

St. Francis Institute of Technology, Mumbai-400 103

Department Of Information Technology

A.Y. 2024-2025

Class: TE-ITA/B, Semester: VI

Subject: **Business Intelligence Lab**

Experiment – 10: Study and application of open source BI tool (Qlikview, Tableau, Pentaho, Rapid Miner)

1. **Aim:** Study and application of open source BI tool (Qlikview, Tableau, Pentaho, Rapid Miner)

2. **Objectives:** After study of this experiment, the students will be able to know different BI Tools

3. **Outcomes:**

CO6: Apply BI to solve practical problems : Analyze the problem domain, use the data collected in enterprise apply the appropriate data mining technique, interpret and visualize the results and provide decision support

1. **Prerequisite:** Introduction to all Open Source BI tools.

1. **Requirements:** Personal Computer, Windows XP /Windows 7/8 operating system, Internet Connection, Microsoft Word.

1. **Theory:**

- a. What is BI
- a. Need of BI
- a. Applications of BI
- a. List Tools of BI
- a. Elaborate on Pentaho, Rapid Miner, Qlikview, Tableau
 - Features
 - Data Set required
 - Working
 - Advantages
 - Limitations
 - Applications

1. **Laboratory Exercise:** Attach screenshots for tableau and Qlikview using sample dataset

1. **Post-Experiments Exercise**

a. **Questions:**

- Compare and Contrast between Qlikview and Tableau

a. **Conclusion:**

- Summary of Experiment
- Importance of Experiment
- Application of Experiment

1. **Reference:** Business Intelligence: Data Mining and Optimization for Decision Making by Carlo Vercellis, Wiley India Publications

Name: Vishal Rajesh Mahajan

Class: TE IT A

BI EXP 10

Roll No: 56

Creating a Account on Tableau Public:

The screenshot shows the Tableau Public profile of Vishal Rajesh Mahajan. The profile includes a circular profile picture, the name 'Vishal Rajesh Mahajan', and the location 'Mumbai, Maharashtra, India'. There are buttons for 'Edit Profile' and 'Hire Me'. Below the profile information, there are tabs for 'Vizzes', 'Favorites', 'Following', and 'Followers'. A 'Create a Viz' button is located on the right side. The background of the profile header is purple with a pattern of white circles. A banner at the top says 'Register now for Tableau Conference 2025'. A small 'Customize Banner' button is on the right. The bottom of the profile shows a placeholder for a visualization.

Downloading Superstore Dataset from Tableau Public:

The screenshot shows the Superstore Dataset in Excel. The dataset contains 10 columns: Order ID, Product ID, Product Name, Quantity, Price, Discount, Customer Name, City, State, and Country. The data is organized into rows, with each row representing a specific order and its details. The first row is highlighted in green. The Excel interface shows the 'Formulas' tab selected, and the status bar at the bottom indicates 'Ready'.

