

# **INTRODUCTION TO DATA MANAGEMENT PROJECT REPORT**

(Project Semester August-December 2021)

## ***CUSTOMER SUCCESS DASHBOARD***

Submitted by

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B. Tech in Computer Science and Engineering

Section: KM003

Course Code : INT217

Under the Guidance of

**Ashu: 23631, Assistant Professor**

**Discipline of CSE/IT**

**Lovely School of Computer Science and Engineering**

**Lovely Professional University, Phagwara**



## **CERTIFICATE**

This is to certify that Sandeep Kumar Mahto bearing Registration no. 11907500 has completed INT217 project titled, “**Customer Success Dashboard**” under my guidance and supervision. To the best of my knowledge, the present work is the result of his/her original development, effort, and study.

**Signature and Name of the Supervisor**

**Designation of the Supervisor**

**School of Computer Science and Engineering**

Lovely Professional University

Phagwara, Punjab.

Date:

## **DECLARATION**

I, Sandeep Kumar Mahto, student of B. Tech in Computer Science and Engineering under CSE/IT Discipline at, Lovely Professional University, Punjab, hereby declare that all the information furnished in this project report is based on my own intensive work and is genuine.

Date: 05 December 2021

Registration No. - 11907500

A rectangular box containing a handwritten signature in blue ink that reads "Sandeep Mahto".

Signature

Sandeep Kumar Mahto

## **ACKNOWLEDGEMENT**

I would like to acknowledge that my assignment has been completed and I am ensuring that this was done by me and not copied.

In this accomplishment, I consider it as great privilege to have esteemed Lecturer Ms. Ashu as my project guide. I take this opportunity to express my sincere gratitude to her for her constant advice and constructive criticism that nourished my interest in the subject and provided a free and pleasant atmosphere to work against all odd situations.

Finally, I would like to thank my parents and friends who helped me a lot in finishing this assignment.

Sandeep Kumar Mahto

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## **Introduction**

The success of your business is inherently intertwined with the success of your customer. If customers succeed using your product, they'll continue using your product, and thus, your business will succeed. At its core, that's what Customer Success (CS) is all about: ensuring your customers achieve their desired outcome while using your product. Of course, pulling that off requires people, processes, and—most importantly—data.

This project is based on a hypothetical store in US. The dataset is thoroughly analysed, and the customer success is displayed using various visual charts on the dashboard which makes it easy to understand the current success and overall status of customer success of the store. It focuses on the aspect like sales revenue, delivery status, customer acquisition and the customer satisfaction. By this one can conclude where to focus more and what should be the next area of works to improve the current scenario and make maximum profit. It also provides and insight of in which area the store is doing the best and making good fortune.

## **Objectives/Scope of the Analysis**

This project is based on a hypothetical store in US. The dataset is thoroughly analysed, and the customer success is displayed using various visual charts on the dashboard which makes it easy to understand the current success and overall status of customer success of the store. It focuses on the aspect like sales revenue, delivery status, customer acquisition and the customer satisfaction. By this one can conclude where to focus more and what should be the next area of works to improve the current scenario and make maximum profit. It also provides an insight of in which area the store is doing the best and making good fortune.

Since such vast field of data was present and there was very wide range of scope of the analysis of data. Here are some of the points which were focused on this project:

1. Sales Revenue throughout the months.
2. Sales Revenue over different locations.
3. Delivery Performance.
4. Return Rate.
5. Customer Acquisition.
6. Customer Satisfaction.



## **Existing System**

Before existence of Data Science, analyzing data used to be hectic task and existing system didn't used to analyses the data with perfection. Without existence of current cutting-edge technology of data science, we can get actionable insights in the dataset.

Following are the benefits which weren't present in the existing system of data analyzing:

1. Making Better Decision with the help of data
2. Directing actions based on trends- which later defines the goals required for profit.
3. Doing challenging stuffs with the help of prediction which is done by data.
4. Identifying various opportunities to increase the profit,
5. Making decision with Quantifiable, data driven evidence so that loss doesn't happens.
6. Testing the decisions taken by the data and watching and analyzing the trend.

## Source of Dataset

- The dataset is taken from the Excelfinds.com.

<https://excelfind.com/>

- Author of the Dataset  
Excelfind

- Data last updated  
January 2020

The dataset was already clean, so **no ETL process** was carried out.

