**INTRODUCTION TO DATA MANAGEMENT**

**PROJECT REPORT**

(Project Semester August-December 2021)

**Customer Sales and Feedback Dashboard**

Submitted by

Pidapa Yeshwanth Reddy

Registration No. 19BEC1412

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**INTRODUCTION**

Microsoft Excel is a computer application program **written by Microsoft**. It mainly comprises tabs, groups of commands, and worksheets. It stores the data in tabular form and allows the users to perform manipulation operations on them.

Microsoft Excel is one of the most suitable spreadsheet programs that help us to store and represent the data in tabular form, manage and manipulate data, create optically logical charts, and more. Excel provides you the worksheet to create a new document in it. You can save the Excel file with **.xls extension**.

**What is a Dashboard?**

A dashboard is an information management tool used to track, analyse, and display key performance indicators, metrics, and data points. You can use a dashboard to monitor the overall health of your business, department, or a specific process.

Dashboards are customizable, too. You can build a dashboard that supports the specific needs of your users. If you’re a founder or executive, your dashboard could display SaaS metrics. If you’re a digital marketer, your dashboard could display marketing metrics.

Graphical user interface

Description automatically generatedWe can Analyze your data in a table, line chart, bubble chart, or bar chart, just to name a few options. Here I am leaving my dashboard Picture below.

An Excel dashboard is a place where you could track all your business’s important indicators, metrics, and data points using visuals and charts. Dashboards are often confused with reports. Simply, a dashboard can be a report but not all reports are dashboards.

Dashboards give you a high-level view of how your business is doing and help you make snap decisions based on data.

Excel selects the ribbon's home tab when you open it. Learn how to use the ribbon.

A workbook is another word for your Excel file. When you start Excel, click Blank workbook to create an Excel workbook from scratch.

A worksheet is a collection of cells where you keep and manipulate the data. Each Excel workbook can contain multiple worksheets.

When we format cells in Excel, we change the appearance of a number without changing the number itself.

Learn how to use Excel's Find, Replace and Go to Special feature.

Instead of creating an Excel workbook from scratch, you can create a workbook based on a template. There are many free templates available, waiting to be used.

Use data validation in Excel to make sure that users enter certain values into a cell.

Keyboard shortcuts allow you to do things with your keyboard instead of your mouse to increase your speed.

**OBJECTIVES OF ANALYSIS**

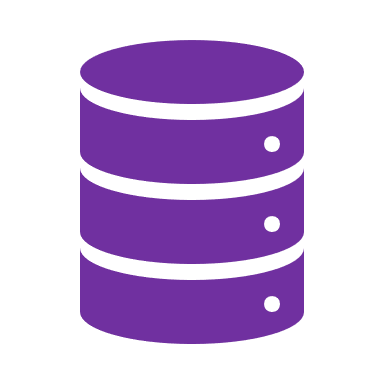
After analyzing the data given, I have made some objectives and the objectives are:

[](#DASHBOARD!A1)

* Sum of Sales revenue upon year.
* Sum of sales revenue based on region in map chart.
* Total No. of products delivered On-time.
* Total No. of customers return back their product.
* Total No. of customers bought their product through which acquisition type.
* State-wise Acquisition type.
* Customer feedback.

**Dataset:**

The first set of sample data on this page is Customer sales and their feedback The below image is the data set used in the project and it is the data of Customer sales and feedback in seven states of India- Maharashtra, Madhya Pradesh, Gujarat, Uttar Pradesh, Haryana, Rajasthan, Punjab for 3 years and it also shows by which acquisition type did customer bought his item and each row represents one order. Each row shows:

1. Date
2. Customer Acquisition Type- Which contains type of acquisition that customer bought from.
3. [](#DATASET!A1)State
4. Product.
5. Price.
6. Units- How many units did products got sold.
7. Revenue.
8. Delivery Performance.
9. Returned- yes/no.
10. Customer satisfaction.

A screenshot of a computer

Description automatically generated with low confidence**View of Dataset:**

**SOURCE OF DATASET**

[www.kaggle.com](http://www.kaggle.com)

**ETL PROCESS**

Extract/transform/Load (**ETL**) is the **process** of extracting data from one or multiple sources and loading it into a target data warehouse.

I performed ETL process in Tableau Prep Builder.

The data provided to me contains some null values, due to this the analysis will not be perfect, so I have used Tableau Prep Builder. I got connect to data in tableau and I did some further steps to clean data.

Tableau for cleaning the data set.

PROCESS:

A screenshot of a computer

Description automatically generated OPEN DATA -> CLEAN STEP -> FILTER -> NULL VALUES

After performing cleaning steps, the rows with null values get eliminated from the data and I converted output to excel file and I used that dataset for making excel dashboard.

