

Executive Insight Report

Payroll Intelligence & Risk Monitoring Dashboard

Project Overview

This project aims to analyze organizational payroll data to detect **salary leakage, overtime abuse, and ghost employees** using **Power BI**. A custom payroll dataset was created and processed through Power Query to ensure data accuracy and reliability. The final output is an **executive-level dashboard** designed for payroll governance, audit monitoring, and decision-making.

Dataset Creation

- A **synthetic payroll dataset (100+ records)** was designed to simulate real-world payroll operations.
 - Dataset includes employee demographics, department details, salary structure, overtime hours, attendance records, employment status, and payroll amounts.
 - Dataset name used throughout the project: **Payroll_Dataset**
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Data Cleaning & Preparation (Power Query)

All data preparation was performed using **Power Query Editor** in Power BI to ensure a clean analytical foundation.

Key Cleaning Steps:

- Removed **duplicate employee records**
- Corrected **data types** (salary, overtime, attendance as numeric values)
- Standardized **department and employee status values**
- Removed blank and invalid records
- Created derived columns such as:
 - Overtime Cost
 - Total Pay
 - Payroll Risk Flag
- Filtered inconsistent attendance vs payroll entries

✓ Result: A **clean, trusted dataset** ready for KPI calculation and analysis.

KPIs & Metrics Developed

Key performance indicators were created using **DAX measures** to support risk detection and executive insights:

- **Total Payroll Cost**
- **Total Overtime Cost**
- **Average Salary**
- **Salary Leakage Amount**
- **Overtime Abuse Count**

- **Ghost Employee Count**
- **Payroll Exception Rate**
- **High-Risk Employee Count**

These KPIs form the foundation for all dashboard visuals.

Dashboard Design & Visuals

The dashboard was designed with an **executive and audit-focused layout**, divided into logical sections:

Section 1: Executive KPI Summary

- KPI cards displaying total payroll, overtime cost, salary leakage, ghost employees, and exception rate
- Enables leadership to quickly assess payroll health

Section 2: Salary Leakage Analysis

- Bar/column charts showing leakage by department
- Identifies departments contributing most to payroll loss

Section 3: Overtime Abuse Monitoring

- Visuals comparing overtime hours vs policy thresholds
- Highlights employees with excessive overtime usage

Section 4: Ghost Employee Detection

- Tables and charts identifying inactive or zero-attendance employees still receiving salaries
- Supports audit and compliance reviews

Section 5: Department Risk Analysis (*Compulsory*)

- Risk distribution across departments
- Helps management prioritize audits and corrective actions

Section 6: Employee-Level Drill-Down (*Compulsory*)

- Detailed table with employee-wise risk flags
 - Enables HR and payroll teams to take corrective action
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Key Insights

- Significant **salary leakage** detected due to overtime misuse and payroll exceptions
 - **Overtime abuse** is a major cost driver in selected departments
 - Presence of **ghost employees** indicates gaps in HR–Payroll reconciliation
 - Payroll risks are **concentrated**, enabling targeted audits instead of broad reviews
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Business Recommendations

1. Automate payroll validation checks before salary processing
 2. Implement stricter overtime approval workflows
 3. Conduct monthly payroll audits using the dashboard
 4. Integrate HR, attendance, and payroll systems
 5. Use risk flags as part of payroll governance policy
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Conclusion

This project demonstrates how **Power BI**, **Power Query**, and **DAX** can be used to transform raw payroll data into a **proactive payroll intelligence system**. The dashboard not only visualizes payroll data but actively supports **risk detection, cost control, and executive decision-making**.