**BIG DATA AND BUSINESS INTELLIGENCE**

**Section 1: BUSINESS INTELLIGENCE DESIGN**

**ADVANCE REPORT**

**NAME: Raj Kumar Bhukya**

**STUDENT ID: W9598301**

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Table of Contents

[**Introduction** 3](#_Toc155738625)

[**1.1** **Dataset Description** 4](#_Toc155738626)

[**1.2** **Purposes** 6](#_Toc155738627)

[**1.3** **Overview - Using Business Intelligence and Insights** 7](#_Toc155738628)

[**2. Data Refinement : Elevating Data Quality for Enhanced Analytical Insights** 8](#_Toc155738629)

[**2.1 Data Loading** 8](#_Toc155738630)

[**2.2 Changing Columns Using M language** 11](#_Toc155738631)

[**2.3 Getting Rid of Errors/Duplicates and Changing Out Similar Values** 13](#_Toc155738632)

[**3. Data Modelling** 14](#_Toc155738633)

[**3.1 Creating Fact Table** 14](#_Toc155738634)

[**3.2 Creating Dim Tables** 16](#_Toc155738635)

[**3.3 Create Relationships** 21](#_Toc155738636)

**Synopsis**

Power BI was created by Microsoft to be an adaptable business analytics tool that works seamlessly with a range of data sources. It gives decision-makers the ability to use data for strategic decision-making by transforming unstructured data into illuminating visualisations. Interactive dashboards, natural language processing, real-time monitoring, teamwork tools, and integration with AI and machine learning are among the noteworthy features. Power BI, which prioritises security and usability, makes it easier for businesses to share and analyse data effectively and promotes a culture of informed decision-making. Its powerful features enable users to explore data-driven insights, encouraging efficiency, collaboration, and a deeper comprehension of business dynamics.

# **Introduction**

In the dynamic realm of human resources, understanding and managing employee attrition is paramount for organizational stability and growth. This introduction explores the complex relationship between performance metrics and employee turnover in a corporate setting through a carefully selected fictional dataset. The dataset reveals a rich tapestry of information as we begin this analytical journey, including variables like tenure, departmental affiliations, and exit reasons. By attempting to identify trends and connections, this investigation hopes to shed light on the dynamics of the made-up workforce. We seek to understand trends, pinpoint possible areas for development, and ultimately create a thorough story that guides strategic decision-making for organisational success through the lens of HR employee attrition and performance.

## **Dataset Description**

The Dataset used is the Employee Attrition which was obtained from

Kaggle:https://www.kaggle.com/datasets/patelprashant/employee-attrition/data

After a detailed analysis of the dataset's columns, new information about job dynamics, work environment, career advancement, and demographic trends was discovered.

Several important conclusions are drawn from a thorough examination of the HR employee attrition and performance dataset. The workforce is made up of people of different ages, and there is a focus on comprehending the factors that impact job satisfaction and attrition trends. Critical patterns are gradually exposed by attrition rates, and possible areas for improvement are illuminated by a closer examination of aspects related to the job, such as a variety of job roles and performance evaluations. A key factor in employee retention is the work environment, which includes departmental dynamics and satisfaction levels. Work-life balance, remuneration packages, and education and training all have a major impact on employee satisfaction and attrition. Career progression measures, such as the duration of employment with current managers and the time elapsed since the last promotion, offer important insights into the longevity and job satisfaction of employees. The distribution trends and factors are displayed in compensation analysis. like business travel frequency and proximity to the workplace contribute to the overall narrative. Historical comparisons and correlation analyses uncover nuanced relationships, laying the foundation for predictive modeling if warranted. A thoughtfully designed dashboard will facilitate interactive exploration of these insights, empowering decision-makers with actionable recommendations for fostering a workplace culture of informed decision-making and employee satisfaction.

