

# **CUSTOMER PURCHASE BEHAVIOR:**

## **TABLEAU**

### **PROJECT REPORT**

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## CONTENTS

CONTENTS	PAGE NO
INTRODUCTION	3
ABSTRACT	4
OBJECTIVES	5
METHODOLOGY & BUSINESS ANALYSIS	6-7
RESULTS & VIZUALIZATION	8
ABOUT DATASET	9
DATA VIZUALIZATION	10
SUGGESTIONS	11
CONCLUSION	12

## **INTRODUCTION**

The project Customer Purchase Behavior focuses on understanding how different factors influence the buying patterns, preferences, and satisfaction levels of customers. It provides valuable insights into how customers make decisions when purchasing products and services. The analysis considers several key attributes such as Customer ID, Age, Loyalty Membership, Order Status, Product Type, Payment Method, Shipping Type, Total Price, Unit Price, Quantity, Rating, Electronic Sales, Add-on Purchase, and Add-on Total.

Each of these factors plays an important role in shaping the overall customer journey. For instance, Customer ID and Age help identify customer demographics, while Loyalty Membership reflects long-term engagement and brand trust. The Order Status and Product Type indicate customer interests and purchasing intent. Similarly, Payment Methods and Shipping Types reveal customer preferences regarding convenience and service quality.

The project also examines the impact of pricing elements such as unit price, total price, and quantity on purchasing decisions. Customer Ratings provide an understanding of satisfaction levels, helping businesses improve product quality and service standards. The analysis of Electronic Sales highlights the increasing influence of digital shopping platforms in shaping modern consumer behavior.

Furthermore, Add-on Purchases and Add-on Totals are explored to assess their contribution to overall sales performance and cross-selling effectiveness. The research findings show that 78.27% of customers are not loyalty members, pointing to a significant opportunity for businesses to develop and promote loyalty programs to strengthen customer retention.

## **ABSTRACT**

The project focuses on analyzing how various factors influence customer decisions and sales outcomes. It includes key attributes such as Customer ID, Age, Loyalty Membership, Order Status, Product Type, Payment Method, Shipping Type, Total Price, Unit Price, Quantity, Rating, Electronic Sales, Add-on Purchase, and Add-on Total. These parameters provide valuable insights into customer preferences, spending habits, and satisfaction levels.

The analysis reveals that a significant 78.27% of customers are not loyalty members, indicating limited engagement in loyalty programs and highlighting an opportunity to improve customer retention. Variations in product types, payment methods, and shipping preferences demonstrate diverse consumer needs and buying behaviors. The study also emphasizes the importance of add-on purchases, which contribute notably to overall revenue.

## **OBJECTIVE**

The main objective of this study is to analyze customer purchase behavior based on multiple factors such as Customer ID, Age, Loyalty Membership, Order Status, Product Type, Payment Method, Shipping Type, Total Price, Unit Price, Quantity, Rating, Electronic Sales, Add-on Purchase, and Add-on Total. The analysis aims to understand how these elements influence consumer choices, spending patterns, and satisfaction levels.

- To assess the role of Loyalty Membership in repeat purchases and customer retention.
- To evaluate how Order Status reflects customer satisfaction and purchase completion.
- To understand the impact of Product Type on sales and customer demand.
- To analyze customer preferences based on Payment Methods used for transactions.
- To identify the effect of different Shipping Types on customer satisfaction and delivery choice.
- To compare Total Price, Unit Price, and Quantity to determine spending habits and pricing impact.
- To measure Customer Ratings as an indicator of satisfaction and product performance.
- To identify the gap where 78.27% of customers are not loyalty members, showing the need for better engagement.

## **METHODOLOGY AND BUSINESS ANALYSIS**

The methodology for this project follows a structured, step-by-step process starting from data acquisition to the creation of an interactive Power BI dashboard. The steps below outline the full analytical pipeline:

### **Step 1: Data Importation**

The dataset was imported into Tableau. The original file was in a structured CSV format containing 20000 records and seventeen fields. These fields included customer id ,age ,loyalty member, order status, product type ,payement method, shipping type, total price , unit price, quantity, rating electronic sales, Add on purchase ,add on total , loyalty member.

### **Step 2: Data Cleaning**

Before analysis, the dataset underwent rigorous cleaning:

- Missing Values: Columns were checked for null or blank entries. Appropriate imputation or row removal was applied.
- Formatting: Text fields were cleaned for consistency (e.g., correcting capitalization issues).

### **Step 3 : Data Transformations**

Calculated field created:

Count\_Data : Total records in the dataset

### **Step 3: Dashboard Construction**

Key dashboards were designed with the following elements:

- Interactive charts to show how different factors influence the buying patterns, preferences, and satisfaction levels of customers.
- Filters for gender and product type.

The methodology ensured the integrity of analysis and a visually compelling user experience.

## ABOUT DATASET

This dataset contains sales transaction records for an electronics company over a one-year period, spanning from September 2023 to September 2024. It includes detailed information about customer demographics, product types, and purchase behaviors.

