

AXON AUTOMOBILES

SALES ANALYSIS REPORT



Prepared By:

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PROBLEM STATEMENT

A small company Axon, which is a retailer selling classic cars, is facing issues in managing and analyzing their sales data. The sales team is struggling to make sense of the data and they do not have a centralized system to manage and analyze the data. The management is unable to get accurate and up-to-date sales reports, which is affecting the decision-making process.

To address this issue, the company has decided to implement a Business Intelligence (BI) tool that can help them manage and analyze their sales data effectively. They have shortlisted Microsoft PowerBI and SQL as the BI tools for this project.

In this project, I tackled a critical challenge faced by Axon, a classic car retailer. Axon's sales team struggled with managing and making sense of their sales data due to a lack of a centralized system. The absence of accurate and up-to-date sales reports hindered effective decision-making.

To address these issues, I try to implement a robust Business Intelligence (BI) solution using Microsoft PowerBI and SQL.

PROJECT OBJECTIVE

The primary objectives of this project were:

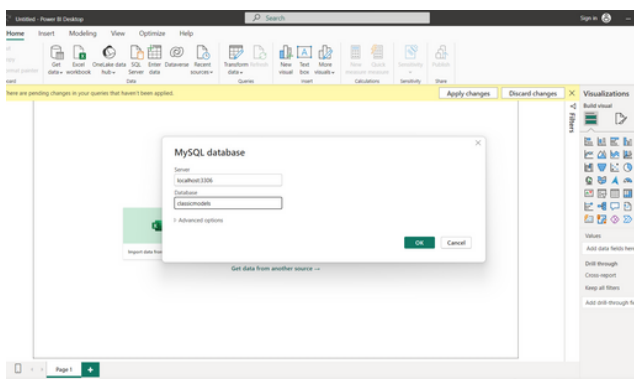
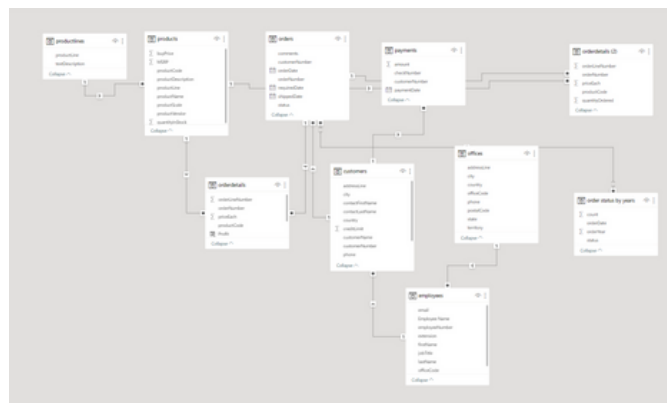
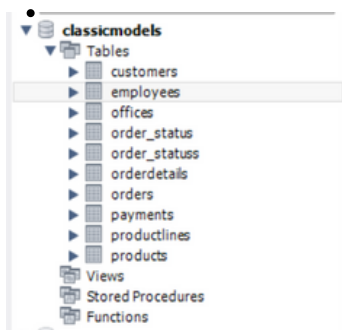
1. **Data Integration:** Import and integrate data from the MySQL database into PowerBI.
2. **Data Preparation:** Clean and transform the data to ensure its readiness for analysis.
3. **Data Modeling:** Create a data model within PowerBI to establish relationships between different data tables and optimize data retrieval for analysis.
4. **Interactive Dashboards:** Develop interactive dashboards and reports using PowerBI to assist the sales team and management in interpreting the data.
5. **Advanced Analytics:** Utilize SQL for advanced analytics to extract insights that can improve sales.
6. **Real-time Access:** Enable real-time access to dashboards and reports for informed, data-driven decisions.

The success of the project was measured by the effectiveness of the BI solution in enhancing data management and decision-making at Axon.

PROJECT IMPLEMENTATION

Steps to Solve the Capstone Project

- **Data Source:** I leveraged a provided MySQL database as the data source and created a new database named 'classicmodels' in MySQL.
- **Data Extraction and Cleaning:** Extracting data from the designated sources, I performed data cleaning tasks, including removing duplicates, handling missing values, and ensuring data consistency.
- **Data Loading:** The cleaned and modeled data was loaded into PowerBI using appropriate features, and I meticulously documented all data loading and transformation steps.
- **Data Modeling:** To optimize data structure for analysis, I created a data model within PowerBI, establishing relationships between tables.