| **SNO** | **Field** | **Description** |
| --- | --- | --- |
| 1 | Age | The age of the employee. |
| 2 | Attrition | A binary variable indicating whether an employee has left the company (Yes) or is still employed (No). |
| 3 | BusinessTravel | The frequency of business-related travel, categorized as "Travel Frequently," "Travel Rarely," or "Non-Travel." |
| 4 | DailyRate | The daily salary rate of the employee. |
| 5 | Department | The department in which the employee works, such as "Sales," "Research & Development," or "Human Resources." |
| 6 | DistanceFromHome | The distance in miles from the employee's home to the workplace. |
| 7 | Education | The highest level of education attained, ranging from 1 (Below College) to 5 (Doctorate). |
| 8 | EducationField | The field of education the employee studied, such as "Life Sciences," "Medical," "Marketing," etc. |
| 9 | EmployeeCount | A constant value indicating the number of employees. |
| 10 | EmployeeNumber | A unique identifier for each employee. |
| 11 | EnvironmentSatisfaction | The satisfaction level of the employee with their working environment, ranging from 1 (Low) to 4 (High). |
| 12 | Gender | The gender of the employee. |
| 13 | HourlyRate | The hourly salary rate of the employee. |
| 14 | JobInvolvement | The level of job involvement, ranging from 1 (Low) to 4 (High). |
| 15 | JobLevel | The level of the employee's job, with higher numbers indicating higher positions. |
| 16 | JobRole | The role or position of the employee in the company, such as "Sales Representative," "Research Scientist," etc. |
| 17 | JobSatisfaction | The satisfaction level of the employee with their job, ranging from 1 (Low) to 4 (High). |
| 18 | MaritalStatus | The marital status of the employee, categorized as "Single," "Married," or "Divorced." |
| 19 | MonthlyIncome | The monthly income of the employee. |
| 20 | MonthlyRate | A numeric code related to the monthly rate of the employee. |
| 21 | NumCompaniesWorked | The number of companies the employee has worked for previously. |
| 22 | Over18 | A constant value indicating whether the employee is over 18 years old. |
| 23 | OverTime | A binary variable indicating whether the employee works overtime (Yes) or not (No). |
| 24 | PercentSalaryHike | The percentage increase in salary for the employee. |
| 25 | PerformanceRating | The performance rating of the employee, typically on a scale of 1 to 4. |
| 26 | RelationshipSatisfaction | The satisfaction level of the employee with their work relationships, ranging from 1 (Low) to 4 (High). |
| 27 | StandardHours | A constant value indicating the standard number of working hours. |
| 28 | StockOptionLevel | The level of stock options granted to the employee. |
| 29 | TotalWorkingYears | The total number of years the employee has been working. |
| 30 | TrainingTimesLastYear | The number of training sessions attended by the employee in the last year. |
| 31 | WorkLifeBalance | The level of work-life balance perceived by the employee, ranging from 1 (Bad) to 4 (Good). |
| 32 | YearsAtCompany | The number of years the employee has been with the current company. |
| 33 | YearsInCurrentRole | The number of years the employee has been in the current role. |
| 34 | YearsSinceLastPromotion | The number of years since the employee's last promotion. |
| 35 | YearsWithCurrManager | The number of years the employee has been with the current manager. |

Dataset Screenshot

A screenshot of a computer

Description automatically generated

## **Purposes**

The main goal is to perform a comprehensive analysis of the HR employee attrition and performance dataset in order to offer useful information for the organization's strategic decision-making. The objective is to find trends, correlations, and possible areas for improvement by closely examining career advancement metrics, work environment factors, job-related dynamics, and demographic trends. The goal of this analysis is to provide a comprehensive understanding of workforce dynamics by highlighting the variables that affect employee well-being, job satisfaction, and attrition rates. The ultimate goal is to provide decision-makers with useful data that can guide focused interventions, promote a positive work environment, and increase the efficacy of organisations. This report attempts to provide stakeholders with the information they need to make wise decisions for the improvement of the workforce and the organization.

## **Overview - Using Business Intelligence and Insights**

Question 1 - What is the distribution of employee performance ratings?

