


# Employee Data Analysis using Excel



STUDENT NAME:  
REGISTER NO:  
DEPARTMENT: B.COM ( A&f)  
COLLEGE



**PROJECT TITLE**



# **Employee Performance Analysis using Excel**



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# PROBLEM STATEMEN

## T Analyzing Employee Type Distribution

### Objective:

To analyze the distribution of employee types (fixed term, permanent, temporary) across different departments and identify potential imbalances or disparities.

### Scope:

- **Data Analysis:** Examination of the provided dataset, which includes departmental names, employee type counts, and total results.
- **Departmental Comparison:** Comparison of employee type distributions across various departments to identify any patterns or trends.
- **Efficiency Assessment:** Evaluation of the balance between fixed-term, permanent, and temporary employees in each department, considering factors such as workload, project requirements, and organizational goals.
- **Recommendations:** Formulation of recommendations for optimizing employee type distribution and improving departmental efficiency.



### **Expected Outcomes:**

- A comprehensive understanding of the employee type distribution within the organization.
- Identification of potential imbalances or disparities in employee type allocation.
- Recommendations for improving employee type distribution and departmental efficiency.

### **Project Deliverables:**

- Data analysis report, including key metrics and findings.
- Comparative analysis of employee type distributions across departments.
- Assessment of employee type balance and identification of areas for improvement.
- Recommendations for optimizing employee type allocation and improving departmental efficiency.



# PROJECT OVERVIEW

## Purpose:

To analyze the distribution of employee types (fixed term, permanent, temporary) across departments and identify areas for improvement.

## Goals:

- Identify imbalances in employee type distribution.
- Assess the balance of employee types within departments.
- Develop recommendations for optimizing employee type allocation.

## Scope:

- Data analysis of departmental information, employee type counts, and total results.
- Comparative analysis across departments.
- Assessment of employee type balance.
- Recommendations for optimization.

## Methodology:

- Data collection and analysis.
- Departmental comparison.
- Balance assessment.
- Recommendation development.



# WHO ARE THE END USERS?

- Directly affected by resource allocation decisions.
- May be impacted by changes resulting from the project
- Employees working within the various departments of the organization.



# OUR SOLUTION AND ITS VALUE PROPOSITION



## Solution and Value Proposition:

**Solution:** Departmental Resource Allocation Optimization Framework.

**Components:** Data collection, analysis, comparison, assessment, and recommendations.

**Value Proposition:** Improved efficiency, departmental performance, productivity, reduced costs, employee satisfaction, and informed decision-making.





# Dataset Description

- ❑ **Dataset:** Contains information about departmental resource allocation.
- ❑ **Fields:** Department, Count - Department, Count - Name.
- ❑ **Assumptions:** "Count - Name" likely represents individuals assigned to projects.
- ❑ **Potential Analysis:** Departmental size comparison, resource allocation analysis, efficiency assessment, bottleneck identification, comparison to departmental goals.
- ❑ **Considerations:** Data quality, privacy, and visualization.



# THE "WOW" IN OUR SOLUTION

## Potential Situations in the Data

**Uneven Resource Distribution:** Departments with high or low "Count - Name" compared to "Count - Department."

**Project-Oriented Departments:** High "Count - Name" relative to "Count - Department."

**Administrative or Support Functions:** Low "Count - Name" relative to "Count - Department."

**Inefficient Resource Utilization:** High "Count - Name" with low productivity.

**Overburdened Departments:** Consistently high "Count - Name" over time.



# MODELLIN

**G** **Data Cleaning and Preparation:**

**Handling Missing Values:** Addressing any missing data points for "Count - Department" or "Count - Name."

**Data Normalization:** Ensuring consistency in data formats and units of measurement.

**Outlier Detection and Correction:** Identifying and addressing any extreme or unusual values that might skew the analysis.

**Feature Engineering:**

**Creating Derived Metrics:** Consider creating additional metrics such as "Resource Allocation Ratio" ( $\text{Count - Name} / \text{Count - Department}$ ) to provide a more comprehensive understanding of resource utilization.

**Categorical Encoding:** If the "Department" field is categorical, converting it into a numerical format suitable for modeling.

**Exploratory Data Analysis (EDA):**

**Visualization:** Creating visualizations (e.g., histograms, scatter plots, box plots) to explore the distribution of variables, identify relationships, and detect patterns.

**Correlation Analysis:** Assessing the correlation between "Count - Department" and "Count - Name" to understand the relationship between departmental size and resource allocation.



## **Model Selection and Training:**

**Regression Analysis:** Using regression models (e.g., linear regression, multiple regression) to predict the "Count - Name" based on the "Count - Department" and other relevant features.

**Classification Models:** If the goal is to classify departments into categories based on their resource allocation patterns, consider using classification models (e.g., decision trees, random forests, logistic regression).

## **Model Evaluation:**

**Performance Metrics:** Assessing the model's performance using appropriate metrics (e.g., R-squared, mean squared error, accuracy, precision, recall, F1-score).