Order ID	Product ID	Product Name	Quantity	Price	Discount	Customer Name	City	State	Country
6952	6951	CA-2017-143021	11/19/2017	11/19/2017	Same Day	AP-10720	Anne Pryor	Home Office	United States New York Cti New York
6953	6952	CA-2015-161767	11/20/2015	11/24/2015	Standard Cla	GK-14620	Grace Kelly	Corporate	United States Dallas Texas
6954	6953	CA-2015-129917	10/2/2015	10/3/2015	First Class	HM-14980	Henry MacAll	Consumer	United States Los Angeles California
6955	6954	CA-2015-129917	10/2/2015	10/3/2015	First Class	HM-14980	Henry MacAll	Consumer	United States Los Angeles California
6956	6955	CA-2015-129917	10/2/2015	10/3/2015	First Class	HM-14980	Henry MacAll	Consumer	United States Los Angeles California
6957	6956	CA-2015-115420	4/25/2015	5/2/2015	Standard Cla	LS-16945	Linda Southw	Corporate	United States Los Angeles California
6958	6957	CA-2016-157588	7/14/2016	7/19/2016	Standard Cla	AR-10570	Anemone Rat	Consumer	United States Columbus Georgia
6959	6958	CA-2016-157588	7/14/2016	7/19/2016	Standard Cla	AR-10570	Anemone Rat	Consumer	United States Columbus Georgia
6960	6959	CA-2015-167255	9/27/2015	9/29/2015	Second Class	RH-19510	Rick Huthwai	Home Office	United States San Francisc California
6961	6960	CA-2015-167255	9/27/2015	9/29/2015	Second Class	RH-19510	Rick Huthwai	Home Office	United States San Francisc California
6962	6961	CA-2015-167255	9/27/2015	9/29/2015	Second Class	RH-19510	Rick Huthwai	Home Office	United States San Francisc California
6963	6962	CA-2017-162096	11/10/2017	11/10/2017	Same Day	TB-21190	Thomas Brunn	Home Office	United States Riverside California
6964	6963	CA-2016-157161	7/16/2016	7/20/2016	Second Class	JD-15895	Jonathan Dol	Corporate	United States Columbia South Carolin
6965	6964	CA-2016-157161	7/16/2016	7/20/2016	Second Class	JD-15895	Jonathan Dol	Corporate	United States Columbia South Carolin
6966	6965	CA-2016-157161	7/16/2016	7/20/2016	Second Class	JD-15895	Jonathan Dol	Corporate	United States Columbia South Carolin
6967	6966	CA-2016-157161	7/16/2016	7/20/2016	Second Class	JD-15895	Jonathan Dol	Corporate	United States Columbia South Carolin
6968	6967	CA-2016-157161	7/16/2016	7/20/2016	Second Class	JD-15895	Jonathan Dol	Corporate	United States Columbia South Carolin
6969	6968	CA-2016-157161	7/16/2016	7/20/2016	Second Class	JD-15895	Jonathan Dol	Corporate	United States Columbia South Carolin
6970	6969	CA-2015-110765	10/16/2015	10/20/2015	Second Class	MP-17965	Michael Paig	Corporate	United States New York Cti New York
6971	6970	CA-2016-163937	1/10/2016	1/13/2016	Second Class	JB-16000	Joy Bell-	Consumer	United States Longview Washington
6972	6971	CA-2017-153822	9/19/2017	9/25/2017	Standard Cla	AB-10105	Adrian Bartor	Consumer	United States Phoenix Arizona
6973	6972	CA-2017-153822	9/19/2017	9/25/2017	Standard Cla	AB-10105	Adrian Bartor	Consumer	United States Phoenix Arizona
6974	6973	CA-2017-153822	9/19/2017	9/25/2017	Standard Cla	AB-10105	Adrian Bartor	Consumer	United States Phoenix Arizona
6975	6974	CA-2017-153822	9/19/2017	9/25/2017	Standard Cla	AB-10105	Adrian Bartor	Consumer	United States Phoenix Arizona
6976	6975	CA-2017-146185	9/15/2017	9/19/2017	Standard Cla	CC-12145	Charles Crest	Consumer	United States Houston Texas
6977	6976	CA-2015-112144	6/28/2015	7/2/2015	Standard Cla	CY-12745	Craig Yedwa	Corporate	United States Gilbert Arizona
6978	6977	CA-2015-112144	6/28/2015	7/2/2015	Standard Cla	CY-12745	Craig Yedwa	Corporate	United States Gilbert Arizona
6979	6978	US-2016-119298	11/25/2016	11/28/2016	First Class	EP-13915	Emily Phan	Consumer	United States Jonesboro Arkansas
6980	6979	CA-2017-155159	11/25/2016	11/29/2017	Second Class	DL-13315	Delfina Latch	Consumer	United States Atlanta Georgia
6981	6980	CA-2017-149076	1/14/2017	1/19/2017	Standard Cla	SO-20335	Sean O'Donn	Consumer	United States Los Angeles California
6982	6981	CA-2014-146990	11/7/2014	11/8/2014	First Class	BP-11095	Bart Pistole	Corporate	United States New York Cti New York

