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CAPSTONE PROJECT

POWER BI

HR DASHBOARD

PRESENTED BY

STUDENT NAME:PRADYUMNA K

COLLEGE NAME:SESHADRIPURAM DEGREE COLLEGE MYSURU

DEPARTMENT:BCA

EMAIL ID:pradyumnakolya@gmail.com

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OUTLINE:

- **Problem Statement**
- **Proposed System/Solution**
- **System Development Approach** (Technology Used)
- **Algorithm & Deployment**
- **Result (Output Image)**
- **Conclusion**
- **Future Scope**
- **References**

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PROBLEM STATEMENT:

Human Resource departments manage large volumes of employee data related to recruitment, attendance, performance, payroll, and attrition. This data is often scattered across multiple systems, making it difficult for HR managers to gain quick insights and make data-driven decisions. There is a need for an integrated HR dashboard that visually consolidates key HR metrics in real time, enabling efficient monitoring, analysis, and strategic workforce planning.

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PROPOSED SOLUTION:

- To develop an interactive HR dashboard using Power BI that integrates data from multiple HR sources such as employee records, attendance, payroll, recruitment, and performance systems. Power BI will be used to clean, transform, and model the data to ensure accuracy and consistency. The dashboard will provide real-time visual insights through KPIs, charts, and filters for metrics like employee count, attrition rate, hiring trends, attendance patterns, and performance distribution. This solution will enable HR managers to quickly analyze workforce data, identify trends, and make informed, data-driven decisions to improve organizational efficiency and employee retention.

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SYSTEM APPROACH:

1. Data Requirements
2. Functional Requirements
3. Technical Requirements
4. Security Requirements
5. Non-Functional Requirements

ALGORITHM & DEPLOYMENT:

- 1. *Data Collection Collect HR data from multiple sources such as Excel files, CSVs, databases, or HRMS
- 2. *Data Cleaning & Transformation Use *Power Query* to remove duplicates, handle missing values, standardize formats, and normalize data. Merge and append tables based on employee ID or department.
- 3. Data Modeling Create relationships between tables (Employee, Attendance, Recruitment, Attrition). * Build a star schema for efficient analysis
- .4. KPI & Measure Creation Use DAX to calculate KPIs: Total Employees Attrition Rate Hiring Rate Absenteeism Rate Average Tenure
- 5. Dashboard Design Design interactive visuals (cards, bar charts, line charts, pie charts). Add slicers for department, role, location, and time period. Enable drill-down and drill-through features.
- 6. Validation & Testing Verify data accuracy with HR records. Test filters, calculations, and performance of the dashboard
- DEPLOYMENT:
- 1.Publishing Publish the Power BI report from Power BI Desktop to *Power BI Service
- 2. Workspace Management Create a dedicated HR workspace. Assign roles to users (HR Admin, Manager, Executive).
- 3. Access Control & Security* Implement *Row-Level Security (RLS) to restrict data access by role or department. Ensure data privacy and compliance.
- 4. *Data Refresh Configure scheduled or real-time data refresh using Power BI Gateway (for on-premise data sources)
- .5. *Sharing & Consumption Share dashboards via Power BI Service or embed in HR portals.Enable mobile view for access on smartphones.
- 6. *Monitoring & Maintenance Monitor dashboard usage and performance.Update datasets, visuals, and KPIs as HR requirements evolve

