Employee Performance and Retention Analysis

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1. Executive Summary

The Employee Performance and Retention Analysis Project aims to deliver a data-driven understanding of workforce efficiency, attendance behavior, and attrition causes within the organization.
Using SQL-based insights and structured datasets, the project identifies key drivers of performance, attrition, and budget utilization across departments to assist HR and management in making informed strategic decisions.

2. Project Objectives

- Analyze overall employee performance trends.
- Identify top-performing departments and employees.
- Understand patterns of absenteeism and its effect on performance.
- Evaluate attrition causes and retention challenges.
- Correlate performance, attendance, and attrition to budget utilization.
- Provide actionable insights to enhance employee retention and productivity.

3. Data Source Overview

Dataset: employee_performance_dataset.xlsx
Records: Over 3,000 data points across 5 interlinked tables

Table Name	Description	Key Columns
Employees	Employee details	Employee_ID, Department, Salary
Performance	Performance ratings and monthly scores	Performance_Rating, Score
Attendance	Daily attendance records	Status, Date
Attrition	Exit data and reasons	Exit_Type, Reason
Department_Budget	Budget allocation vs. utilization	Budget_Allocated, Budget_Used

4. Methodology

1. **Data Loading:** Imported Excel sheets into SQL database.
2. **Data Cleaning:** Standardized column names, removed duplicates, formatted dates.
3. **Data Integration:** Joined tables using foreign keys (Employee_ID, Department).
4. **Exploratory Analysis:** Used SQL queries for descriptive and diagnostic insights.
5. **Performance Metrics:** Created KPIs for attendance rate, attrition rate, and budget utilization.
6. **Visualization (Optional):** Designed summary dashboards in Power BI / Excel.

5. Key Metrics (KPIs)

Metric	Definition	Insight
Average Salary	Mean salary by department	Used for salary benchmarking
Average Performance Score	Mean monthly score per department	Measures productivity
Attendance Rate	% of present days per employee	Identifies discipline and engagement
Attrition Rate	% of employees who left per department	Highlights retention risks
Budget Utilization %	(Used / Allocated) * 100	Monitors financial efficiency

6. SQL Analysis Highlights

a) Employee Overview

- **Query:** Count of employees per department
- **Result:** Sales and IT have the highest workforce share.
- **Insight:** Indicates organizational focus on revenue and technology functions.

b) Performance Insights

- **Top Performers:** 5 employees consistently scored above 90.
- **Low Performers:** About 10% employees scored below 50.
- **Trend:** Consistent improvement from Q1 to Q4.

c) Attendance Analysis

- **Finding:** Employees with >90% attendance had 25% higher performance scores.
- **Concern:** 15% of employees have chronic absenteeism (>10 days/month).

d) Attrition Analysis

- **Attrition Rate:** 12% overall, highest in HR and Operations.
- **Top Reasons:** "Better Opportunity" (45%) and "Performance Issue" (30%).

- **Pattern:** Poor performers are 3× more likely to leave or be terminated.

e) Budget Utilization

- **Finance and Operations:** 90%+ budget utilization.
- **IT Department:** Optimal at 75%.
- **Insight:** Overutilization correlates with higher attrition and burnout risk.

7. Key Insights Summary

1. **High-Performing Departments:** Sales and IT demonstrate strong productivity.
2. **Low Retention Zones:** HR and Operations suffer higher attrition rates.
3. **Budget Utilization Concern:** Finance exceeds optimal budget, signaling over-allocation.
4. **Attendance Impact:** Clear correlation between absenteeism and low performance.
5. **Performance Retention Link:** Employees with "Poor" rating contribute to 60% of total attrition.

8. Recommendations

1. **Retention Strategy:** Implement performance-linked rewards and learning programs.
2. **Training Initiatives:** Offer targeted skill development for low-scoring employees.
3. **Attendance Monitoring:** Introduce flexible work policies for chronic absentees.
4. **Budget Optimization:** Reassess finance and operations budgets to ensure efficiency.
5. **Performance Review Cadence:** Adopt quarterly appraisals to identify issues earlier.
6. **HR Policy Enhancement:** Strengthen exit interviews and retention incentives.

9. Deliverables

Deliverable	Description
employee_performance_dataset.xlsx	Source dataset (5 sheets)
employee_performance_analysis	SQL queries (basic to advanced)
README.md	Project overview & instructions
Employee Performance and Retention Analysis report	Professional documentation

10. Conclusion

The Employee Performance and Retention Analysis project highlights the **power of data-driven HR decision-making**.
With this analytical model, management can:

- Detect performance decline early,
- Reduce attrition by understanding root causes, and
- Optimize budget allocation for sustainable growth.

By transforming raw data into actionable insights, this project delivers measurable business impact and supports strategic workforce planning.