The dataset consists of the following columns:

- Date – Date on which sale was done.
- Customer Acquisition Type – How new customers were acquired.
- State – State in which the sale was made.
- Product – The product sold.
- Price – The price of each unit of the product.
- Units – Number of units sold.
- Revenue – The revenue generated from the sale.
- Delivery Performance – The product was delivered on-time or was delayed.
- Return – The product was returned or not.
- Customer Satisfaction – The rating provided by the customer.

## Analysis of Dataset

### 1) Sales Revenue throughout the months.

- i. Introduction : The analysis shows month wise revenue from the sales made over the past few years.
- ii. Specific Requirements, functions, and formulas
  - a. Pivot table of sales data.
  - b. Sum of sales in each month over the years.
  - c. Line Chart with Markers.
  - d. As the sales revenue decreases it the line shades changes to red and as it increases it turns white.
- iii. Analysis Results:
  - a. The maximum revenue was generated in the month of August 2017 amounting to \$ 393933.
  - b. The minimum revenue was generated in the month of February 2019 amounting to \$ 170811.
- iv. Visualization:



Fig 1 : Sales Revenue throughout the months(Line Chart with Markers).

## 2) Sales Revenue Over different locations.

- i. Introduction : The analysis shows the revenue trend throughout different states in the United States.
- ii. Specific Requirements, functions, and formulas
  - a. Pivot table of sales data.
  - b. Sum of total revenue generated from the location.
  - c. Filled map indicating the revenue in different location.
  - d. The red shade indicates the most revenue generated and as the shade becomes white and white the total revenue decreases, white being the minimum.
  - e. **GETPIVOTDATA** : Since there was an error occurring while trying to create the filled map through the pivot table, so the data of the pivot table was referenced to some other normal cells using the GETPIVOTDATA and form the new referenced cells the map was drawn.
- iii. Analysis Results:
  - a. The maximum revenue was generated from South California amounting to \$1439951.
  - b. The minimum revenue was generated from Tennessee amounting to \$ 1308503.
- iv. Visualization:

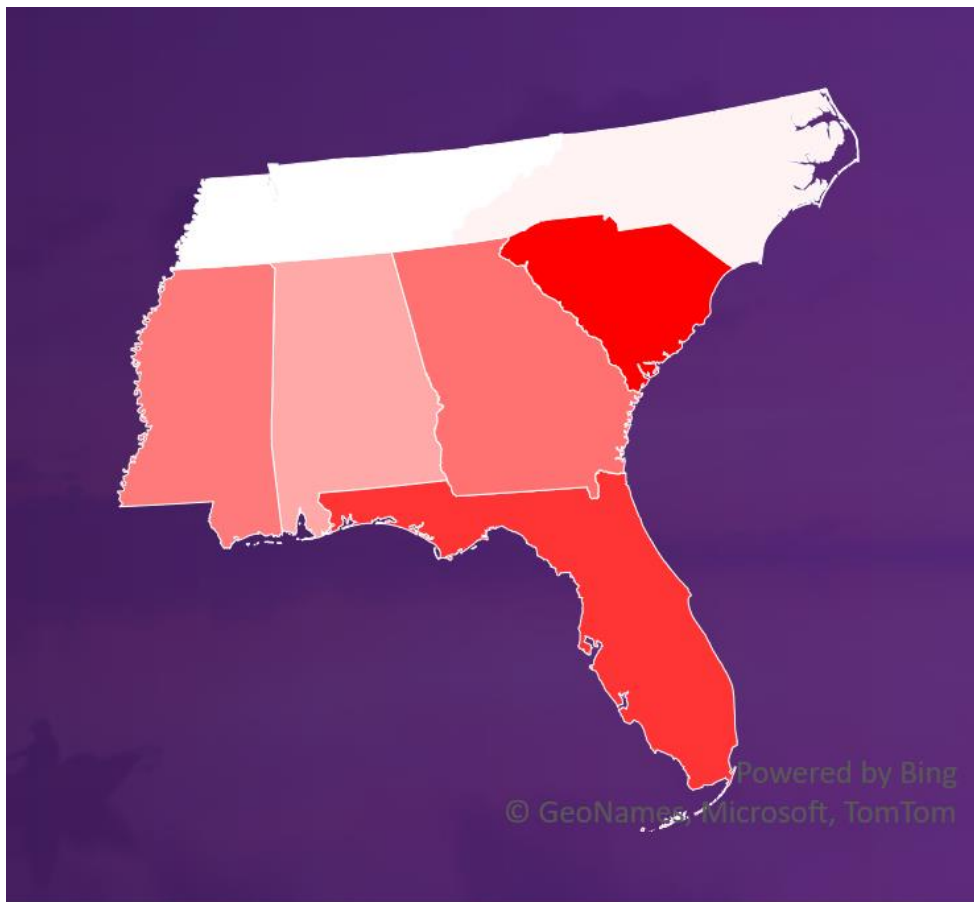


Fig 2 : Sales Revenue Over Different Locations (Filled Map).

