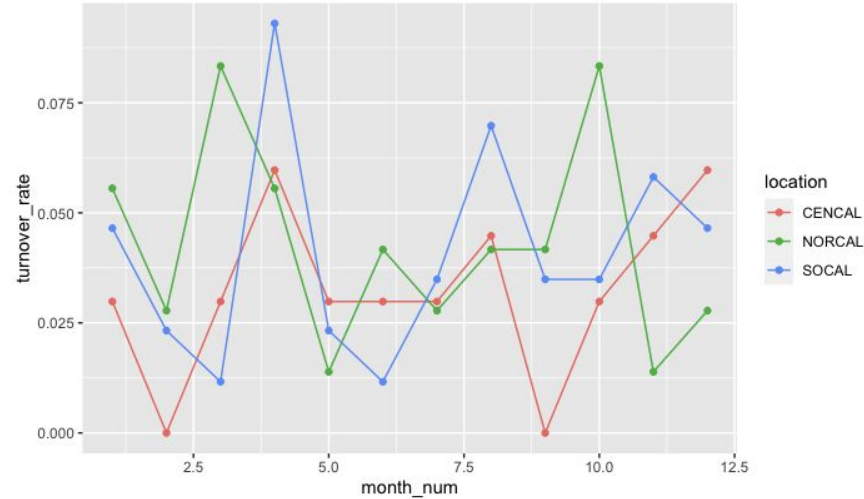


Transportation

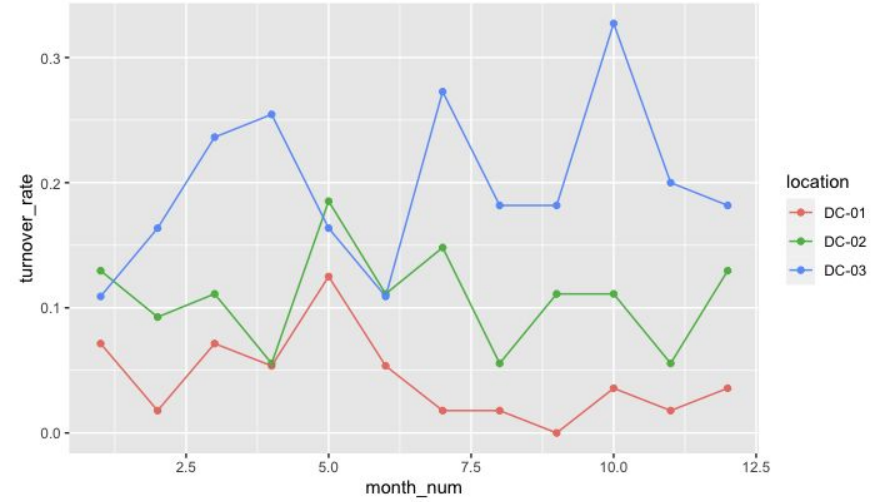


Client Data (Warehouse & Driver) - Client #1

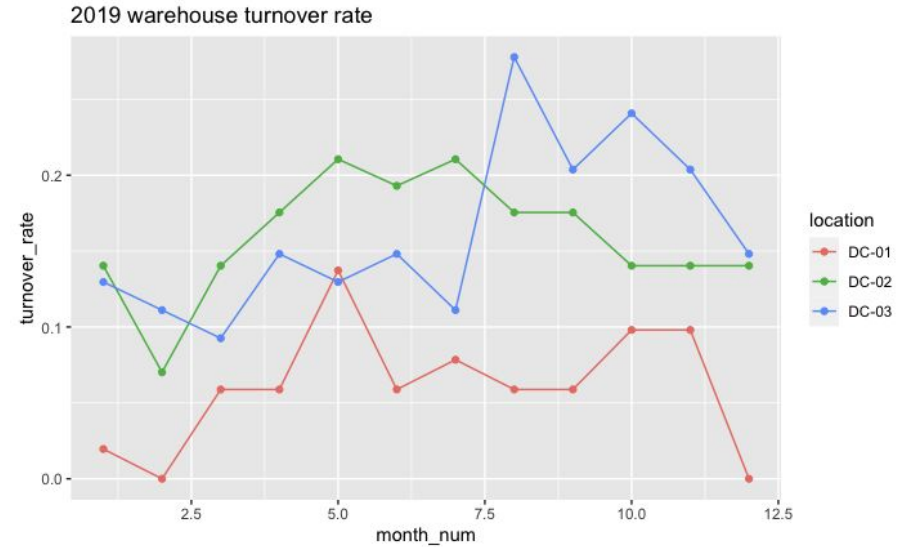
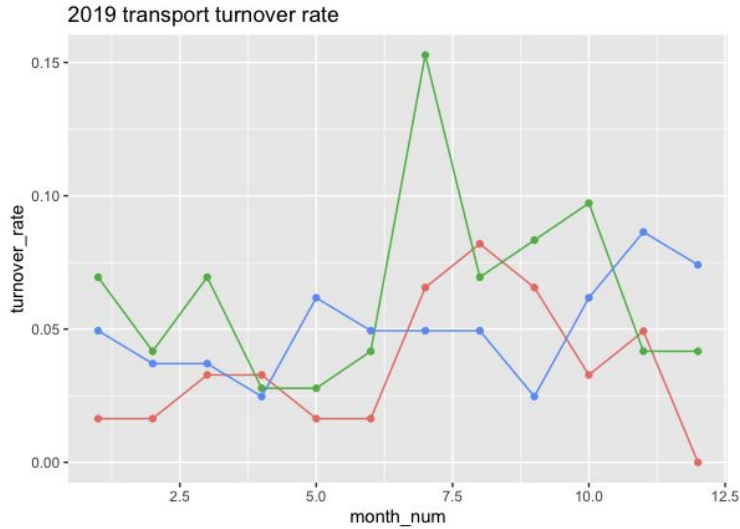
2018 transport turnover rate