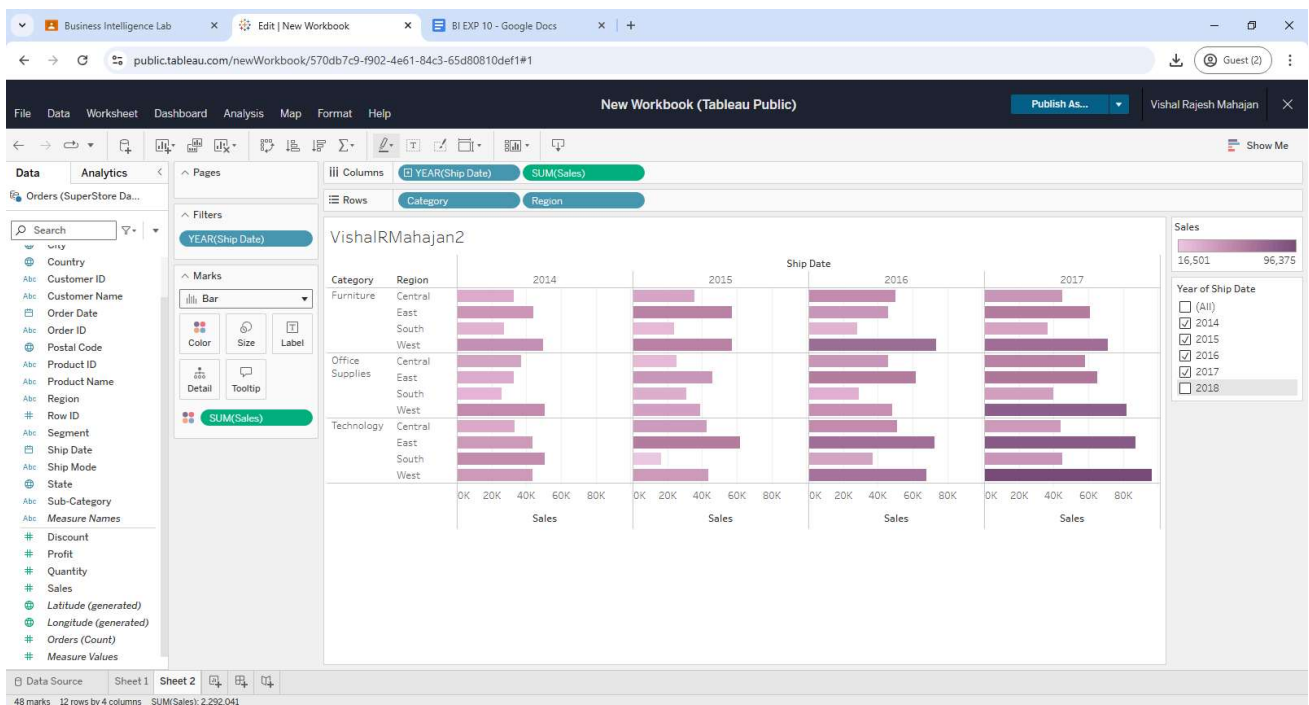
Uploading the Order sheets in Tableau

The first screenshot shows the Tableau Public interface with the 'Orders (SuperStore Dataset)' loaded. The 'Connections' pane on the left shows the 'SuperStore Dataset' from 'Microsoft Excel'. The 'Sheets' pane shows 'Orders', 'People', and 'Returns'. The main view displays a table of the 'Orders' dataset with 21 fields and 9994 rows. The table includes columns for Row ID, Order ID, Order Date, Ship Date, Ship Mode, Customer ID, and Customer Name.

