Capstone Project Report

* Project Title: “DMart Product Sales and Performance Analysis”
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* Project Link: <https://app.powerbi.com/reportEmbed?reportId=a2fb7f5e-1685-4bd3-acf3-60fc3319ced8&autoAuth=true&ctid=b4c6b754-54e3-41e4-a8da-304355c62816>
* **Problem Statement:**
* In an e-commerce platform like DMart, it is critical to identify top-performing products, understand the impact of pricing strategies, and track customer satisfaction. Manual tracking is inefficient and offers limited insights, making a data-driven dashboard solution necessary.
* **Objective:**
* To analyse DMart product sales data.
* To create Custom Calander and build relationship in Model View.
* To calculate and visualize total revenue, discount, top revenue generating product details, shipping revenue and product cancellation rate.
* To evaluate relationship among price, unit sold, transection, average order value and average rating.
* To divide the performance by various parameters such as Category, Gender, Marketing/Advertisement, Payment Method, Product Name and Ship Mode.
* **Dataset Description:**
* "DMart Product Dataset" is taken from Kaggle.
* The dataset contains fields such as Customer ID, Product ID, Order ID, Customer Age, Gender, Product Name, MRP, Discount Price, Category, State, City, Subscription, Time Spent on Website, Rating, Marketing/Advertisement, Ship Mode, Order Status, Order Date, Delivery Date, Payment Method, Pin Code, Total Order Value, Payment Status, No of Clicks, Year, Month, Shipping Charges and Cancellation Date.
* The data spans from 2021 to 2023. And has been cleaned and transformed using Excel before loading into Power BI.
* **Tools and Technology:**
* Microsoft Power BI
* Microsoft Excel
* DAX (Data Analysis Expressions)
* Power Query Editor
* **Key insights derived:**
* Total Revenue, Total Order, Clicks per Order, Unit sold, Cancelled Orders, Shipping Revenue, Total Discount, Average customer age, Cancellation Rate, Average Order Value, Time spent per order and Average Rating value displayed using KPI cards.
* Top 5 profitable Product Name
* Unit sold by Month
* Total Revenue generated from Marketing or Advertisement
* Total transaction by different payment methods
* City wise total revenue
* Total Revenue and SPLY (Same Period Last Year) by Month
* Total Revenue and SPLY (Same Period Last Year) by Quarter
* Total Revenue and SPLY (Same Period Last Year) by Year
* MTD, QTD, YTD by Year, Quarter and Month (Using Bookmarks)
* Total Revenue generated on different day name
* Subscription wise total orders
* Average Rating by Product Name
* Top 7 Shipping Revenue generated Product Name
* **Screenshots of dashboards:**

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* **Conclusion:**
* The Power BI dashboard successfully provided a clear view of product sales and profitability on DMart. It helps to identify high-performing items, track the effectiveness of discounting, and understand customer preferences through ratings.
* **Challenges faced:**
* I faced many challenges, especially. As my dataset contains almost 24,000 rows, when I load it into Power Query Editor and click on the filter for a specific column, it detects only the first 1000 rows. Therefore, if I want to perform any specific changes for the remaining rows, it gives me an error, such as “Limit of 1000 values reached.” So, first off all I have to load my dataset on Microsoft Excel, perform whatever changes that I want, and then load my dataset into Power Query Editor.
* Except this, I encountered several challenges, including inconsistent data format (e.g. amount to percentage) and incorrect Order ID. I also had to simplify long attributes name into short form.
* Additionally, defining and calculating dynamic KPIs like MTD, QTD, YTD and SAMEPERIODLASTYEAR using DAX required thoughtful planning. Also, I created custom calendar and build relationship in Model View**.**
* **Future Scope:**
* Integrate live sales data using DMart API (if available).
* Enhance the dashboard with return rate and customer feedback analysis.
* **References:**
* Power BI Documentation
* Kaggle Datasets