

**INT 217 Introduction to Data Management**

## **An Excel Dashboard – Super Store Analysis**

Submitted By

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PHAGWARA, PUNJAB**



# Certificate

This is to certify that **Rocky Sharaf** bearing Registration no. **11918040** has successfully completed **INT 217** (Introduction to Data Management) project titled, “**An Excel Dashboard – Super Store Analysis**” under my guidance and supervision. To the best of my knowledge, the present work is the result of his original development, effort, and study.

**Sandeep Kaur - 23614**  
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**Date – 28 Nov 2021**

## **Student Declaration**

**I, Rocky Sharaf, 11918040** a student of **B.Tech 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.

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A handwritten signature in black ink, appearing to read 'Rocky Sharaf', with a stylized flourish at the end.

**Date - 28/11/2021**

# Acknowledgement

The opportunity of attaining a course based on **Data Management using Excel** at **Lovely Professional University** was worth learning. It was a prestige for me to be part of it. During the period of my course, I received tremendous knowledge related to **Microsoft Excel** and **Data Management**.

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Lastly, I would like to thank the almighty and my parents for their constant encouragement, moral support, personal attention, and care.

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**Date - 28/11/2021**

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## **Abstract**

Excel is a software program created by Microsoft that uses spreadsheets to organize numbers and data with formulas and functions. Excel analysis is ubiquitous around the world and used by businesses of all sizes to perform data analysis. Excel features calculation, graphing tools, pivot tables, and a macro programming language called Visual Basic for Applications, and several other features which make Excel a perfect choice to manage and analyze data. My project is an Excel Dashboard. The Excel Dashboard is used to display overviews of large data tracks. Excel Dashboards use dashboard elements like tables, charts, and gauges to show the overviews. The dashboards ease the decision-making process by showing the vital parts of the data in the same window. In this report, I have shared a project where I have done data analysis of an SuperStore data set. This report also presents my learning during my course classes.



## **Chapter 1 - Introduction**

I have created an **Excel dashboard** of a **SuperStore data set**. This dashboard explains and highlights important Purchases, records, and trends in the SuperStore of United States.

The data set used contains information regarding all the previous Ships, Orders details, Products of stores and their Id's. It includes information regarding all the Products that are sold in 2014-2017, The data set contains details of Approx. **9994** products and 21 columns which are : Row ID, Order ID, Order Date, Year, Month, Day, Ship Mode, Customer ID, Customer Name, Segment, Country, City, State, Postal Code, Region, Product ID, Category, Sub-Category, Product Name, Sales, Quantity, Discount, Profit.

I have **scrubbed** and **organized** the entire data set and performed the analysis of a clean data set. I have **deduced** and **calculated** important results from the data set with the help of various Excel features like **pivot tables** and **functions** and represented them in the form of a **dynamic dashboard** using excel visualizing tools and various charts.

## **Chapter 2 - Objectives**

Online shopping has grown in popularity over the years, mainly because people find it convenient and easy to bargain shop from the comfort of their home or office.

One of the most enticing factor about online shopping, particularly during a holiday season, is it alleviates the need to wait in long lines or search from store to store for a particular item.

However, here are the few main objectives that are discussed in the dashboard.

- Calculation of Sales and profit with respect to Sub-Categories.
- Distribution of Top-10 products with region-wise count of Sub-categories Items.
- Top-10 Customers who benefitted the store versus those customers who ordered frequently.
- Customer Level Analysis On the basis of Segments.
- State wise Calculation of Profit in the super store of US.
- Calculation of sales per year in percentage in whole timeline.
- Yearly/ Monthly Profit Earned with respect to Sales.
- Calculation of customer id with respect to Order id.
- Calculation of customer name with respect to Order id.

## **Chapter 3 - Source of Dataset**

The dataset is taken from **Kaggle**. Kaggle is a community of data scientists and data enthusiasts. This platform allows users to find and publish data sets.

I have selected a Super Store data set which contains important details of 4 years of store History.

Here are the details of my chosen data set.

**Name** – Super Store Analysis

**Link** -<https://www.kaggle.com/juhi1994/superstore>

**Author** – juhi1994

**Format** – XLS

**No. of Data Sets** – 1

**Size** – 3.35 MB

**No. of Rows** – 9994

**No. of Columns** – 21

### **Data Set 1: Data Fields**

- Row ID integer
- Order ID object
- Order Date datetime
- Ship Mode object
- Customer ID object
- Customer Name object
- Segment object
- Country object
- City object
- State object
- Postal Code integer
- Region object
- Product ID object

- Category object
- Sub-Category object
- Product Name object
- Sales float
- Quantity integer
- Discount float
- Profit float

**Table 3.1 – Raw Data Set**

Row	Order ID	Order Date	Year	Month	Day	Ship Mode	Customer	Customer Name	Segment	Country	City	State	Postal Code	Region	Product ID	Category	Sub-Category	Product Name	Sales	Quantity	Discount	Profit
1	CA-2016-152156	08-11-2016	2016	November	8	Second Class	CG-1252C	Claire Gute	Consumer	United States	Henderson	Kentucky	42420	South	FUR-BO-10001798	Furniture	Bookcases	Bush Somerset C	261.96	2	0	41.9136
2	CA-2016-152156	08-11-2016	2016	November	8	Second Class	CG-1252C	Claire Gute	Consumer	United States	Henderson	Kentucky	42420	South	FUR-CH-10000454	Furniture	Chairs	Hon Deluxe Fat	731.94	3	0	219.582
3	CA-2016-138688	12-06-2016	2016	June	12	Second Class	DV-13045	Darrin Van Huff	Corporate	United States	Los Angeles	California	90036	West	OFF-LA-10000240	Office Supplies	Labels	Self-Adhesive A	14.62	2	0	6.8714
4	US-2015-108966	11-10-2015	2015	Horizontal (Category) Axis October	11	Standard Class	SO-20335	Sean O'Donnell	Consumer	United States	Fort Lauderdale	Florida	33311	South	FUR-TA-10000577	Furniture	Tables	Bretford CR450N	957.5775	5	0.45	-383.031
5	US-2015-108966	11-10-2015			11	Standard Class	SO-20335	Sean O'Donnell	Consumer	United States	Fort Lauderdale	Florida	33311	South	OFF-ST-10000760	Office Supplies	Storage	Eldon Fold N F	22.368	2	0.2	2.5164
6	CA-2014-115812	09-06-2014	2014	June	9	Standard Class	BH-11710	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West	FUR-FU-10001487	Furniture	Furnishings	Eldon Expressio	48.86	7	0	14.1694
7	CA-2014-115812	09-06-2014	2014	June	9	Standard Class	BH-11710	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West	OFF-AR-10002833	Office Supplies	Art	Newell 322	7.28	4	0	1.9656
8	CA-2014-115812	09-06-2014	2014	June	9	Standard Class	BH-11710	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West	TEC-PH-10002275	Technology	Phones	Mitel 5320 IP P	907.152	6	0.2	90.7152
9	CA-2014-115812	09-06-2014	2014	June	9	Standard Class	BH-11710	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West	OFF-BI-10003910	Office Supplies	Binders	DXL Angle-Vie	18.504	3	0.2	5.7825
10	CA-2014-115812	09-06-2014	2014	June	9	Standard Class	BH-11710	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West	OFF-AP-10002892	Office Supplies	Appliances	Belkin F5C206V	114.9	5	0	34.47
11	CA-2014-115812	09-06-2014	2014	June	9	Standard Class	BH-11710	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West	FUR-TA-10001539	Furniture	Tables	Chromcraft Rec	1706.184	9	0.2	85.3092
12	CA-2014-115812	09-06-2014	2014	June	9	Standard Class	BH-11710	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West	TEC-PH-10002033	Technology	Phones	Konftel 250 Cor	911.424	4	0.2	68.3568
13	CA-2017-114412	15-04-2017	2017	April	15	Standard Class	AA-1049C	Andrew Allen	Consumer	United States	Concord	North Carolina	28027	South	OFF-PA-10002365	Office Supplies	Paper	Xerox 1967	15.552	3	0.2	5.4432
14	CA-2016-161389	05-12-2016	2016	December	5	Standard Class	DM-15070	Irene Maddox	Consumer	United States	Seattle	Washington	98103	West	OFF-BI-10003656	Office Supplies	Binders	Fellowes PB200	407.976	3	0.2	132.5922
15	US-2015-118983	22-11-2015	2015	November	22	Standard Class	HP-14815	Harold Pawlan	Home Office	United States	Fort Worth	Texas	76106	Central	OFF-AP-10002311	Office Supplies	Appliances	Holmes Replace	68.81	5	0.8	-123.858
16	US-2015-118983	22-11-2015	2015	November	22	Standard Class	HP-14815	Harold Pawlan	Home Office	United States	Fort Worth	Texas	76106	Central	OFF-BI-10000756	Office Supplies	Binders	Storcx DuraTee	2.544	3	0.8	-3.816
17	CA-2014-105893	11-11-2014	2014	November	11	Standard Class	PK-19075	Pete Kriz	Consumer	United States	Madison	Wisconsin	53711	Central	OFF-ST-10004186	Office Supplies	Storage	Stur-D-Stor Shel	665.88	6	0	13.3176
18	CA-2014-167164	13-05-2014	2014	May	13	Second Class	AG-1027C	Alejandro Grove	Consumer	United States	West Jordan	Utah	84084	West	OFF-ST-10000107	Office Supplies	Storage	Fellowes Super	55.5	2	0	9.99
19	CA-2014-143336	27-08-2014	2014	August	27	Second Class	ZD-21925	Zuschuss Donatelli	Consumer	United States	San Francisco	California	94109	West	OFF-AR-10003056	Office Supplies	Art	Newell 341	8.56	2	0	2.4824
20	CA-2014-143336	27-08-2014	2014	August	27	Second Class	ZD-21925	Zuschuss Donatelli	Consumer	United States	San Francisco	California	94109	West	TEC-PH-10001949	Technology	Phones	Cisco SPA 501C	213.48	3	0.2	16.011
21	CA-2014-143336	27-08-2014	2014	August	27	Second Class	ZD-21925	Zuschuss Donatelli	Consumer	United States	San Francisco	California	94109	West	OFF-BI-10002215	Office Supplies	Binders	Wilson Jones H	22.72	4	0.2	7.384
22	CA-2016-137330	09-12-2016	2016	December	9	Standard Class	KB-16585	Ken Black	Corporate	United States	Fremont	Nebraska	68025	Central	OFF-AR-10000246	Office Supplies	Art	Newell 318	19.44	7	0	5.0596
23	CA-2016-137330	09-12-2016	2016	December	9	Standard Class	KB-16585	Ken Black	Corporate	United States	Fremont	Nebraska	68025	Central	OFF-AP-10001492	Office Supplies	Appliances	Acco Six-Outlet	60.34	7	0	15.6884
24	US-2017-156909	16-07-2017	2017	July	16	Second Class	SF-20065	Sandra Flanagan	Consumer	United States	Philadelphia	Pennsylvania	19140	East	FUR-CH-10002774	Furniture	Chairs	Global Deluxe S	71.372	2	0.3	-1.0196
25	CA-2015-106320	25-09-2015	2015	September	25	Standard Class	EB-13870	Emily Burns	Consumer	United States	Orem	Utah	84057	West	FUR-TA-10000577	Furniture	Tables	Bretford CR450N	1044.63	3	0	240.2649
26	CA-2016-121755	16-01-2016	2016	January	16	Second Class	EH-13945	Eric Hoffmann	Consumer	United States	Los Angeles	California	90049	West	OFF-BI-10001634	Office Supplies	Binders	Wilson Jones A	11.648	2	0.2	4.2224
27	CA-2016-121755	16-01-2016	2016	January	16	Second Class	EH-13945	Eric Hoffmann	Consumer	United States	Los Angeles	California	90049	West	TEC-AC-10003027	Technology	Accessories	Imation 8GB M	90.57	3	0	11.7741
28	US-2015-150630	17-09-2015	2015	September	17	Standard Class	TB-21520	Tracy Blumstein	Consumer	United States	Philadelphia	Pennsylvania	19140	East	FUR-BO-10004834	Furniture	Bookcases	Riverside Palais	3083.43	7	0.5	-1665.05
29	US-2015-150630	17-09-2015	2015	September	17	Standard Class	TB-21520	Tracy Blumstein	Consumer	United States	Philadelphia	Pennsylvania	19140	East	OFF-BI-10000474	Office Supplies	Binders	Avery Recycled	9.618	2	0.7	-7.0532
30	US-2015-150630	17-09-2015	2015	September	17	Standard Class	TB-21520	Tracy Blumstein	Consumer	United States	Philadelphia	Pennsylvania	19140	East	FUR-FU-10004848	Furniture	Furnishings	Howard Miller	124.2	3	0.2	15.525
31	US-2015-150630	17-09-2015	2015	September	17	Standard Class	TB-21520	Tracy Blumstein	Consumer	United States	Philadelphia	Pennsylvania	19140	East	OFF-EN-10001509	Office Supplies	Envelopes	Poly String Tie	3.264	2	0.2	1.0106
32	US-2015-150630	17-09-2015	2015	September	17	Standard Class	TB-21520	Tracy Blumstein	Consumer	United States	Philadelphia	Pennsylvania	19140	East	OFF-AR-10004042	Office Supplies	Art	BOSTON Mode	86.304	6	0.2	9.7092
33	US-2015-150630	17-09-2015	2015	September	17	Standard Class	TB-21520	Tracy Blumstein	Consumer	United States	Philadelphia	Pennsylvania	19140	East	OFF-BI-10001525	Office Supplies	Binders	Acco Pressboard	6.838	6	0.7	-5.715
34	US-2015-150630	17-09-2015	2015	September	17	Standard Class	TB-21520	Tracy Blumstein	Consumer	United States	Philadelphia	Pennsylvania	19140	East	OFF-AR-10001683	Office Supplies	Art	Lumber Crayon	15.76	2	0.2	3.546

