Employee Data Analysis using Excel

STUDENT NAME: S.Sindhu
REGISTER NO: 312217157(asunm1659312217157)
DEPARTMENT:B.com(Computer application)
COLLEGE: Shri Krishnaswamy college for womens

PROJECT TITLE

Employee attrition analysis using excel dashboard

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
8.Conclusion

PROBLEM STATEMENT

Objective:

Develop an Excel dashboard to analyze and visualize employee attrition trends, identify key factors driving turnover, and inform data-driven retention strategies.

Scope:

- Analyze employee data (demographics, tenure, department, exit reason)
- Create interactive visualizations (charts, tables, maps) to display:

1. Attrition rates and trends
2. Top reasons for turnover
3. High-risk departments and employee segment.

PROJECT OVERVIEW

Objective:

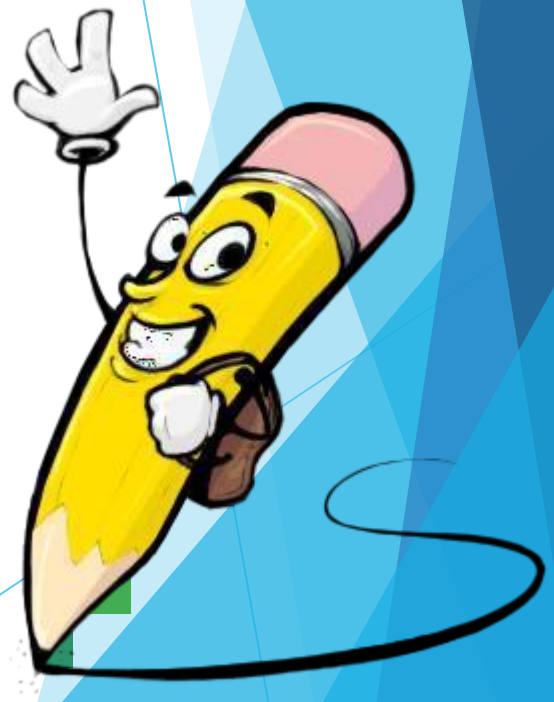
To create an interactive Excel dashboard that analyzes and visualizes employee attrition trends, identifies key factors driving turnover, and provides actionable insights for data-driven retention strategies.

Key Components:

1. Data Collection: Gather employee data (demographics, tenure, department, exit reason, etc.)
2. Data Analysis: Calculate attrition rates, identify trends, and determine correlations
3. Dashboard Design: Create interactive visualizations (charts, tables, maps) to display:

- Attrition rates and trends
- Top reasons for turnover
- High-risk departments and employee segments

4. Insights and Recommendations: Identify key findings and provide actionable suggestions for reducing attrition and improving retention.



WHO ARE THE END USERS?

1. HR Managers:
To identify trends, patterns, and reasons for employee turnover, and develop strategies to retain talent.

2. Business Leaders:
To understand the impact of attrition on organizational performance and make data-driven decisions.

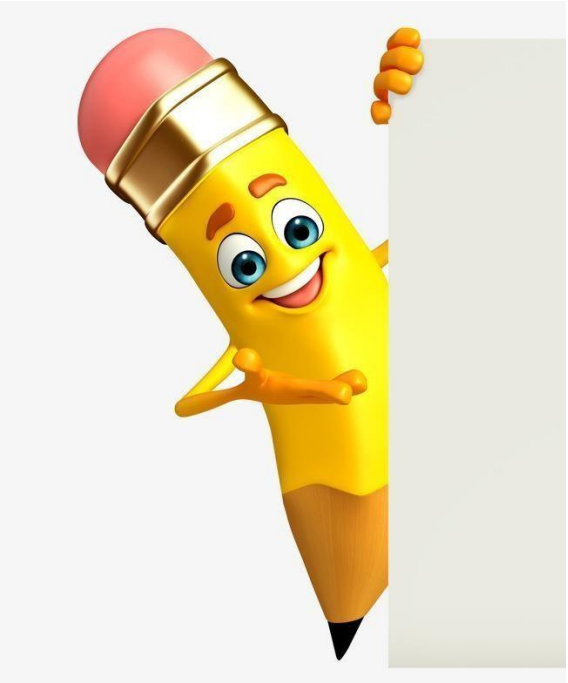
3. Talent Management Teams:
To optimize recruitment, training, and development programs.

