

**CUSTOMER RETENTION CASE STUDY**

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**INTRODUCTION**

* **Business Problem Framing**

In today world, where E-commerce is emerging very fast and became a very easy way to reach their customer more efficient way and providing more solution of product to customer. But today even every small player pushing themselves to reach customer and offering product through online platform. Day by day Customer have more option or choices available with them to whom they want to buy product which are available online easily.

So, E-retailer company where they find huge business opportunity in online business but with this opportunity they have to faced very tough competition with another player. Hence today for surviving, they must retain their customer and need to make sure customer not only buy product for first time but also, they should like their services and product so the intention of satisfying customer gets fulfilled and customer makes their purchase again and again.

In this report we have focused on finding various aspect of customer behaviour and customer psychology link to online shopping. So E retailer company get familiar with their customer which will help them to make business strategy or marketing strategy to improve their sales and capturing more target market share.

* **Conceptual Background of the Domain Problem**

For this project, we need to know about Retail industry in E-commerce. We should understand the Consumer behaviour and Consumer buying cycle.

One should understand the Hedonic Value and Utilitarian Value which affect customer behaviour towards online retailer.

* **Review of Literature**

This project observed whether E-Retailer’s services and offers could improve customer retention rates, where we tried to examine:

1. Service quality factors has added any advantage towards customer retention.

2. Behaviour and Skills of customer that have been connected to customer retention.

3. Aspects of various factors which E-commerce players should excel into their business strategy to target on customer repeat purchase.

4. To know about the customer psychology and factors which drive them to buy product online from particular E-Retailer or their preferred choice of online retailers.

* **Motivation for the Problem Undertaken**

Here the Objective is finding the most important factors which make customer satisfied to retain them. In today era, for any online retailers without having customer retention strategy is challenging to grow their revenue and market share. To have better customer retention strategy the company must know their customer’s behaviours and their psychology behind purchase decision.

**ANALYTICAL PROBLEM FRAMING**

* **Mathematical/Analytical Modelling of the Problem**
* As we know that there are two main methods of Data Analysis:

1. Qualitative Analysis.

2. Quantitative Analysis.

**1. Qualitative Analysis:**

This Analysis try to approach mainly answers those questions such as ‘Why’, ‘What’ or ‘How’. These questions are attempt via various quantitative techniques like questionnaires, likert scaling, standard outcomes etc. In this project Qualitative Analysis has very important role to play because we have seen that all our dataset having categorical features and their different levels.

**2. Quantitative Analysis:**

This analysis is done in terms of numbers or numerical values. Statistical analysis is play very important role here in this project, we have done various steps involved like data collection, interpretation and validation.

* Data Analysis Process:

I have followed some below steps which helped me to identify and sort out our dataset for analysis.

**STEP 1: Data requirement /Defining scope.**

To retain the customer, we must know the factors which make customer more retention. In this project there are many features or columns available in the dataset and my job to find out the most effective factors among them which lead to customer satisfaction and their liking or disliking. In this dataset there are some question which is direct to customer to answer on and some are having scale type answer.

So, I have to measure those categorical features which having object type answer so I need to apply various measuring parameter of those responded. I have applied count and frequency method.

**STEP 2: Data Collection.**

This is very important step and initial step for any data analysis. Here in this project there are two excel file has been provided to us. 1. Without encoding and 2. With encoded.

I have considered in this project without encoding file to understand the customer responded in better way, which make little difficult with encoded dataset. But we need to encoded our dataset for our modelling process but here I have not performed any technique of modelling so have chosen without encoding dataset. Also, have identified that there are lot of columns some are irrelevant or not require for our analysis or the same answer can get from another columns.

**STEP 3: Data Processing.**

In this step, we need to process the collected data based on our analysis. In this dataset we have seen there are 269 rows/observation and 71 columns/features. Based on our observation or sample in dataset our features are huge. So I have reframed the features/columns by removing some of the irrelevant features after carefully understanding all the features and their type of respondent.

Also, the given dataset columns/features name format is not correct having some extra spaces which make difficult while analysis or applying different technique.

