

Easy Loans Task

This final project for the Business Intelligence module involved creating a complete BI solution for a fictional financial company, Easy Loans, using Microsoft Power BI. The main goal was to act as a BI consultant, undertaking the entire workflow from data processing and modeling to the creation of a final interactive dashboard for analysis.

The project's foundation was an Excel file named **easy_loans.xlsx**, which contained sheets for **Clientes** (Clients), **Préstamos** (Loans), **Pagos** (Payments), and a **Calendario** (Calendar) table. The initial phase involved using Power BI's Power Query Editor for the Extract, Transform, and Load (ETL) process. This stage included correcting data types, handling null values and errors, and creating new calculated columns to enrich the data, such as a **loan_status** field. A dedicated calendar table was also generated using DAX to enable time intelligence functionalities.

After preparing the data, a robust data model was built within Power BI by creating relationships between the tables to form a star schema. In this model, the **Préstamos** table served as the central fact table, while the **Clientes**, **Pagos**, and **Calendario** tables functioned as dimension tables providing context. As a best practice, non-essential fields used for creating relationships were hidden from the final report view to ensure a clean and intuitive user experience.

The analytical core of the report was built using Data Analysis Expressions (DAX) to create several Key Performance Indicators (KPIs) as measures. The required calculations included **Total Clientes** (total clients), **Total Préstamos** (total loans), **Importe Total Préstamos** (total loan amount), **Importe Medio Préstamos** (average loan amount), **Total Importe Pagado** (total amount repaid), and the critical business metric **Tasa de Incumplimiento** (default rate).

The final deliverable was a single-page interactive dashboard designed to offer key insights efficiently. This dashboard included a header with the company logo and main KPIs, interactive slicers for filtering data by loan status, gender, and year, and at least four visualizations to answer specific business questions. These charts displayed the total loan amount by client's professional status, loan purpose, the evolution of the default rate over time, and the distribution of clients by age range.

In conclusion, this project was a comprehensive exercise that demonstrated the ability to apply key Business Intelligence principles to address a practical business scenario. It successfully transformed raw data from a simple Excel file into a powerful analytical tool, showcasing skills in data preparation with Power Query, relational data modeling, advanced calculations with DAX, and effective data visualization through the design of an interactive Power BI dashboard.