

Employee Data Analysis using Excel



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**PROJECT
TITLE**



TURNOVER ANALYSIS



AGENDA

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2. Project Overview
3. End Users
4. Our Solution and Proposition
5. Dataset Description
6. Modelling Approach
7. Results and Discussion
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PROBLEM

STATEMENT

Employee turnover can be a significant challenge for organizations, leading to high costs in recruitment, training, and decreased productivity. Understanding the factors that contribute to turnover is essential for implementing effective strategies to retain employees. This project aims to analyze employee turnover data to identify key trends, patterns, and predictors that influence the decision to leave a company.



PROJECT



OVERVIEW

The primary objective of this project is to conduct a comprehensive analysis of employee turnover in order to develop a predictive model that helps organizations anticipate turnover risks. By identifying the key factors influencing turnover, we aim to provide actionable insights that can guide HR departments in improving employee retention strategies.



WHO ARE THE END USERS?



Human Resource (HR) Managers: To develop better retention strategies based on data insights.

Business Leaders: For strategic decision-making in terms of workforce planning and management.

Data Scientists/Analysts: To extend the work and improve the predictive capabilities of the model.

Consultants: To leverage insights when advising organizations on turnover management.



OUR SOLUTION AND ITS VALUE PROPOSITION

We propose a data-driven approach that includes building predictive models to identify employees at risk of leaving. Our solution provides:

**Predictive insights using machine learning models.
Identification of the key drivers behind employee turnover.**

Dashboards and visualizations for HR and leadership to track turnover trends.

Recommendations for improving employee satisfaction and reducing turnover rates.



Dataset Description

The dataset used for this analysis contains information such as:

Employee Demographics: Age, gender, education, marital status, etc.

Job-related Attributes: Position, department, years of experience, tenure, salary, etc.

Work Environment: Satisfaction levels, engagement scores, work-life balance, etc.

Turnover Indicator: A binary variable representing whether an employee has left the company or not.

THE "WOW" IN OUR SOLUTION



MODELLING

Data Preprocessing: Cleaning the data, handling missing values, and performing exploratory data analysis (EDA) to understand the relationships between variables.

Feature Engineering: Creating new features such as job satisfaction trends, promotion history, etc.

Model Selection: Various machine learning algorithms such as logistic regression, decision trees, random forests, and gradient boosting were evaluated for their predictive power.

Model Evaluation: The models were evaluated based on accuracy, precision, recall, and other relevant metrics to ensure the effectiveness of the predictions.

RESULTS

Key Findings: Summary of the most important factors influencing turnover (e.g., job satisfaction, salary, work-life balance).

Model Performance: A comparison of the performance of different models, highlighting the most effective one.

Interpretation: Insights drawn from the model outputs, such as specific employee segments most likely to leave.

Actionable Insights: Recommendations for HR to reduce turnover based on findings (e.g., addressing salary discrepancies, enhancing work-life balance).

conclusion

In conclusion, our analysis provided valuable insights into employee turnover. By leveraging predictive models, organizations can proactively identify employees at risk of leaving and implement targeted retention strategies. This will help reduce turnover rates, improve employee satisfaction, and minimize the costs associated with hiring and training new employees.