### 3) Delivery Performance.

- i. Introduction : The analysis shows the percentage of products which were delivered on time to the products which were delivered late.
- ii. Specific Requirements, functions, and formulas
  - a. Pivot table of sales data.
  - b. Counts of products delivered.
  - c. **GETPIVOTDATA**: To reference the data of pivot table outside the table for the calculation of percentage of products delivered on time.
  - d. Doughnut Chart.
- iii. Analysis Results:
  - a. 67% of the total products were only delivered on time.
  - b. The remaining 33% of the product's delivery was delayed.
  - c. The delivery system of the store should be improved to reach the target of 70% on time delivery.
- iv. Visualization:

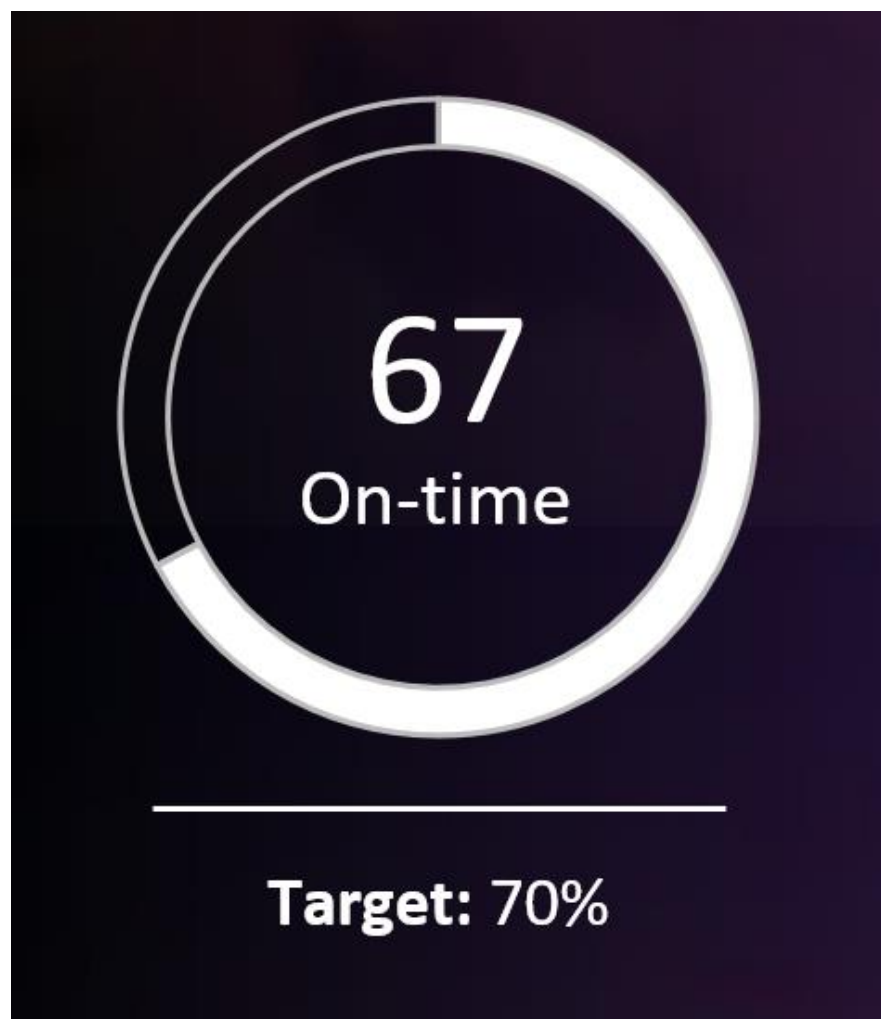


Fig 3 : Delivery Performance (Doughnut Chart).

