

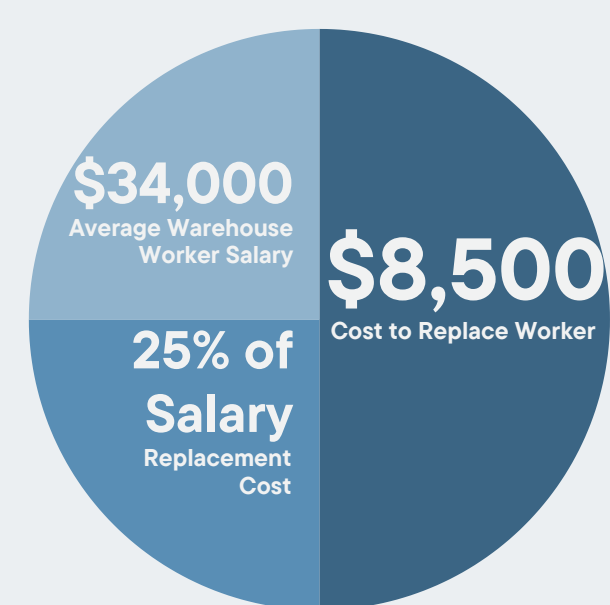


BUSINESS PROBLEM

High turnover rates exceeding 236% in CPG warehouses disrupt productivity, well above the industry benchmark of 136%, necessitating immediate intervention.

This study focuses on **retaining frontline talent** by exploring strategies to engage new hires and improve overall retention. Through a blend of qualitative and quantitative methods, actionable insights will be provided to **develop compelling Employee Value Propositions (EVPs)** aligning employee preferences with organizational goals, aiming to **reduce turnover costs and ensure enduring organizational stability.**

Stakeholders: Fortune 500 Consumer packaged goods company.



Constraints:

- Difficulty assessing intangible aspects due to human nature constraints in statistical modeling.
- Our study duration of 4 months may not capture actual turnover rate changes.
- Limited access to competitor reward programs constrains research scope.

ANALYTICAL PROBLEM

Goal

The research aims to identify the **primary drivers of employee attrition** in consumer-packaged goods (CPG) warehouses, with a specific focus on warehouse operations, considering the implications of shifting labor market dynamics.

How

The study seeks to utilize a comprehensive approach, integrating **qualitative and quantitative analyses**, to identify these factors and guide the development of compelling benefits package aimed at fostering longer employee tenures in consumer-packaged goods (CPG) warehouses.

Assumption

We assume **zero correlation** between the **identified factors** so improvements in any of these areas it is expected to singularly reduce turnover.

DATA

Pre-hire info

- New hire demographics
- Advertising and marketing campaigns
- Job descriptions on applications

Post-hire info

- Wages each job role receives
- Company reward programs
- Data on employee specifics - cost centre, manager etc