* **Employee Performance Distribution**

**Question 2 –** What is the attrition rate for each education field?

* **Attrition Rate by Education Field**

**Question** 3 - Is there a correlation between relationship satisfaction and distance from home?

* **Work-Life Balance Impact on Attrition**

**Question 4 -** Is there a correlation between work-life balance and attrition?

* **Work-Life Balance Impact on Attrition**

**Question** 5- What is the average monthly income for employees based on their working hours?

* Attrition impact based on working hours

# **2. Data Refinement : Elevating Data Quality for Enhanced Analytical Insights**

## **2.1 Data Loading**

The initial phase of this analysis involves importing a dataset through the "Get Data" button located on the Power BI home tab. Upon clicking this button, a dropdown menu will appear, presenting various options for loading data, as illustrated in the accompanying image.

A screenshot of a computer

Description automatically generated

Then the Excel workbook housing the dataset is stored locally on the system. To access the data, select "Excel Workbook," establish a connection, and navigate to the specific dataset within the local system storage. This process ensures seamless integration of the dataset into the Power BI environment, facilitating subsequent analyses and visualizations with the locally stored information as mentioned below image.

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Loading the data as shown below

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When you choose the Employee attrition dataset—which is initially in Excel format—a dialogue box with several options—including loading, editing, and deleting the data—immediately appears. The dataset can be managed effectively thanks to this user-friendly interface, which gives you the freedom to examine, edit, or remove data as needed. A preview of the top 35 rows of the dataset is also shown, providing a brief overview of the organisation and content of the data. Before moving on to further analyses and visualisations in the Power BI environment, users can use this feature to evaluate and verify the accuracy of the imported data.

A screenshot of a computer

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## **2.2 Changing Columns Using M language**

After the previous dialogue box's dataset loading process, Microsoft Power BI quickly found two errors in the dataset. The most recent version of Power BI introduces an automated method to streamline error resolution. When you choose "Apply Changes," the software creates an M-language script on the fly. By moving the first row to headers and changing the column types as necessary, this script fixes the errors. The smooth and automated error-handling system ensures a more effective and error-free analysis by streamlining the data preparation stage. The accompanying screenshot

below provides a visual representation of this process's details.

We carefully transformed categorical data into a structured and useful format using Microsoft Power BI's M language. Using the example of the 'Education' column, numerical values were reclassified using the M language and placed into the following categories: 'Below College' (1), 'College' (2), 'Bachelor' (3), 'Master' (4), and 'Doctor' (5). This practical adjustment improves the dataset's interpretability and analytical usefulness, especially when examining educational attainment.

A screenshot of a computer

Description automatically generated

Same way we did to the below columns

* **Environment Satisfaction:** 1 - Low , 2 – Medium, 3 – High, 4 - Very High.
* **Job Involvement:** 1 - Low , 2 – Medium, 3 – High, 4 - Very High.
* **Job Satisfaction:** 1 - Low , 2 – Medium, 3 – High, 4 - Very High.
* **Performance Rating:** 1 – Low, 2 – Good, 3 – Excellent, 4 - Outstanding.
* **Relationship Satisfaction:** 1 - Low , 2 – Medium, 3 – High, 4 - Very High.
* **Work Life Balance:** 1 - Bad, 2 – Good, 3 – Better, 4 – Best.

The strategic application of the M language in our dataset plays a central role in optimizing it for nuanced analysis within Microsoft Power BI. This involves translating numerical values into descriptive categories for key variables, facilitating improved interpretability. Across various aspects, including education, work-life balance, environment satisfaction, job involvement, job satisfaction, performance rating, and relationship satisfaction, the M language seamlessly transforms numeric data, contributing to a more refined and insightful dataset. Its adept handling of these transformations streamlines the analytical process, enabling a comprehensive exploration of the data's intricacies within the Power BI platform as picture shown.