**ANALYSIS ON DATASET**

1. Sum of Sales revenue upon year.

* From dataset I need to analyze the data of the sales revenue row for every month in 3 years.

From Dataset I did the following:

Select Dataset <<Click on insert <<Select pivot Table.

* In Pivot table I added Years and Date in the Rows fields and revenue as(sum) in Value fields in the Pivot table fields.
* After adding field in pivot table fields, we will get a pivot table in a selected area and with this table we can insert a pivot chart in insert tab in menu bar.

Graphical user interface, application

Description automatically generated

* Later I inserted Line chart and I modified the line chart by removing the gridlines, axis titles etc and I edited the line graph using Format Axis Graph by changing the colour of the line chart of highest point of the line shows white and lowest shows red.
* After formatting the line chart in Format axis graph, I copied the graph the graph and pasted in the dashboard.
* Following is the line graph for the beside Pivot table.

|  |  |
| --- | --- |
| **Row Labels** | **Sum of Revenue** |
| **2017** | **3440257** |
| Jan | 225731 |
| Feb | 224548 |
| Mar | 223484 |
| Apr | 278196 |
| May | 266230 |
| Jun | 290545 |
| Jul | 355169 |
| Aug | 393933 |
| Sep | 229320 |
| Oct | 335450 |
| Nov | 351046 |
| Dec | 266605 |
| **2018** | **3215757** |
| Jan | 259495 |
| Feb | 257885 |
| Mar | 349520 |
| Apr | 303523 |
| May | 271232 |
| Jun | 211561 |
| Jul | 258372 |
| Aug | 264448 |
| Sep | 251170 |
| Oct | 268407 |
| Nov | 255850 |
| Dec | 264294 |
| **2019** | **2929854** |
| Jan | 291449 |
| Feb | 170811 |
| Mar | 240407 |
| Apr | 204011 |
| May | 236108 |
| Jun | 275295 |
| Jul | 302998 |
| Aug | 239334 |
| Sep | 242180 |
| Oct | 186102 |
| Nov | 271812 |
| Dec | 269347 |
| **Grand Total** | **9585868** |

Chart, histogram

Description automatically generated

2. Sum of sales revenue based on region in map chart.

* From dataset I created another pivot table for analyses of the total revenue from each state.
* I added state in the columns field and revenue (total as sum) in value field.
* Graphical user interface, application, table, Excel

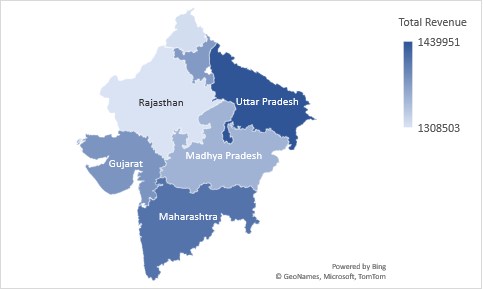
  Description automatically generatedI copied the value of Pivot table and paste at desired position in dataset because we cannot directly make a map graph using pivot table.
* Here, I used GETPIVOTDATA function, to get value of pivot table to our desired location.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Punjab** | **Rajasthan** | **Gujarat** | **Madhya Pradesh** | **Uttar Pradesh** | **Maharashtra** | **Haryana** |
| Total Revenue | 1314385 | 1308503 | 1381150 | 1353090 | 1439951 | 1412456 | 1376333 |

* After getting the value of pivot table using GETPIVOTDATA function.

Select data << insert << map chart.

* Later I formatted graph area using Format Data Series I kept map area << only regions with Data. To avoid the area without data.
* Following is the map graph for the above data table.



3(a). Total No. of products delivered On-time.

* For analysis of Total no of products deliveries delivered on time.
* For this analysis I used percentage as value for graph and graph is a donut graph.
* I added Revenue in value field as(count) instead of sum and delivery performance in the rows field.
* I locked the value of the pivot so as there won’t be any problem in the dashboard.
* After I created a donut chart for easy analysis of the percentage of no of products delivered on time.
* Following is the donut chart for the data table.

|  |  |
| --- | --- |
|  | **Count of Revenue** |
| on-time | 3889 |
| delayed | 1891 |
| **Grand Total** | **5780** |

Diagram

Description automatically generatedGraphical user interface, application, table, Excel

Description automatically generated

3(b). Total No. of customers return back their product.

* Same as the above graph I need to analyze the total no. of customers returned their product back(yes/no).
* I added return in row field and revenue as count in the value field.
* Graphical user interface, application, Excel

  Description automatically generatedSame as the above graph the created a donut chart and locked the percentage value of pivot table.

|  |  |
| --- | --- |
| **Row Labels** | **Count of Revenue** |
| no | 5184 |
| yes | 596 |
| **Grand Total** | **5780** |

* Following is the donut graph for data table.

