ANALYSIS OF CLOTHING WITHIN MEN'S CATEGORY

AJIO WEBSITE

Name: Sanskriti Bahl
Roll No. : 045050
Section: H

TABLE OF CONTENTS

Project

Analysis

The objective of the project is to have analytical understanding of Ajio website with the use of python software. Web scrapping for the website was carried out and analysis was carried out on the men line of clothing.

ABSTRACT

The project is based on the Ajio website data. It is a fashion and lifestyle brand, a Reliance Retail’s digital e-commerce initiative and is the ultimate fashion destination for styles that are handpicked on trend at various price levels. They provide different styles within different labels such as their private label, exclusive international label, capsule collections, indie labels, daily trends and recommended trends. These styles are across different genders and age groups. For the project, the focus on the scarves, stole and cap for the men category. Scarves and stole have been compiled into one category and caps into another category. Foe both categories descriptive statistics have been calculated and the price volatility have been presented in a graphical manner.

“Doubt is OUT”

The focus has also been placed on the top selling brands under the categories taken into account

METHODOLOGY

PART-I: WEB SCRAPING

Web scraper has been created using Selenium Web Driver, used to collect the data and BeautifulSoup, a python library used in conjunction with web scraping particularly when parsing and extracting data from HTML documents.

Web scraping has been done in few steps. The steps are:

Step 1*: Installing Required Libraries*

Installation took place of Selenium Web driver and BeautifulSoup along with the requests.

Step 2*: Setting up the Web Driver*

Next step includes setting up the web driver as it helps to create a bridge between the python code and web browser. Web driver serves as an interface to automate and control web browser interactions in a more programmatical way.

- It helps in choosing a particular browser like Chrome, Firefox, Safari, Microsoft Edge and many more.
- It helps in downloading the web driver executable as each browser has its own web driver executable.
- Next comes, setting up the path in python code using Selenium to locate and communicate with the browser.
- Finally, web driver is initialized by creating an instance of Web Driver class connected with the chosen browser.

Chosen Browser is Google Chrome.

Step 3*: Navigating to the Website*

Now using WebDriver, we will be navigating to the chosen website.

Chosen Website: Ajio Shopping website

***Step 4**: Scraping Data from the Chosen Website*

After building the bridge from python code and web browser and navigating to the chosen website, data has been located and extracted using Selenium methods to find the elements.

Step 5: Storing the Scraped Data

Th scraped data is being stored in a particular CSV file which includes the attributes like S.no., Product Code, Brand Name, Product Name, Price, Original Price, Discount Percentage.

The scraped data is being stored in .csv file named as merged_file.csv.

PART-II: ANALYZING THE DATA

***Step 6**: Analyzing the scraped data Using Matplotlib*

After collecting the scraped data, Matplotlib python library is being used to visualize and analyze it. It helps in creating plots, charts, or graphs to gain insights from the data.

To Analyze the data, plotting has been done of different graphs:

- Bar Graph for Top Selling Brands in Scarves and Stoles

- Bar Graph for Top Selling Brands in Caps
- Bar Graph of Minimum and Maximum Prices (Original Price) of Scarves and Stoles
- Bar Graph of Minimum and Maximum Prices (Original Price) of Caps
- Bar Graph of Average Mean before Discounted Price and After discounted price Stoles and Scarves
- Bar Graph of Average Mean before Discounted Price and After discounted price Caps.
- Average mean before discount for stoles and scarves
- Average mean before discount for caps
- Average mean after discount for stoles and scarves
- Average mean after discount for caps
- Standard Deviation before discount for scarves and stoles
- Standard Deviation before discount for caps
- Standard Deviation after discount for scarves and stoles
- Standard Deviation after discount for caps
- First Quartile before discount for scarves and stoles
- First Quartile before discount for caps
- Second Quartiles before discount for scarves and stoles
- Second Quartiles before discount for caps
- Third Quartile before discount for scarves and stoles
- Third Quartile before discount for caps
- First Quartile after discount for stoles and scarves

- First Quartile after discount for caps
- Second Quartiles after discount for scarves and stoles
- Second Quartiles after discount for caps
- Third Quartile after discount for scarves and stoles
- Third Quartile after discount for caps

ANALYSIS

We have assessed the categories by taking into account the top selling brands, average price before and after discount and maximum and minimum prices.