## Chapter 4 - ETL Process

In computing, extract, transform, load (ETL) is a process to prepare data for analysis, especially in data warehousing. Data extraction involves extracting data from homogeneous or heterogeneous sources, while data transformation processes data by transforming them into a

proper storage format/structure for the purposes of querying and analysis; finally, data loading describes the insertion of data into the final target location such as an operational data store, a data mart, or a data warehouse. A properly designed ETL system extracts data from the source systems, enforces data quality and consistency standards, conforms data so that separate sources can be used together, and finally delivers data in a presentation-ready format so that application developers can build applications and end users can make decisions. I have also performed many steps in the ETL process to prepare my data for analysis:

## Extraction

The raw data has been taken from Kaggle, before processing the data it looked like this

**Table 4.1 – Raw Data from Kaggle**

< Orders (9994 rows)

10 of 21 columns

DetailCompactColumn

About this table

Let us understand the attributes of this data set:

'Row ID' - This is nothing but Serial No.

'Order ID' - ID created when a product order is placed.

'Order Date' - Date on which a customer places his/her order.

'Ship Date' - Date on which the order is shipped.

# Row ID	Order ID	Order Date	Ship Date	Ship Mode	
<div><div></div><div>19.99k</div></div>	<div><div>5009</div><div>unique values</div></div>	<div><div></div><div>3Jan1430Dec17</div></div>	<div><div></div><div>7Jan145Jan18</div></div>	<div><div>Standard Class60%</div><div>Second Class19%</div><div>Other (2081)21%</div></div>	
1	CA-2016-152156	11/08/2016 00:00:00	11/11/2016 00:00:00	Second Class	CC
2	CA-2016-152156	11/08/2016 00:00:00	11/11/2016 00:00:00	Second Class	CC
3	CA-2016-138688	06/12/2016 00:00:00	06/16/2016 00:00:00	Second Class	DI
4	US-2015-108966	10/11/2015 00:00:00	10/18/2015 00:00:00	Standard Class	SC
5	US-2015-108966	10/11/2015 00:00:00	10/18/2015 00:00:00	Standard Class	SC
6	CA-2014-115812	06/09/2014 00:00:00	06/14/2014 00:00:00	Standard Class	BF
7	CA-2014-115812	06/09/2014 00:00:00	06/14/2014 00:00:00	Standard Class	BF
8	CA-2014-115812	06/09/2014 00:00:00	06/14/2014 00:00:00	Standard Class	BF
9	CA-2014-115812	06/09/2014 00:00:00	06/14/2014 00:00:00	Standard Class	BF
10	CA-2014-115812	06/09/2014 00:00:00	06/14/2014 00:00:00	Standard Class	BF
11	CA-2014-115812	06/09/2014 00:00:00	06/14/2014 00:00:00	Standard Class	BF

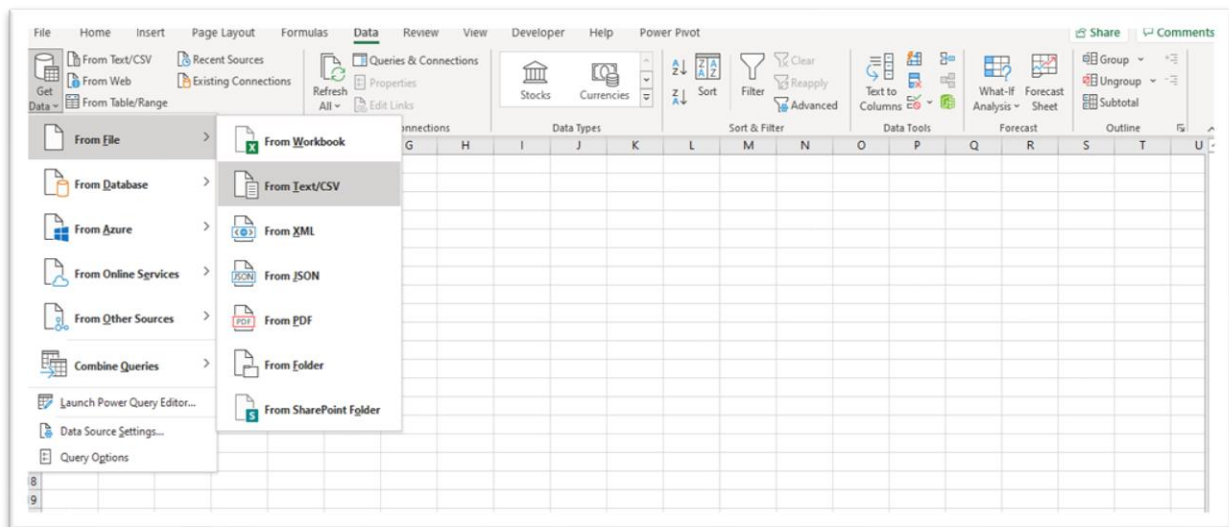


The data can be imported into excel directly from the web using get data features, but I have first downloaded the XLS files manually from excel then imported it into excel using the get data feature.