The columns/features name is very lengthy which make difficult while analysing the data, so I have renamed those lengthy question which are columns/feature name in short name. Example- 1Gender of respondent' renamed with Gender, 2 How old are you? Renamed with Age, how many times you have made an online purchase in the past 1 year? Renamed with Frequency purchased (in 1 yr) etc.

Also, have performed to check whether any data value is missing if any data missing we need to deal with them by applying proper null value technique. But in this dataset, no null value available.

**STEP 4: Data Analysis.**

In the project after collecting the data and pre-processing step now the most important step of analysis.

In this project below are the Analysis Techniques have been applied.

* Techniques based on Mathematics and Statistics
  + Descriptive Analysis: Easy way to perform descriptive analysis in python is Describe method. Which I have used to know the categorical features in better way. Here we have seen each categorical variables’ counts, unique and frequency of data.
  + Factor Analysis:

As we know the importance of Hedonic Value and Utilitarian Value for Repeat Purchase. So here I have applied PCA Technique (Principal component Analysis) to know the most important factors for Hedonic Value and Utilitarian Value.

* Techniques based on Visualization and Graphs

Under this technique I have used Univariate, Bivariate and Multivariate analysis.

As we have seen that our features or columns are categorical, so below are the chart have used for Visualization and Graphs:

* Bar Chart: In Seaborn, we can get Bar chart easily with countplot. Where in x axis we need to put variable name and y axis we will get the count of particular level. It helps us to better visualization of categorical type features.
* Pie Chart: It helps to represent the proportion of different level of categorical variables, where we get the percentage of all levels in the particular variable.
* Heat Map: Also, have used Heatmap based on crosstab function which help us to analyse the correlation between two categorical variables.

**STEP 5: Infer and Interpret Results**.

In this step I have infer and interpret the results in terms of answer of all questions which I have put for each and every categorical feature.

I have highlighted the key points from the Dataset for E-Retailer company. Which they should focus on.

After that I have found the key factors of mentioned E-Retailer company like Amazon, Flipkart, Mynatra, Snapdeal and Paytm. Where have highlighted each these company strength and weakness based on customer response.

Finally I have suggested the Strategy for Customer Retention for online shoppers. Here we have seen the most important variable or factors of Hedonic Value and Utilitarian Value which leads customer repeat purchase and finally company retain those customers by excel these factors in their business strategy.

* **Data Sources and their formats**

The data sources have been provided to us from GitHub where there are two files of dataset one is coded and another one without encoding. Also, word file having the details of Customer retention case study.

The main dataset format is excel and I have converted into Pandas dataframe for analysing purpose. The dataset variables are all in object type data.

* **Data Preprocessing Done**

In this data set the Preprocessing has done in following step:

* Data Cleaning: This is the first step of Data Preprocessing where I have checked the dataset attribute by info() method. Which provide us the basic information about the dataset. Like data types details whether data columns are in int, float or object type. Also provide the Ranges of index which would be the sample or observation and data columns details.

Also, as a process of data cleaning I have also checked the null values in dataset, there was no null value was present in dataset.

* Text and Categorical attributes: Here I have checked the categorical attributes or levels in each categorical feature. Which provided details like unique level presence in each category.
* **Data Inputs-Logic-Output Relationship**

In this Project we have seen the relationship of data input, there were some features which responds are given without any objective type question. Like for example: What is your preferred payment Option? What browser do you run on your device to access the website? Why did you abandon the “Bag”, “Shopping Cart”? etc. Such type question helped me to answer the question type of What, Why, Which and how?

Some question was based on rating like strongly agree, agree, indifferent, disagree, strongly disagree.

Such type question helped to know the most important factors which affect customer purchasing and psychology of customer.

There were some question or data about the chosen of E-retailer company like Amazon, Flipkart, Mynatra, Snapdeal and Paytm. Such type question helped me to know the strength and weakness of E-retailer company.