Descriptive Statistics

Category 1 : Scarves and Stole

Mean Price

The mean price before discount of category 1 is INR 3312.26 and average price after discount is INR 1732.70. The change in the average price before and after discount is **-47%**.

Quartiles

Quartiles provide the inference on the distribution of data. We calculated first, second and third quartiles. Second quartiles tells the median of the data.

First quartile of price before discount is **INR 1399.00**, median of the distribution is **INR 3750.00** and third quartile is **INR 5000.00**. First quartile of price after discount is **INR 683.00**, median of the distribution is **INR 1500.00** and third quartile is **INR 2000.00**.

Standard deviation of the distribution for the price before discount is **INR 2185.50** and after discount is **INR 1441.48**.

Category 2 : CAPS

Mean Price

The mean price before discount of category 2 is **INR 1417.45** and average price after discount is **INR 996.61**. The change in the average price before and after discount is -30%.

Quartiles

First quartile of price before discount is **INR 949.00**, median of the distribution is **INR 1299.00** and third quartile is **INR 1899.00**. First quartile of price after discount is **INR 624.00**, median of the distribution is **INR 974.00** and third quartile is **INR 1309.00**.

Standard deviation of the distribution for the price before discount is **INR 656.90** and after discount is **INR 474.99**.

Graphical Representation

(A) Top Selling Brands

For graphical representation, we are first showing the top selling two brands of category 1, that is scraves and stole and catefory 2, that is caps. Figure 1 is the bar chart showing the number of scarves and stoles available in the website under different brands. The x-axis shows the brand name and y-axis shows the number of products under each brand name.So, “The Tie Hub” and “Tossido” are top two selling brands under the category mentioned.

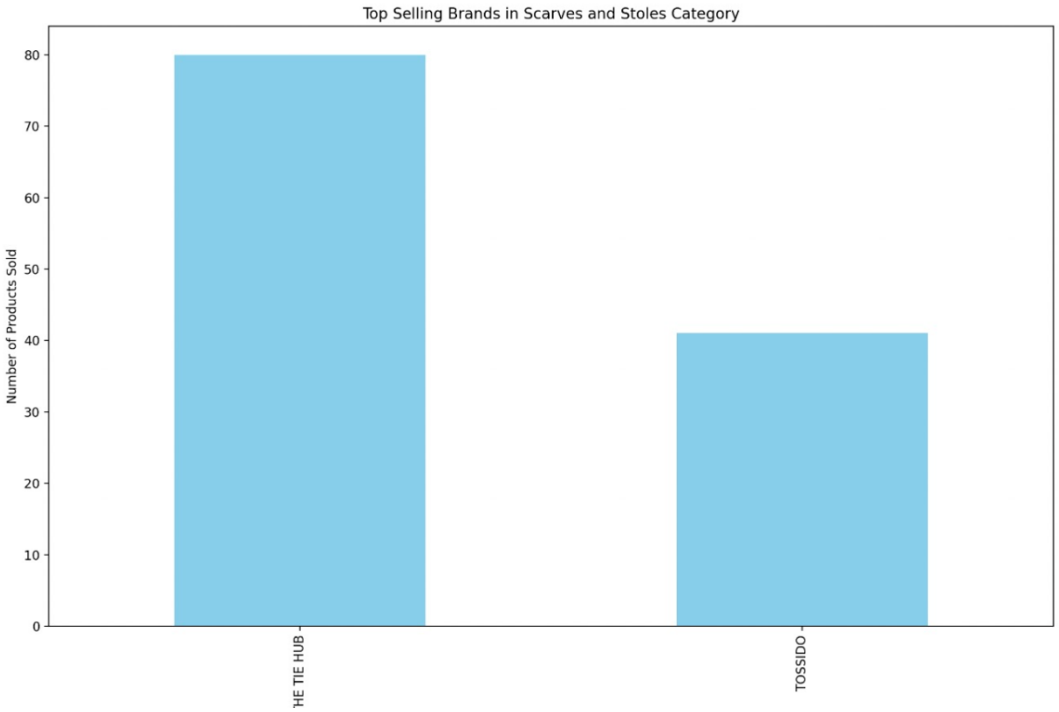

Figure 1: Top Selling brands of Scarves and Stoles

Now we, are focussing on the category 2, that is top two selling brands of caps on ajio website.