**Step 1** – Open a new excel workbook.

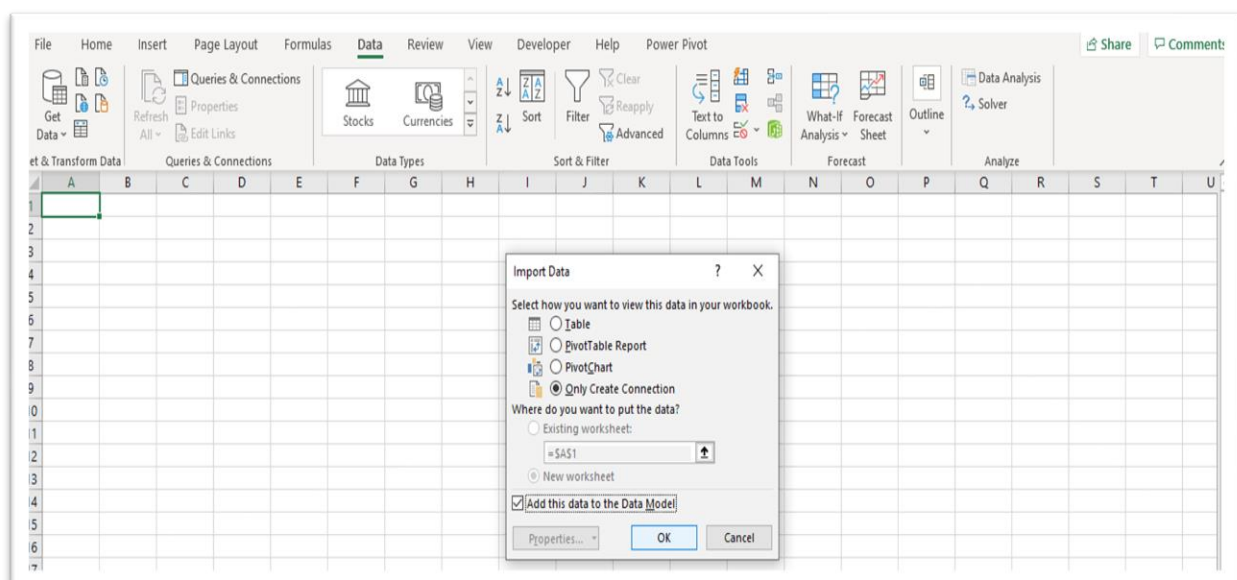
**Step 2** – Use the **Get Data** feature.

**Table 4.2 – Importing CSV Data Sets**



**Step 3** – Load to **Connection**

**Table 4.3 – Loading to Connection**



**Step 4** – Repeat the process for all the data sets. In my case there were only two data sets.

Now that we have extracted the data from the source and have imported it, now is the time to transform the data.

## Transform

If we want to transform the data before loading it can be done. Although transformation can be done even after loading the data, but it is better to first process the data before loading.

**Step 1** – Use Get Data feature. But instead of loading to connection, click on **transform**.

**Step 2** – Remove the unwanted rows or column or modify the data in **Power Query Editor**.

Now I have removed the unwanted column in the data set.

**Table 4.4 – Table After Transforming in Power Query Editor**

Order ID	Order D	Year	Month	Day	Ship Mo	Customer	Customer Name	Segment	City	State	Postal Code	Region	Product	Category	Sub-Cat	Product Name	Sales	Quant	Discor	Profit
CA-2016-82166	09-11-2016	2016	November	8	Second Class CG-1250	Clare Gule	Consumer	Henderson	Kentucky	42420	South	FUR-BD-100	Furniture	Bookcases	Bush Somerset Collection Bookcase		261.96	2	0	41.9136
CA-2016-82166	09-11-2016	2016	November	8	Second Class CG-1250	Clare Gule	Consumer	Henderson	Kentucky	42420	South	FUR-CH-100	Furniture	Chairs	Hon Deluxe Fabric Upholstered Stacking Cha		731.94	3	0	216.582
CA-2016-103889	12-06-2016	2016	June	12	Second Class DV-1045	Darin Van Huff	Corporate	Los Angeles	California	90038	West	OFF-LA-100	Office Supplies	Labels	Self-Adhesive Address Labels for Typewriter		14.62	2	0	6.8714
US-2015-103866	11-10-2015	2015	October	11	Standard Class SD-30335	Sean O'Donnell	Consumer	Fort Lauderdale	Florida	33311	South	FUR-TA-100	Furniture	Tables	Brethford CFA500 Series Slim Rectangular Tat		957.575	5	0.45	-383.031
US-2015-103866	11-10-2015	2015	October	11	Standard Class SD-30335	Sean O'Donnell	Consumer	Fort Lauderdale	Florida	33311	South	OFF-ST-100	Office Supplies	Storage	Eldon Fold N/Rail Cart System		22.388	2	0.2	2.5164
CA-2014-156192	09-06-2014	2014	June	9	Standard Class BH-1070	Brosina Hoffman	Consumer	Los Angeles	California	90032	West	FUR-FU-100	Furniture	Furnishings	Eldon Expressions Wood and Plastic Desk A		48.86	7	0	14.934
CA-2014-156192	09-06-2014	2014	June	9	Standard Class BH-1070	Brosina Hoffman	Consumer	Los Angeles	California	90032	West	OFF-AR-100	Office Supplies	Art	Newell 322		7.28	4	0	1.9566
CA-2014-156192	09-06-2014	2014	June	9	Standard Class BH-1070	Brosina Hoffman	Consumer	Los Angeles	California	90032	West	TEC-PH-100	Technology	Phones	Mitel 5320 IP Phone VoIP phone		907.92	6	0.2	90.762
CA-2014-156192	09-06-2014	2014	June	9	Standard Class BH-1070	Brosina Hoffman	Consumer	Los Angeles	California	90032	West	OFF-BI-100	Office Supplies	Binders	DVL Angle-View Binders with Looking Rings		18.504	3	0.2	5.7625
CA-2014-156192	09-06-2014	2014	June	9	Standard Class BH-1070	Brosina Hoffman	Consumer	Los Angeles	California	90032	West	OFF-AP-100	Office Supplies	Appliances	Belkin F5C206/VTEL 6 Outlet Surge		114.9	5	0	34.47
CA-2014-156192	09-06-2014	2014	June	9	Standard Class BH-1070	Brosina Hoffman	Consumer	Los Angeles	California	90032	West	FUR-TA-100	Furniture	Tables	Chromcraft Rectangular Conference Tables		1706.164	9	0.2	85.392
CA-2014-156192	09-06-2014	2014	June	9	Standard Class BH-1070	Brosina Hoffman	Consumer	Los Angeles	California	90032	West	TEC-PH-100	Technology	Phones	Korffell 250 Conference phone - Charcoal bla		591.424	4	0.2	88.358
CA-2017-14412	15-04-2017	2017	April	6	Standard Class AA-1840	Andrew Allen	Consumer	Concord	North Carolina	28027	South	OFF-PA-100	Office Supplies	Paper	Xerox 1807		15.932	3	0.2	5.4432
CA-2016-87039	05-12-2016	2016	December	5	Standard Class MA-1870	Heneh Madson	Consumer	Seattle	Washington	98102	West	OFF-BI-100	Office Supplies	Binders	Fellowes PB200 Plastic Comb Binding Machi		407.976	3	0.2	122.5822
US-2015-169893	22-11-2015	2015	November	22	Standard Class HP-1805	Harold Pawlan	Home Office	Fort Worth	Texas	76106	Central	OFF-AP-100	Office Supplies	Appliances	Holmes Replacement Filter for HEPA Air Clea		69.81	5	0.8	-123.859
US-2015-169893	22-11-2015	2015	November	22	Standard Class HP-1805	Harold Pawlan	Home Office	Fort Worth	Texas	76106	Central	OFF-BI-100	Office Supplies	Binders	Stores DuraTech Recycled Plastic Fastened Bi		2.544	3	0.8	-1.916
CA-2014-102693	15-11-2014	2014	November	11	Standard Class PK-1805	Pete Kriz	Consumer	Madison	Wisconsin	53711	Central	OFF-ST-100	Office Supplies	Storage	Stur-G-Box Shelving, Vertical 5-Shelf, 72 H		665.88	6	0	13.105
CA-2014-87164	15-05-2014	2014	May	13	Second Class AG-1020	Alejandro Grove	Consumer	West Jordan	Utah	84094	West	OFF-ST-100	Office Supplies	Storage	Fellowes Super StorDrawer		55.5	2	0	9.99
CA-2014-43336	27-08-2014	2014	Augustus	27	Second Class ZO-2125	Zuschuss Donatelli	Consumer	San Francisco	California	94103	West	OFF-AR-100	Office Supplies	Art	Newell 341		8.56	2	0	2.4824
CA-2014-43336	27-08-2014	2014	Augustus	27	Second Class ZO-2125	Zuschuss Donatelli	Consumer	San Francisco	California	94103	West	TEC-PH-100	Technology	Phones	Cisco SPA 501G IP Phone		213.48	3	0.2	16.011
CA-2014-43336	27-08-2014	2014	Augustus	27	Second Class ZO-2125	Zuschuss Donatelli	Consumer	San Francisco	California	94103	West	OFF-BI-100	Office Supplies	Binders	Wilson Jones Hanging View Binder, White, T		22.72	4	0.2	7.384
CA-2016-137330	09-12-2016	2016	December	9	Standard Class KB-1505	Ken Black	Corporate	Fremont	Nebraska	68025	Central	OFF-AP-100	Office Supplies	Art	Newell 318		19.46	7	0	5.0596
CA-2016-137330	09-12-2016	2016	December	9	Standard Class KB-1505	Ken Black	Corporate	Fremont	Nebraska	68025	Central	OFF-AP-100	Office Supplies	Appliances	Acco Six-Outlet Power Strip, 4' Cord Length		60.34	7	0	15.6884
US-2017-56930	16-07-2017	2017	July	16	Second Class SF-2005	Sandra Flanagan	Consumer	Philadelphia	Pennsylvania	19140	East	FUR-CH-100	Furniture	Chairs	Global Deluxe Stacking Chair, Gray		71.372	2	0.3	-1.0765
CA-2015-106320	25-09-2015	2015	September	25	Standard Class EB-1380	Emily Burns	Consumer	Orem	Utah	84057	West	FUR-TA-100	Furniture	Tables	Brethford CFA500 Series Slim Rectangular Tat		1044.63	3	0	240.2643
CA-2016-121755	16-01-2016	2016	January	16	Second Class EH-1345	Eric Hoffmann	Consumer	Los Angeles	California	90043	West	OFF-BI-100	Office Supplies	Binders	Wilson Jones Active Use Binders		115.68	2	0.2	4.2224
CA-2016-121755	16-01-2016	2016	January	16	Second Class EH-1345	Eric Hoffmann	Consumer	Los Angeles	California	90043	West	TEC-AC-100	Technology	Accessories	Imation 8GB Mini TravelDrive USB 2.0 Flash I		38.57	3	0	11.7741
US-2015-50630	17-09-2015	2015	September	17	Standard Class TB-2520	Tracy Blumstein	Consumer	Philadelphia	Pennsylvania	19140	East	FUR-BD-100	Furniture	Bookcases	Riverside Palms Royal Lawyers Bookcase, Ro		3083.43	7	0.5	-1685.05
US-2015-50630	17-09-2015	2015	September	17	Standard Class TB-2520	Tracy Blumstein	Consumer	Philadelphia	Pennsylvania	19140	East	OFF-BI-100	Office Supplies	Binders	Avery/Recycled Flex-View Covers for Binding		9.678	2	0.7	-0.652
US-2015-50630	17-09-2015	2015	September	17	Standard Class TB-2520	Tracy Blumstein	Consumer	Philadelphia	Pennsylvania	19140	East	FUR-FU-100	Furniture	Furnishings	Howard Miller 16-34" Diameter Brushed Chnr		124.2	3	0.2	16.525
US-2015-50630	17-09-2015	2015	September	17	Standard Class TB-2520	Tracy Blumstein	Consumer	Philadelphia	Pennsylvania	19140	East	OFF-EN-100	Office Supplies	Envelopes	Poly String Tie Envelopes		3.354	2	0.2	1.016
US-2015-50630	17-09-2015	2015	September	17	Standard Class TB-2520	Tracy Blumstein	Consumer	Philadelphia	Pennsylvania	19140	East	OFF-AP-100	Office Supplies	Art	BOSTON Model 1800 Electric Pencil Sharper		86.394	6	0.2	9.7932
US-2015-50630	17-09-2015	2015	September	17	Standard Class TB-2520	Tracy Blumstein	Consumer	Philadelphia	Pennsylvania	19140	East	OFF-BI-100	Office Supplies	Binders	Acco Pressboard Covers with Storage Hooks		6.659	6	0.7	-5.716
US-2015-50630	17-09-2015	2015	September	17	Standard Class TB-2520	Tracy Blumstein	Consumer	Philadelphia	Pennsylvania	19140	East	OFF-AP-100	Office Supplies	Art	Lumber Dracore		16.76	2	0.2	3.546
CA-2017-107727	16-10-2017	2017	October	16	Second Class MA-1750	Mali Abelman	Home Office	Houston	Texas	77065	Central	OFF-PA-100	Office Supplies	Paper	Easy-shiple paper		26.472	3	0.2	9.9489
CA-2016-107590	09-12-2016	2016	December	8	First Class GH-1405	Gene Hale	Corporate	Richardson	Texas	75080	Central	TEC-PH-100	Technology	Phones	GE 3524EE4		1897.544	7	0.2	123.4737
CA-2016-107590	09-12-2016	2016	December	8	First Class GH-1405	Gene Hale	Corporate	Richardson	Texas	75080	Central	FUR-FU-100	Furniture	Furnishings	Electric Archited's Damp-On Swing Arm Lar		190.32	5	0.6	-147.963
CA-2015-107415	27-12-2015	2015	December	27	Standard Class SN-2070	Steve Nguyen	Home Office	Houston	Texas	77041	Central	OFF-EN-100	Office Supplies	Envelopes	#10-4 1/2" x 9 1/2" Premium Diagonal Seam En		113.328	9	0.2	35.415
CA-2015-107415	27-12-2015	2015	December	27	Standard Class SN-2070	Steve Nguyen	Home Office	Houston	Texas	77041	Central	FUR-BD-100	Furniture	Bookcases	Atlantic Metals Mobile 3-Shelf Bookcases, Cu		532.392	3	0.32	-46.9764
CA-2015-107415	27-12-2015	2015	December	27	Standard Class SN-2070	Steve Nguyen	Home Office	Houston	Texas	77041	Central	FUR-CH-100	Furniture	Chairs	Global Fabric Manager's Chair, Dark Gray		212.058	3	0.3	-15.147
CA-2015-107415	27-12-2015	2015	December	27	Standard Class SN-2070	Steve Nguyen	Home Office	Houston	Texas	77041	Central	TEC-PH-100	Technology	Phones	Plantronics H.U Handset Lifter		371.68	4	0.2	41.7564

