Employee Data Analysis using Excel

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PROJECT TITLE

Employee Performance Analysis using Excel

AGENDA

1. Problem Statement
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

- Data Collection: Gathering relevant information such as performance metrics, attendance records, feedback surveys, and demographic details.
- Data Cleaning and Preparation: Ensuring data accuracy and consistency by removing errors, duplicates, and irrelevant information.
- Data Analysis: Using statistical methods, visualization tools, and analytical techniques to uncover patterns, trends, correlations, and anomalies within the data.
- Interpretation and Insight Generation: Drawing conclusions and actionable insights from the analyzed data to support decision-making, improve HR practices, and optimize workforce management strategies.
- Application: Implementing findings to enhance employee engagement, productivity, retention, and overall organizational performance.

PROJECT OVERVIEW

- Collect and integrate employee data from various sources (e.g., HR systems, surveys, performance reviews)
  - Clean, transform, and prepare data for analysis- Develop Excel dashboards and reports to visualize key metrics, including: - Demographics (age, tenure, department, etc.) - Performance ratings and trends

WHO ARE THE END USERS?

Informed Decision-Making:

- Provides managers and executives with data-driven insights to make strategic decisions about promotions, resource allocation, and organizational improvements.

2. Targeted Training and Development:

- Identifies specific skill gaps and areas for improvement, allowing HR and training teams to create effective, targeted training programs.

3. Enhanced Employee Engagement:

- Offers employees clear feedback on their performance, which boosts motivation, engagement, and alignment with the organization's goals.

4. Optimized Compensation and Rewards:

- Ensures that compensation strategies are fair and performance-based, helping to retain high performers and motivate the workforce.

5. Organizational Improvement and Growth:

- Supports continuous improvement by identifying areas where the organization can invest in development and drive overall growth.

Matrix Structure

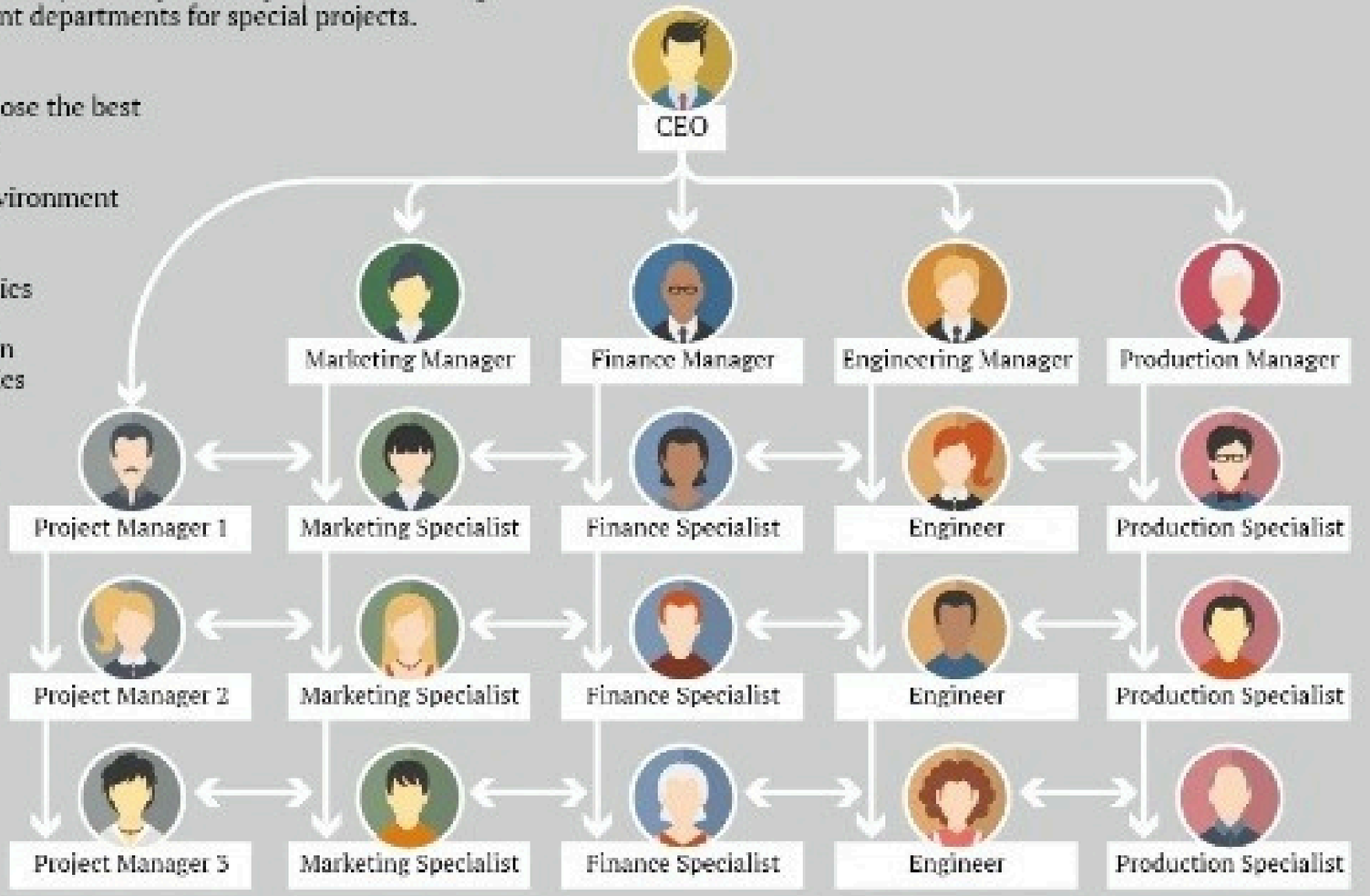
The matrix organizational structure resembles a grid that consists of a traditional hierarchy where employees with shared skills report to the same department, but they also report to a project that manages employees across different departments for special projects.