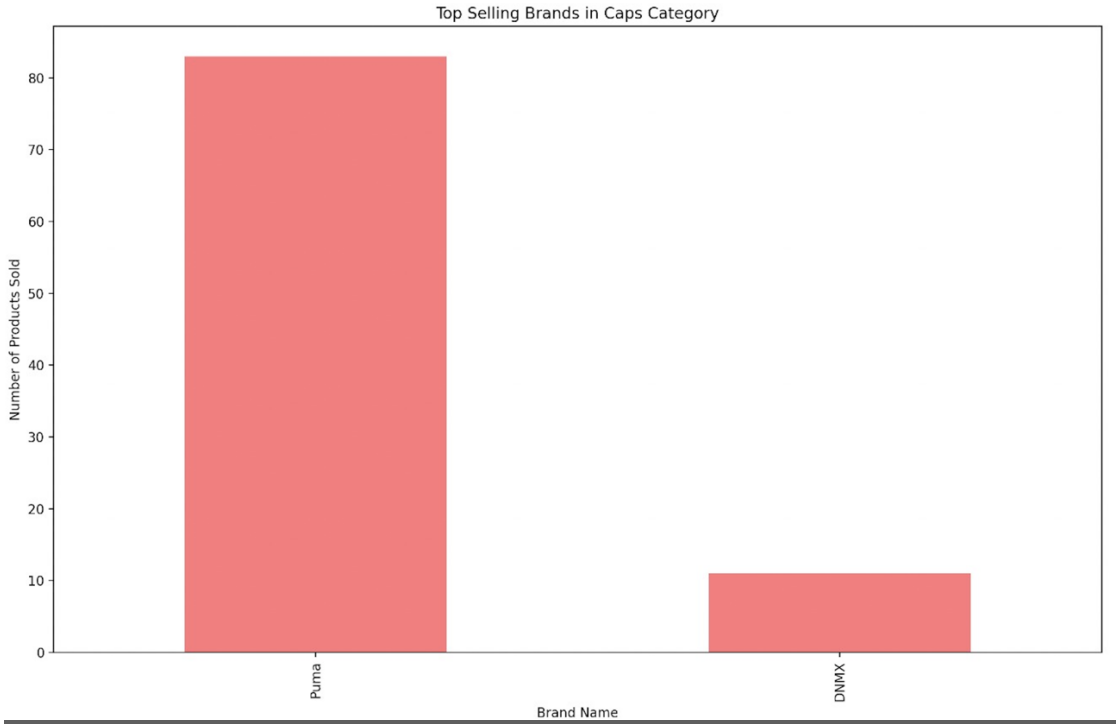

Figure 2: Top Selling brands of Caps

Figure 2 is the bar chart showing the number of caps available in the website under different brands. The x-axis shows the brand name and y-axis shows the number of products under each brand name. So, "Puma" and "DMIX" are top two selling brands under the category mentioned.

(B) Average Price

The following bar graphs shows the average prices before and after discount for category 2 and 1. We can compare the among the two categories where the discount provided was higher.