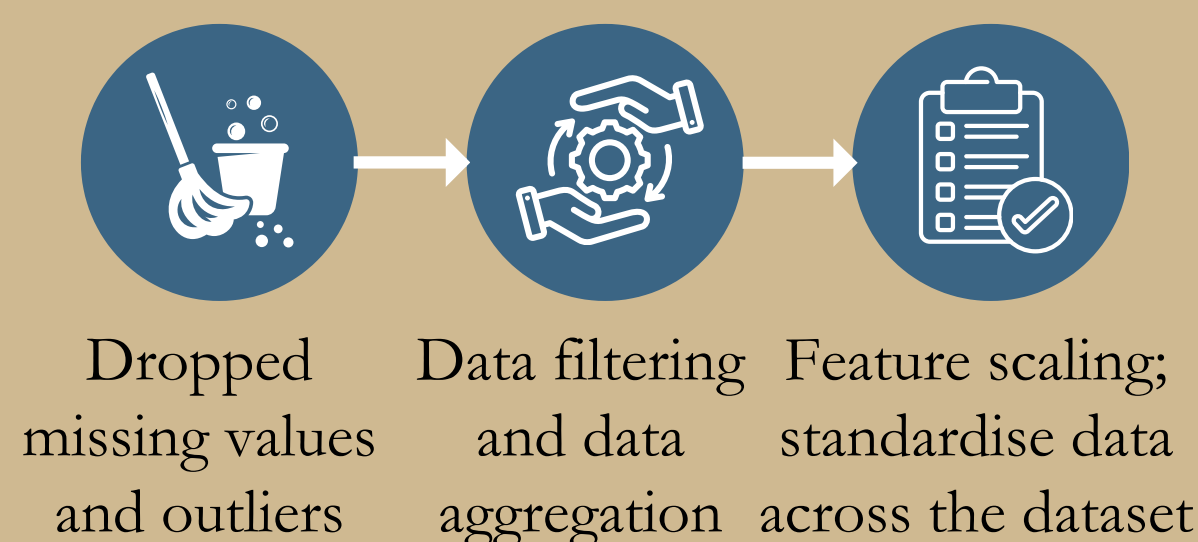
Secondary data sources

- Exit survey and interviews
- Site visit information on warehouse ergonomics
- Periodic feedback interviews

Insights



Preprocessing



METHODOLOGY



Industry Benchmarking

Initiating our approach by benchmarking against industry standards and literature to identify potential areas for improvement and relevant techniques that can be adopted.

Client Data Analysis

Utilizing thorough exploratory data analysis and regression models to dissect client data, revealing patterns and identifying the primary factors driving those patterns.

External Data Analysis

Employing advanced web scraping techniques to acquire external sentiment data, which will provide insights into the broader context and pinpoint critical pain points.

Hypothesis Formation

Integrating insights from comprehensive data analysis to construct a well-informed hypothesis tree, outlining initial strategies for improvement.

Site Visit

Assessing the human elements of HR concerns through direct engagement with employees and managers during site visits, and employing conjoint analysis to discern the most valued aspects of their work life.

Hypothesis Finalization

Refining our working hypotheses with a detailed analysis of secondary data, aiming to narrow down our focus and sharpen our insights.

Recommendations

Formulating concrete recommendations by leveraging our final hypotheses, applying innovative methods to effectively address the identified challenges.

MODEL RESULTS & KEY INSIGHTS

Conjoint Analysis

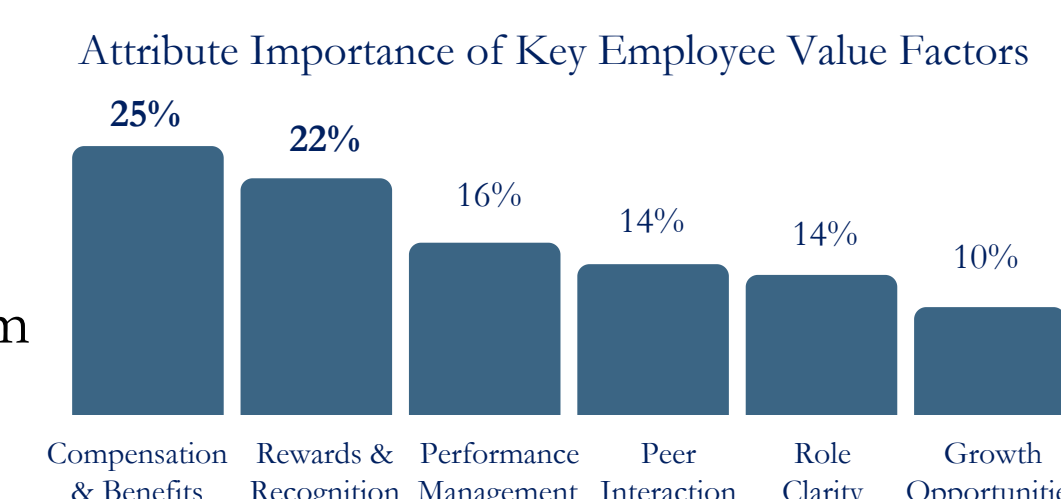
A **Qualtrics Survey** was designed to gauge the **key factors** deemed important by employees to assist the company in crafting a **compelling Employee Value Proposition (EVP)**

Positive Employee Value creation:

1. Competitive compensation fosters employee retention.
2. Companies could revamp its rewards program to address high attrition.

Attributes that Negatively influence EVP:

Ambiguity in roles and absence of structured growth plans diminish employee tenure motivation.



Web Scraping & Sentiment Analysis

Online reviews were scraped to analyze factors impacting **frontline worker opinions**, potentially affecting their tenure



Competitive Pay and **Benefits** significantly boost tenure, as user reviews highlight their positive loyalty impact.

Poor management, including **overworking** and **lack of support**, significantly impacts key reasons for turnover.