- Customer ID: Unique identifier for each customer.
- Age: Age of the customer (numeric)
- Gender: Gender of the customer (Male or Female)
- Loyalty Member: (Yes/No) (Values change by time, so pay attention to who cancelled and who signed up)
- Product Type: Type of electronic product sold (e.g., Smartphone, Laptop, Tablet)
- Rating: Customer rating of the product (1-5 stars) (Should have no Null Ratings)
- Order Status: Status of the order (Completed, Cancelled)
- Payment Method: Method used for payment (e.g., Cash, Credit Card, Paypal)
- Total Price: Total price of the transaction (numeric)
- Unit Price: Price per unit of the product (numeric)
- Quantity: Number of units purchased (numeric)
- Shipping Type: Type of shipping chosen (e.g., Standard, Overnight, Express)
- Add-ons Purchased: List of any additional items purchased (e.g., Accessories, Extended Warranty)



## RESULTS & VIZUALIZATION

The Tableau dashboard produced from this project offers a comprehensive, visual representation of charts to analyze customer purchase behavior based on multiple factors such as Customer ID, Age, Loyalty Membership, Order Status, Product Type, Payment Method, Shipping Type, Total Price, Unit Price, Quantity, Rating, Electronic Sales, Add-on Purchase, and Add-on Total. Below are the main visualization components and the insights they provide:

**Column charts:** Show details about quantity of each products, shipping type

**Bar charts :** Show details about Product type, Payment method and rating.

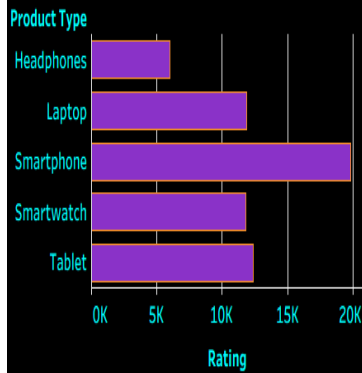
**Pie charts:** Show details about order status ,unit price loyalty member

Filters allow users to filter by product type and based on gender

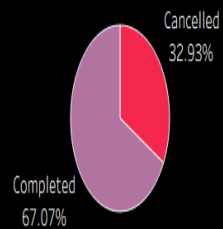
# DATA VIZUALIZATION

## Customer Purchase Behavior - Electronic Sales

Product Type Vs Rating



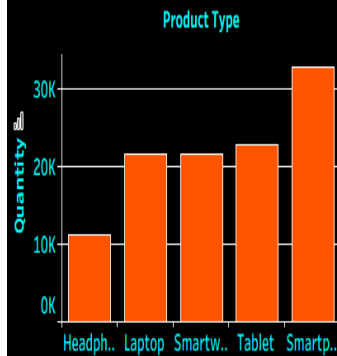
Order status Vs Unit Price



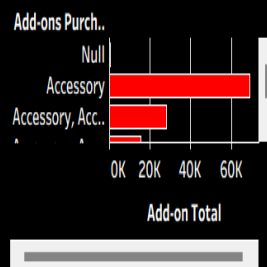
Count\_Data Vs Payment method



Product type Vs Quantity



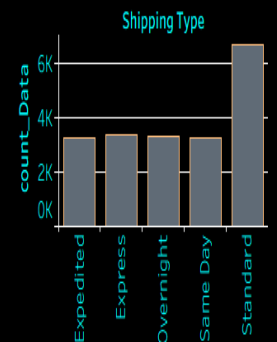
Add on purchase VS Add on total



Loyalty Member Vs Count\_Data



Shipping type Vs Count\_Data



## SUGGESTIONS

- **Increase loyalty program awareness** since **78.27% of customers are not loyalty members**, indicating a need for better engagement strategies.
- **Offer exclusive rewards and discounts** to attract non-loyalty customers and retain existing ones.
- **Segment customers by age** to design targeted marketing campaigns and personalized offers.
- **Analyze order status trends** to identify reasons for cancellations or pending orders and improve service quality.
- **Focus on high-demand product types** by tracking purchase frequency and customer preferences.
- **Provide multiple payment options** to ensure smooth transactions and reduce dropouts during checkout.
- **Enhance shipping efficiency** with faster, low-cost, and trackable delivery options.
- **Encourage customers to rate products**, as higher ratings improve trust and sales potential.
- **Promote electronic sales channels** through digital marketing to reach tech-savvy customers.
- **Increase visibility of add-on products** by recommending complementary items during checkout.
- **Use add-on purchase data** to identify profitable cross-selling and upselling opportunities.
- **Analyze spending behavior** of loyalty vs. non-loyalty members to design better retention offers.

## **CONCLUSION**

The analysis of Customer Purchase Behavior provides deep insights into how different factors such as Customer ID, Age, Loyalty Membership, Order Status, Product Type, Payment Method, Shipping Type, Total Price, Unit Price, Quantity, Rating, Electronic Sales, Add-on Purchase, and Add-on Total influence customer decisions and overall sales performance. The findings reveal that 78.27% of customers are not loyalty members, highlighting the need for stronger loyalty programs and engagement strategies.

The project also shows that variations in product type, payment preference, and shipping method significantly affect customer satisfaction and purchasing trends. Add-on purchases play a crucial role in increasing total revenue, showing the effectiveness of cross-selling and bundled offers. Furthermore, analyzing ratings and order status helps identify areas for improving product quality and customer experience.

Overall, this project helps businesses understand customer preferences, optimize pricing and marketing strategies, and enhance loyalty retention. By applying these insights, organizations can strengthen customer relationships, boost sales, and achieve sustainable growth in a competitive market.