Now after we had imported and transformed all the data sets it will look like this

## Chapter 5 - Data Analysis

### Objective 1 – Calculation of Sales and profit with respect to Sub-Categories.

**Description** – The objective is to calculate the profit and sales from the categories columns which are further divided into sub categories

#### Requirements –

- Pivot Tables
- Divide (/) and Subtract (-) Formula, Get Pivot Data Formula
- Doughnut Charts (Customized Pie Chart + Text Box)
- Many Slicers

#### Specifications -

- Pivot Table 1 – To count sub-categories

**Table 5.1 – Objective 1 - Pivot Table 1**

Row Labels	Count of Sub-Category
Binders	1523
Paper	1370
Furnishings	957
Phones	889
Storage	846
Art	796
Accessories	775
Chairs	617
Appliances	466
Labels	364
Tables	319
Envelopes	254
Bookcases	228
Fasteners	217
Supplies	190
Machines	115
Copiers	68
<b>Grand Total</b>	<b>9994</b>

PivotTable Fields

Drag fields between areas below:

Filters Columns

Rows Values

Sub-Category Count of Sub-Category

☐ Defer Layout Update Update



- Pivot Table 2 – To count total profit and sales as per sub-categories.

**Table 5.2 – Objective 1 - Pivot Table 2**

Row Labels	Sum of Sales	Sum of Profit
Accessories	167380.32	41936.6357
Appliances	107532.16	18138.0054
Art	27118.79	6527.787
Binders	203412.73	30221.7633
Bookcases	114880.00	-3472.556
Chairs	328449.10	26590.1663
Copiers	149528.03	55617.8249
Envelopes	16476.40	6964.1767
Fasteners	3024.28	949.5182
Furnishings	91705.16	13059.1436
Labels	12486.31	5546.254
Machines	189238.63	3384.7569
Paper	78479.21	34053.5693
Phones	330007.05	44515.7306
Storage	223843.61	21278.8264
Supplies	46673.54	-1189.0995
Tables	206965.53	-17725.4811
<b>Grand Total</b>	<b>2297200.86</b>	<b>286397.0217</b>

PivotTable Fields

Drag fields between areas below:

