**Capstone Project: Business Intelligence Solution for Axon Retailers**

**Problem Statement**

Axon, a small retailer specializing in classic cars, is facing challenges in managing and analyzing their sales data effectively. The lack of a centralized system for data management and analysis has led to difficulties for the sales team in making sense of the data. The absence of accurate and up-to-date sales reports is hampering the decision-making process for the management.

To address these issues, Axon has decided to implement a Business Intelligence (BI) solution using Microsoft PowerBI and SQL. The objective of the capstone project is to design and implement a BI solution that can import, integrate, clean, analyze, and visualize sales data efficiently. The solution should provide interactive dashboards and reports to help both the sales team and management derive insights from the data and make informed decisions.

**Project Overview**

1. **Data Source**: Utilize the MySQL sample database provided as the data source, containing tables such as Customers, Products, Orders, OrderDetails, Payments, Employees, and Offices.
2. **Data Extraction and Cleaning**:
   * Create a new database named "classicmodels" in MySQL.
   * Load the provided MySQL sample database into Power BI Desktop.
   * Perform necessary data transformations, including removing duplicates, handling missing values, and ensuring data consistency.
3. **BI Solution Design**:
   * Import and integrate the cleaned data into Power BI.
   * Design interactive dashboards and reports using Power BI to visualize sales data effectively.
   * Utilize DAX functions for data analysis and deriving insights.
4. **Advanced Analytics**:
   * Use SQL for advanced analytics on the sales data to extract deeper insights.
   * Perform tasks such as creating pivot tables, running queries, and creating views to analyze sales performance.
5. **Deployment**:
   * Test and debug the BI solution to ensure its functionality.
   * Deploy the solution to the management, ensuring user-friendliness and ease of access.
   * Document the entire process for adoption and success.

**Database Description**

The MySQL sample database schema consists of 8 tables, including Customers, Products, ProductLines, Orders, OrderDetails, Payments, Employees, and Offices. These tables contain typical business data relevant to sales transactions, customer information, product details, and organizational structure.

**Tools Required**

* **Microsoft PowerBI**: For data visualization and building interactive dashboards.
* **SQL**: For data analysis and performing advanced analytics.
* **MySQL**: Database management system for storing and retrieving sales data.

**References**

* [Sales Dashboard Case Study](https://www.netsolutions.com/casestudy-ecom-dashboard): Provides insights into creating dashboards to visualize sales data using PowerBI.
* [SQL Sales Analysis Project](https://medium.com/swlh/data-anlysis-project-for-retail-sales-performance-report-using-sql-6ef1d4443712): Demonstrates using SQL for advanced analytics on sales data.

**Deliverables**

* Documented report in Word or PDF format.
* SQL files for data analysis.
* Power BI report for interactive dashboards and reports.

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