OLS Regression

Based on client data, a regression analysis was conducted to ascertain the **factors influencing tenure**, with the following:

- **Age** plays a significant role, with older individuals tending to have longer tenures
- The majority of departures happen during **Q2**, particularly in the summer months
- The duration of tenure under the **current manager** emerges as a crucial factor
- Engaging in **overtime work (OTR)** affects the length of tenure

We **suggest model enhancement** by including more employee characteristics affecting tenure for deeper understanding of driving forces.

Factors	Coefficient	p-value
Age	0.2086	0.0001
Exit Quarter Q2	0.6651	0.001
Current Manager Tenure	3.6048	0.003
OTR	1.5648	0.009

DEPLOYMENT & LIFE CYCLE MANAGEMENT

Upon reviewing model results and insights, our seven initial hypotheses were condensed into **four final hypotheses**. Implementing these recommendations, companies can make micro-changes to enhance **employee experience** and **boost retention rates**.



Convert to an up-to-date and **attractive job description** can increase up to **14%** prospective applicants that meet at least **75%** of the criteria.



Establish targeted mechanisms during the pre-hiring process by enhancing the method for identifying **employee characteristics** that influence tenure.



Implement a **rewards program** for new joiners, incentivizing completion of personalized training modules and attainment of targeted **performance score** improvement percentages.



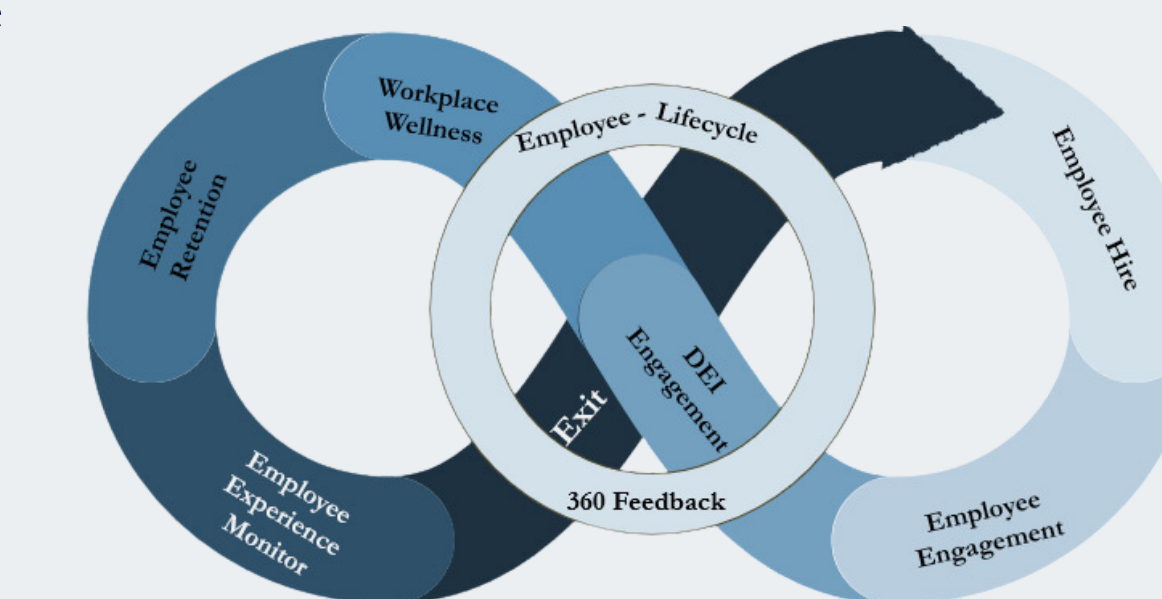
- Implement **QR code-based** productivity tracking for employees' EP Score to enhance operational efficiency.
- Develop a warehouse **floor map** and deploy an **indoor positioning system** for optimized logistics management.

Implementing above recommendations could **reduce turnover by 10%**.

Furthermore, stakeholders stated that the estimation of turnover reduction and proposed solutions are **actionable** and looks **highly promising**.

FUTURE SCOPE

- Integrating advanced AI to **personalize training** modules.
- Incorporate **gamification** with achievement badges to encourage engagement and **improve onboarding** experiences.
- Embed **IoT sensors** across the warehouse for real-time performance data collection.



Companies that cultivate a culture of **continuous improvement** and maintain vigilance over **company benefits** and **policies** are more likely to retain employees for extended periods

We thank Professor Lanham and our industry mentors for their project guidance.