Diagram

Description automatically generated

4.Total No. of customers bought their product through which acquisition type.

* For analysis of no. of customers bought their product through which acquisition type.
* Created a pivot table with Customer acquisition type in row field and units in the value field as sum.
* Chart, waterfall chart

  Description automatically generatedI want to create a different chart model so I choose waterfall graph, but we can’t make a graph using pivot table. So, I again copied the values of pivot using GETPIVOTDATA function and I created a waterfall graph.
* After creating waterfall graph, I formatted the graph fill using gradient colour and removed the gridlines etc. I designed the graph according to the dashboard to suit it.
* Following is the waterfall graph of the data table.

|  |  |
| --- | --- |
| **Row Labels** | **Sum of Units** |
| Advertisement | 10714 |
| Manual | 10147 |
| Telemarketing | 10871 |
| **Grand Total** | **31732** |

Chart, treemap chart

Description automatically generated

5.State-wise Acquisition type.

* For analysis of state-wise acquisition type I created the bar graph for easy analysis of which state has maximum customers buying products through which acquisition type.
* Graphical user interface, application, table, Excel

  Description automatically generatedI added state in row field and acquisition type in column and units as count in value field.

Graphical user interface

Description automatically generated

* Following is the bar graph for the data table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sum of Units** | **Column Labels** |  |  |  |
| **Row Labels** | **Advertisement** | **Manual** | **Telemarketing** | **Grand Total** |
| Gujarat | 1541 | 1452 | 1557 | 4550 |
| Haryana | 1622 | 1343 | 1602 | 4567 |
| Madhya Pradesh | 1482 | 1473 | 1455 | 4410 |
| Maharashtra | 1524 | 1620 | 1600 | 4744 |
| Punjab | 1580 | 1403 | 1332 | 4315 |
| Rajasthan | 1468 | 1380 | 1549 | 4397 |
| Uttar Pradesh | 1497 | 1476 | 1776 | 4749 |
| **Grand Total** | **10714** | **10147** | **10871** | **31732** |

6.Customer feedback

* For analysis like feedback, bar or column stacked graph is good for analysis.
* I added product in row field and customer feedback in column and revenue as count in value field of Pivot table fields.
* Graphical user interface, application, table, Excel

  Description automatically generatedI inserted bar stacked graph and I removed gridlines and axis titles etc.
* I formatted graph area using format Data series
* In format data series, I gave colors like green for 5 rating and re for 1 rating.
* I selected the graph area and made solid line for all so that fill won’t get spilled over another graph area and I filled the graph area with different colors.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Count of Revenue** | **Column Labels** |  |  |  |  |  |
| **Row Labels** | **(1) very low** | **(2) low** | **(3) ok** | **(4) high** | **(5) very high** | **Grand Total** |
| Beauty | 123 | 200 | 459 | 240 | 113 | 1135 |
| Electronics | 109 | 198 | 509 | 231 | 114 | 1161 |
| Fashion | 133 | 231 | 421 | 249 | 119 | 1153 |
| Food & More | 126 | 248 | 445 | 249 | 92 | 1160 |
| Home | 106 | 243 | 474 | 244 | 104 | 1171 |
| **Grand Total** | **597** | **1120** | **2308** | **1213** | **542** | **5780** |

* Following is the graph of the data table.

Chart, treemap chart

Description automatically generated

**SLICERS:**

* **Graphical user interface, application

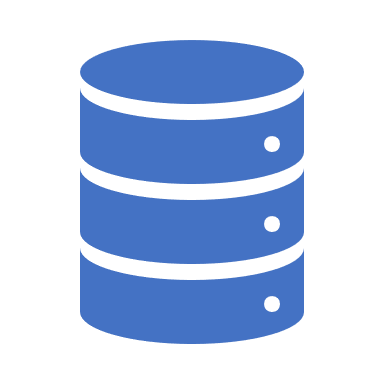
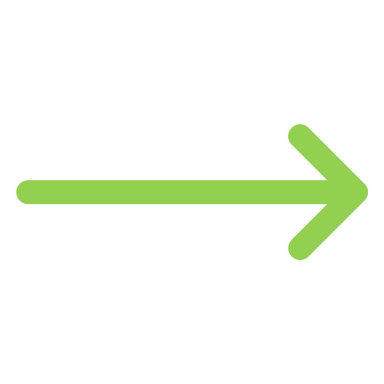
  Description automatically generated**I added few slicers to filter the dashboard like product, state, years, and customer acquisition type.
* I also changed slicer styles which suits by background of my dashboard.

**Hyperlinks:**

* I added many hyperlinks in this excel dashboard which leads to the designation page which we allot.