Advantages:

- Project Manager can choose the best employees for each task.
- Offers a flexible work environment where employees are encouraged to use their skills in different capacities
- Promotes communication and shared responsibilities across the company
- Increases the efficiency of organizational dynamics

Disadvantages:

- The organizational structure is prone to more changes.
- Could lead to conflict between departments and projects
- It can be difficult to track budgets and resources.



OUR SOLUTION AND ITS VALUE PROPOSITION

Conditional formatting = missing the values

1.Use Conditional Formatting to highlight blank cells in a dataset, applying a custom format (e.g., red fill) to cells containing missing values (=Is blank(A1)). Select the range, go to Home > Conditional Formatting > New Rule > Use a formula to determine which cells to format. Enter the formula =ISBLANK(A1) and set the desired format.

Filter = remove the missing

1. Filter: Data > Filter > Blanks.2. Go To Special: Ctrl + G > Special > Blanks.3. Conditional Formatting: Home > Highlight Cells Rules > Blank Cells.

Formula of perform analysis

syntax

Syntax:- logical_test1, logical_test2, ...: Conditions to evaluate- value_if_true1, value_if_true2, ...: Values to return if conditions are true

Formula = checking for performance

=IFS(A1>10000, "High", A1>5000, "Medium", "Low")These formulas categorize data in cells A1, B1, and C1 based on specified conditions, returning corresponding values ("High", "Medium", "Low", etc.). Use these formulas to analyze and classify your data, and make informed decisions!

Pivot table

- 1. Select the data range you want to summarize.2. Go to the "Insert" tab and click on "PivotTable".3. Drag the field you want to summarize (e.g., "Sports") to the "Row Labels" area.4. Drag the field you want to summarize (e.g., "Total Number Students") to the "Values" area.5. Right-click on the "Values" field and select "Summarize" > "Summarize by" > "Average" (or any other summary function you need).6. To show only the top 3 lines, right-click on the "Row Labels" field and select "Filter" > "Top" > "Top 3".

Graph

- Step 1: Select Data Choose the data range you want to graph, including headers. Go to the "Insert" tab in the ribbon.
- Step 2: Choose Graph Type- Click on the graph type you want to create (e.g., Column, Line, Pie, Bar).- Select a subtype (e.g., 2D or 3D).
- Step 3: Customize Graph- Right-click on the graph to access formatting options.- Adjust elements like titles, labels, colors, and fonts.
- Step 4: Add Data Labels- Right-click on the graph and select "Add Data Labels".- Choose where to display labels (e.g., above, below, or inside data points).
- Step 5: Finalize- Review and adjust your graph as needed.- Save your workbook.