#### 4) Return Rate.

- i. Introduction : The analysis shows percentage of products which were returned by the customers.
- ii. Specific Requirements, functions, and formulas
  - a. Pivot table of sales data.
  - b. Counts of products returned.
  - c. **GETPIVOTDATA**: To reference the data of pivot table outside the table for the calculation of percentage of products returned.
  - d. Doughnut Chart.
- iii. Analysis Results:
  - a. 10% of the total products were returned by the customers.
  - b. The quality of the products is good and very less manufacturing defects were found.
  - c. There is still a room for improvements to reach the target of 8%.
- iv. Visualization:

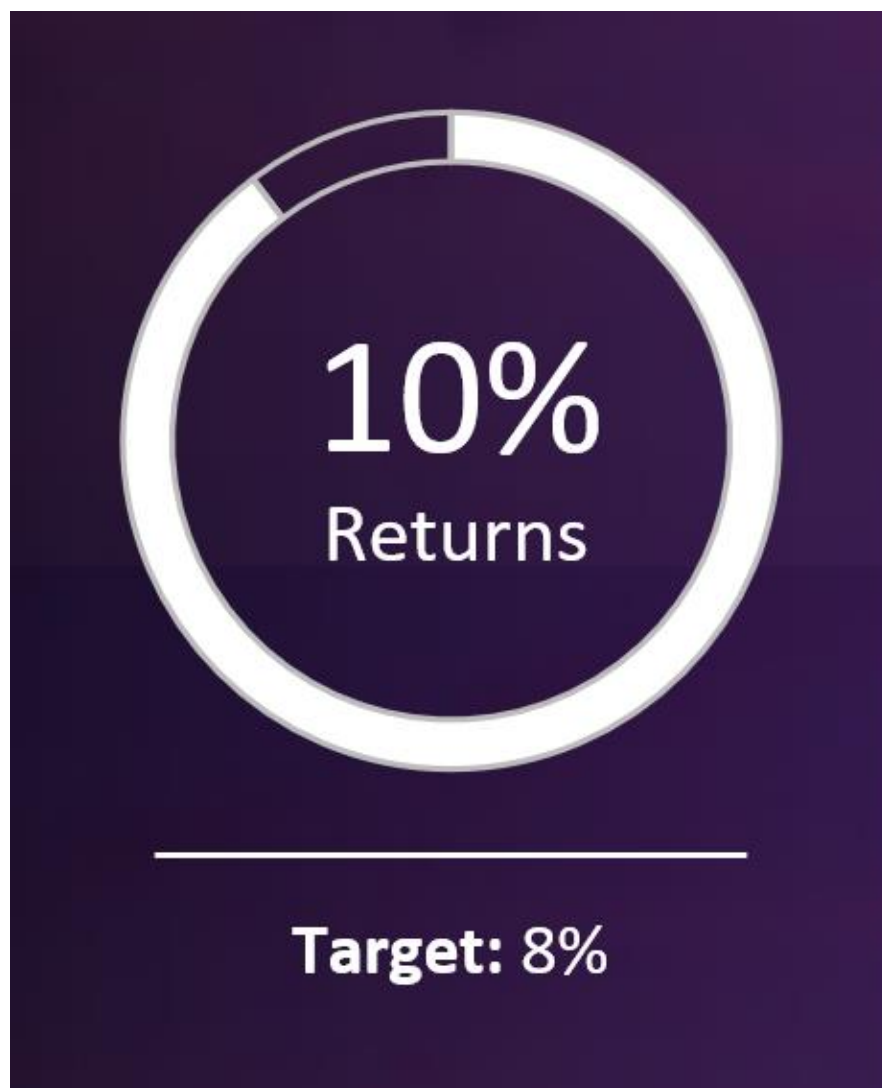


Fig 4 : Return Rate (Doughnut Chart).

## 5) Customer Acquisition .

- i. Introduction : The analysis shows how the new customers were acquired.
- ii. Specific Requirements, functions, and formulas
  - a. Pivot table of sales data.
  - b. Counts of customer acquisition.
  - c. **GETPIVOTDATA**: Since there was an error occurring while trying to create the waterfall through the pivot table, so the data of the pivot table was referenced to some other normal cells using the GETPIVOTDATA and form the new referenced cells the waterfall was drawn.
  - d. Waterfall Chart.
- iii. Analysis Results:
  - a. Total 5780 new customers were acquired in the last three years.
  - b. Maximum new customers were acquired by the ads.
  - c. More money must be invested in the ads so as it has the maximum reach and could bring most profit for the store.
- iv. Visualization:

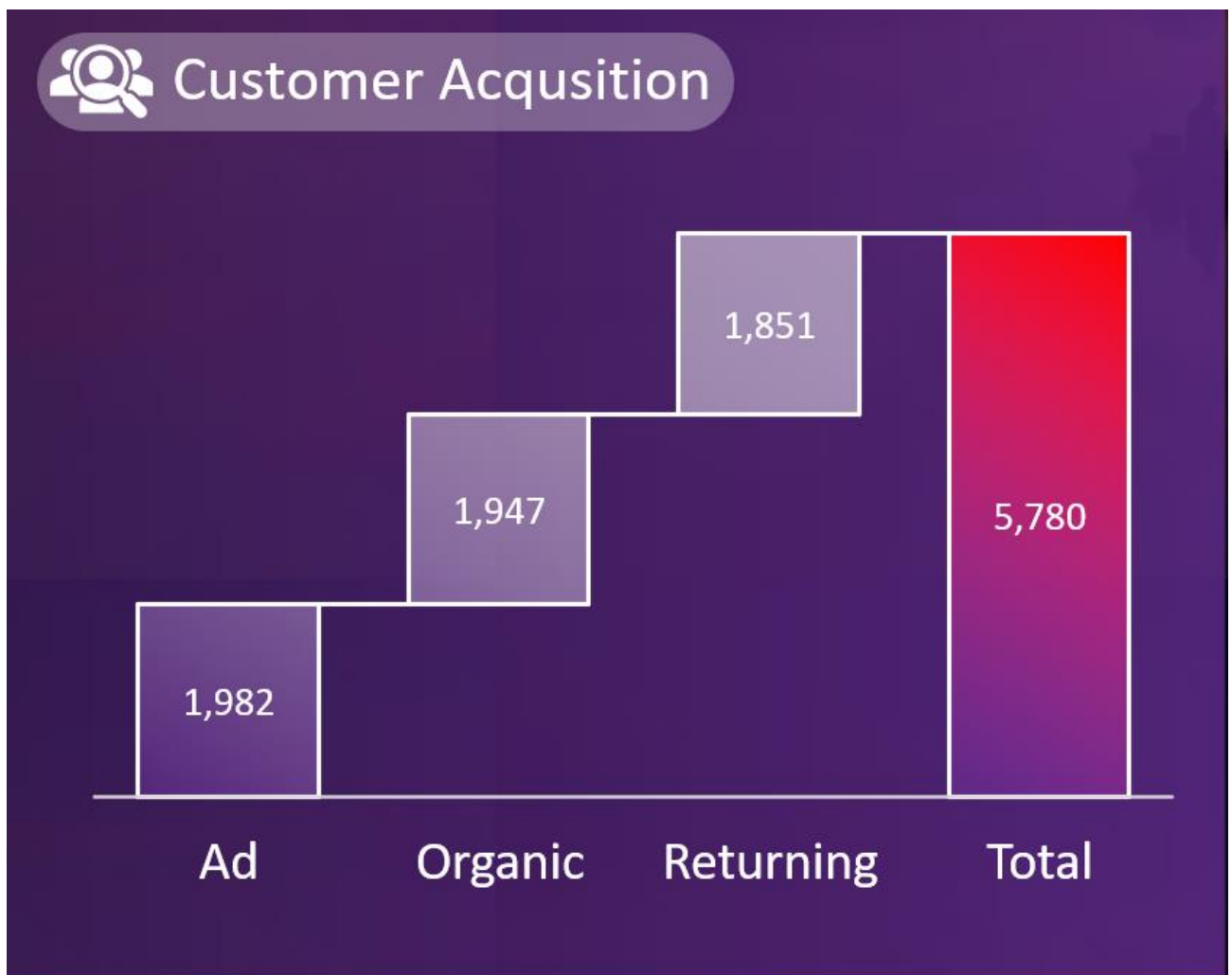


Fig 5 : Customer Acquisition (Waterfall).

