

Project -3

Project Overview: HR Gender Diversity and Inclusion Analytics

Objective

This project is dedicated to developing a Power BI Dashboard aimed at a comprehensive understanding of employee attrition within an organization. By delving into the myriad factors contributing to turnover, this initiative seeks to arm HR professionals with the data-driven insights necessary to formulate and implement effective retention strategies, ultimately aiming to bolster retention rates and reinforce the organizational workforce.

Dataset Insights

Utilizing a rich dataset from the IBM HR Analytics Employee Attrition & Performance available on Kaggle, this project examines a variety of variables including employee demographics, job characteristics, performance metrics, and attrition outcomes. The depth and breadth of the dataset enable a multifaceted analysis of the factors influencing employee turnover, providing a solid foundation for deriving actionable insights.

Analytical Methodology

Initial Steps

Objective Definition: Establishing clear goals to uncover patterns and drivers of employee attrition.

Data Acquisition and Preliminary Analysis: Securing the dataset from Kaggle, followed by an exploratory analysis to understand the distribution and relationship of key variables impacting attrition.

Metric Formulation

KPI Development: Leveraging Power BI Desktop along with Data Analysis Expressions (DAX) to craft essential Key Performance Indicators, including attrition rates by various demographics, turnover trends by department, and more.

Dashboard Development

Interactive Visualization: Creating a dynamic dashboard in Power BI Desktop, featuring a suite of visualizations, filters, and slicers. This dashboard serves as a

tool for HR and management to interactively explore and digest the nuances of employee attrition patterns.

Dataset Acquisition: Obtain the dataset via the provided link in the Dataset section.

Accessing the Dashboard: Clone or download this project repository to your local system. Then, open the HR-attrition-dashboard.pbix file with Power BI Desktop to engage with the dashboard's full capabilities.

Analytical Inquiries

The dashboard facilitates deep dives into various aspects of attrition, answering critical questions such as:

What is the overall attrition rate and its variation across gender demographics?

Which age demographic is most affected by attrition?

How does attrition distribution look across different organizational departments?

Identification of job roles witnessing the highest rates of turnover.

Exploration of the relationship between tenure at the company and likelihood of attrition.

Analysis of the impact of monthly salary levels on attrition rates.

Examination of overtime requirements in relation to attrition trends.

Assessment of performance ratings' effect on attrition probabilities.

Investigating the influence of work-life balance satisfaction on employee retention.

Conclusion

The HR Attrition Analysis Dashboard project encapsulates the essence of leveraging advanced analytics to foster a more engaged and stable workforce. Through meticulous analysis and interactive data visualization, it provides HR practitioners with the insights needed to address attrition proactively, paving the way for a more resilient and inclusive corporate culture.

Screenshots of the Project 3

Excel Screenshot showing a data table with various columns including Age, Attrition, Business, DailyRate, Department, Data, Educati, Educatio, Emplo, Employ, Environme, Gender, Hour, Job, JobLevel, JobTitle, JobType, JobSatisfaction, MaritalStatus, and Data.

Age	Attrition	Business	DailyRate	Department	Data	Educati	Educatio	Emplo	Employ	Environme	Gender	Hour	Job	JobLevel	JobTitle	JobType	JobSatisfaction	MaritalStatus	Data
37	Yes	Travel_Rarely	1772	Research & Development	2	2	Other	1	4	4	Male	92	2	1	Laboratory	3	Single		
22	No	Non_Travel	1723	Research & Development	16	2	Medical	7	22	4	Male	96	4	1	Laboratory	4	Divorced		
21	No	Travel_Rarely	191	Research & Development	15	2	Life Sciences	1	30	3	Male	96	3	1	Research	4	Single		
39	Yes	Travel_Rarely	895	Sales	5	3	Technical De	1	42	4	Male	56	3	2	Sales Re	4	Married		
35	No	Travel_Rarely	464	Research & Development	4	2	Other	1	53	3	Male	75	3	1	Laboratory	4	Divorced		
27	No	Travel_Rarely	1240	Research & Development	2	4	Life Sciences	1	54	4	Female	33	3	1	Laboratory	1	Divorced		
48	Yes	Travel_Rarely	526	Research & Development	1	2	Life Sciences	1	64	1	Male	98	2	3	Laboratory	3	Single		
45	No	Travel_Rarely	1339	Research & Development	7	3	Life Sciences	1	86	2	Male	19	3	3	Research	7	Divorced		
36	Yes	Travel_Rarely	118	Research & Development	9	3	Medical	1	90	4	Male	79	2	1	Research	3	Married		
36	No	Travel_Rarely	132	Research & Development	6	3	Life Sciences	1	97	2	Female	35	4	1	Laboratory	4	Married		
45	No	Travel_Rarely	192	Research & Development	6	4	Other	1	101	1	Male	52	3	3	Research	1	Married		
23	No	Travel_Rarely	541	Sales	2	1	Technical De	1	113	2	Male	62	3	1	Sales Re	1	Divorced		
37	No	Travel_Rarely	827	Research & Development	1	1	Life Sciences	1	124	4	Male	71	3	1	Research	1	Single		
37	No	Non_Travel	1040	Research & Development	2	2	Life Sciences	1	139	3	Male	100	2	2	Healthcare	4	Divorced		

