

# Improving Employee Productivity and Satisfaction

DATA ANALYSIS AND HR ANALYSIS INTERNSHIP PROJECT

## INTRODUCTION

This project aims to identify the factors influencing employee productivity and satisfaction to enhance overall performance and reduce turnover. By leveraging data from various sources including employee data, productivity metrics, engagement surveys, and operational statistics, the project will develop actionable insights and recommendations.



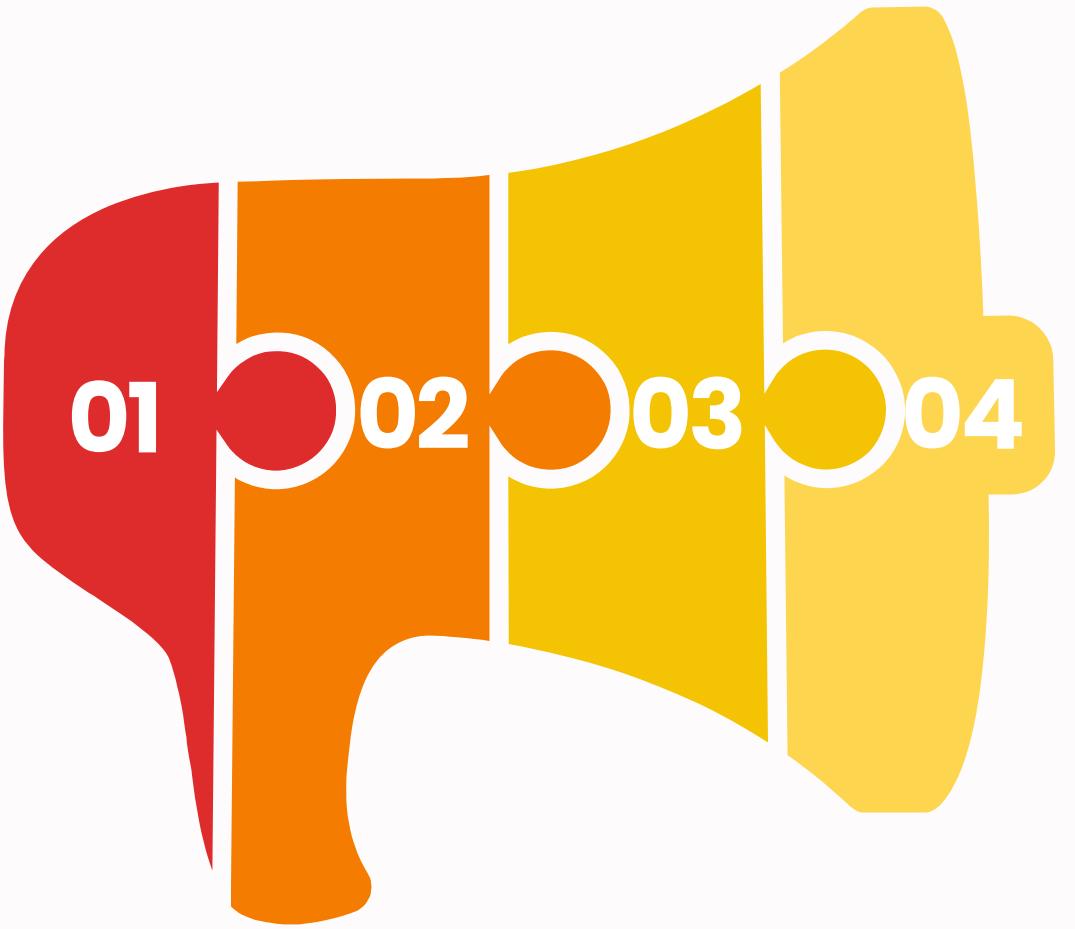
## PROBLEM STATEMENT

High turnover rates and inconsistent employee performance are significant challenges that impact organizational efficiency and profitability. Understanding the determinants of employee productivity and satisfaction is crucial for creating a conducive work environment that fosters high performance and retention.