* **Hardware and Software Requirement and Tools Used.**

In this project the mention below hardware, software and tools used to complete this project:

* Hardware:

Processor Intel(R) Pentium(R) CPU 3825U @ 1.90GHz 1.90 GHz

Installed RAM 4.00 GB

System type 64-bit operating system, x64-based processor

* Software:

Edition Windows 10 Home Single Language

Anaconda

* Library & Tools:

Jupyter Notebook

Pandas

NumPy

Matplotlib

Seaborn

**CONCLUSION**

In this project I have found below are the Key finding:

* **Finding Key Point from Dataset for E-Retailer Company**
* E-Retailer Company should target on Female Customer more than male if the product can use for unisex as shown in Fig 1.
* The Target Age group should be 31 yrs to 50 yrs for online shopping, within these group they need to find the best suited customer segment for their respective product.
* Almost 42% of user they are shopping online less than 10 times in a year as shown in Fig 4, So we need to convert those customers to increase the frequency of shopping with Customer retention strategy.
* As shown in fig 5, Almost 75% of online user they are using OS Windows/Windows mobile and Android for online shopping.
* As shown in fig 6, Almost 64% of online user using search engine and installed apps for online shopping in 2nd time purchase.
* As shown in fig 7, around 43% of customer spend 5 min to 16 min for online shopping.
* As shown in fig 8, Almost 55% of customer preferred to pay for online shopping by using credit/debit cards.
* As shown in fig 9, Around 49% of user Abandon the cart due to better alternative offer and 20% of user abandon the cart due to promo code not applicable.

## Finding Key factors for E-Retailer company

**AMAZON.IN**

* STRENGTH: Visual appealing, Speedy Order Delivery time, Privacy of Information, Security transaction, Online Presence through different channel, Perceived trust, logged in time, Graphics display time, Website renovation, Experience after website renovation, most user recommend Amazon for online shopping
* WEAKNESS: Late declaration price (during promotion period), Landing page time, Longer Delivery Period, Distortion while moving one page to another page

**FLIPKART**

* STRENGTH: Visual appealing, Delivery Time, Privacy of information, Security transaction, Presence online, Perceived Trust, logged in time, Website renovation, Late declaration price, less disruption while moving one to another page.
* WEAKNESS: Graphics display time, landing page time, Longer Deliver period.

**Mynatra.in**

* STRENGTH: Late declaration price, Landing page time, Visual appealing.
* WEAKNESS: Speedily delivery time, logged in time, Limited payment mode, Longer delivery period, After renovation experience.

**PAYTM**

* STRENGTH: Late declaration price, landing page time, logged in time, website renovation.
* WEAKNESS: Speedy delivery time, Presence online, Perceived trust, Graphics display time, Limited payment method

**SNAPDEAL**

* STRENGTH: Graphics display time, Less Disruption while moving one page to another.
* WEAKNESS: Visual appealing, Privacy information, Speedy delivery time, Security transaction, Website renovation

# **Strategy for Customer Retention for online shopper**

* E-Retailer Company should target on Female Customer more than male if the product can use for unisex as shown in Fig 1.
* The Target Age group should be 31 yrs. to 50 yrs. for online shopping, within these group they need to find the best suited customer segment for their respective product. While doing marketing or promotion these age group should be targeted.
* Majority of Customer shopping less than 10 times in a year, so usually they can target their customer for monthly shopping by provide wide range of product with intention of increasing the basket value.
* While launching App or for advertisement the company should design by keeping in mind that its run well Windows/Windows mobile and Android Operating system. Since majority of customer use these OS.
* Company should target in very well presence in search engine and also, they should encourage customer to install their app in local device.
* Company should advertise their promotion in such a way that the message should be understandable or deliver within 15 minutes to customer.
* For customer retention company must provide better experience while customer paying by credit/debit cards, they can provide some promotion or offer for electronic card holder.
* Company should introduce more promo code and need to make sure these promo code reaches to target customer also the steps of redeemed those promo code.

**Overall while company making their strategy or marketing plan, their objective must have covered below mentioned point for Repeat purchase by Customer:**

User satisfaction

Gratification

Enjoyment

Social Status

Monetary benefit and discount.

Value for money

Product Assortment

Convenience

Discount