customerNumber	customerName	contactLastName	contactFirstName	phone	address	city	state	postalCode	country
103	Antonio Gonzales	Gonzales	Antonio	40.22.2334	24 rue Royale	Nantes		44000	France
119	La Rochelle Office	Lafont	Jeanne	40.87.0555	47, rue des Capucines Chapais	Nantes		44000	France
121	Bauer Mini Imports	Bergushev	James	97.08.9555	599, Madison gate 75	Stevens		41102	Norway
125	Went & Zippich Co.	Perseusberg	Zippich	120.440.7555	64 Milwaukee St.	Minneapolis		55102	Finland
128	Bauer Sea Auto, Co.	Korrel	Richard	+49 89 66 90 2055	Lymmerstr. 34	Frankfurt		65026	Spain
141	Sueni Shipping Central	Frappin	Steph	390.555.94.44	17 Westland Rd.	Madrid		28004	Spain
144	Vinco Model Republic, Co.	Berglund	Christine	0601.12.2055	Bergengraben 8	Lund		5-088 22	Sweden
145	Danish Wholesale Imports	Perrensen	John	21.12.2055	Vindkenter 34	Kobenhavn		1734	Denmark
146	Sevigny & Jensen, Co.	Jensen	Mary	73.62.2055	1, rue de Commerce	Lyon		69004	France
148	Dragon Securities Ltd.	Nathaniel	Eric	+49 221 7555	Bruno Gals, Bruno Apt. 3/6	Toronto		078003	Singapore
149	Hong Gahk Co.	Wong	Wing	+49 221 1555	100 Golden Road, Golden, 2nd Floor	Singapore		050403	Singapore
147	Hendrix Gifts	Orlson	Wayne	+47 2287 3275	Bakkeveien 35, 1210R	Bergen		N-5064	Norway
169	Parks Imports Co.	de Castro	Isabel	71.554.5555	Estimote de laeude n. 16	Colonia		1716	Portugal
171	Classical Design Imports	Rasmussen	Marlene	20.76.2055	184, Avenue de Normandie	Lille		59000	France
172	La Crosse D'Abdominale, Co.	Bernhard	Maria	71.42.14.2055	205, Boulevard Chateaubien	Paris		75012	France
186	Top of France Co.	Cartier	Maria	59.224.6225	Voltaire 45	Metzville		57046	France
187	Art Stores, Co.	Altamirano	Rachael	0770.555-1555	Roastingery Circus	Manchester		023 2947	UK
189	Clover Collections, Co.	Carroll	Deen	+353 582 1555	23 Maiden Lane, Floor No. 4	Dublin		2	Ireland
201	UK Collections Ltd.	Downey	Elizabeth	0770.555-2002	12, Brinkley Gardens Road	Liverpool		069 027	UK
206	Asian Shipping Network, Co.	Walker	Phyllis	+652 9411 1555	Sunrise Tower Third & Seventh	Singapore		038808	Singapore
209	Ming Curry	Chen	Yanping	86.80.1555	18, Jieun Rd.	Shanghai		20000	France
211	King Kong Collections, Co.	Gao	Miao	+852 2251 1555	Bank of China Tower 1 Garden Road	Central Hong Kong		00002	Hong Kong
216	Bravo Collections	Esposito	Antonio	095.002.4575	Sanremo de Capofila, 25	Sorrento		80022	Spain
222	Napoleon Autos	Alfonso	Josep	0075.20.0508	Nachterstraße 16	Geneva		12107	Geneva
227	Hendrix Collections	Waller	Patric	86.21.2055	Smagorinsky 45	Antoni		0200	Denmark
237	4500 Bookings	Camacho	Alfonso	091.745.6333	Gran Via, 1	Madrid		28001	Spain
242	Alpha Cognac	Roulet	Armande	61.77.0555	1, rue Marie Lecomte	Toulouse		31000	France

- **Dashboard Design:** Crafting interactive dashboards and reports in PowerBI was a key part of the project. I incorporated charts, graphs, and tables to visualize data and used DAX functions for data analysis.
- **Advanced Analytics:** To extract valuable insights from sales data, I used SQL for advanced analytics, performing tasks such as pivot tables, queries, and views.
- **Testing and Debugging:** Testing and debugging were carried out to ensure the BI solution functioned as expected. Any issues that arose during testing were promptly addressed.
- **Deployment:** Finally, I deployed the BI solution, including dashboards, reports, and advanced analytics, making sure it was user-friendly and easily adopted by the sales team and management.

Database Description

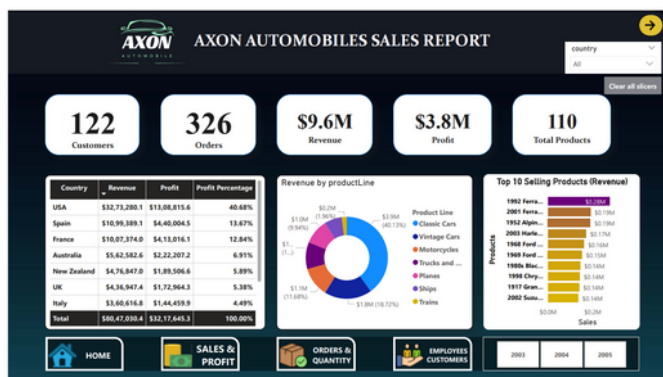
- The MySQL sample database schema comprised eight tables:
- Customers
- Products
- ProductLines
- Orders
- OrderDetails
- Payments
- Employees
- Offices

Tools Required

To successfully complete the Capstone project, I employed the following tools and technologies:

- **Microsoft PowerBI**: Utilized for data visualization, data modeling, and dashboard creation.
- **SQL**: Employed for data extraction, transformation, and advanced analytics.

PROJECT VIEW / DASHBOARD



KEY INSIGHTS

Key Insights :

1. Total Revenue - \$ 9.06 M

- a. Revenue in 2003 - \$ 3.3 M
- b. Revenue in 2004 - \$ 4.5M
- c. Revenue in 2005 - \$ 1.8M

2. Total Profit - \$ 3.83 M

- a. Profit in 2003 - \$ 1.3 M
- b. Profit in 2004 - \$ 1.8M
- c. Profit in 2005 - \$ 695.9K

November 2004 was a peak month for orders, sales, and profit.

1. Total Products - 110

2. Total Employees - 23

3. Total Customers - 122

- **Top 3 customers: Euro+ Shopping Channel, Mini Gifts Distributors Ltd., Muscle Machine Inc.**
- Bottom 3 products by profit: 1939 Chevrolet Deluxe Coupe, Boeing X-32A JSF, 1982 Ducati 996 R.
- Top 3 profitable products: 1992 Ferrari 360 Spider red, 1952 Alpine Renault 1300, 2001 Ferrari Enzo.
- Top 3 employees by profit: Gerard Hernandez, Leslie Jennings, Pamela Castillo.
- Maximum sales: USA, Spain, France.
- Highest profit: USA, Spain, France.