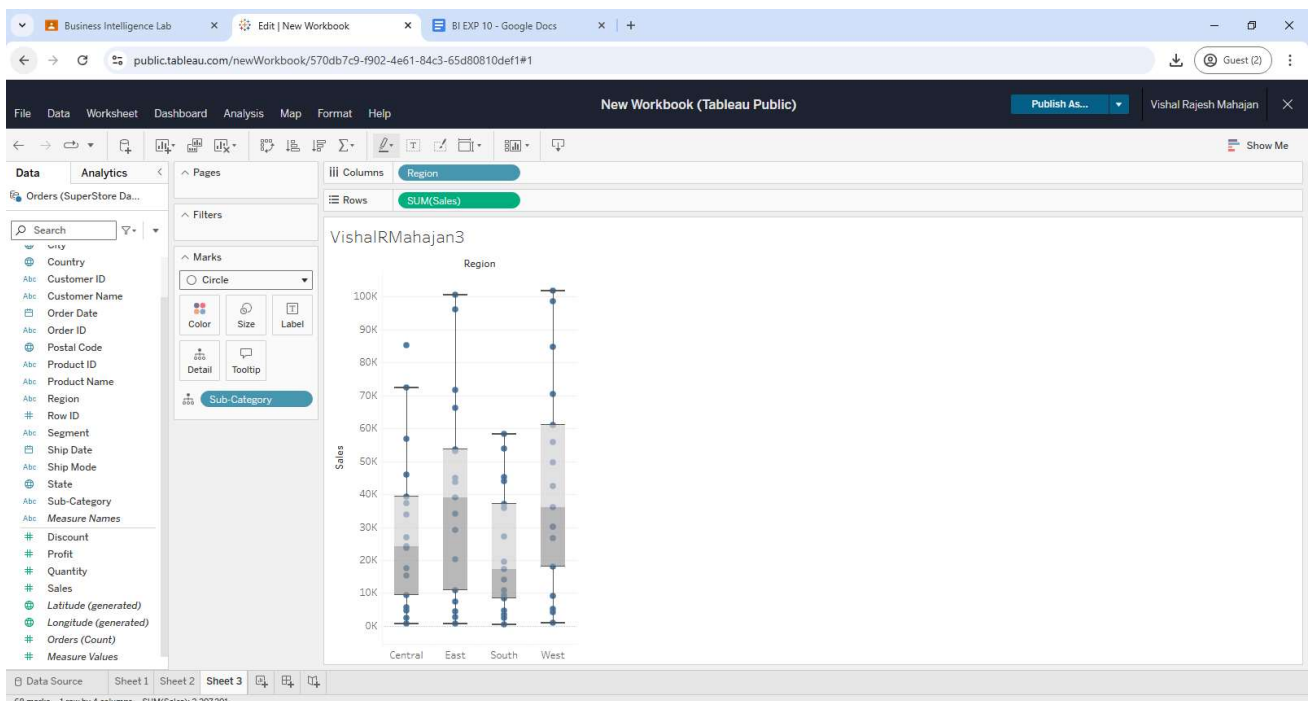
The second screenshot shows the same Tableau Public interface with a crosstab visualization. The 'Columns' shelf contains 'Category' and 'Region'. The 'Rows' shelf contains 'Region'. The 'Marks' shelf contains 'SUM(Sales)'. The visualization shows a table of sales data by region and category.

Region	Furniture	Supplies	Technology
Central	163,797	167,026	170,416
East	208,291	205,516	264,974
South	117,299	125,651	148,772
West	252,613	220,853	251,992