Filters

Columns

Σ Values

Rows

Σ Values

Sub-Category

Sum of Sales

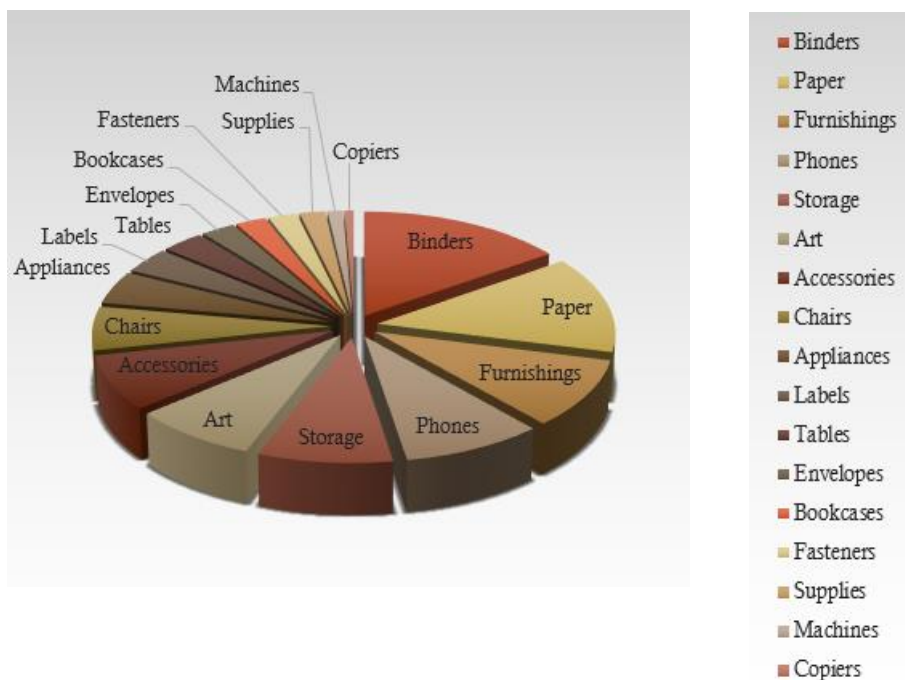
Sum of Profit

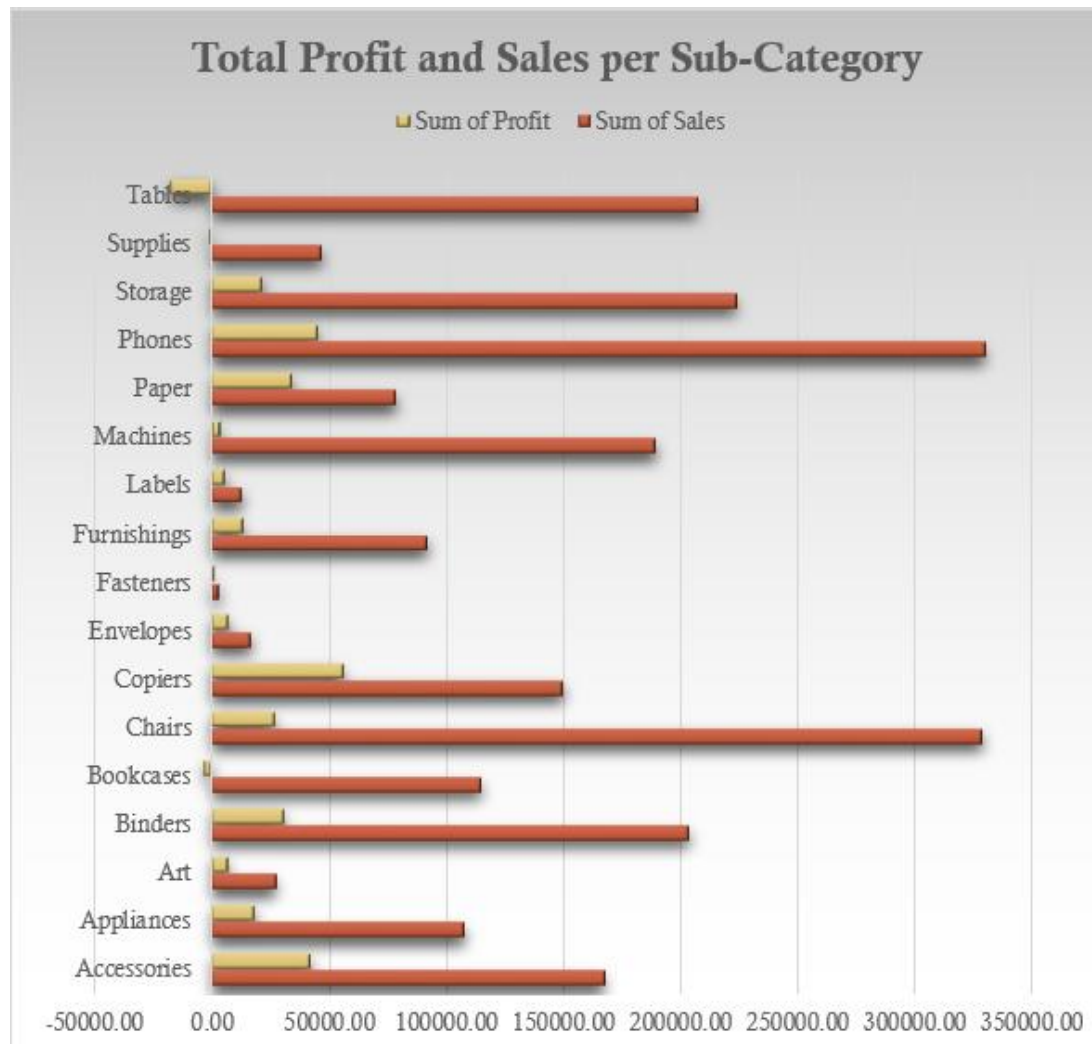
☐ Defer Layout Update

Update

## Result and Visualization –

**Table 5.3 – Objective 1 Result**





- **Objective 2 – Distribution of Top-10 products with region-wise count of Sub-categories Items.**

**Description** – The objective is to display the products which are sold at high quantity in relation to sub-categories and region-wise

**Requirements** –

- Pivot Table
- Pivot Chart
- Many Slicers

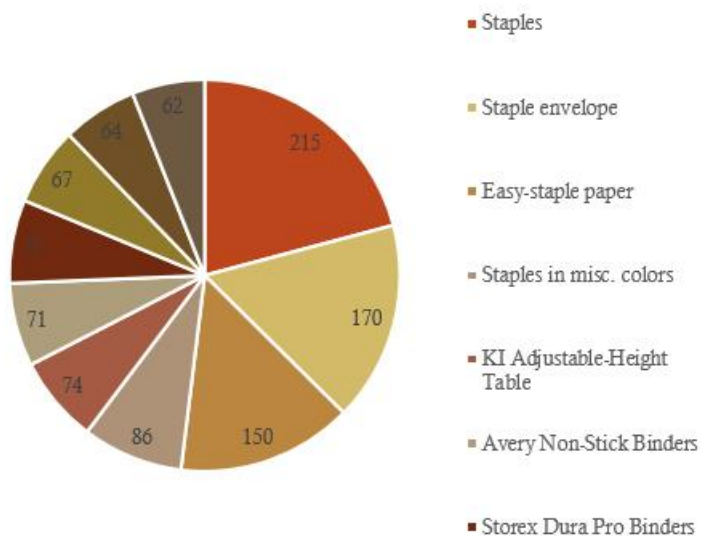
**Table 5.4 – Objective 2 Pivot Table and Settings**

Row Labels	Sum of Quantity
Staples	215
Staple envelope	170
Easy-staple paper	150
Staples in misc. colors	86
KI Adjustable-Height Table	74
Avery Non-Stick Binders	71
Storex Dura Pro Binders	71
GBC Premium Transparent Covers with Diagonal Lined Pattern	67
Situations Contoured Folding Chairs, 4/Set	64
Staple-based wall hangings	62
<b>Grand Total</b>	<b>1030</b>

## Result and Visualization –

**Table 5.5 – Objective 2 Result**

Distribution of Top-10 Product



**Table 5.6 – Objective 2 Pivot Table and Settings**

Row Label	South	East	West	Central
Accessories	128	206	258	183
Appliances	81	126	136	123
Art	142	228	250	176
Binders	246	440	471	366
Bookcases	28	70	80	50
Chairs	88	168	207	154
Copiers	7	20	25	16
Envelopes	54	74	67	59
Fasteners	29	61	72	55
Furnishings	165	283	304	205
Labels	65	107	116	76
Machines	18	37	39	21
Paper	221	378	450	321
Phones	140	272	277	200
Storage	128	242	266	210
Supplies	29	56	69	36
Tables	51	80	116	72
<b>Grand Total</b>	<b>1620</b>	<b>2848</b>	<b>3203</b>	<b>2323</b>

PivotTable Fields

Drag fields between areas below:

Filters

Columns
  
Region

Rows
  
Sub-Category

Values
  
Count of Sub-Category

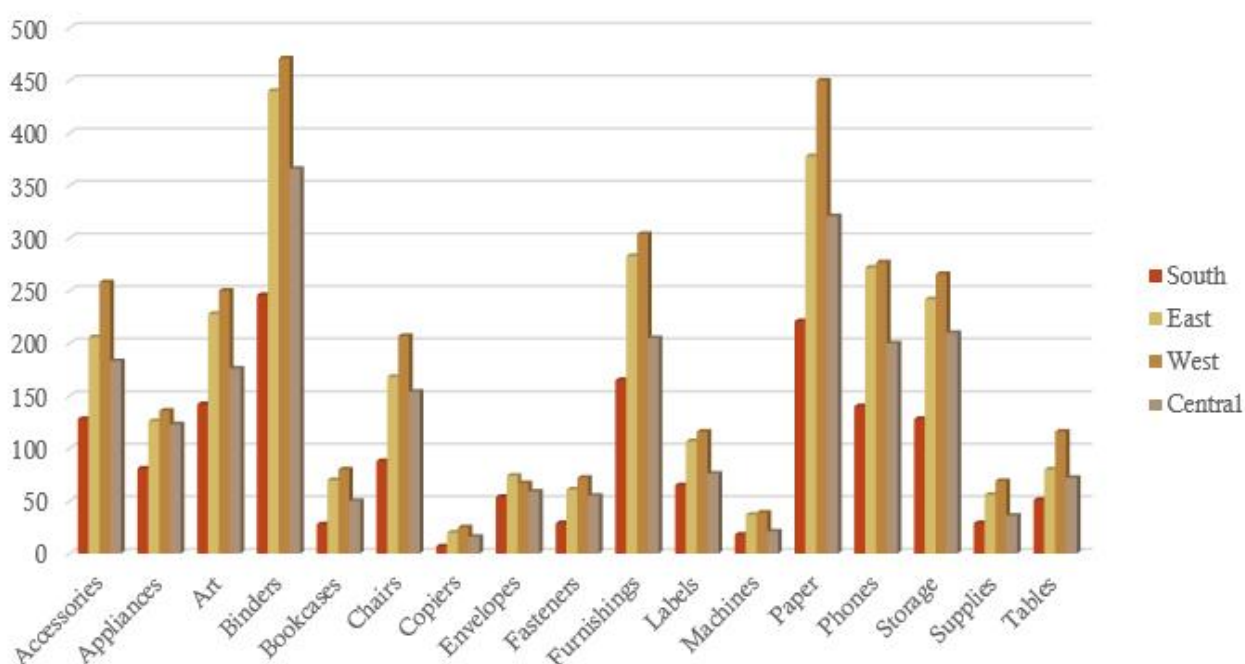
☐ Defer Layout Update

Update

## Result and Visualization –

**Table 5.7 – Objective 2 Result**

Region Wise count of Sub-Category



## Objective 3 – Top-10 Customers who benefitted the store versus those customers who ordered frequently.

**Description** – The objective is to display the list of customer who ordered frequently plus those who benefitted the store.