Dataset Description

1. **Employee ID (unique identifier)**
2. **Name(First name ,last name)**
3. **Department**
4. **Job Title**
5. **Hire Date**
6. **Performance Ratings (e.g., 1-5 scale, low to very high)**
7. **Gender**

THE "WOW" IN OUR SOLUTION

Performance analysis formula

```
=IFS(G5>=5,"VERY
HIGH",G5>=4,"HEIGH",G5>=3,"MED",TR
UE,"LOW")
```

MODELLING

Data collection *

- **Step 1: Define the Problem and Objectives- Identify the goals of the analysis (e.g., employee turnover, performance, engagement)- Determine the key questions to answer**

- **Step 2: Choose a Dataset- Search for relevant employee datasets on Kaggle (e.g., HR Analytics, Employee Attrition)- Select a dataset that aligns with your objectives**

Step 3: Import and Explore the Data- Import the dataset into a Kaggle notebook or Excel- Explore the data using summary statistics, visualizations, and data profiling

Feature collection

- HR systems (e.g., Workday, BambooHR)- Performance management tools (e.g., Lattice, 15Five)- Employee engagement surveys (e.g., Culture Amp, SurveyMonkey)- Time-off and attendance systems (e.g., ADP, Namely)- Training and development platforms (e.g., Udemy, LinkedIn Learning)

Data cleaning

- Remove irrelevant data
- Eliminate columns or rows unrelated to performance analysis.
- Handle missing values
- Decide on a strategy for missing performance ratings, feedback, or other relevant data.

Performance level

Step 1: Prepare Your Data Collect and import relevant data, such as employee performance ratings, goals, and feedback Ensure data is organized and formatted consistently

Step 2: Categorize Performance Levels- Define performance levels (e.g., Excellent, Meets Expectations, Needs Improvement)- Assign numerical values or codes to each level

Step 3: Calculate Performance Scores- Use formulas to calculate performance scores based on ratings, goals, and feedback- Consider using weighted averages or indexes to combine multiple metrics

Step 4: Identify High and Low Performers- Set thresholds for high and low performers based on performance scores- Use conditional formatting or filtering to highlight high and low performers

Pivot summary

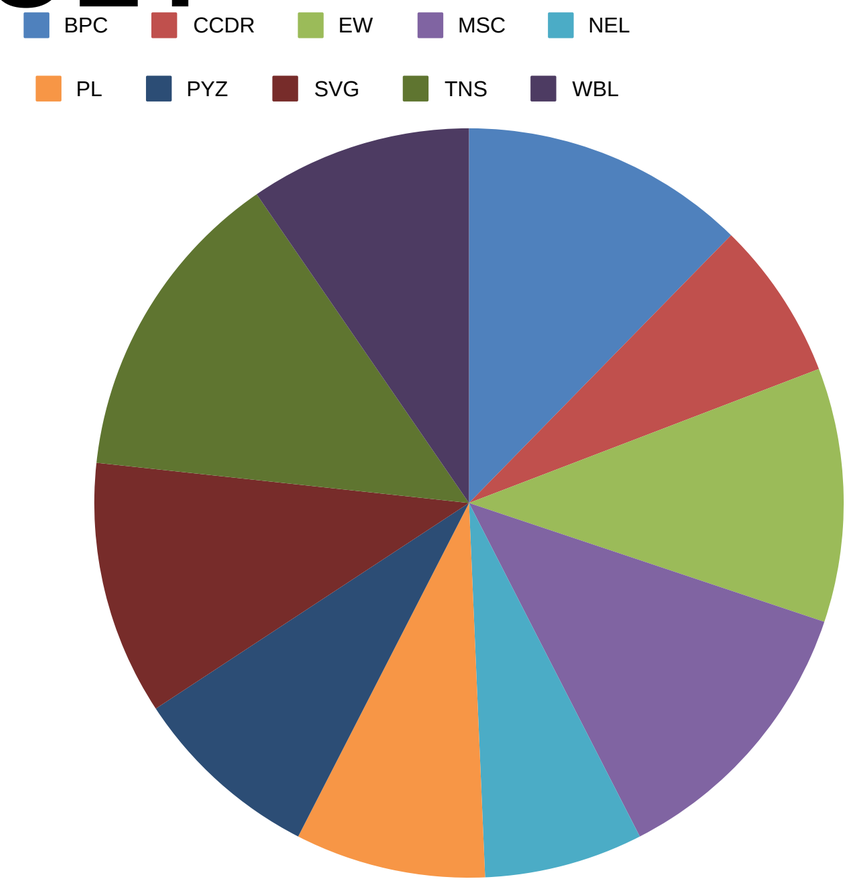
1. Data Aggregation: Summarize data by sum, average, count, or other functions.