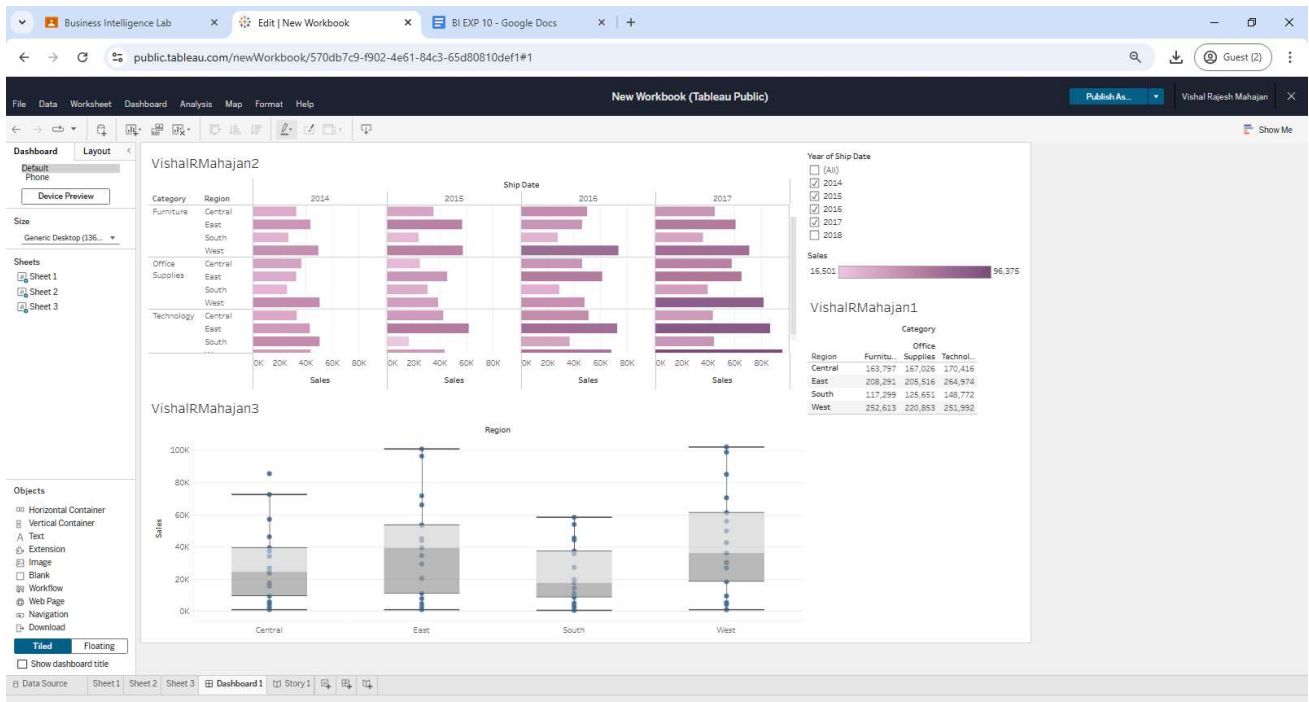
We imported the SuperStore Orders dataset and built a crosstab visualization. We placed Region in Rows, Category in Columns, and SUM(Sales) in the Text mark. The West region leads in sales, with Technology as the best-performing category



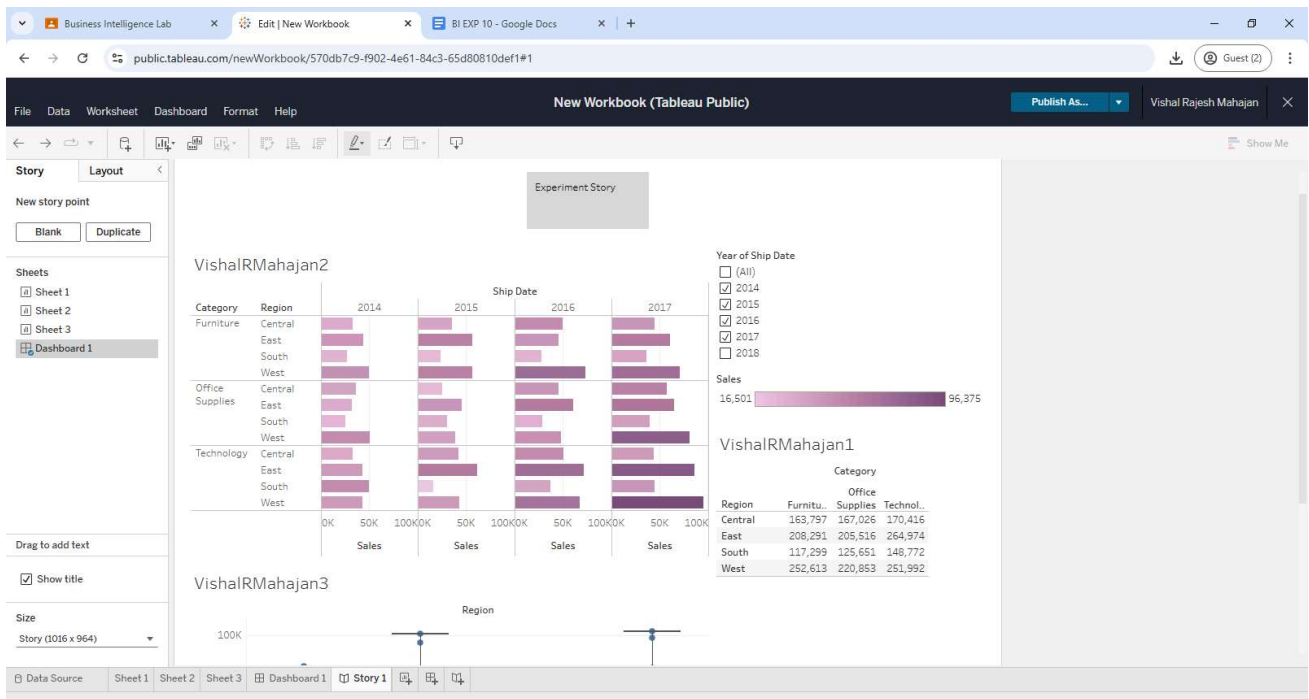
We created a bar chart to analyze SUM(Sales) over time. We placed YEAR(Ship Date) in Columns, while Category and Region were added to Rows. We customized the chart by changing the bar color, adding a filter for Ship Date, and disabling the year 2018. Technology and the West region show strong sales trends.