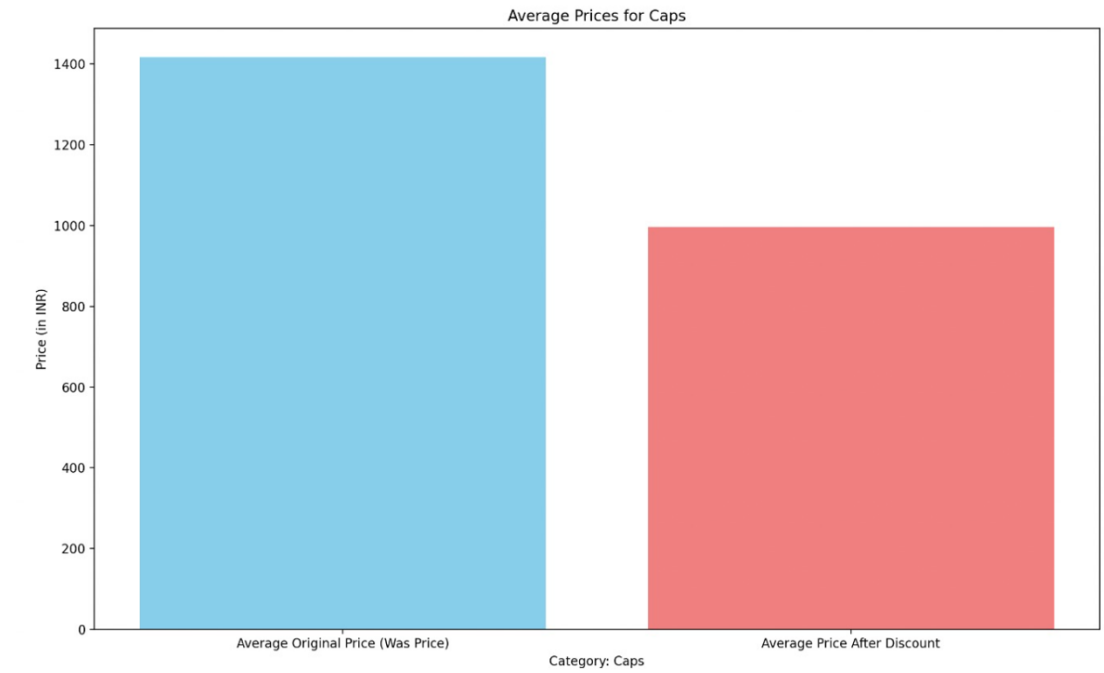

Figure 3 : Average Prices for Category 2

Figure 3 is bar graph representation of average prices before and after discount for the caps category. There is a 30% reduction in the average prices after the discount in the prices of caps.

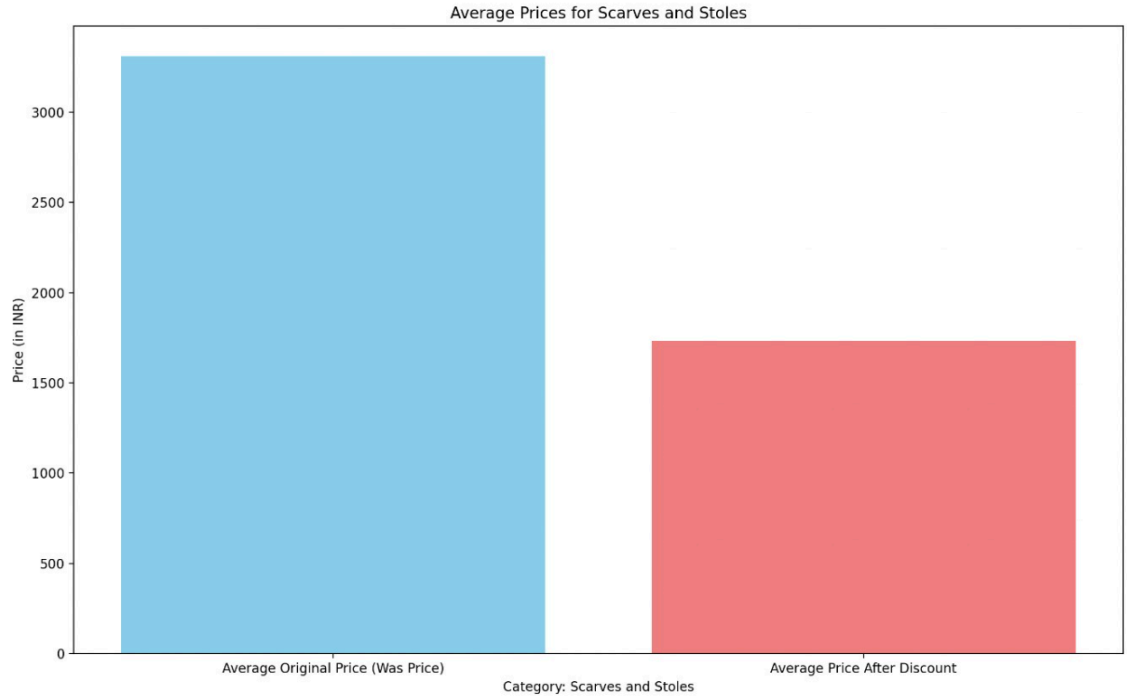

Figure 4 : Average Prices for Category 1

Figure 4 is bar graph representation of average prices before and after discount for the scarves and stole category. There is a 47% reduction in the average prices after the discount in the prices of scarves and stoles category.

