

Project 1

Adviti Pvt. Ltd.: HR Analytics Project Manual

Background

Adviti Pvt. Ltd. is a multifaceted consulting firm with a presence across various industry domains. The company prides itself on leveraging data-driven insights to inform strategic decisions and improve organizational efficiency. In line with this vision, the HR department has initiated an analytics project to delve into the workforce data and uncover actionable insights that will contribute to enhanced employee engagement and optimized operational practices.

Problem Statement and Objectives

As business analysts, you will leverage your analytical skills to explore the dataset, derive insights, and compile the findings into a coherent narrative for the company's leadership. This exercise is designed to simulate real-world business analytics tasks, providing a platform for the practical application of data analysis in a corporate setting.

Problem Statement 1: Identify Factors Influencing Employee Attrition

- **Objective:** To pinpoint the underlying causes of employee turnover and propose data-backed strategies to bolster retention.

Problem Statement 2: Optimize Employee Training Programs

- **Objective:** To evaluate the current training initiatives' effectiveness and suggest improvements for fostering skill development and enhancing performance.

Data Dictionary

Column Name	Data Type	Description	Example Value(s)	
Employee_ID	String	Unique identifier for each employee.	E00001	
Employee_Name	String	Full name of the employee.	John Doe	
Age	Integer	Age of the employee.	29	
Gender	String	Gender of the employee.	Male/Female	
Department	String	The department in which the employee works.	IT/Sales/HR/etc.	

Column Name	Data Type	Description	Example Value(s)	
Position	String	Job position or title of the employee.	System Administrator/Sales Manager/etc.	
Years_of_Service	Integer	Number of years the employee has been with the company.	5	
Salary	Integer	Annual salary of the employee in INR.	700000	
Performance_Rating	Integer	A rating indicating the employee's performance (1 to 5).	3	
Work_Hours	Integer	Average number of hours worked per week.	40	
Attrition	String	Whether the employee has left the company (Yes/No).	No	
Promotion	String	Whether the employee was promoted in the last year (Yes/No).	Yes	
Training_Hours	Integer	Number of training hours completed by the employee.	20	
Satisfaction_Score	Integer	Employee's job satisfaction score (1 to 5).	4	
Education_Level	String	Highest level of education attained by the employee.	Bachelor's/Master's/PhD/etc.	
Previous_Job_Experience	Integer	Number of years of job experience before joining.	4	
JobSatisfaction_PeerRelationship	Integer	Binary indicator of satisfaction with peer relationships.	0/1	

Column Name	Data Type	Description	Example Value(s)	
JobSatisfaction_WorkLifeBalance	Integer	Binary indicator of satisfaction with work-life balance.	0/1	
JobSatisfaction_Compensation	Integer	Binary indicator of satisfaction with compensation.	0/1	
JobSatisfaction_Management	Integer	Binary indicator of satisfaction with management.	0/1	
JobSatisfaction_JobSecurity	Integer	Binary indicator of satisfaction with job security.	0/1	
EmployeeBenefit_HealthInsurance	Integer	Binary indicator of having health insurance benefits.	0/1	
EmployeeBenefit_PaidLeave	Integer	Binary indicator of having paid leave benefits.	0/1	
EmployeeBenefit_RetirementPlan	Integer	Binary indicator of having retirement plan benefits.	0/1	
EmployeeBenefit_GymMembership	Integer	Binary indicator of having gym membership benefits.	0/1	
EmployeeBenefit_ChildCare	Integer	Binary indicator of having child care benefits.	0/1	
Distance_from_Work	Float	Distance from the employee's home to workplace in kilometers.	12.5	
Absenteeism	Integer	Average number of days absent per year.	3	
Employee_Engagement_Score	Integer	Employee's engagement score (1 to 5).	4	

Goal

To analyze the data and create an analytical report that encapsulates key findings, trends, and recommendations. This report will be presented to the CEO of Adviti Pvt. Ltd., aiding in strategic decision-making.

Deliverables

1. **Analytical Report:** A comprehensive document detailing the analysis of the HR data, visualizations of key metrics, insights on employee attrition and training effectiveness, and actionable recommendations.

Introduction

Briefly introduce Adviti Pvt. Ltd., the purpose of the analysis, and the significance of HR analytics in the company's operations.

Objectives

Clearly outline the objectives of the analysis, including understanding employee attrition and optimizing training programs.

Data Cleaning and Preparation

1. Document the process of cleaning the dataset, including handling missing values, correcting data types, and any assumptions made.
2. Describe the methodology for adding binary columns and preparing the dataset for analysis.

Analysis and Insights

1. Present the analytical methods and statistical techniques used to explore the data.
2. Include visualizations such as graphs and tables to illustrate findings.
3. Discuss insights on factors affecting employee attrition and the impact of training programs on performance.

Final Recommendations

1. Summarize key findings and provide actionable recommendations to the CEO.
2. Suggest strategies for reducing attrition rates based on data insights.
3. Propose enhancements to the training programs that align with the data analysis.

2. **SQL Solution Script:** A set of SQL scripts used to query the dataset, perform analysis, and generate the findings contributing to the report. The script should include comments explaining the purpose of each query and how it relates to the objectives.

Submission Date:

The project deadline is set for Friday, January 12th, 2024. Following the completion of the project, a project discussion session is scheduled for Saturday, January 13th, 2024, at 5:00 PM IST.

This 90-minute session will provide a platform for an in-depth conversation about the analyses conducted and insights gleaned.

Moreover, it presents a valuable opportunity for three students, selected based on their outstanding work, to showcase their findings to the class. This session not only serves as a forum for peer learning but also helps in honing presentation skills and gaining constructive feedback.

Engaging in this discussion will be instrumental in your growth as a business analyst, enhancing your ability to communicate complex data in a clear and impactful manner, and demonstrating your analytical acumen in a professional setting.