A screenshot of a computer

Description automatically generated

## **2.3 Getting Rid of Errors/Duplicates and Changing Out Similar Values**

By utilising Power BI's built-in features, removing duplicate values becomes a simple procedure. This can be done with ease by choosing the relevant column or columns and using the "Remove duplicates" function in the "Data" view. This feature guarantees that a unique dataset free of duplicate entries is produced. By utilising this effective feature of Power BI, analysts can greatly improve the precision and lucidity of their analyses. Simple use of the "Remove duplicates" function results in increased data quality overall as well as increased dependability of insights obtained from the Power BI platform as shown

A screenshot of a computer

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# **3.** **Data Modelling**

Data modelling, which includes organising and structuring data to create hierarchies, meaningful connections between tables, and improved analytical capabilities, is a crucial step in the Power BI process. This is an important step because it lays the foundation for effective data visualisation and intelligent data exploration in the Power BI environment. By carefully defining relationships and hierarchies, analysts can build a cohesive framework that allows for smooth connections between various datasets. An organised data model is the foundation of dynamic and interactive visualisations, allowing users to draw meaningful conclusions and take well-informed actions. Fundamentally, data modelling in Power BI is a key component that turns unprocessed data into a powerful instrument for strategic analysis and visualisation.

## **3.1 Creating Fact Table**

The fact table is the central component of data modelling and is of utmost significance in the analytical environment. The quantitative measurements and critical performance indicators, such as the Daily Rate, Employee Number, Monthly Income, Number of Companies Worked, Percent Salary Hike, Total Working Years, Training Times Last Year, Years at Company, Years in Current Role, and Attrition, are carefully arranged to create this fundamental component. The fact table functions as a comprehensive repository of crucial data by combining these important metrics into a single table, providing the framework for strong analytical insights. Because of its well-thought-out design, a variety of data points can be seamlessly correlated and analysed, providing a comprehensive perspective that is essential for guiding well-informed decision-making in the field of data modelling and analysis.

A screenshot of a computer

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The Attrition Table's fundamental function is to create links between various data points; it serves as the main hub connecting quantitative metrics and pertinent dimensions. The Power BI environment's comprehensive and perceptive business analytics and reporting are built upon this tactical arrangement. Assigning the Attrition Table the status of fact table guarantees a robust framework that facilitates dynamic insights and a deeper understanding of the connections between disparate data points. This approach improves analytical skills and encourages the development of insightful visualisations, which in turn increases the process's overall efficacy through impactful insights.

## **3.2 Creating Dim Tables**

Particular tables have been carefully chosen during our data modelling process in order to build an extensive and perceptive analytical framework. Strategically incorporated into this framework are the Education Dimension, Employee Dimension, Job Dimension (Job DIM), and Salary Dimension (Salary DIM). These tables are essential elements that provide unique viewpoints on the following topics: job characteristics, employee details, education levels, and salary information. Our data model becomes richer and more detailed by incorporating these dimensions, which enables a more in-depth investigation of the relationships and patterns present in the dataset. This thoughtful selection of dimensions supports our analytical approach's overall efficacy by offering a strong basis for in-depth understanding and well-informed decision-making.

A screenshot of a computer

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The above picture shows the Education Dimension (EDUCATION DIM) table plays a crucial role in the field of data modelling by offering a comprehensive and targeted view of the educational backgrounds of employees. Key columns like Employee Number (Emp Num), Education, and Education Field are used to build this dimension. Each employee is uniquely identified by their Employee Number, which makes it easier to create relationships between the Education Dimension and other relevant tables. The Education column sorts people according to the greatest degree of education they have received, from "Below College" to "Doctorate." At the same time, each employee's specific field of study is captured in the Education Field column; examples of such fields include "Life Sciences," "Medical," and "Marketing." This purposeful arrangement enables analysts to investigate trends in education, find connections with other  dimensions, and derive valuable insights that contribute to a more comprehensive understanding of the workforce within the analytical framework.