## 6) Customer Satisfaction.

- i. Introduction : This analysis shows the feedback of the different products as given by the customers.
- ii. Specific Requirements, functions, and formulas
  - a. Pivot table of sales data.
  - b. Count of the reviews with respect to the products.
  - c. 100% Stacked Bars
- iii. Analysis Results:
  - a. Most customers provided average reviews for the products.
  - b. The quality of the products needs to be improved to provide the customers with better experience and bring it to their satisfaction.
- iv. Visualization:

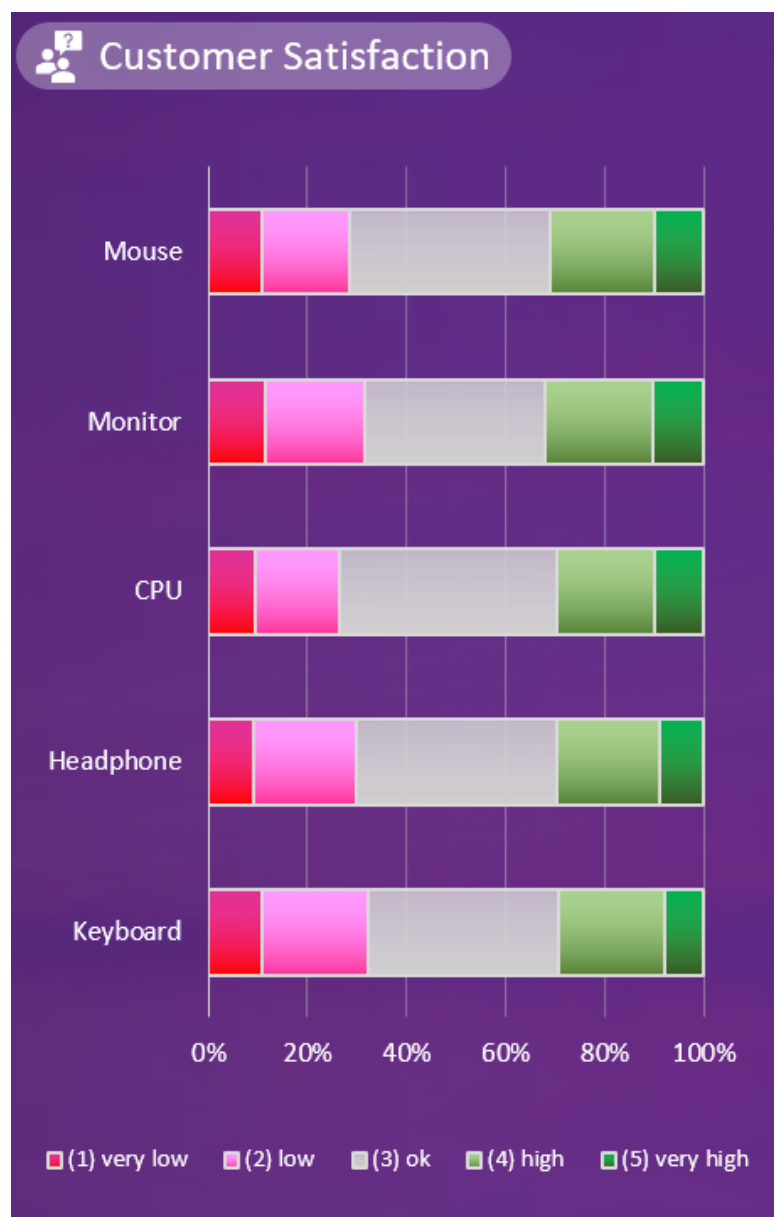


Fig 6 : Customer Satisfaction (100% Stacked Bars).



## **List of Analysis with Results**

- Sales Revenue throughout the months.
  - a. The maximum revenue was generated in the month of August 2017 amounting to \$ 393933.
  - b. The minimum revenue was generated in the month of February 2019 amounting to \$ 170811.
- Sales Revenue Over different locations.
  - a. The maximum revenue was generated from South California amounting to \$1439951.
  - b. The minimum revenue was generated from Tennessee amounting to \$ 1308503.
- Delivery Performance.
  - a. 67% of the total products were only delivered on time.
  - b. The remaining 33% of the product's delivery was delayed.
  - c. The delivery system of the store should be improved to reach the target of 70% on time delivery
- Return Rate.
  - a. 10% of the total products were returned by the customers.
  - b. The quality of the products is good and very less manufacturing defects were found.
  - c. There is still a room for improvements to reach the target of 8%.
- Customer Acquisition.
  - a. Total 5780 new customers were acquired in the last three years.
  - b. Maximum new customers were acquired by the ads.
  - c. More money must be invested in the ads so as it has the maximum reach and could bring most profit for the store.
- Customer Satisfaction.
  - a. Most customers provided average reviews for the products.
  - b. The quality of the products needs to be improved to provide the customers with better experience and bring it to their satisfaction.

## **References**

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