**Requirements** –

- Pivot Table
- Pivot Chart
- Many Slicers

**Table 5.8 – Objective 3 Pivot Table and Settings**

Row Labels	Count of Customer Name
William Brown	37
Matt Abelman	34
Paul Prost	34
John Lee	34
Edward Hooks	32
Seth Vernon	32
Chloris Kastensmidt	32
Jonathan Doherty	32
Emily Phan	31
Zuschuss Carroll	31
Arthur Prichep	31
<b>Grand Total</b>	<b>360</b>

PivotTable Fields

Drag fields between areas below:

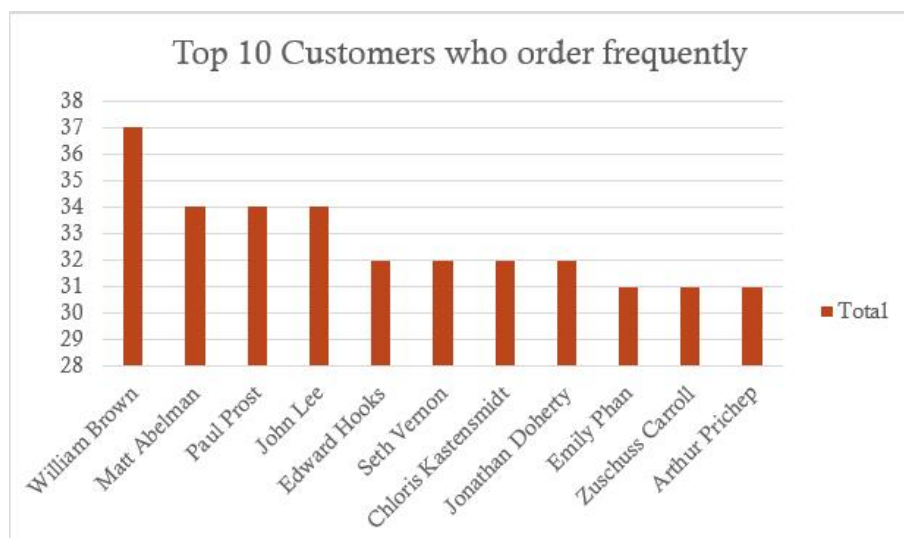
Filters
Columns

Rows
Values

Customer Name
Count of Customer Na...


☐ Defer Layout Update

**Result:**





### Table 5.9 – Objective 3 Pivot Table and Settings


Row Labels	 Sum of Profit
Tamara Chand	8981.3239
Raymond Buch	6976.0959
Sanjit Chand	5757.4119
Hunter Lopez	5622.4292
Adrian Barton	5444.8055
Tom Ashbrook	4703.7883
Christopher Martinez	3899.8904
Keith Dawkins	3038.6254
Andy Reiter	2884.6208
Daniel Raglin	2869.076
Tom Boeckenhauer	2798.3689
Nathan Mautz	2751.6849
Sanjit Engle	2650.6769
Bill Shonely	2616.0644
Harry Marie	2437.9836
Todd Sumrall	2371.7144
Brian Moss	2199.2781
Christopher Conant	2177.0493
Jane Waco	2173.7094
Helen Wasserman	2164.1611
<b>Grand Total</b>	<b>74518.7583</b>


## PivotTable Fields


▼


✕


Drag fields between areas below:

▼

 Filters

 Columns

 Rows

 Values

Customer Name ▼

Sum of Profit ▼

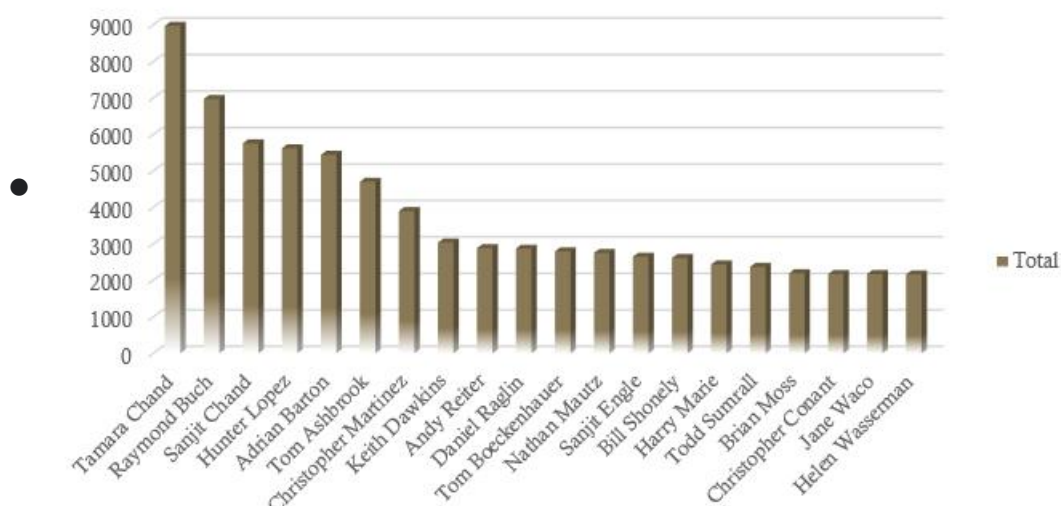
☐ Defer Layout Update

Update

## Result and Visualization –

### Table 5.10 – Objective 3 Result

### Top 20 Customer who Benefitted the store



## Objective 4 – Customer Level Analysis On the basis of Segments.

- **Description** – The objective is to display the Customer Level Analysis On the basis of Segments.

### Requirements –

- Pivot Table
- Pivot Chart
- Many Slicers

**Table 5.11 – Objective 4 Pivot Table and Settings**

Row Labels	Count of Customer Name
Consumer	5191
Corporate	3020
Home Office	1783
<b>Grand Total</b>	<b>9994</b>

PivotTable Fields

Drag fields between areas below:

Filters Columns

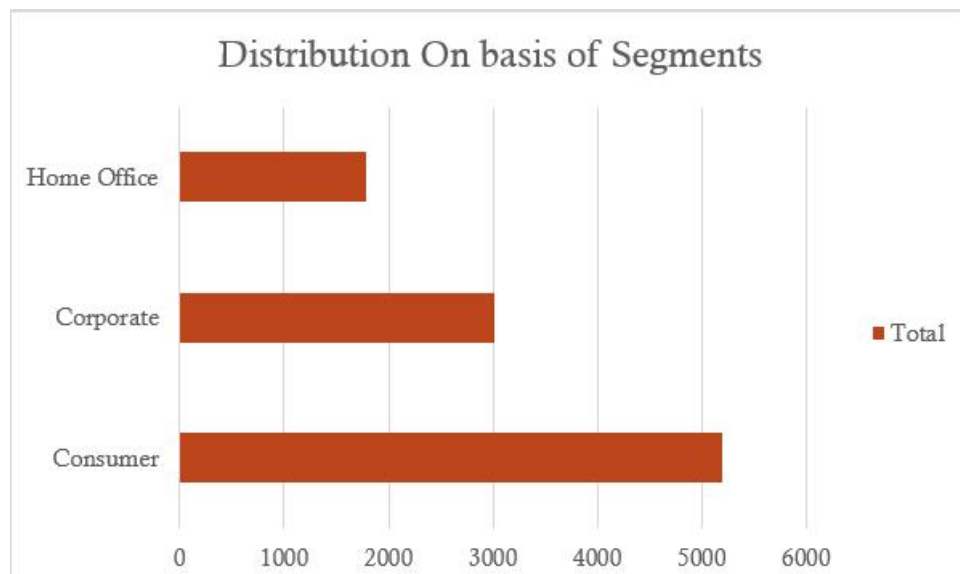
Rows Values

Segment Count of Customer Na...

☐ Defer Layout Update Update

## Result and Visualization –

**Table 5.12 – Objective 4 Result**



- **Objective 5 – State wise Calculation of Profit in the super store of US.**

**Description** – The objective is to display State wise Calculation of Profit in the super store of US.

## Requirements –

- Pivot Table
- Pivot Chart
- Many Slicers



**Table 5.13 – Objective 5 Pivot Table and Settings**

Row Labels	Sum of Profit
California	76381.3871
New York	74038.5486
Washington	33402.6517
Michigan	24463.1876
Virginia	18597.9504
Indiana	18382.9363
Georgia	16250.0433
Ke	11199.6966
Minnesota	10823.1874
Delaware	9977.3748
New Jersey	9772.9138
Wisconsin	8401.8004
Rhode Island	7285.6293
Maryland	7031.1788

PivotTable Fields

Drag fields between areas below:

Filters
Columns

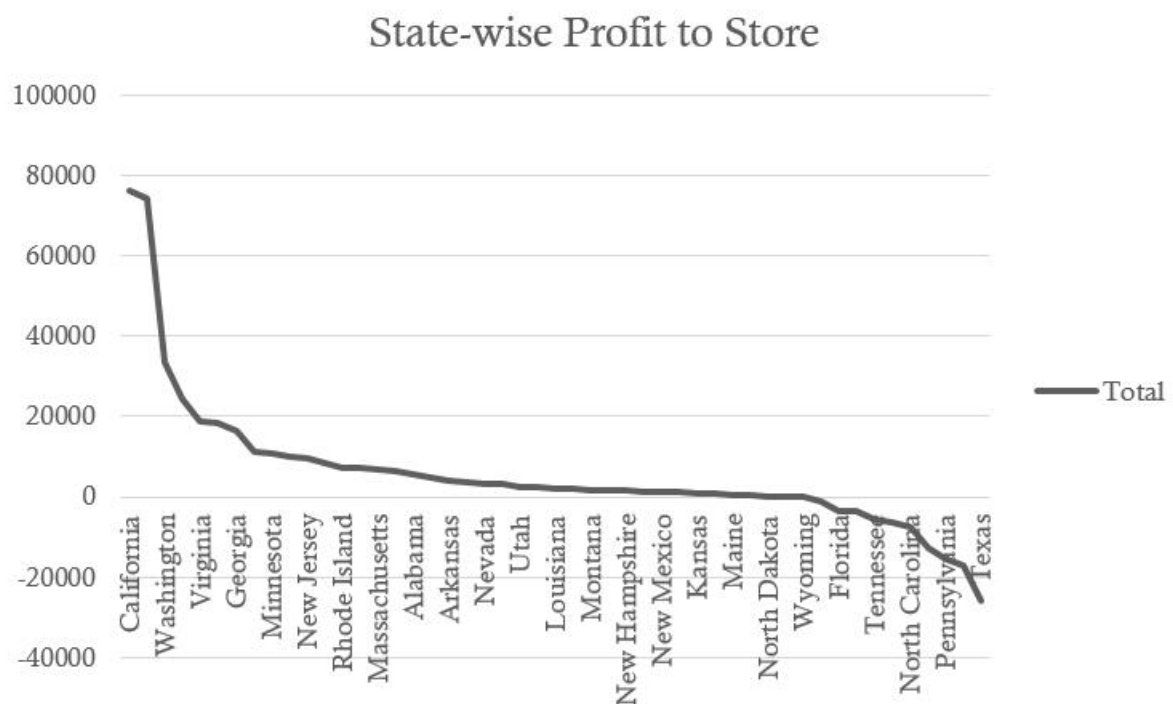
Rows
Values

State
Sum of Profit

☐ Defer Layout Update

## Result and Visualization –

**Table 5.14 – Objective 5 Result**



- **Objective 6 – Calculation of sales per year in percentage in whole timeline.**
- **Description** – The objective is to display Calculation of sales per year in percentage in whole timeline.

#### Requirements –

- Pivot Table
- Pivot Chart
- Many Slicers

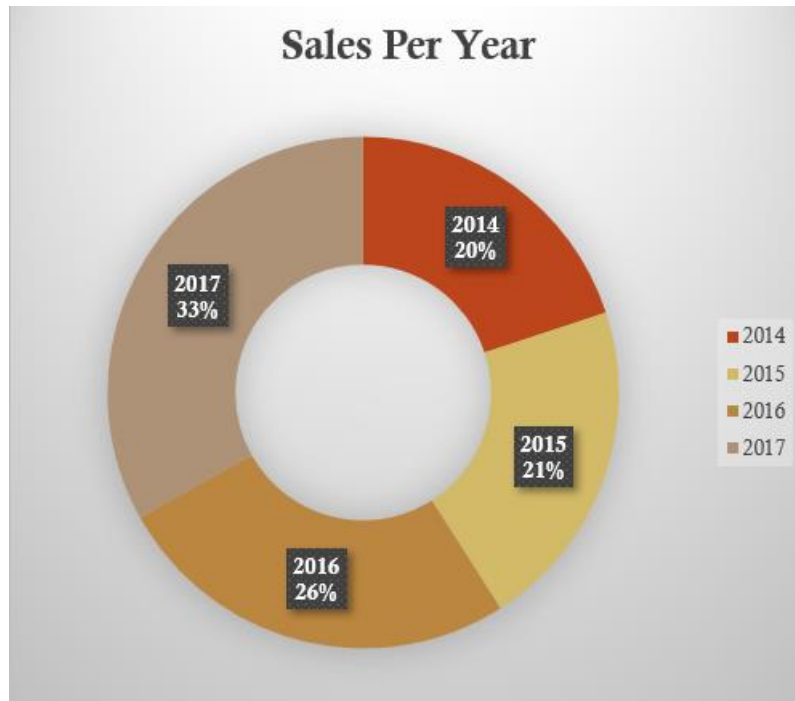
**Table 5.15 – Objective 6 Pivot Table and Settings**

Row Labels	Count of Order ID
2014	1993
2015	2102
2016	2587
2017	3312
<b>v</b>	<b>9994</b>

The screenshot shows the 'PivotTable Fields' task pane. At the top, it says 'Drag fields between areas below:'. There are four main areas: 'Filters' (empty), 'Columns' (empty), 'Rows' (containing 'Year'), and 'Values' (containing 'Count of Order ID'). At the bottom, there is a checkbox for 'Defer Layout Update' which is unchecked, and an 'Update' button.

## Result and Visualization –

**Table 5.16 – Objective 6 Result**



- **Objective 7 – Yearly/ Monthly Profit Earned with respect to Sales.**
- **Description** – The objective is to display Yearly/ Monthly Profit Earned with respect to Sales.

## Requirements –

- Pivot Table
- Pivot Chart
- Many Slicers

**Table 5.17 – Objective 7 Pivot Table and Settings**

Row Labels	Sum of Profit
2014	49543.9741
2015	61618.6037
2016	81795.1743
2017	93439.2696
<b>Grand Total</b>	<b>286397.0217</b>

**PivotTable Fields**

Drag fields between areas below:

**Filters** **Columns**

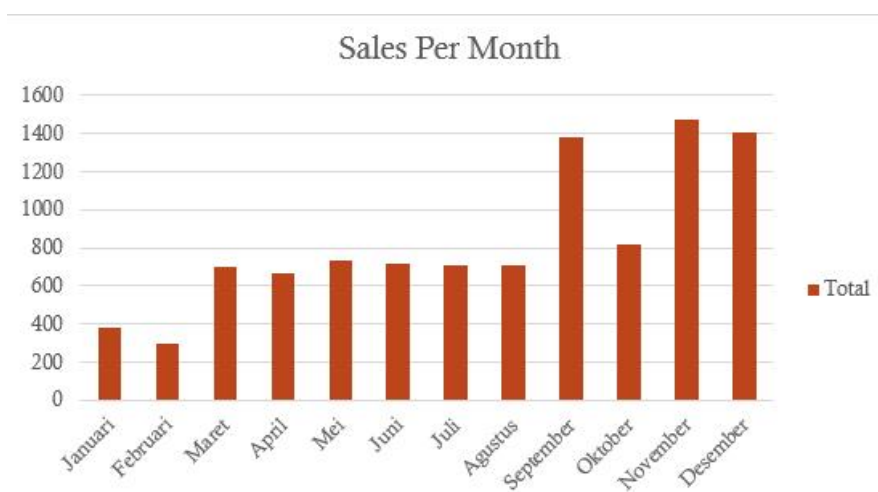
**Rows** **Σ Values**

Year **Sum of Profit**

☐ Defer Layout Update **Update**

## Result and Visualization –

**Table 5.18 – Objective 7 Result**



**Table 5.19 – Objective 7 Result**



### **Objective 8 – Calculation of customer id with respect to Order id.**

- **Description** – The objective is to display Calculation of customer id with respect to Order id.

#### **Requirements –**

- Dataset
- Data Validation
- General formula

**Table 5.20 – Objective 8 Result**

Order ID	Customer ID
CA-2017-124086	▼ FUR-BO-10004015

## Objective 6 – Calculation of customer name with respect to Order id.

- **Description** – The objective is to display Calculation of customer name with respect to Order id.

### Requirements –

- Dataset
- Data Validation
- General formula

**Table 5.21 – Objective 8 Result**

Order ID	Customer Name
CA-2017-117702	Lindsay Shagiari

## Chapter 6 – Dashboard

Figure 6.1 – The Dashboard – D1

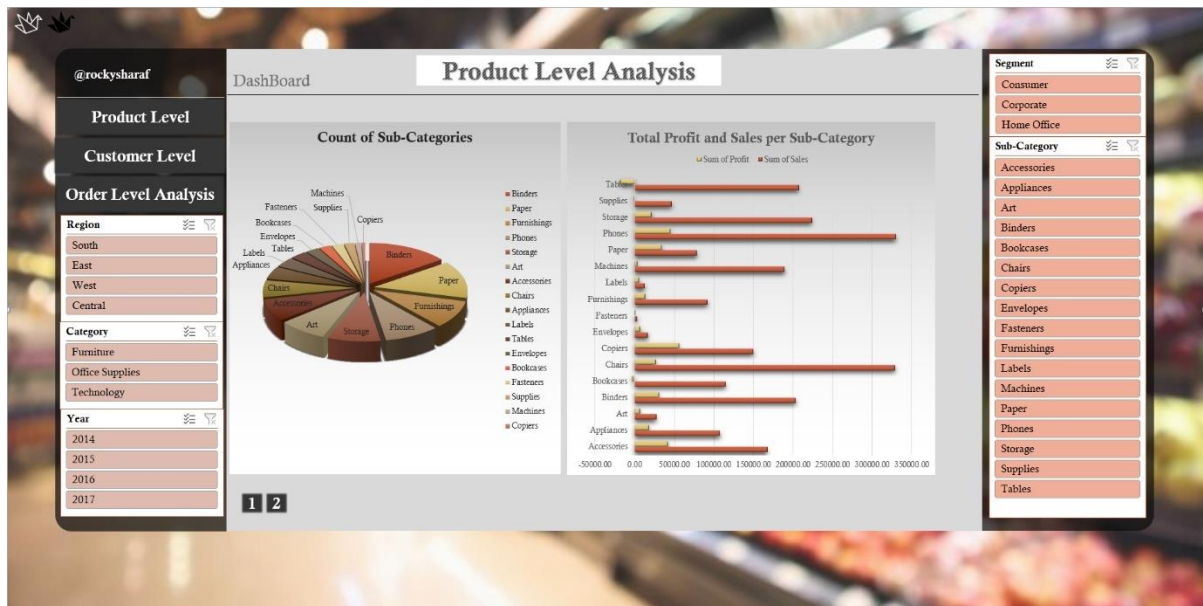


Figure 6.1 – The Dashboard – D2





Figure 6.1 – The Dashboard – D3



Figure 6.1 – The Dashboard – D4





**Figure 6.1 – The Dashboard – D5**



I have created this dashboard by combining all the results obtained in the data analysis, then connecting the required slicers, adding images, objects, and style to the dashboard.