2018 warehouse turnover rate

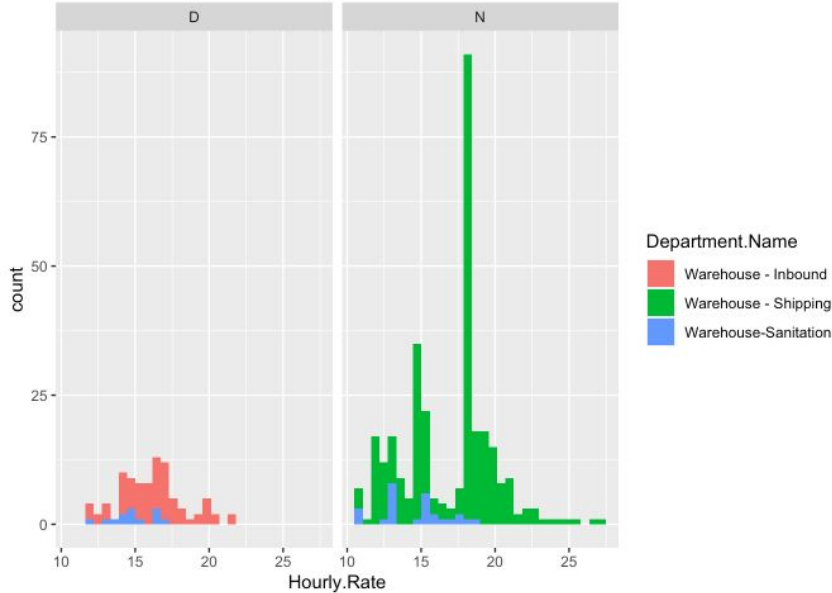


Client Data (Warehouse & Driver) - Client #1

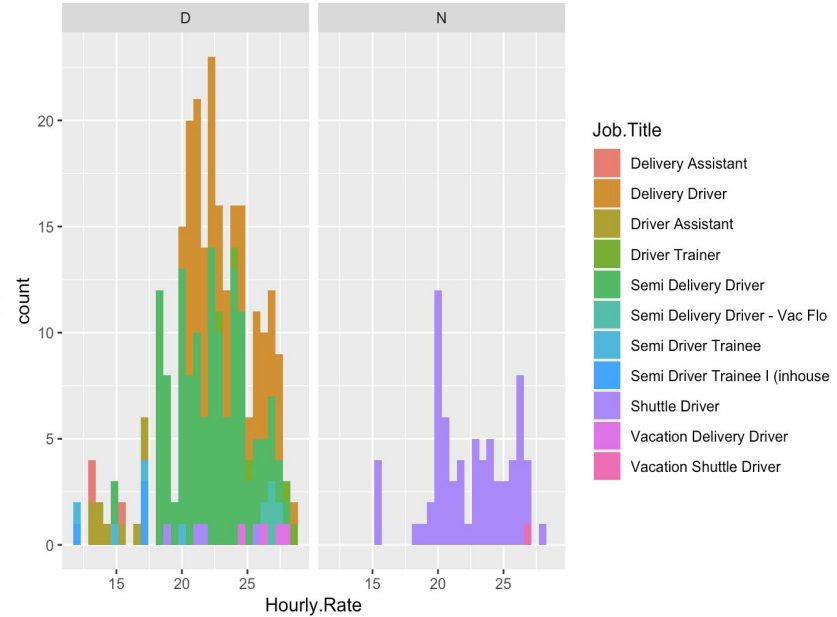