**Cross-Validation:** Evaluating the model's generalization ability using techniques like k-fold cross-validation.

## **Interpretation and Insights:**

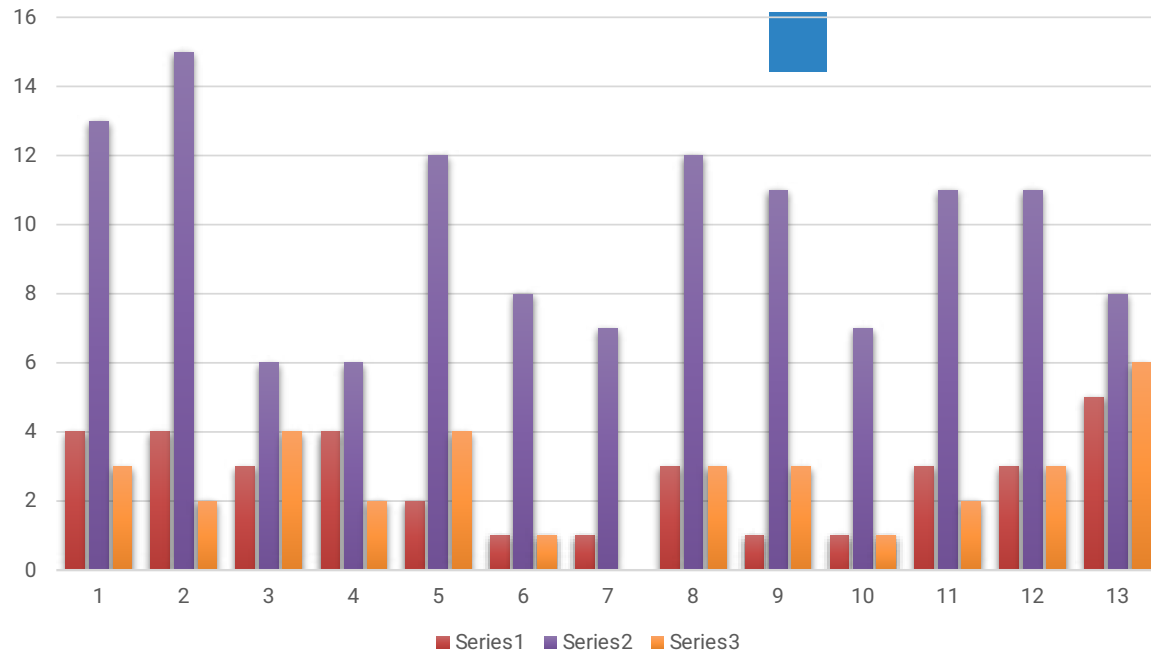
**Understanding Model Coefficients:** Interpreting the coefficients of the regression model to understand the impact of "Count - Department" and other features on "Count - Name."

**Identifying Significant Predictors:** Determining which features are most influential in predicting "Count - Name."

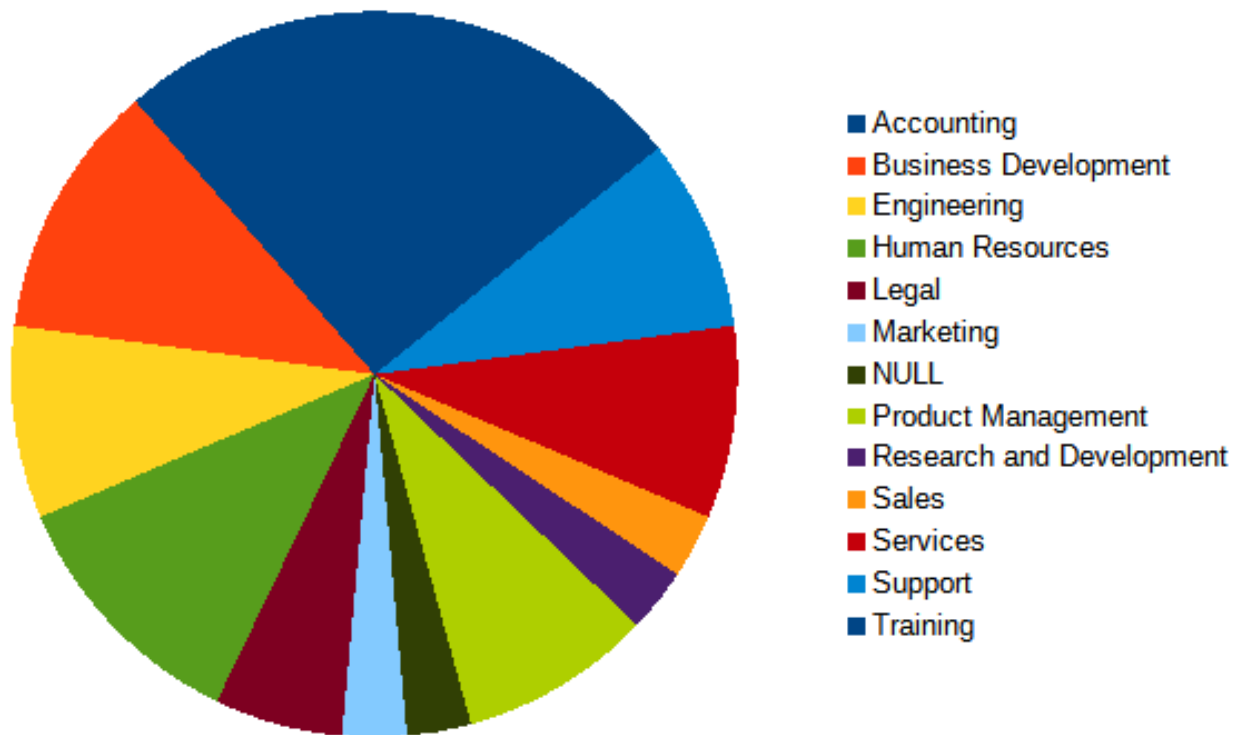


# RESULTS

DEPARTMENT ANALYSIS



## DEPARTMENT ANALYSIS



# conclusion

- Uneven resource distribution.
- Project-oriented focus.
- Administrative and support functions.
- Inefficient resource utilization.
- Overburdened departments.

## **Recommendations:**

- Re-evaluate resource allocation strategies.
- Implement balanced resource distribution.
- Promote strategic planning.
- Enhance efficiency and productivity.
- Address overburdened departments.

