**H & M Sales and Customer Exploratory Data Analysis**

 (Power BI, Python)

## **Overview:**

The Project aim is to do Exploratory Data Analysis of Sales Data provided by the Fashion Retailer H&M. There are three datasets namely

Articles – information about products.

Customers  – information about customers.

Transactions – information about customers.

## **Objectives:**

The following questions are to be solved as part of exploratory data analysis

1. What is the total sales between Sep 2018 – Sep 2020 and its sales pattern.

2. What are the Top Selling Products sales wise?

3. Which month of the year has highest sales?

4. Display the overview of top selling products.

5. What is the impact of membership in Sales?

6. What age people are interested in buying?

7. Does Fashion news delivered to customers converts into sales?

8. Which age people are interested in Club memberships?

9. Provide recommendation to improve Fashion news conversion into Sales?

10. Provide recommendations to improve sales from other age groups?

## **Prepare:**

The dataset is downloaded from Kaggle

Cleaning Steps:

1. I Have checked for Null values and duplicates in the records.
2. I have also checked for any outliers in the records.
3. Since the record count is high, I have planned to delete the null and duplicate records for better visualization.

## **Acknowledgement:**

I would like to thank H&M and Kaggle for providing the data for analysis.

## **Process:**

I have used Python to Clean and analyse data for finding key metrics and exported into csv files. I have used Power Bi to load csv files to draw insights and visualize.

## **Analyse:**

We will answer the questions by creating required visualizations in Power Bi.

1. What is the total sales between Sep 2018 – Sep 2020 and its sales pattern.

The total sales between Sep 2018 – Sep 2020 **885 thousand**.

2. What are the Top Selling Products sales wise?

**Trousers** are the top selling products which occupies 4 places out 10. Particularly Denim trousers are most liked by the customers. Apart from this we have socks, t-shirts, underwear in the list.

3. Which month of the year has highest sales?

June 2019 has the highest sales of nearing 50000. We have an average of 35-40k sales during each year. But the it is important to note that for each year **June month** has higher sales. This may be due to end of season sale where customers choose to buy with discounts.

4. Display the overview of top selling products.

We have a total order of 31 million with 44k Products and 130 Products Types. It is interested to note that **Black** colour sales the most. It is clear that ladies purchase the most since we have **ladieswear** and lingerie in top selling index and in that particularly **Lower body garment** tops the list.

5. What is the impact of membership in Sales?

We have a positive relationship on membership over sales because they contribute to **850 thousand** in Sales. So, we can focus on extending our club members.

6. What age people are interested in buying?

We have a strong customer base in **20-30 age** category. Young adults are more interested in buying our products. And most the 20-30 age people are our club members too.

7. Does Fashion news delivered to customers converts into sales?

Though Fashion news converted into a sale of **370K**, contrastingly we have 500K sales without any fashion news. If we have more members receiving our fashion news our sales would be even higher in future.

8. Which age people are interested in Club memberships?

**Young adults of 20-30 age** are more interested in Club memberships and they contribute positively to the Sales of the company

9. Provide recommendation to improve Fashion news conversion into Sales?

Customers who receive fashion news regularly have higher contribution to sales rather than who receives monthly. So, the 1st recommendation is to convert monthly customers to regular customers and next step is to promote fashion news publishing’s to existing customers and explaining how they can benefit from that regarding new collection updates festive and seasonal discount offers etc.

10. Provide recommendations to improve sales from other age groups?

Moving beyond 30 the sales decreases gradually showing that customers of older age are not likely to purchase more often. We can promote Ad campaigns targeting older age customer about the discount periods and membership benefits during the purchase. Additionally, we can use email-marketing to remind the discount season and coupon available for their future purchases.

## **Visualization:**



