**About this project**

**Problem Statement:**

The project presents a comprehensive analysis of an e-commerce business, utilizing Power BI tools. Key performance metrics and trends are analyzed and displayed using a Power BI dashboard. The insights gained from this analysis can aid in informed decision-making and drive business growth. The project also includes forecasting techniques to predict future trends and performance.

**Purpose of the Project:**

This project aims to provide a clear and actionable understanding of the e-commerce business and its various components, helping identify areas for improvement and growth.

**Project Objectives:**

* **Efficiency Improvement:** Enhance the efficiency of sales data management by streamlining data integration and cleansing processes.
* **Insightful Reporting:** Provide clear, user-friendly reports and dashboards that offer valuable insights, aiding both the sales team and management in understanding and leveraging sales data effectively.
* **Data-Driven Decisions:** Empower decision-making by utilizing advanced analytics to extract hidden patterns and trends, enabling Axon to make informed, proactive decisions.
* **Enhanced Performance:** Improve overall company performance by leveraging accurate and timely sales data, optimizing resource allocation, and staying aligned with market trends.
* **User Adoption:** Ensure the BI solution is user-friendly and easily accessible, promoting adoption among the sales team and management for sustained use and success.

**Steps followed to complete the project objectives:**

**1. Data collection and integration:** The Excel database is the primary source of data. The Excel is imported in Power BI for further analysis of the data set.

**2. Data Cleaning and Transformation:** In the process of Data Cleaning and Transformation within Power BI, a systematic approach was employed to enhance the quality and consistency of the dataset across multiple tables. Duplicate values are eliminated, missing values are handled, and data consistency is ensured across all the tables.

**3. Data Modeling:** Data modeling plays a pivotal role in structuring and organizing the dataset for effective analysis and visualization within Power BI. The table relationships were examined, and missing relationships were created in the data model.

**4. Data Analysis using DAX:** Data Analysis Expressions (DAX) within PowerBI for in-depth analysis of sales data. DAX measures are used to derive insights, trends, and performance indicators for better decision-making by E-commerce management.

**5. Dashboard and Report Creation in Power BI:** Interactive and intuitive dashboards were created for the sales and management team. The comprehensive reports will provide real-time insights into sales performance.

**Pages in the dashboard:**

* **Sales Dashboard:** The Sales Dashboard offers a comprehensive overview of key performance indicators, including total Sales, profit, Quantity, Shipping Cost, Sales by Segment

**Key Insights:**

1. **Sales:**
   * Maximum orders are sold is 29.1% of sales in United states of America.
   * Minimum orders are sold is 4.56% of sales in Brazil country.
2. **Category-wise Sales:**
   * Technology category ordered the maximum number of orders, showcasing its popularity among customers.
   * The Office supplies category records the least number of orders, highlighting potential areas for product promotion or re-evaluation.
3. **Customer Demographics:**
   * The highest number of customers is from the USA.
4. **Ship mode:**
   * "Standard Class" is the most chosen mode of shipping mode chosen by customers.
   * "Same Day" is the least chosen mode of shipping mode chosen by customers.
5. **Sales in market:**
   * Most of the sales have been sold in APAC market of 28.36% of sales.
   * The least of the sales have been sold in Canada market of 0.53% of sales.