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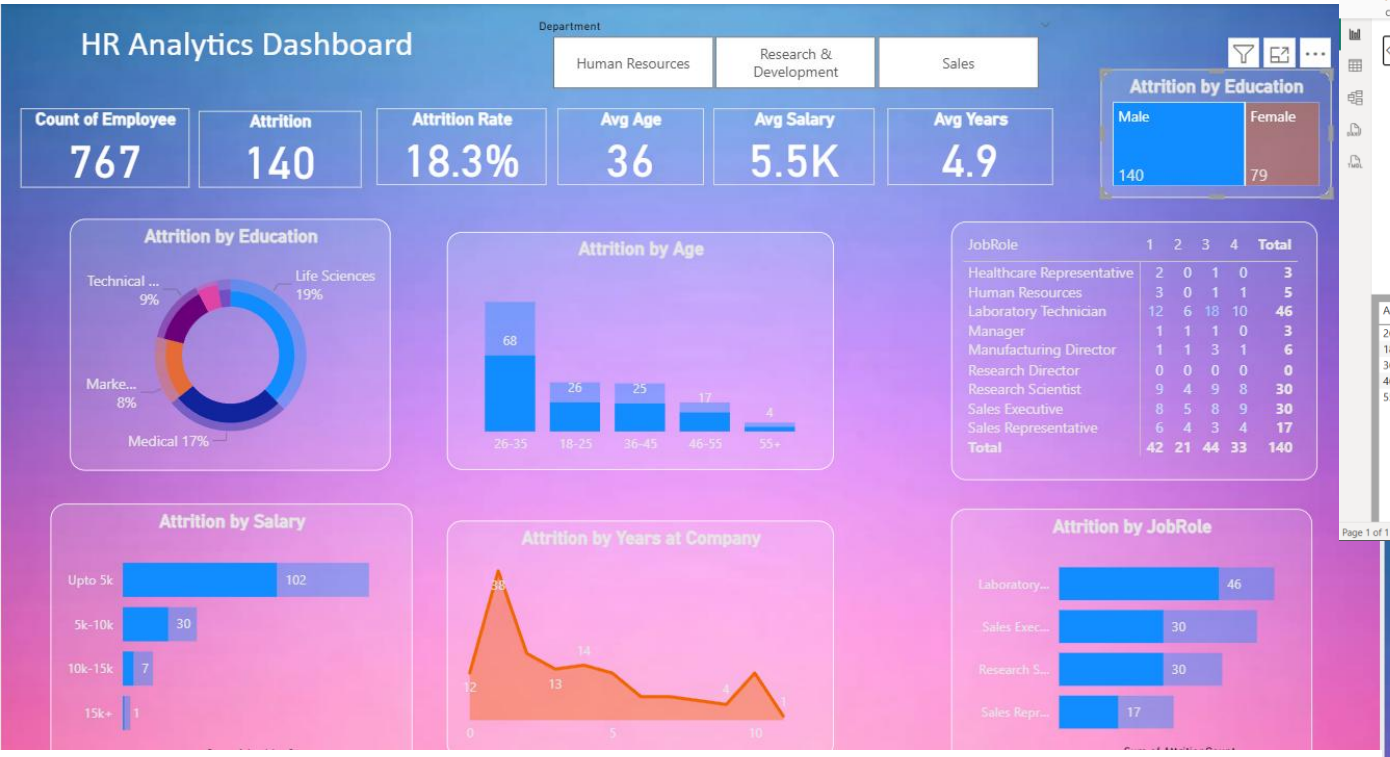
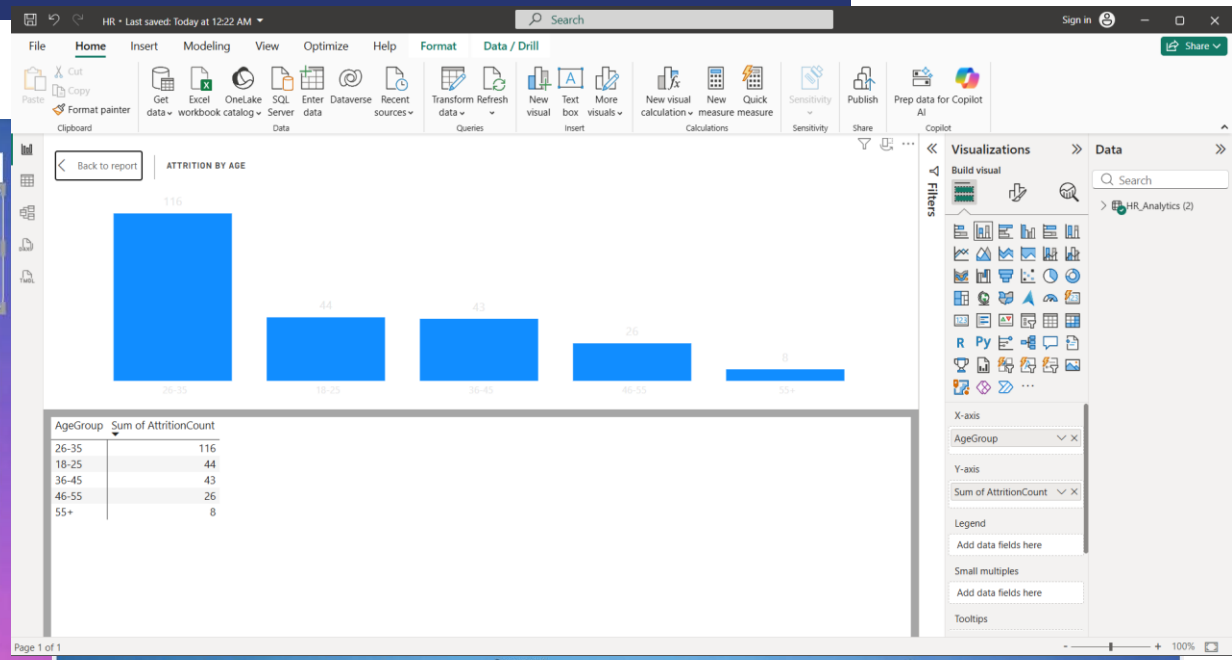
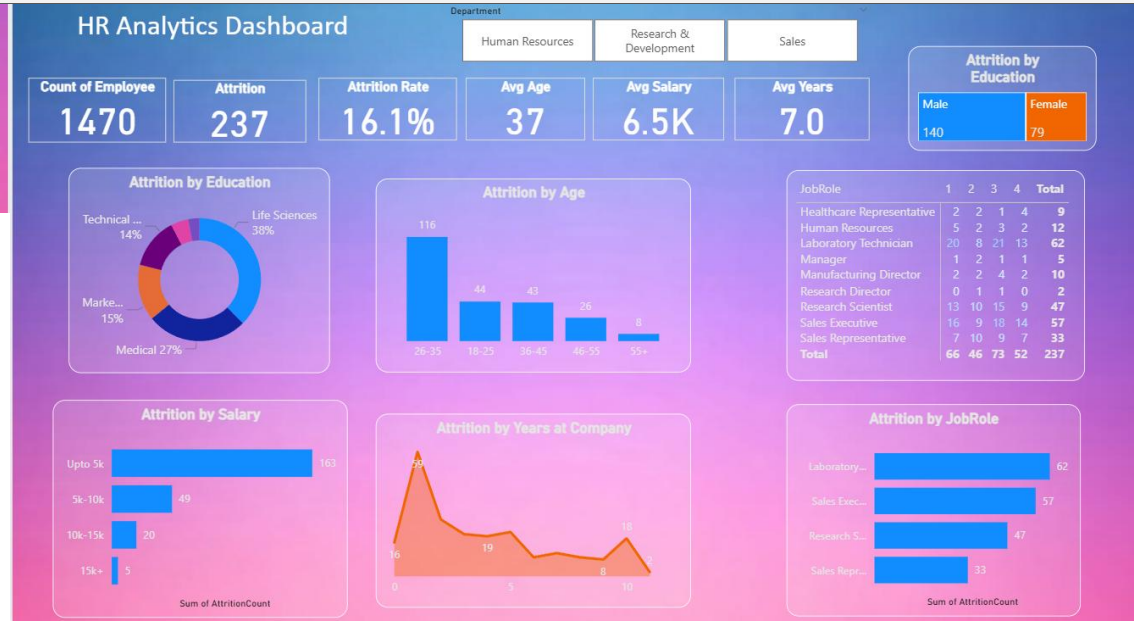
RESULT:







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CONCLUSION:

The HR dashboard developed using Power BI provides a centralized and interactive platform for analyzing and monitoring key human resource metrics. By integrating data from multiple HR sources and applying effective data modeling and visualization techniques, the dashboard enables HR professionals to gain real-time insights into workforce trends, performance, and attrition. This solution improves decision-making, enhances operational efficiency, and supports strategic HR planning. Overall, the Power BI–based HR dashboard transforms raw HR data into meaningful insights, helping organizations optimize their human capital management.

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FUTURE SCOPE:

The HR dashboard can be further enhanced by integrating advanced analytics and emerging technologies. Predictive analytics and machine learning models can be added to forecast employee attrition, performance trends, and hiring needs. Real-time data integration with HRMS and biometric systems can improve accuracy and timeliness of insights. The dashboard can also be extended with AI-driven recommendations, natural language queries, and automated reports to support strategic decision-making. Additionally, scalability to multi-branch or global organizations and deeper employee engagement analytics will increase its long-term value and effectiveness.

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REFERENCES:

Microsoft. Power BI CLASSES. Microsoft Learn.Data sets from websites

GitHub Link: https://github.com/pradyumnakolya-ship-it/powerbi.git

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Thank You