Analysis Report of Customer's Choice

The objective of this report is to **specify the findings** derived from the data inorder to **strengthen the areas** in which the management of the store can improve **to generate more revenue**.

This report will contain 3 sections namely:-

1. **Assumptions** :- These are the initial assumptions which needs to be validated inorder to derive the interesting insights from data.

1. **Insights** :- This section contains about the interesting insights which are derived from data analysis to understand the lacking areas of the management.

1. **Conclusions** :- This section contains some tips that can be followed by the Store Management to further improve the profits

P.S: All the analysis that has been conveyed here is appropriately demonstrated both statistically and graphically in the Jupyter Notebook so I didnot include the graphs here as it takes up space

Assumptions

The assumptions that I made after looking at the data and the parameters are:-

1. This dataset is probably the data of a **highly renowed store** that has its branches across all over India or an Online Shopping firm
2. Older Customers are mostly loyal
3. Generally, people tend to spend more in their old age as they have nothing left to do
4. Higher the **age**, higher the **Past_purchase**
5. **Past_purchase** is less for **low_income** people and they don't usually belong to the **Loyalty_program**

Insights

The insights that I found after carefully analysing the data both statistically and graphically are:-

1. Looking at the **past purchases of customers**, we can see that the **minimum purchase** has been done for **Rs 208** while the **maximum** is for **Rs 103520** while the **average customer** spends **Rs. 11244** when he visits. This means that the store is certainly no ordinary store as it has items worth Rs. 100k that can be bought too. (**An electronics store maybe?**)
2. Since the average customer spent more than Rs.11000 for past purchase, the distribution of it must be highly skewed.
3. We can see that the store has **customers from 34 different states in India**. This certainly includes Union Territories as well as there are only 29 states. Since it has such a **diversity of customers**, we can either recognise it as a **famous store at a location in India** which is popular throughout or it is an **online store**
4. As customer's **age** crosses **30-40 years**, majority of them **tend to spend more**
5. The **Customers** who started visiting from **year 2012** have been the **most loyal ones** with **50%** of them buying the product
6. **Purchase_percent** of all the categories of the customers is nearly in a similar range from **17% to 27%**. This means that **around 17-27 percentage of people** from all the previous_purchase categories are **planning to buy the next product**
7. The **Assumption 1** is partially proven to be correct as the store has customers from all the states from India.
8. After analysing the data, it is found that **Assumption 2** is proven to be wrong as the number of people in **Loyalty_program** decreased from the age_group **50-60** to higher.
9. **Assumption 3** is indeed found to be **true** in which their probability of purchase higher than **40%**
10. **Assumption 4** is also proven to be correct as the age increases, Past_purchase increases too
11. As far as **Assumption 5** is concerned, it is deemed to be valid as the as the income_range keeps growing, the mean and standard deviation of Previous_purchases increase too.

Conclusions :

Following are few of the conclusions that I made after analysing the dataset which might help increase in the revenue of the store

- The store has to roll in **some benefits** for **Business customers** to reap profits and also to **change some policies** regarding **Self-Employed customers** as their sheer number is higher and with that even if they buy lower priced roducts, the revenue still has huge possibility to increase

- After analysing the data, it is found out that **customers enrolled in Loyalty_program contribute more to the revenue** so the store can conduct a survey on all the customers and find out their reason for not joining Loyalty_program.

- From the study, it is evident that older customers tend to spend more so the store can study the types of products that they love to buy and increase their profits.

- Tamilnadu, Karnataka, Maharashtra, Tripura and Andaman and Nicobar Islands have the highest possibilty of purchasing the next product so the store can focus on increasing the customer's participation exclusive to those states