A screenshot of a computer

Description automatically generated

The Employee Dimension (EMPL DIM) table is essential for giving a thorough and complex picture of each employee in the context of the company. Key columns such as Employee Number (Emp Number), Gender, Age, Over Time, and Distance From Home shape this dimension. As a unique identifier, the Employee Number makes it easier to connect with other tables in the dataset. Gender provides insights into workforce diversity by classifying employees as either male or female. Planning and analysis of the workforce are facilitated by the Age column, which provides an overview of the age distribution within the organisation. The Over Time column provides information on an employee's participation in overtime work, which helps to understand workload and productivity. Lastly, Distance From Home offers details on the workers' geographic proximity to the workplace, offering valuable context for understanding commuting patterns and potential influences on job satisfaction. By incorporating these key dimensions, the Employee Dimension enriches the analytical framework, enabling a comprehensive exploration of employee-related insights and fostering informed decision-making within the Power BI environment.

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The above picture shows the Job Dimension (JOB DIM) table is essential for offering a comprehensive viewpoint on a range of aspects pertaining to the roles of employees and factors related to their jobs. This dimension, which is built with important columns like Employee Number (Emp Number), Job Involvement, Job Role, Job Level, Work Life Balance, Environment Satisfaction, Job Satisfaction, and Department, provides a wealth of information. As a unique identifier, the Employee Number makes it easier to connect with other tables in the dataset. Work Involvement classifies employee engagement and provides insight into commitment and assiduity. Job Role helps to provide a more sophisticated understanding of organisational structure by outlining particular positions or responsibilities. Employee hierarchical positions are indicated by Job Level, which facilitates workforce planning. Perceptions of work-life balance are reflected in work-life balance, but Environment Satisfaction and Job Satisfaction provide insights into overall workplace contentment. The Department column categorizes employees by department, supporting departmental-level analyses. This intentional structuring of the Job Dimension enhances the analytical framework, fostering a thorough exploration of job-related insights and facilitating informed decision-making within the Power BI environment.

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Description automatically generated

The above picture showsthe field of data modelling, the Salary Dimension (SALARY DIM) table is important because it provides a targeted understanding of employee financial factors. This dimension, which is built with important columns such as Employee Number (Emp Number), Hourly Rate, Monthly Rate, and Stock Option Level, is a specialised resource for comprehending pay plans. As a unique identifier, the Employee Number makes it easier to connect with other tables in the dataset. The Hourly Rate provides granular details about the compensation details of each employee by outlining their pay on an hourly basis. The monthly rate, which provides a more comprehensive understanding of financial structures, represents the total monthly compensation. The Stock Option Level column provides information about the stock options that are awarded to staff members and provides a glimpse into extra financial advantages. By combining these financial dimensions, the Salary Dimension enriches the analytical framework, enabling a comprehensive exploration of monetary aspects associated with employees. This intentional configuration facilitates a more in-depth analysis of compensation-related insights and contributes to informed decision-making within the Power BI environment.

A screenshot of a computer

Description automatically generated

The accompanying image shows how the data model view develops after the Fact and Dimension tables are created. This graphic depiction captures the connections and relationships among different tables, demonstrating the organised framework supporting the analytical basis. The Education DIM, Empl DIM, Job DIM, Salary DIM, and other pertinent Dimension tables are strategically linked to the Fact table, which serves as the foundation for quantitative measurements and performance indicators. The Dimension tables offer distinct viewpoints on particular aspects, resulting in a multifaceted and all-encompassing view of the dataset. In addition to improving the analytical framework's clarity, this model view acts as a roadmap for navigating the complex relationships and dependencies found in the Power BI environment.

## **3.3 Create Relationships**

By utilising the star schema in our data modelling methodology, the model view presents an organised and effective framework for analysis. The Fact table, which acts as the primary repository for quantitative measurements and crucial performance indicators, is at the centre of this schema. Dimension tables including Education DIM, Empl DIM, Job DIM, and Salary DIM are connected to this central hub and provide distinct viewpoints on different areas of the dataset. The Dimension tables represent important aspects of employee information around the Fact table, which serves as the focal point of a star schema formed by the Fact table'sconnections with these Dimensions. By facilitating a comprehensive investigation of data relationships and streamlining the extraction of insightful information, this star schema improves analytical capabilities. The precision and simplicity of this star schema model view provide a user-friendly experience, facilitating a more intuitive and streamlined data analysis process within the Power BI environment as shown.