(C) Minimum and Maximum Price

The below figure shows the minimum and maximum price before discount for category 1. The absolute difference between the minimum and maximum price before discount is approximately **INR 8500**.

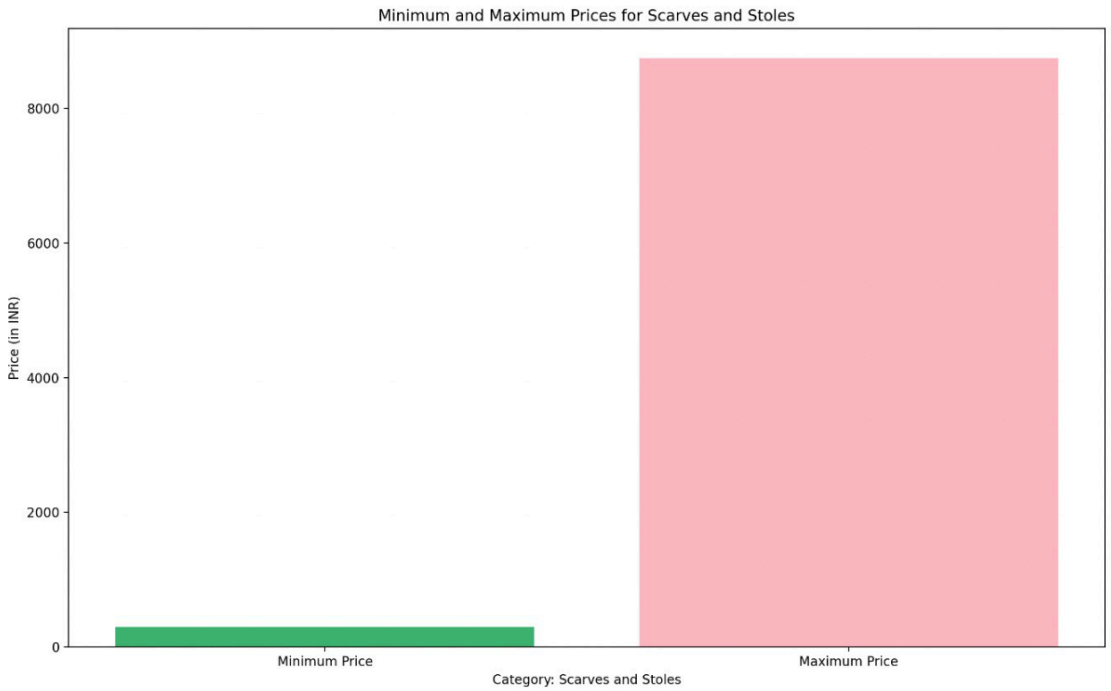

Figure 5 : Minimum and Maximum for Category 1

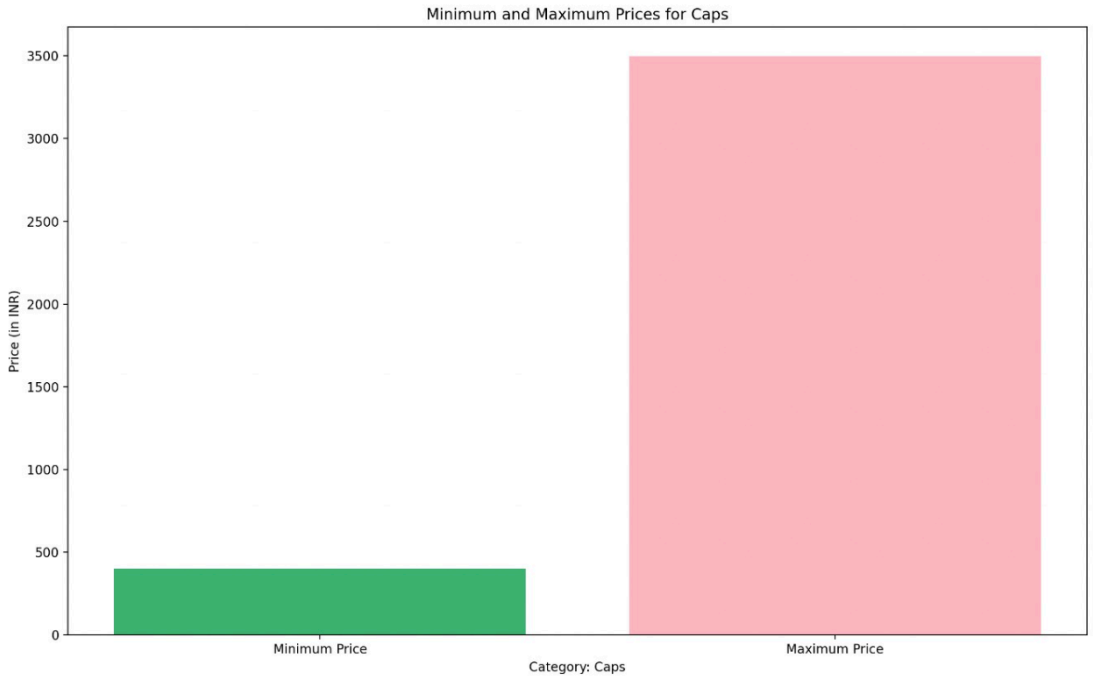

Figure 6 : Minimum and Maximum for Category 2

The above figure shows the minimum and maximum price before discount for category 2. The absolute difference between the minimum and maximum price before discount is approximately **INR 2980**.

INFERENCES

With the descriptive statistics and graphical representation, we can infer the following:

- *There is a **greater dip in the prices of scarves and stoles** as after discount in relative to caps category.*
- *There is a **greater degree of variation on the prices of scarves and stoles** in relative to caps category in both prices(before and after discount)*
- *Taking into account the quartiles, the inter quartile range for category 1 is INR 3601 (before discount) and INR 1317 (after discount). For prices before discount, that **middle of the 50% of the data lies between INR 1399 and INR 5000**. For prices after discount, **that middle of the 50% of the data lies between INR 683 and INR 2000**.*
- *Taking into account the quartiles, the inter quartile range for category 2 is INR 950 (before discount) and INR 685(after discount). For prices before discount, **that middle of the 50% of the data lies between INR 949 and INR 1899**. For prices after discount, **that middle of the 50% of the data lies between INR 624 and INR 1309**.*
- *For category 1: Most of the values for **the prices before discount** are **within the range of INR 2185.50** from the mean value. For the price after discount, the values lie within the range of INR 1441.48 from the mean value.*
- *For category 2: Most of the values for the prices before discount are within the range of INR 656.90 from the mean value. For the price*

