# Power BI Dashboard Analysis

AIM

The purpose of this analysis is to identify the **most** and **least sales revenue, profit and customer base** by Customer, Sales and Product, providing valuable insights to management for targeted investment decisions aimed at maximizing sales. These insights will be achieved through an ELT method in Microsoft Excel, building a matrix in Microsoft Power BI, designing and developing a data modelling dashboard in Power BI. Once the report has been built, I will extract business intelligence by manipulating the graph to find positive and negative trends in the data and report on my findings.

ELT THE DATA SET

The dataset has been gathered from kraggle.com. I used the method of ELT (extract, load and transform) to prepare the data for analysis.

The dataset was exported into excel, where familiarised myself with the type of data I was using. I ensured data integrity by cleaning and transforming the dataset using filters to find blank cells and spelling characters errors.

The dataset already had corresponding unique identifiers for Sales orders, Products and Customers and Categories numbers, meaning all required unique identifies for the tables did not need to be created.
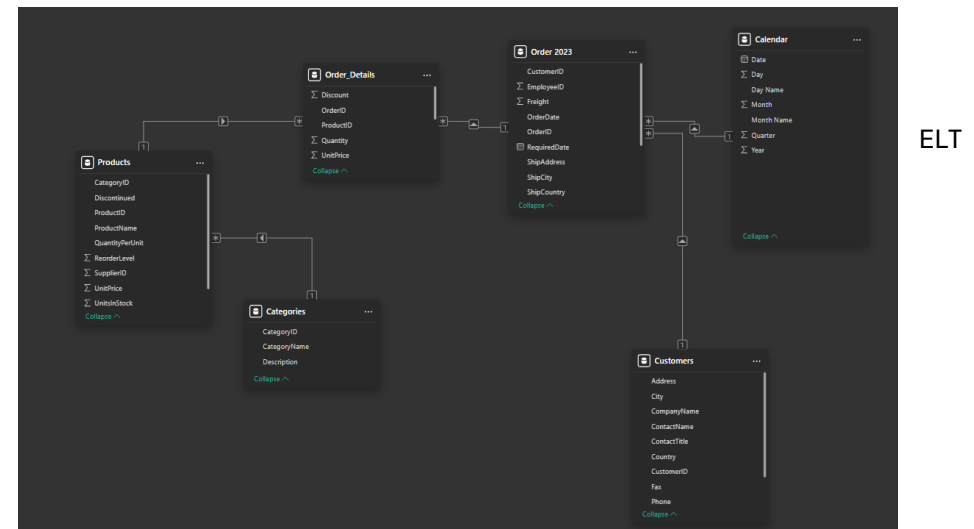
Graphic of Data matrix created using Power BI

Once the data was cleaned, I loaded it into Power BI and created three-dimensional matrix using One-to-Many relationships between fact tables and dimension tables, as well as built a calendar table. This will allow me to cut and filter the data in multiple ways to isolate insights and outliers.

BUILD THE REPORT

With the matrix created I could start designing a dashboard to identify valuable business insights. The key variables that data could provide insight on are Customer, Sales and Product.

I created measures using Dax language to calculate the key metrics, Total Cost, Total sales, Avg Cost and Avg Sales Price. I designed and built intuitive and user-friendly dashboards analysis Customers, Sales and Product, which can assist the Directors, Marketing, Sales, Logistics and procurement departments.

UI design

My philosophy of dashboard design is to be simple, consistent and purposeful in data and design.
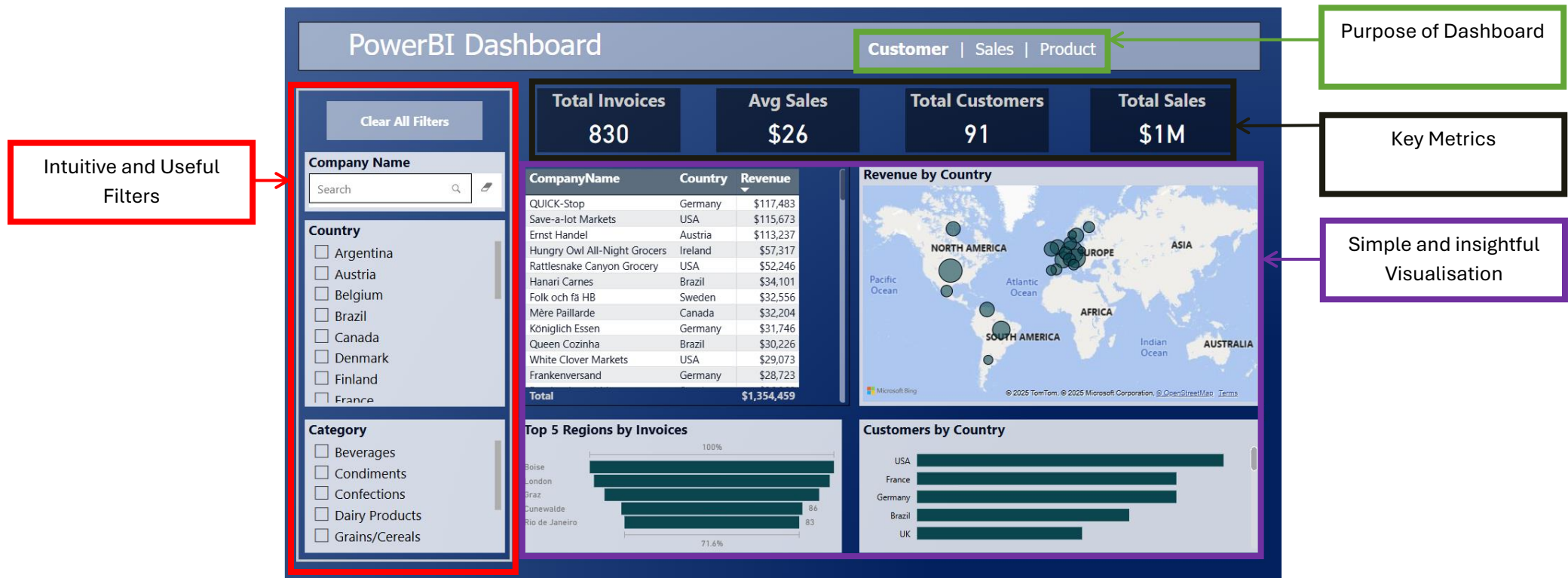
Analysis