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Development Stage Report

**Section 2 – Business Intelligence Solution**

Table of Contents

[**1.** **Introduction** 22](#_Toc155741995)

[**2.** **Principal Discoveries** 23](#_Toc155741996)

[**3.** **Dataset** 24](#_Toc155741997)

[**4.** **Data Model** 25](#_Toc155741998)

[**5.** **Dashboards** 26](#_Toc155741999)

[**5.1** **Overview Dashboard** 26](#_Toc155742000)

[**5.2** **Attrition Dashboard** 27](#_Toc155742001)

[**5.3** **Job Satisfaction Dashboard** 28](#_Toc155742002)

[**5.4** **Work life Balance Dashboard** 29](#_Toc155742003)

[**5.5** **Salary Dashboard** 30](#_Toc155742004)

[**6.** **Summary** 31](#_Toc155742005)

[**7.** **Conclusion** 32](#_Toc155742006)

**Executive Summary**

# **Introduction**

The executive summary functions as a concise synopsis, highlighting critical KPIs, developing patterns, and important results from data analysis. This summary serves as an essential tool, providing executives with a brief overview of important data to help them make timely and informed decisions. The objective is to reduce complex data to understandable insights so that decision-makers are able to quickly process critical findings and their strategic ramifications. This brief synopsis enables executives to focus on important details, enabling the prioritisation and prompt action on relevant information.

In order to accomplish this goal, the report responds to the following questions:

* Inquiry: Explore the breakdown of employee performance ratings.

Focus Area: Employee Performance Rating Analysis

* Inquiry: Investigate the attrition rate categorized by education field.

Focus Area: Attrition Analysis across Education Fields

* Inquiry: Examine the potential correlation between relationship satisfaction and distance from home.

Focus Area: Analyzing the Relationship Between Work-Life Balance and Attrition

* Inquiry: Assess the potential correlation between work-life balance and attrition.

Focus Area: Impact of Work-Life Balance on Attrition

* Inquiry: Determine the average monthly income for employees based on their working hours.

Focus Area: Analyzing the Impact of Working Hours on Attrition

# **Principal Discoveries**

* Attrition rates vary across different demographic and job-related factors.
* Daily rates for employees display a range of compensation values.
* Distance from home to the workplace shows variability among the workforces.
* Environment satisfaction levels differ among employees. Hourly rates vary, capturing the range of compensation on an hourly basis.
* Job involvement levels exhibit diversity among employees.
* Job levels showcase the hierarchical distribution within the organization.
* Job roles are varied, encompassing different positions and responsibilities.
* Job satisfaction levels vary across the workforce.
* Stock option levels exhibit variations in the granting of stock options. Work-life balance perceptions differ among the workforces.
* Years at the current company span a range of durations. Years in the current role show variability in role tenures.
* Years since the last promotion vary among employees.

# **Dataset**

The dataset utilized for analysis pertains to Employee Attrition, sourced from Kaggle at <https://www.kaggle.com/datasets/patelprashant/employee-attrition/data>.

The work environment, career advancement, and demographic trends have been discovered after a thorough examination of the dataset columns.

Important conclusions are drawn from a thorough examination of the HR employee attrition and performance dataset. Age diversity is evident in the workforce, and it is especially important to comprehend the variables affecting attrition rates and job satisfaction. Critical patterns are exposed by attrition rates, which also highlight possible areas for improvement, particularly with regard to different job roles and performance reviews. The work environment, which includes satisfaction levels and departmental dynamics, is found to be a significant factor in employee retention. Work-life balance, benefits, and education/training are a few examples of factors that have a big impact on employee satisfaction and attrition.

Career advancement insights, like how long a worker has worked for their current managers and how long it has been since their last promotion, are important measures of worker longevity and job satisfaction. An overall narrative is shaped by factors such as the frequency of business travel and the proximity to the workplace, which are reflected in the compensation analysis that shows distribution trends and factors.Complex relationships are revealed through historical comparisons and correlation analyses, providing a foundation for future predictive modelling. It is intended for a well-designed dashboard to enable interactive investigation of these findings and offer decision-makers practical suggestions for developing a work environment based on knowledgeable choices and contented workers.