Select cell<< insert<< link<< place in this document<< select a desired place in the document

* The Hyperlink function creates a shortcut that jumps to another location in the current workbook, or opens a document stored on a network server, an intranet, or the Internet. When you click a cell that contains a hyperlink function, Excel jumps to the location listed, or opens the document you specified.
* I used many icons in dashboard to lead a shortcut to different pages like home, dataset**.**
* I used these icons as hyperlinks for shortcut.

[](#HOME!A1)[](#DASHBOARD!A1)[](#DATASET!A1)[](#'Pie Graph1'!A1)[](#DASHBOARD!A1)

Home Dashboard Back Front Home to dashboard Dataset

* [](#HOME!A1)[](#DATASET!A1)[](#DASHBOARD!A1)[](#'Pie Graph1'!A1)[](#DASHBOARD!A1)[](#HOME!A1)[](#DATASET!A1)[](#DASHBOARD!A1)[](#'Pie Graph1'!A1)[](#DASHBOARD!A1)[](#HOME!A1)[](#DATASET!A1)[](#DASHBOARD!A1)[](#'Pie Graph1'!A1)[](#DASHBOARD!A1)[](#HOME!A1)[](#DATASET!A1)[](#DASHBOARD!A1)[](#'Pie Graph1'!A1)[](#DASHBOARD!A1)[](#HOME!A1)[](#DATASET!A1)[](#DASHBOARD!A1)[](#'Pie Graph1'!A1)[](#DASHBOARD!A1)[](#HOME!A1)[](#DATASET!A1)[](#DASHBOARD!A1)[](#'Pie Graph1'!A1)[](#DASHBOARD!A1)[](#HOME!A1)[](#DATASET!A1)[](#DASHBOARD!A1)[](#'Pie Graph1'!A1)[](#DASHBOARD!A1)[](#HOME!A1)[](#DATASET!A1)[](#DASHBOARD!A1)[](#'Pie Graph1'!A1)[](#DASHBOARD!A1)[](#HOME!A1)[](#DATASET!A1)[](#DASHBOARD!A1)[](#'Pie Graph1'!A1)[](#DASHBOARD!A1)[](#HOME!A1)[](#DATASET!A1)[](#DASHBOARD!A1)[](#'Pie Graph1'!A1)[](#DASHBOARD!A1)[](#HOME!A1)[](#DATASET!A1)[](#DASHBOARD!A1)[](#'Pie Graph1'!A1)[](#DASHBOARD!A1)[](#HOME!A1)[](#DATASET!A1)[](#DASHBOARD!A1)[](#'Pie Graph1'!A1)[](#DASHBOARD!A1)[](#HOME!A1)[](#DATASET!A1)[](#DASHBOARD!A1)[](#'Pie Graph1'!A1)[](#DASHBOARD!A1)[](#HOME!A1)[](#DATASET!A1)[](#DASHBOARD!A1)[](#'Pie Graph1'!A1)[](#DASHBOARD!A1)[](#HOME!A1)[](#DATASET!A1)[](#DASHBOARD!A1)[](#'Pie Graph1'!A1)[](#DASHBOARD!A1)[](#HOME!A1)[](#DATASET!A1)[](#DASHBOARD!A1)[](#'Pie Graph1'!A1)[](#DASHBOARD!A1)[](#HOME!A1)[](#DATASET!A1)[](#DASHBOARD!A1)[](#'Pie Graph1'!A1)[](#DASHBOARD!A1)[](#HOME!A1)[](#DATASET!A1)[](#DASHBOARD!A1)[](#'Pie Graph1'!A1)[](#DASHBOARD!A1)[](#HOME!A1)[](#DATASET!A1)[](#DASHBOARD!A1)[](#'Pie Graph1'!A1)[](#DASHBOARD!A1)[](#HOME!A1)[](#DATASET!A1)[](#DASHBOARD!A1)[](#'Pie Graph1'!A1)[](#DASHBOARD!A1)[](#HOME!A1)[](#DATASET!A1)[](#DASHBOARD!A1)[](#'Pie Graph1'!A1)[](#DASHBOARD!A1)[](#HOME!A1)I also added many hyperlinks inside the dashboard.
* Every graph in the dashboard contains a hyperlink which shortcuts the way to its pivot table.

**Chart, treemap chart

Description automatically generatedDiagram

Description automatically generatedDiagram

Description automatically generatedChart, histogram

Description automatically generated**

* All these icons in the dashboard are a link to their respective pivot table sheet.
* Graphical user interface

  Description automatically generatedThis is the final dashboard.

**REFERENCES:**

[www.kaggle.com](http://www.kaggle.com)

[www.youtube.com](http://www.youtube.com)

[www.data.gov.in](http://www.data.gov.in)

[www.amazondatasets.com](http://www.amazondatasets.com)

A picture containing writing implement, stationary, pen

Description automatically generated