



PayFlow BI

Background

Managing payroll and employee data efficiently is crucial for any business, yet manual processes can be time-consuming and error-prone. The client struggled with scattered data across different systems, requiring manual effort to validate payroll details and identify inconsistencies in employee records. This project aimed to automate data retrieval, cleaning, and visualization through Power BI, significantly reducing manual workload and improving data accuracy.

Key Challenges

Unfamiliar Data Environment: Adapting to a new data ecosystem and understanding the structure of external APIs and Dynamics 365 data. **Data Cleaning & Standardization:** Ensuring data accuracy by handling inconsistencies, duplicate records, and deprecated information. **Manual Workload Reduction:** Before the dashboards, the client had to manually review complex Excel sheets and cross-check payslips, making the process inefficient. **Efficient Data Refresh:**

Implementing an update mechanism that aligns with payroll finalization and ad-hoc client requirements.

Our Solution

Automated Data Extraction & Processing: Developed a Python script to pull payroll data from a third-party API, clean it using Pandas, and structure it for Power BI visualization. **Error Identification in Employee Data:** Processed and analyzed Dynamics 365 data to highlight duplicate or outdated records, enabling the client to rectify issues efficiently. **Interactive Power BI Dashboards:** Built dashboards that provided clear insights into payroll data, employee records, and various performance metrics with intuitive filtering options. **Customized Data Refresh Strategy:** Implemented a hybrid update mechanism—one dashboard refreshes automatically after payroll finalization, while another updates on demand. **Direct Client Collaboration:** Worked closely with the company's director to understand specific business needs, refine dashboard functionalities, and implement iterative improvements.

Technology Stack

Data Extraction & Processing: Python, Pandas

Visualization & Reporting: Power BI, DAX

Data Sources: Third-party API, Dynamics 365

Value Delivered

Eliminated the need for manual payroll validation, reducing the client's workload considerably.

Provided clear insights into duplicate and deprecated records, allowing the client to maintain cleaner data.

Enabled the client to focus on key business areas rather than spending hours manually analyzing data.

Designed dashboards that could easily accommodate additional data sources and evolving business needs.

Streamlined the client's payroll and employee data management, transforming complex manual processes into a seamless, data-driven workflow.