# **Data Model**

In order to facilitate a thorough and perceptive analysis, the data model utilised for this report has a star schema configuration and integrates a central Fact table with important Dimension tables. The central component of the model is the main Fact table, which records performance metrics and employee attrition. Important relationships between this table and Dimension tables like Education, Employee Details, Job Characteristics, and Salary are established. A thorough grasp of the dataset is facilitated by the distinct viewpoints that each Dimension table offers on educational backgrounds, employee details, job-related factors, and financial considerations.

The star schema makes it easier to quickly explore the dependencies and relationships within the dataset. It offers a coherent framework for comprehensive insights while permitting in-depth examination of distinct dimensions separately. The connections made between the Dimension and Fact tables enable effective slicing and dicing of data, empowering users to derive meaningful insights into the factors influencing employee attrition and performance. The model is designed with an emphasis on simplicity, clarity, and flexibility, ensuring it remains an effective tool for decision-makers seeking actionable insights within the Power BI environment.

A screenshot of a computer

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# **Dashboards**

## **Overview Dashboard**

The dashboard provides a thorough summary of workforce insights, with a focus on important metrics like gender distribution, hourly rates, total working years, and education. The widget labelled "Count of Employees by Education Field" provides a visual breakdown of the workforce, making it easy to quickly identify the most common educational backgrounds. This dynamic representation helps one quickly understand which educational profiles are most prevalent in the organisation. Furthermore, the "Average Total Working Years" widget offers insightful data regarding the combined work experience of staff members and acts as a standard for workforce stability and proficiency. Concurrently, the "Average Hourly Rate" widget provides a quick evaluation of current pay rates, which is essential for assessing compensation plans and preserving industry competitiveness. The last "Gender Distribution" widget promotes transparency and aids in diversity initiatives by illuminating the gender composition of the workforce.

A screenshot of a computer

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When combined, these widgets offer a comprehensive perspective of the workforce, enabling well-informed decision-making through the use of crucial metrics pertaining to gender diversity, experience, pay, and education. Users looking for actionable insights within the Power BI environment can be assured of accessibility and ease of interpretation thanks to the dashboard's intuitive design.

## **Attrition Dashboard**

The attrition dashboard highlights important metrics associated with employee turnover, making it an essential tool for comprehending workforce dynamics. Utilising widgets such as "Count of Attrition by Department" and "Count of Attrition by Education Field," the dashboard provides a graphic representation of attrition patterns among various departments and educational backgrounds. This instantaneous insight helps identify regions where attrition is more noticeable, allowing for the implementation of preventative measures to deal with particular workforce issues.

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Description automatically generated

Additionally, as seen by the "Average Distance from Home by Attrition" widget, the dashboard explores subtle aspects that lead to attrition. This metric helps with strategic decisions about office locations and policies regarding remote work by illuminating whether or not proximity to the workplace affects attrition rates. The "Count of Attrition by Gender" widget offers a gender-specific attrition at the same time overview, promoting transparency and supporting targeted initiatives to address any observed disparities. Overall, the attrition dashboard empowers decision-makers with actionable insights, fostering a proactive approach to talent management within the Power BI environment.

## **Job Satisfaction Dashboard**

A strategic tool for understanding employee satisfaction inside the company is the job satisfaction dashboard. The dashboard offers a visual breakdown of job satisfaction levels based on gender through the "Count of Gender by Gender and Job Satisfaction" widget, revealing potential gender-specific patterns in job satisfaction. Concurrently, the "Count of Job Satisfaction by Job Role" widget provides insights into job satisfaction patterns in various roles, supporting focused approaches to improve job function satisfaction.

A screenshot of a computer

Description automatically generated

With the "Cumulative Hourly Rate by Job Satisfaction" widget, the dashboard also looks into the overall effect of hourly rates on job satisfaction. This measure helps determine the best compensation plans to increase employee satisfaction by providing information about the connection between pay and overall job satisfaction. Essentially, these widgets collectively empower decision-makers with actionable insights to tailor strategies that foster a positive and satisfying work environment within the Power BI platform.

