

REPORT ON FLIPKART CASE STUDY

Problems and background

The problem entails analysing the Flipkart sales dataset to extract insights into customer preferences, product performance, and sales trends. Specifically, the analysis aims to identify the most popular categories, brands, pricing strategies, and customer ratings within the dataset.

In the highly competitive e-commerce landscape, understanding customer behaviour and market dynamics is crucial for business success. By delving into the Flipkart sales dataset, we seek to leverage data-driven insights to optimise product listings, refine pricing strategies, and enhance overall customer satisfaction. This analysis holds the potential to drive increased sales, foster customer loyalty, and elevate the overall performance of Flipkart's business operations.

Project scope

The project aims to delve into the Flipkart sales dataset to decipher customer preferences, product performance, and sales trends. Through comprehensive analysis, it seeks to uncover the most sought-after product categories, preferred brands, effective pricing strategies, and customer satisfaction indicators. By extracting actionable insights, the project endeavours to guide strategic decision-making processes aimed at optimising product listings, refining pricing structures, and elevating overall customer experience to drive business growth and enhance market competitiveness.

Why is it important to solve it?

Solving this problem will help Flipkart make data-driven decisions to improve product listings, pricing strategies, and customer satisfaction. The insights gained from this analysis could lead to increased sales, better customer retention, and improved overall business performance.

Methodology

Data Sources: Utilising the provided 'Analysing E-commerce Trends Flipkart' dataset as the primary source of information.

Data Wrangling: Organising and refining the raw dataset, including tasks like handling missing values, removing duplicates, and formatting data for analysis.

Data Analysis: Employing analytical methods to extract insights from the dataset, such as examining correlations, identifying trends, and conducting statistical analysis.

Data Visualization: Presenting the analysed findings visually through graphs, charts, and diagrams to enhance comprehension and decision-making.

Technical Processes

- **Tools used:** Python, PowerBi, SQL Server
- **Clauses used in SQL:** SELECT, GROUP BY, FROM, ORDER BY, SUBSTRING, TOP, LIMIT, AVG, COUNT, FETCH.
- **Python library:** Numpy, Pandas. Used Matplotlib, Plotly and Seaborn for visualisation in python
- **PowerBi:** Used for visualisation and making Dashboard.

Business Concepts Used

Market Understanding: Utilising the dataset to comprehend market dynamics, including product performance, customer preferences, and emerging trends.

Customer Demographic: Analysing demographic data to profile customers based on factors such as age, gender, location, and purchasing habits.

Customer Behaviour: Examining customer interactions with products, including review ratings, content, and purchase history, to understand their preferences and behaviours.

Customer Retention: Implementing strategies informed by data insights to enhance customer satisfaction, address concerns, and foster loyalty to retain existing customers.

New Customer Acquisition: Leveraging data-driven approaches to attract new customers through targeted marketing initiatives, personalised offers, and optimised product recommendations.

Recommended Analysis:

Q.1 Which are the top 5 product categories based on the number of listings?

- Based on these statistics, the top 5 product categories on Flipkart, ranked by the number of listings, are Clothing with 6198 listings, followed by Jewellery with 3531 listings, Footwear with 1227 listings, Mobiles & Accessories with 1099 listings, and Automotive with 1012 listings. This data indicates the prominence of these categories in Flipkart's offerings, with clothing being the most prevalent category.

Q.2 Which are the top 5 brands with the most product listings?

- The analysis reveals that Allure Auto secures the top position among the brands featured on Flipkart, boasting 469(29.5%) product listings. Following closely behind is Regular with 313(19.45%) listings, indicating a notable presence in the marketplace. Voylla emerges as the third most prominent brand with 299(18.8%) listings, showcasing a strong assortment of offerings. Slim and TheLostPuppy round out the top five, with 288(17.9%) and 229(14.4%) listings respectively, contributing to the diverse array of brands available to Flipkart customers.

Q.3 What is the average discount offered by Flipkart across all products?

→ The average discount offered by Flipkart across all products is: 40.52 %

Q.4 How many products have customer ratings?

→ Only 1849 Products have customer ratings.

Q.5 What percentage of products are part of the Flipkart Advantage program?

→ 3.925% of products are part of the Flipkart Advantage program.

Q.6 Which are the top 3 most expensive products listed on Flipkart?

→ The top three most expensive products listed on Flipkart are notable for their luxury price tags. Topping the list is a product priced at ₹571,230, followed by items priced at ₹250,500 and ₹217,500, respectively. These high-value products likely cater to niche markets or offer premium features and craftsmanship, reflecting Flipkart's diverse product offerings to meet various customer preferences and budgets.

Q.7 Which brands have the highest average product rating?

→ Among the 88 brands, the highest average rating attained is 5.0. Additionally, only three brands achieved a rating of 4.8, while two brands received ratings of 4.7 and 4.6, respectively. Furthermore, four brands secured a rating of 4.5.

Q.8 Which product category has the highest average retail price?

→ The product category with the highest average retail price falls within the range of 9,000 to 20,000 INR. This category encompasses items such as Automation & Robotics, premium jewellery pieces, high-end running shoes, and specialised optical

equipment. These findings suggest that products requiring advanced technology, intricate craftsmanship, or specialised features tend to command higher retail prices on Flipkart.

Q.9 Which products have the longest and shortest descriptions?

- The longest description belongs to products with index numbers 439 and 457, with a length of 5309.0 characters (assuming these values represent character counts).
- Multiple products share the title of having the shortest descriptions. Products with indices 10952, 10768, 19241, 10797, and 10809 all have descriptions that are only 74 to 84 characters long.

Q.10 In which month was the data mostly crawled?

- The data indicates that the crawling activity peaked in December, with 10,315 instances recorded, suggesting that December was the month when the dataset was most extensively crawled. Conversely, the crawling activity was comparatively lower in other months, with January having the next highest count of 4,850 instances.

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