after discount, the values lie within the range of INR 474.99 from the mean value.

CONCLUSION

Ecommerce websites and price volatility are connected. This connection is shown with respect to Ajio website. E-commerce companies typically use dynamic pricing systems, which allow for regular changes in product prices based on a variety of variables. The degree and frequency of these price movements are referred to as price volatility. Demand, competition price, inventory levels, the time of day, and customer behavior are just a few variables that may have an impact on dynamic pricing. Here, it is observed that price volatility is more in case of scarves and stoles in respect to caps.

Managerial Aspect

In the dataset we can see the price difference in respect with the discounts provided on by Ajio or the brand itself. There should be stable pricing strategies for brands under scarves and stoles since there the variation in prices are more. This variation may make the consumer ambiguous or given several options. This purely depends on the segment of consumers. If the set of working professional consumers are there, then they would not invest that much time surfing due to time constraint but then the people who have time to invest would look up to each and every brand of a specific category.

Another aspect is the relationship between brand value and discount. Within the caps category, Ajio should position them as a unique offering. A careful timeline should be thought over when providing any promotional discount in order to attract new consumer base.

Apart from the pricing and promotional strategies, Ajio as an ecommerce service provider should provide seamless experience to the consumer which included ease of consumer in surfing the website, delivery of their products and easy return.

This kind of analysis should be done for every category and for very brand by all ecommerce sites. Not only just ecommerce sites but also the offline suppliers/retailers should perform such analytics.