ABC E-COMMERCE SALES PERFORMANCE DASHBOARD

2. Project Objective

To transform raw e-commerce CSV data into a comprehensive, multi-page Power BI dashboard. It helps to analyze and manage the performance of the company over different scenarios.

The dashboard will provide actionable insights across four key business areas: Executive Summary, Logistics, Marketing, and Seller Management, enabling data-driven decision-making.

3. Business Problem / Opportunity

The business currently has a large volume of dis-aggregated data across 8 separate files, making it impossible to see a clear, holistic view of performance. There is no way to answer critical questions about operational efficiency, customer behavior, or seller performance.

This project seizes the opportunity to integrate this data into an analytical tool that will:

- Identify orders and revenues in different scenarios.
- Understand customer purchasing behavior and seasonality.
- Segment sellers to manage performance and identify high-value partners.
- To identify delivery performance over different scenarios.

4. Target Audience

The dashboard is designed to serve several key user groups:

Stakeholder	Purpose
Executives	Review high-level KPIs (Total Revenue, Customer Growth, Avg. Rating) to assess overall business health.
Logistics & Operations	Needs to monitor fulfillment speed, delivery success, and

	carrier/seller lag.
Marketing Team	Needs to understand customer behavior, seasonality, and products bought together.
Seller & Category Management Team:	Needs to monitor, segment, and evaluate seller performance based on revenue and quality (review scores).

5. Scope

Included :

- Data cleaning (Dtype conversion, de-duplication) and transformation (DAX measures, calculated columns).
- Creation of a hybrid schema data model in Power BI.
- Creation of four distinct dashboard pages as defined above.
- All KPIs and visuals discussed, including:
    - On-Time Delivery Rate & Avg. Days Lagged
    - Sales Seasonality Hours & Days
    - Seller Performance Quadrant (Revenue vs. Rating)
    - Seller Segmentation (by Order Volume)
    - Product Combinations

Excluded :

- Real-time (live) data streaming or monitoring.
- Predictive analytics or sales forecasting.
- Data entry or modification capabilities.
- Analysis of data outside the 2016-2018 period.

6. Data Sources & Data Model

Dataset : Marketing Analytics For E-Commerce Market Place Company Dataset

Source : Marketing Analytics Dataset By Rishi Kumar

Data Sources: The analysis is based on the 8 CSV files provided by the client:

1. CUSTOMERS.csv
2. SELLERS.csv

3. PRODUCTS.csv
4. ORDERS.csv
5. ORDER_ITEMS.csv
6. ORDER_PAYMENTS.csv
7. ORDER_REVIEW_RATINGS.csv
8. CUSTOMER_NAME_TABLE.csv

7. Key Metrics / KPIs

The dashboard is structured into 4 pages, each answering a specific set of business questions.

Pages	KPI	Definition
Executive Summary	Total Revenue	Total Revenue Generated From Items Sold.
	Total Orders	Total Orders Got Through The E-Commerce Store.
	Total Sellers	Total Number of Sellers Who Supply The Products.
	Total Customers	Total Number of Customers Who Purchased Through The E-Commerce Store.
	Average Rating	Average Rating is The Average of Whole Order Review Rating.
	Average Order Value (AOV)	Average Order Value is The Total Revenue is Divided By Total Orders
Logistics & Operations	On-time Delivery Rate	It Is The Rate Of Total Deliveries With Delivered On-Time.
	Avg. Days To Ship	It is The Average No. of Days Between Order Purchase And Order Delivered To Carrier Date.
	Avg. Days In	It Is The Average of Days Spended For

	Transit	Shipment.
	Avg. Days Lagged	It is the no. of days lagged by a seller. Who delivered after the expected delivery days.
Marketing	New Customer	It Is The Count Of Customers Who Have Not Made An Order Before According To The Current Date Selection.
Sellers	Total Active Sellers	Total Active Sellers Are The Sellers Who Had At least One Order.
	Seller Segments	Seller Segments Are The Segmentation Of The Sellers According To How Many Orders They Get.

8. Deliverable

Day	**Deliverable**	**Description**
Day 1	BRD_Submitted.pdf, Dataset loaded.	Dataset selection, loading, and documentation.
Day 2	Column_Assessment.xlsx, cleaned_dataset.csv	Data assessment & cleaning.
Day 3	FRD_Submitted.pdf, Dashboard_Mockup.pptx	Functional design and visual mockup.
Day 4	dashboard.pbix (Draft)	Initial Power BI dashboard build.
Day 5	dashboard_export.pdf, Analysis_Report.pdf, README.md	Final dashboard, insights, and documentation.

9. Timeline / Milestones

Day	Task	Deliverable
Day 1	Project Kick-off, Data Loading, & BRD Finalization	BRD_Submitted.pdf
Day 2	Data Cleaning & Transformation (Power Query); Data Modeling (Star Schema).	cleaned_dataset.pdf
Day 3	Define functional logic and design mockup.	FRD_Submitted.pdf
Day 4	Develop dashboard and DAX measures.	dashboard.pbix
Day 5	Finalize, export, and write analysis.	Analysis_Report.pdf

10. Notes / Assumptions

Data Assumptions :

- The primary key for customer analysis is `customer_unique_id`, not `customer_id`
- The primary date for all sales analysis is order_purchase_timestamp

Business Logic (Key) :

- Total Revenue is defined as the sum of order items price.
- Total Customers is defined as a distinct count of customer_unique_id.
- A "New Customer" is defined by their first-ever order_purchase_timestamp

Scope Limitations :

- Analysis is purely historical, based on the static 2016-2018 dataset.
- There is no real time monitoring of data.

Technical Constraints :

- Seller name is not defined. So it is defined by seller_id.