This dashboard can be used to analyze super store in 3 different ways:

- Product Level Analysis
- Customer Level Analysis
- Order Level Analysis

*Which product is mostly sold by super store.*

*Which product is giving loss, or which is giving profit to store.*

*In which region, which product is mostly sold.*

*Which sub-category is on trending from Furniture or Tech.*

*Who visited the store most frequently?*

*Whether the person who visit store frequently gives most profit?*

*Who give most profit to store?*

*The person who is spending most, is he giving more profit?*

*Which state is more frequently visiting the superstore*

etc. and a lot more data can be easily deduced from this dashboard,

and not only just number but the result will be graphically represented.

This dashboard comes with some special features as well.

## Special Features

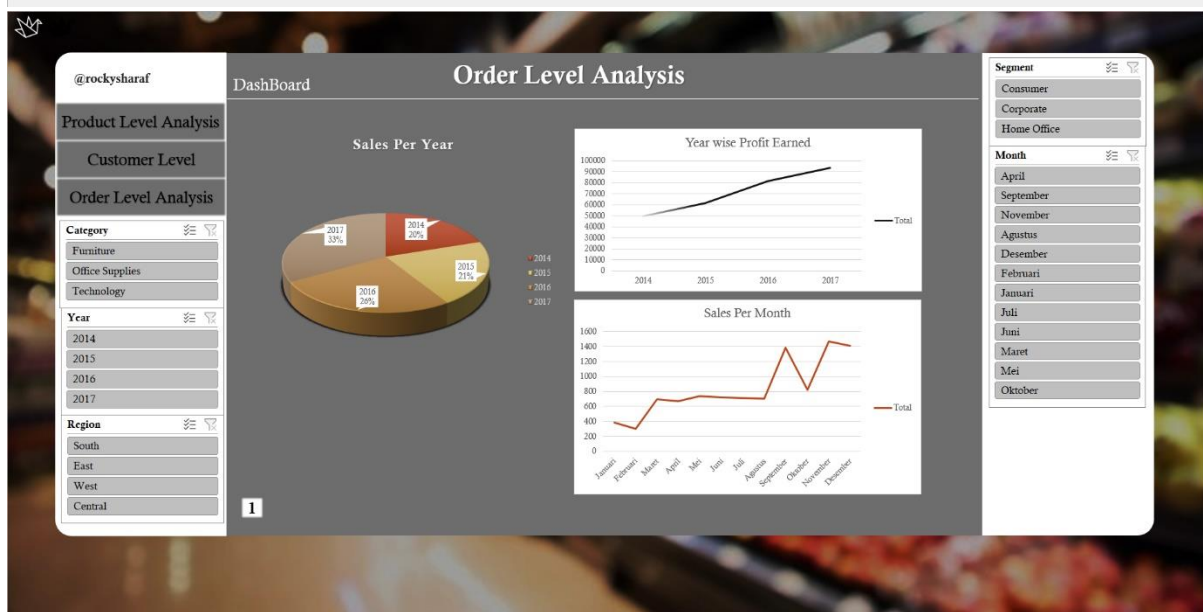
This dashboard has many special features some are hidden, and some are visible. Important features are:

**Dark/Light theme switch** – This switch allows user to change the theme color of the dashboard from white to black (light to dark). Excel does not provide such features; this switch has been added with a trick. This **switch** is just an **Image**, and this image is **linked to another copy of this dashboard** which has all charts with **dark**.

**Figure 6.2 – Dark/Light Toggle Switch**

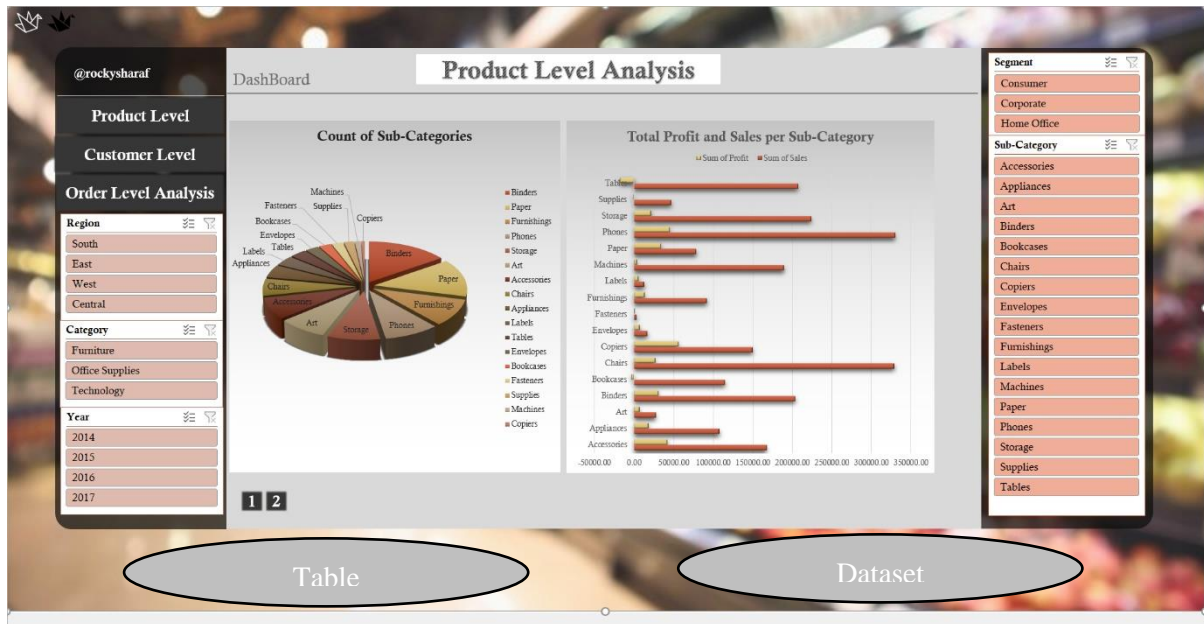


Figure 6.3 – Dark/Light Theme



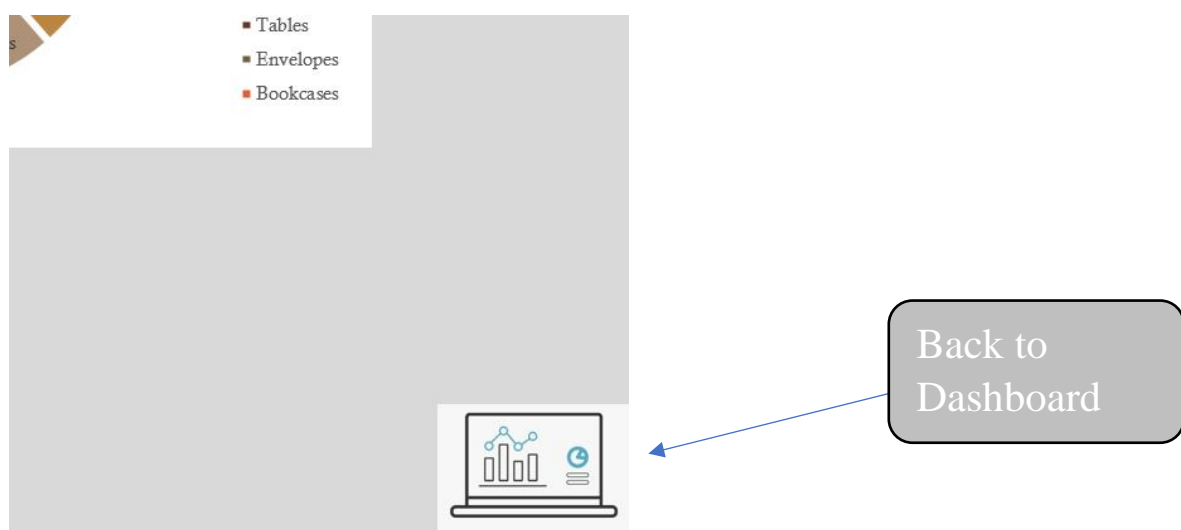
**Hidden Links and Master Sheet** – The dashboard has many hidden links which takes user directly to the source data and source pivot table which helps to understand the architecture of specific parts of the dashboard.

**Figure 6.4 – Hidden Links**



Also every single sheet also has shortcut links which takes directly to dashboard and **Master Sheet**.

**Figure 6.5 – Shortcut Links to Dashboard and Master Sheet**



## **Summary of Report**

In this report I have discussed in detail my project, its working, making, features, and applications. I have explained each step of making a Superstore Statistics Dashboard using from a raw data using Excel.

This report highlights all the processes involved in the making in serial order from ETL processes extracting, transforming, and loading data to using several excel features like pivot table, filtering, sorting, formulas to perform data analysis and deduce important results then representing them graphically using charts.

I have also attached the preview of the dashboard, and all the objectives in this report.

## References

- Super-Store Analysis: <https://www.kaggle.com/juhi1994/superstore>
- Excel documentation : <https://support.microsoft.com/en-us/excel>