## **Work life Balance Dashboard**

The dashboard for work-life balance plays a crucial role in offering a comprehensive perspective of employee welfare by emphasising important data concerning work-life balance, remuneration, and educational backgrounds. In order to shed light on potential gender-specific patterns in employees' work-life equilibrium, the "Count of Work Life Balance by Gender and Work Life Balance" widget provides a visual breakdown of work-life balance levels categorised by gender. In addition, the "Count of Work Life Balance by Education Field" widget explores how work-life balance varies amongst educational backgrounds, providing information on the relationship between perceptions of work-life balance and educational attainment.

A screenshot of a computer

Description automatically generated

The dashboard also investigates how workplace-related factors affect workers' well-being. The "Average Hourly Rate by Work-Life Balance" widget sheds light on the relationships between work-life balance and compensation, allowing decision-makers to tailor remuneration strategies that contribute to a healthier work-life equilibrium. Additionally, the "Average Percent Salary Hike by Work Life Balance" widget explores the correlation between salary increases and work-life balance, aiding in the development of comprehensive compensation packages that align with employees' well-being. Together, these widgets empower decision-makers with actionable insights to foster a workplace culture that prioritizes work-life balance within the Power BI environment.

## **Salary Dashboard**

The salary dashboard is an essential resource for understanding the dynamics of pay within the organisation. It highlights key performance indicators such as monthly income, job roles, gender, and educational backgrounds. The "Average Monthly Income by Total Working Years" widget provides a detailed explanation of the relationship between monthly income and employees' total work experience. This information facilitates the process of aligning pay scales with career advancement, ensuring equitable compensation throughout an employee's entire career.Additionally, the dashboard investigates the connection between hourly rates and educational attainment using the "Average Hourly Rate by Education" widget. The trends in the ways that educational backgrounds impact hourly pay are shown in this graphic analysis, allowing for well-informed decisions to maximise compensation plans and maintain a fair and competitive workplace.

A screenshot of a computer

Description automatically generated

In addition, the "Average Monthly Income by Gender and Job Role" widget explores how gender and job roles intersect and highlights possible salary differences between different roles. With the help of this analysis, organisations can put specific policies into place to address gender-based income gaps and promote an inclusive and equitable work environment. When combined, these widgets provide decision-makers with practical knowledge that they can use to create fair and efficient compensation plans inside the Power BI platform.

# **Summary**

Using Power BI's capabilities, the employee attrition and performance report provides a thorough examination of workforce dynamics. The analysis explores a number of topics, including work-life balance, compensation, job satisfaction, and demographics, using a fictitious dataset. The well-designed dashboards offer clear visual aids that help decision-makers spot trends, pinpoint areas in need of development, and devise well-informed plans of action. Through a thorough analysis of critical performance indicators like attrition rates, job satisfaction scores, and compensation trends, the report provides organisations with practical advice on how to develop a work environment that prioritises career advancement, employee well-being, and fair compensation policies. Accessibility is guaranteed by the user-friendly Power BI interface, which gives stakeholders the ability to successfully navigate and interpret the data for strategic decision-making within the dynamic organisational landscape.

# **Conclusion**

In conclusion the utilisation of Power BI for the examination of a hypothetical HR dataset pertaining to employee attrition and performance has produced significant findings that are essential for making strategic decisions. The report provides a thorough understanding of workforce dynamics by closely analysing metrics related to work-life balance, compensation, job satisfaction, and demographics. Organisations can develop targeted career development initiatives, reduce turnover risks, and improve employee engagement by building on the patterns in attrition rates, job satisfaction, and compensation structures that have been observed. Stakeholders at all levels can make informed decisions with the help of the potent tools provided by the Power BI dashboards for visualising and analysing complex data. This report highlights the significance of utilising data-driven insights to establish a work environment that promotes employee satisfaction as organisations manoeuvre through the constantly changing human resources landscape.

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