CUSTOMER DASHBOARD

We can quickly identify who are our most valuable customers by country, average sales and revenue. The largest customer base is in the US which aligns with it being the highest sales. Our biggest customer in terms of revenue is Quick Stop in Germany.

The smallest customer base is in Poland and Norway with one customer each. And our smallest sales ($101) come from Centro Comercial Moctezuma in Mexico.

Based on these findings, I would increase resources into our US, French and Germany markets as demand is predominately coming from those countries.
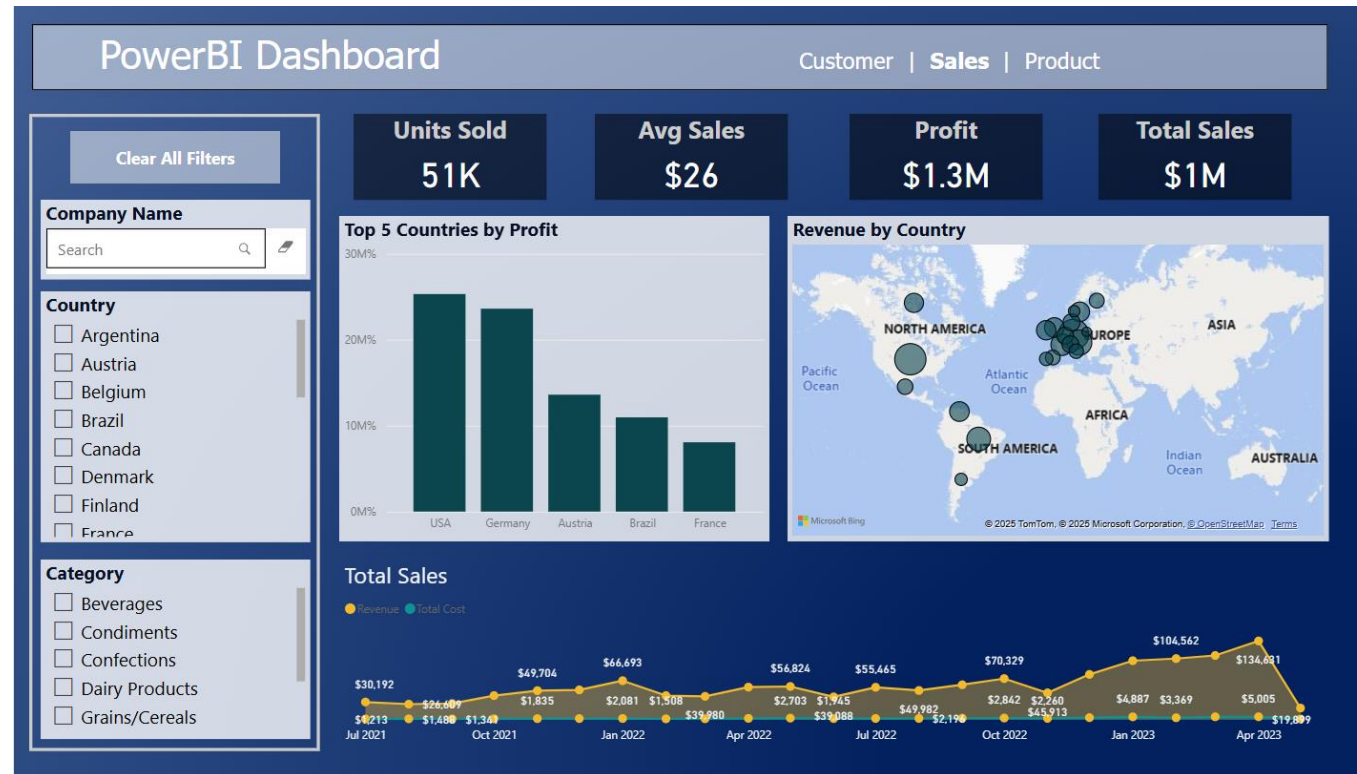
SALES DASHBOARD

The profit margin is highest in the US with $253k and 25,310,407% profit. The least profitable country was Poland with $3.2k and 320,185% profit.

Our least profitable period was August of 2021, this may be due to the infancy if the company. We also saw a drop in sales Augst 2022 suggesting a seasonal drop in the USA and French and Germany during their summer.

Recommend an increase of resources for Germany and USA particularly in their high spend months October, July and January, reducing sales targets and resources in November December and August which demand is low.

PRODUCT ANALYSIS

The Product Dashboard highlights the Beverages as the revenue-generating category with $287k revenue. Focusing on the products that contribute to these sales the 'Cote de Blaye' accounts for $150k of the total sales of Beverages. This product is a high sales prices high turnover product and I recommend increased focus on selling this high earner.

Adversely 'Grains and Ceral' generated the least sales across all the categories, accounting for <10% of the sales in the past three years. Dialling in on the products that contributed to these sales the 'Filo Mix' has consistently low sales and my recommendation is to cut the product, reduce sales price or rebrand to reinvigorate the perception of the product.