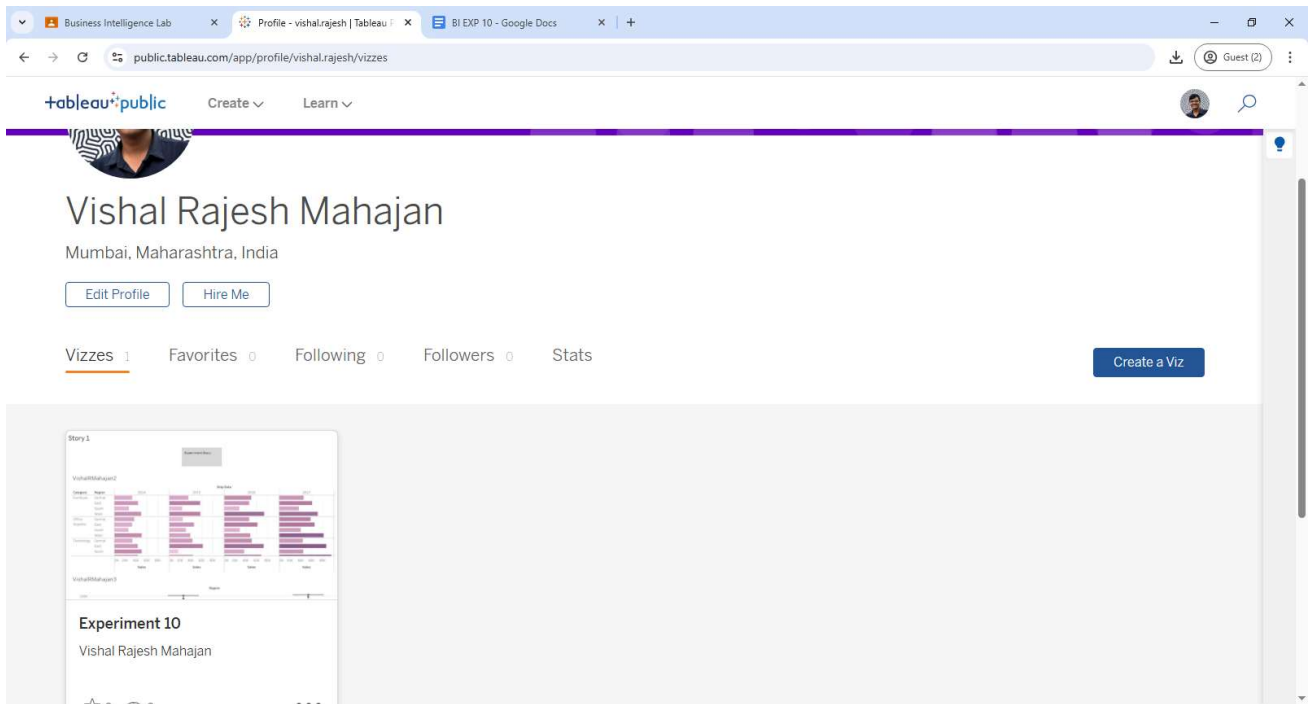
We created a box plot to analyze the distribution of SUM(Sales) across different regions. We used Region in Columns and SUM(Sales) in Rows, with Sub-Category as a detail field. The visualization helps us spot outliers and compare sales distribution across regions.



We combined all three sheets into a single interactive dashboard.



We made a story by bringing together all our sheets and the dashboard to tell a clear and simple data story



The story is displayed on the Tableau Public Dashboard

Qlikview Dashboard

