**Customer Behavior Analysis for ShopEasy**

**1. Introduction**

Shop Easy, an online retail platform, aims to enhance customer engagement and optimize its marketing strategies. This report presents an analysis of customer behaviour using SQL and Python, focusing on customer journeys, reviews, and marketing effectiveness.

**2. Methodology**

The study follows six key approaches:

a. Data Collection & Loading

Extracted customer-related data from CSV files.

Structured SQL tables were created and populated using Python

Pymysql were used for data insertion

b. Data Extraction & Transformation:

SQL queries were used for data retrieval.

Joins, window functions, CTEs, and subqueries were implemented for deeper insights.

c. Customer Journey & Engagement Analysis

Identified drop-off points in the customer journey.

Analyzed common actions leading to conversions.

Calculated average duration per stage.

d. Customer Reviews Analysis

Identified highest and lowest-rated products.

Performed sentiment analysis on review text.Correlated review trends with product performance.

e. Marketing Effectiveness

Measured customer retention rates.

Compared repeat vs. first-time buyers.

Determined best-performing products per region.

f. Business Recommendations

Insights were generated from SQL queries.

Suggestions for improving customer experience were derived from data.

**3. Findings & Insights**

* In Customer Journey & Engagement Analysis
* Customers frequently drop off at the on boarding stage and checkout stage, indicating potential issues with checkout experience.
* Based on analysis total drop-off stage count is 14 this may due the above factors

1.Complicated onboarding or checkout process

2.Lack of trust in the platform (security, return policies, etc.)

3.Pricing issues or unexpected costs at checkout.

* Reducing time spent at different stages improves conversion rates.
* Average time spent per stage is mentioned above

| **Stage** | **avg\_duration\_seconds** |
| --- | --- |
| ProductPage | 322.67 |
| homepage | 344.27 |
| checkout | 353.39 |

* Customer Reviews Analysis:
* The most High rated products of average rating of max-5 to 4 is listed below based on analysis

| **Product ID** | **ProductName** | **Avg Rating** | **Total Reviews** |
| --- | --- | --- | --- |
| 8 | Football Helmet | 5.00 | 3 |
| 19 | Hockey Stick | 4.40 | 5 |
| 15 | Climbing Rope | 4.00 | 6 |
| 11 | Ski Boots | 4.00 | 6 |
| 1 | Running Shoes | 4.00 | 4 |

* The most Low rated products of average rating of max-3.4 to min-2.7 is listed below based on analysis

| **ProductID** | **ProductName** | **AvgRating** | **TotalReviews** |
| --- | --- | --- | --- |
| 7 | Basketball | 2.7 | 3 |
| 4 | Dumbbells | 3.0 | 5 |
| 12 | Ice Skates | 3.0 | 2 |
| 16 | Kayak | 3.4 | 10 |
| 9 | Baseball Glove | 3.4 | 5 |

* Basic Sentiment analysis performed to identify which words are used frequently in reviews(Positive, Neutral and Negative)
* Marketing Effectiveness
* Customer retention rate is calculated which is nearly 40% .

[Retention Rate = (Repeat Customers / Total Customers) × 100]

* First-time buyers is identified which is 39 and Repeat buyer is 26.
* Best-performing products are identified in each region which is done by joining geography and product table based on total number of sales .

**4. Business Recommendations**

* Enhance the checkout process , onboarding process to reduce drop-offs.
* Implement targeted promotions based on customer journey insights.
* Address product quality concerns highlighted in lowest reviews.
* Enhance delivery efficiency to improve customer satisfaction.
* Effective communication with customers can help you uncover oppurtunities to improve customer satisfaction

**Marketing Strategy Adjustments**

* Personalize marketing campaigns based on customer purchase history.
* Increase engagement for first-time buyers by offering loyalty incentives and provide some more discounts or any other incentive for repeated buyers.
* Marketing helps you build brand awareness and tell customers why they should buy your products.

**5. Conclusion**

This analysis provides actionable insights into customer behaviour, allowing Shop Easy to refine its strategies and improve user experience. Implementing these recommendations will lead to better engagement, higher retention, and increased sales.