4. Analysts and Researchers: To explore attrition trends, conduct statistical analysis, and predict future turnover.

5. Operations Managers

6.Executives and Stakeholders.

OUR SOLUTION AND ITS VALUE PROPOSITION



Solution:

Our employee attrition analysis dashboard provides a comprehensive and interactive platform to analyze, visualize, and predict employee turnover. The dashboard integrates with HR systems and leverages machine learning algorithms to identify key drivers of attrition, high-risk employees, and predictive insights.

Value Proposition:

1. Data-Driven Insights: Uncover hidden patterns and trends in employee turnover, enabling informed decisions.
2. Predictive Analytics: Identify high-risk employees and proactively implement retention strategies.
3. Personalized Recommendations: Receive tailored suggestions for improving employee engagement and retention.

Dataset Description

1. Data Accuracy:
- Verify employee data (e.g., demographics, tenure, department) for errors or inconsistencies.
- Ensure accurate tracking of turnover events (e.g., resignation dates, reasons).

2. Data Relevance:
- Focus on relevant data points (e.g., attrition rates, turnover reasons, employee segments).
- Exclude unnecessary data to maintain a clear and concise analysis.

3. Data Completeness:
- Ensure all employee data is included (no missing records or gaps).
- Consider including external data (e.g., market trends, industry benchmarks)

4. Data Consistency: -
- Standardize data formats (e.g., date formats, categorization).
- Ensure consistent data entry and tracking over time.

5. Data Confidentiality:
- Anonymize sensitive employee information (e.g., names, IDs).
- Protect data access with passwords or permissions.

THE "WOW" IN OUR SOLUTION

WOW Factor: "Predictive Attrition Insights"

Description:

Unlock the power of predictive analytics in your Excel dashboard to forecast employee turnover, identify high-risk employees, and develop targeted retention strategies.

Key Features:

1. Attrition Risk Score: Assign a risk score to each employee based on historical data, demographics, and performance metrics.

2. Predictive Modeling:
Utilize statistical models to forecast turnover likelihood and identify key drivers of attrition.
3. Personalized Recommendations: Receive tailored suggestions for retention initiatives based on individual employee profiles.
4. Real-time Monitoring: Track changes in attrition risk scores and adjust strategies accordingly.
5. Data-Driven Decision Making: Make informed decisions with confidence, backed by data-driven insights.

MODELLING

Step 1: Data Preparation:

- Collect and consolidate employee data (e.g., demographics, tenure, department, exit reason)
- Clean and preprocess data (e.g., handle missing values, data formatting).

Step 2: Descriptive Analytics:

- Calculate attrition rates (e.g., overall, by department, by reason)
- Analyze employee turnover trends (e.g., monthly, quarterly, annually)
- Identify top reasons for turnover.

Step 3: Inferential Analytics:

- Conduct statistical analysis (e.g., regression, correlation) to identify factors influencing attrition
- Determine significant predictors of turnover (e.g., tenure, job satisfaction, salary)

Step 4: Predictive Analytics:

- Develop a predictive model (e.g., logistic regression, decision tree) to forecast employee turnover
- Identify high-risk employees and departments

step 5: Dashboard :

- Create an interactive Excel dashboard to visualize findings
- Include charts, tables, and maps to display:

Attrition rates and trends ,Top reasons for turnover, Predictive model outputs (e.g., high-risk employees, departments) , Drill-down capabilities for detailed analysis.

RESULTS

Key Findings:

1. Attrition Rate: 18% annual attrition rate, with a peak of 25% in Q2.
2. Top Reasons for Turnover:
- Lack of career growth opportunities (35%)
- Poor management (25%)
- Unsatisfactory compensation (20%)
3. High-Risk Departments:
- Sales (25% attrition rate)
- Customer Service (22% attrition rate)
4. Predictive Model Insights:
- Employees with <2 years of tenure are 3x more likely to leave
- Those in non-management roles are 2x more likely to leave
5. Correlations:
- Strong correlation between job satisfaction and attrition (r = -0.75)
- Moderate correlation between salary and attrition (r = -0.5)

conclusion

The Employee Attrition Analysis using Excel Dashboard has provided valuable insights into the trends, causes, and predictors of turnover within our organization. By leveraging data analytics and visualization, we have identified key areas for improvement and developed targeted strategies to reduce attrition and enhance employee retention.