Client Job Data (Warehouse & Driver) - Client #2

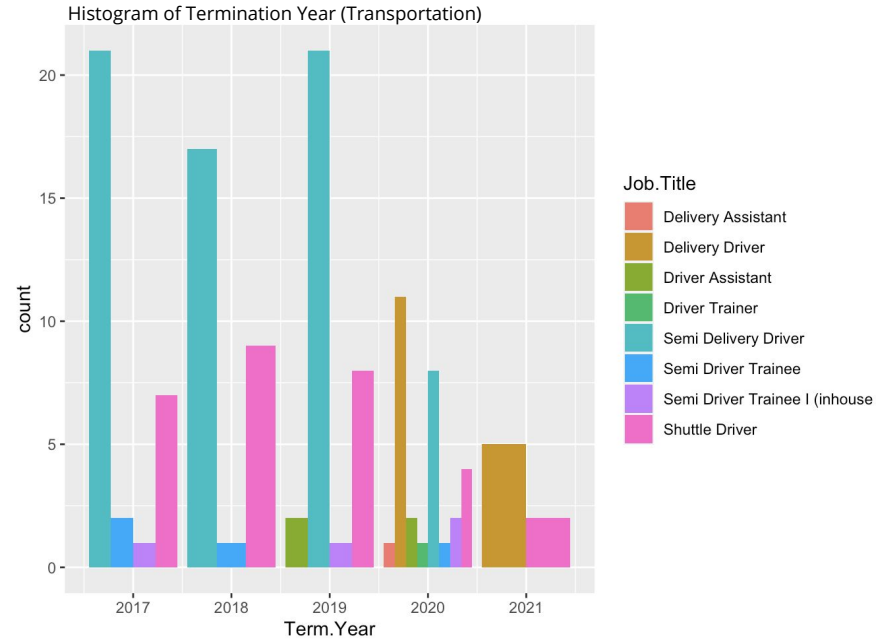
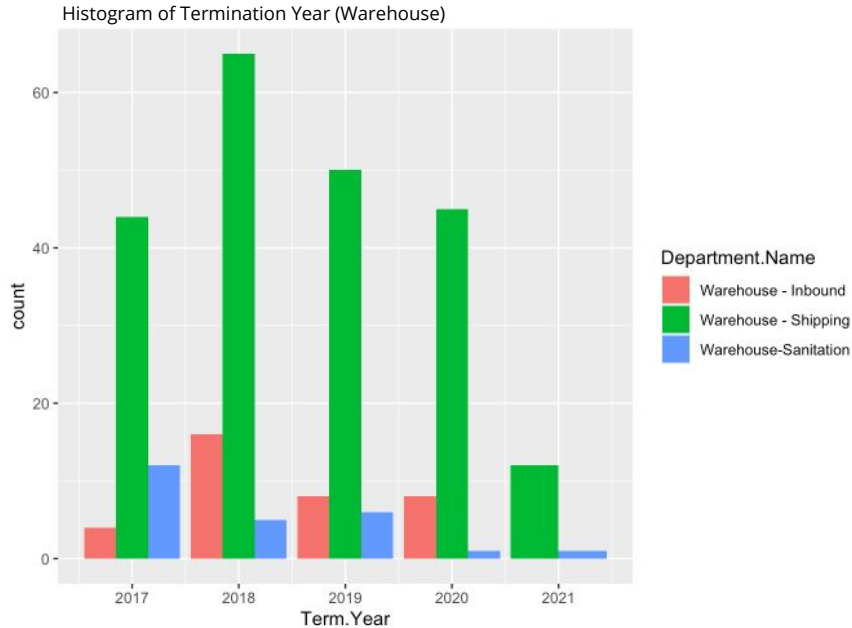
Hourly wage subset by shift (D: Day Shift N: Night Shift) (Warehouse)