## GOALS

- 01** Identify key factors influencing employee productivity and satisfaction.
- 02** Develop a data-driven insights
- 03** Recommend strategies to improve employee satisfaction and productivity.
- 04** Prepare a comprehensive report of analysis



## PROJECT SCOPE



Employee  
demographic  
s and job-  
related data.



Productivity  
metrics  
including  
project  
completion  
rates and task  
efficiency.



Employee  
engagement  
through  
survey  
responses and  
activity  
participation.



Operational  
factors such  
as tool and  
software  
usage and  
system  
reliability.

# METHODOLOGIES

Data Collection  
and Preparation

Data Analysis

Data-driven Insights

Recommendations  
and Interventions



# DATA DICTIONARY



## 1. Employee Data (employee\_data.csv)

Column Name	Data Type	Description
Employee ID	Integer	Unique identifier for each employee. This serves as the primary key across all datasets.
Age	Integer	Age of the employee in years. Represents the current age of the employee.
Gender	String	Gender of the employee. Possible values are 'Male' and 'Female'.
Tenure	Integer	Number of years the employee has been with the company.
Department	String	Department where the employee works. Possible values include 'HR', 'IT', 'Finance', 'Marketing', and 'Sales'.
Job Role	String	Job role of the employee. Possible values include 'Analyst', 'Manager', 'Executive', 'Assistant', and 'Clerk'.
Salary	Integer	Annual salary of the employee in USD. Represents the gross yearly earnings.
Performance Scores	Integer	Performance rating of the employee, ranging from 1 to 5. Higher scores indicate better performance.
Job Satisfaction Scores	Integer	Job satisfaction rating of the employee, ranging from 1 to 10. Higher scores indicate higher job satisfaction.
Exit Reasons	String	Reason for employee exit if applicable. Possible values include 'Career Change', 'Higher Salary', 'Relocation', 'Retirement', 'Personal Reasons', and 'N/A' for current employees.

## 2. Productivity Data (productivity\_data.csv)

Column Name	Data Type	Description
Employee ID	Integer	Unique identifier for each employee. This links to the Employee ID in employee_data.csv.
Project Completion Rates	Float	Proportion of projects completed successfully, ranging from 0.5 to 1.0. Higher values indicate better completion rates.
Hours Worked	Integer	Number of hours worked per week. Represents the average weekly working hours of the employee.
Output Quality	Integer	Quality rating of work output, ranging from 1 to 10. Higher scores indicate better quality of work.
Task Completion Time	Integer	Average time taken to complete tasks in hours. Represents the efficiency of task completion.
Training Participation	Boolean	Indicates whether the employee participated in training sessions. Possible values are 'True' (participated) and 'False' (did not participate).
Technology Utilization	Integer	Rating of technology utilization by the employee, ranging from 1 to 10. Higher scores indicate better utilization of technology.

### 3. Engagement Data (engagement\_data.csv)

Column Name	Data Type	Description
Employee ID	Integer	Unique identifier for each employee. This links to the Employee ID in employee_data.csv.
Survey Responses	Integer	Rating of responses to engagement surveys, ranging from 1 to 10. Higher scores indicate more positive responses.
Engagement Activity Participation	Integer	Number of engagement activities the employee participated in, ranging from 0 to 5.
Internal Communication Metrics	Integer	Rating of internal communication effectiveness, ranging from 1 to 10. Higher scores indicate more effective communication.

### 4. Operational Data (operational\_data.csv)

Column Name	Data Type	Description
Employee ID	Integer	Unique identifier for each employee. This links to the Employee ID in employee_data.csv.
Tools and Software Usage	Integer	Rating of tools and software usage by the employee, ranging from 1 to 10. Higher scores indicate better usage.
System Downtime	Float	Average system downtime experienced by the employee in hours. Lower values indicate less downtime.
Technical Support Requests	Integer	Number of technical support requests made by the employee. Higher values indicate more requests for support.

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