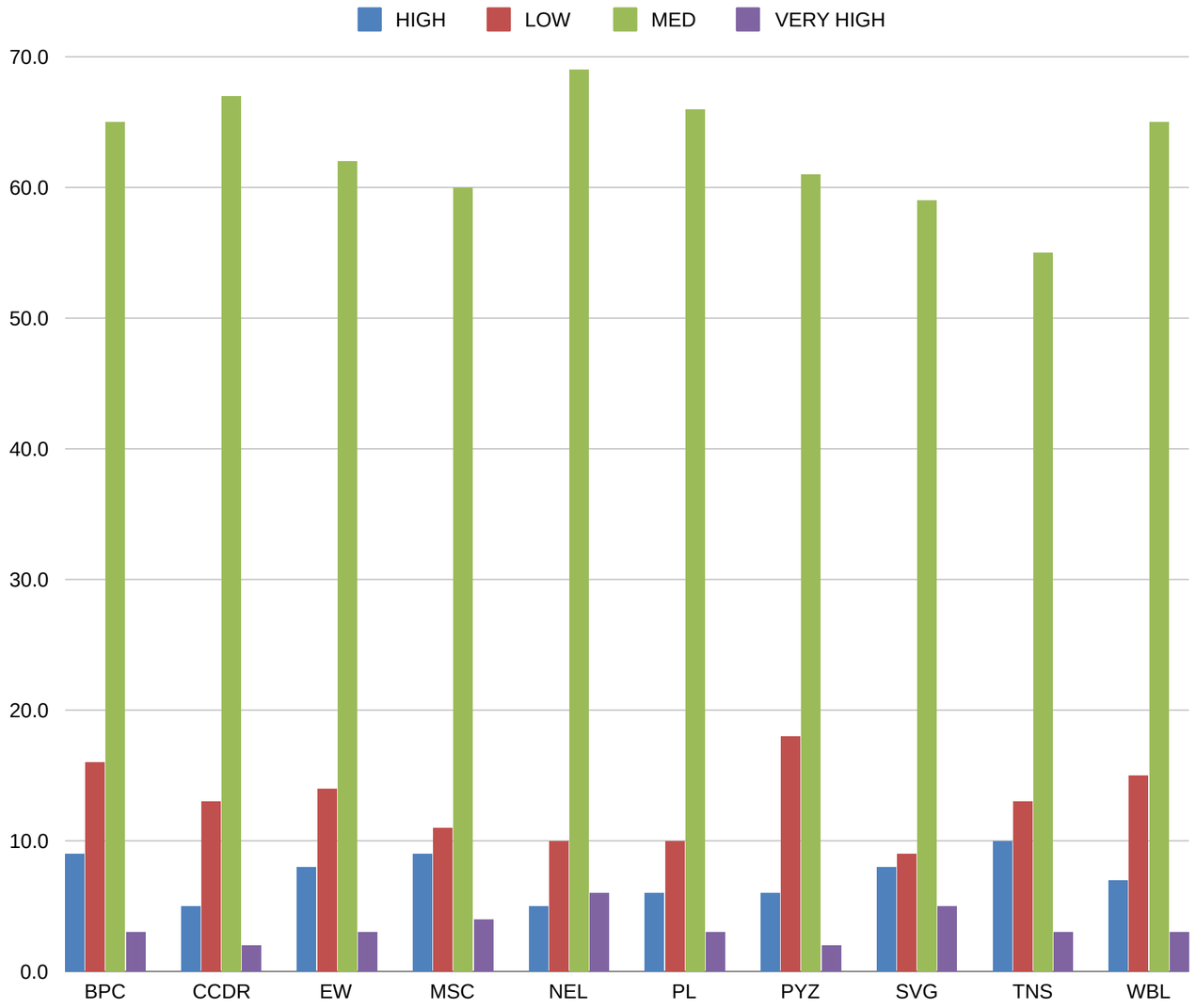
2. Data Rotation: Rotate data to view different perspectives (e.g., switch rows and columns).

3. Customization: Create personalized summaries by selecting specific fields and filters.

4. Drill-Down Capability: Double-click to view detailed data behind summary values.

RESULTS




HIGH
LOW
MED
VERY HIGH
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
BPC
CCDR
EW
MSC
NEL
PL
PYZ
SVG
TNS
WBL

conclusion

– "Data analysis is not just about numbers, it's about telling a story that drives action and improves employee lives."