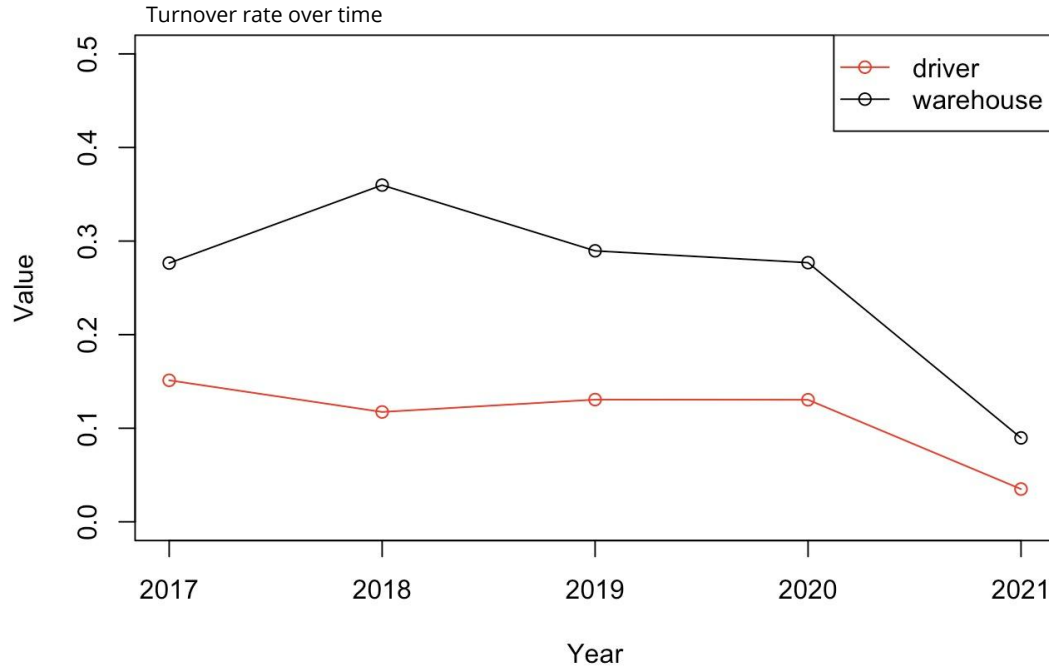
Hourly wage subset by shift (D: Day Shift N: Night Shift) (Transportation)



Client Termination (Warehouse & Driver) - Client #2



Client Data(Turnover Rate vs. Year) - Client #2



- Turnover rate =
Number of people left
in year x/ Number of
total employees at
that year
- From 2017 --- 2021/2

Results:

- Results have been promising but inconclusive as we have received only 2 out of the 5 clients' data

Next Steps & Road Blocks:

- Next Steps:
 - Visit client (PFG) facility (3/22) and schedule customer visit in downtown Pittsburgh
 - Extract comparison metrics from public data and client data
 - Contact BLS for 2020 data, if available
 - Identify common metrics of comparison between clients' data
 - Document findings
- Road Blocks:
 - Normalizing data between clients'
 - We receive different types of information among clients
 - Waiting to receive data from remaining clients.

Thank you

Appendix



Data

Time Series Line Graphs

- # of Job Openings (BLS)
 - Sept 2020 - Jan 2021
- # of Layoffs (BLS)
 - Sept 2020 - Jan 2021

Bar Plots

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Scatter Plots

- Client #2
 - Hourly rate vs. age
 - Hourly rate vs. duration (# of months stayed at the company)