GLOBAL SALES DATA ANALYTICS USING IBM COGNOS ANALYTICS

A project report submitted in partial fulfillment of the requirements of the award of the degree of

Bachelor of Technology

in

Computer Science and Engineering

By

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

ADHI COLLEGE OF ENGINEERING AND TECHNOLOGY

(Accredited by NAAC, Affiliated by ANNA UNIVERSITY, Chennai & Approved by AICTE)

KANCHIPURAM (Dt.), Chennai - 631605

2022

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

ADHI COLLEGE OF ENGINEERING AND TECHNOLOGY

CERTIFICATE

This is to certify that the project report titled "GLOBAL SALES DATA ANALYTICS", being submitted by

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in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering, to the Anna University, Chennai is a record of bonafied work carried out by them my guidance and supervision.

Faculty Mentor

R. Radhika
Dept. of IBM

Industry Mentor
Shanawaz Anwar,
IndraPrakash

Dept. of IBM

DECLARATION

We hereby declare that the project entitled, "**GLOBAL SALES DATA ANALYTICS**" completed and written by us, has not been previously submitted elsewhere for the award of any degree or diploma.

Place :

Date :

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ABSTRACT

Data analytics is the science of predicting the future trends that support the study of gift information and past information that create inroads into the retail sector. Massive information analytics will offer insights into rather more than simply inventory levels and also the quality of various products. So as to create the simulation insensitive against short transient changes, a longitudinal analysis ought to be applied, to boot to the common crosswise analysis. For this purpose, we make use of Qlik Sense, Tableau, Python, R language to visualize the behavior of the sales data of a superstore which varies with time. While Qlik Sense and Tableau are the tools used for data visualization purpose, Python and R language are the programming languages used to draw patterns by coding.

This paper also depicts the basic differences between the four tools used for data visualization. This paper proposes a Qlik Sense-based solution for the mentioned problem definition in the field of data analytics. Data patterns and trends are observed to draw the conclusions on the sales. As the major motto of retailer is to make profits by selling the products, there is a need for him to understand the data variations with the change in time, climate, regions, and customer's interest. Thus to make his work easier, will use the resulted visualizations formed out of the sales data. Hence, this paper provides efficient ways of analyzing the sales data of a superstore, finding the reasons for the increase and decrease in the sales, controlling product imports, and attaining a profitable business.

PROJECT PROCEDURE FORMAT

1. **INTRODUCTION**
   - Project Overview
   - Purpose
2. **LITERATURE SURVEY**
   - Existing problem
   - References
   - Problem Statement Definition
3. **IDEATION & PROPOSED SOLUTION**
   - Empathy Map Canvas
   - Ideation & Brainstorming
   - Proposed Solution
   - Problem Solution fit
4. **REQUIREMENT ANALYSIS**
   - Functional requirement
   - Non-Functional requirements
5. **PROJECT DESIGN**
   - Data Flow Diagrams
   - Solution & Technical Architecture
   - User Stories
6. **PROJECT PLANNING & SCHEDULING**
   - Sprint Planning & Estimation
   - Sprint Delivery Schedule
   - Reports from JIRA
7. **CODING & SOLUTIONING (Explain the features added in the project along with code)**
   - Feature 1
   - Feature 2
   - Database Schema (if Applicable)
8. **TESTING**
   - Test Cases
   - User Acceptance Testing
9. **RESULTS**
   - Performance Metrics
10. **ADVANTAGES & DISADVANTAGES**
11. **CONCLUSION**
12. **FUTURE SCOPE**
13. **APPENDIX** Source Code
    - GitHub & Project
    - Demo Link

CHAPTER - 1

INTRODUCTION

1.1 PROJECT OVERVIEW :

Shopping online is currently the need of the hour. Because of this COVID, it's not easy to walk ina store randomly and buy anything you want. I this I am trying to understand a few things like

Customers Analysis

- Profile the customers based on their frequency of purchase - calculate frequency ofpurchase for each customer
- Do the high frequent customers are contributing more revenue
- Are they also profitable - what is the profit margin across the buckets
- Which customer segment is most profitable in each year.
- How the customers are distributed across the countries

1.2 PURPOSE :

Product Analysis:

1.3 Which country has top sales?

1.4 Which are the top 5 profit-making product types on a yearly basis

1.5 How is the product price varying with sales - Is there any increase in sales with thedecrease in price at a day level

1.6 What is the average delivery time across the countries.

Customers Analysis:

1.7 Profile the customers based on their frequency of purchase - calculate frequency of purchase for each customer and plot a histogram to get the threshold for Low/Mid/Highfrequency customers

1.8 Does the high frequent customers are contributing more revenue

1.9 Are they also profitable - what is the profit margin across the buckets

1.10 Which customer segment is most profitable in each year (there is a column calledcustomer segment)

1.11 How the customers are distributed across the countries - pie chart

1.12 Write a function to split the global store data into different unique data frames based on the unique values in country column [Means, we should have one data frame for one country as function output.

CHAPTER - 2
LITERATURE SURVEY

2.1 Existing problem:

- Consumers are Choosing Multichannel Buying Experiences
- Customers Expect a Seamless Experience
- To Attract Customer Loyalty, Retailers Need an Experience Which Stands Out
- A Siloed Marketing Infrastructure Makes It Expensive and Unwieldy to get Your Message Across.
- So Many Technologies Exist to Drive Marketing and Sales, but They Don't Seem to Work Together

2.2 REFERENCES:

1. Diggle, P. J., Liang, K.-Y. and Zeger, S. L. Analysis of Longitudinal Data. New York: Oxford University Press, 1994.
2. ASTM International ,Manual on Presentation of Data and Control Chart Analysis, MNL 7A, ISBN 0-8031- 2093-1, 2002.
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5. RichardVeryard , Pragmatic Publications Data Analysis. Oxford : Blackwell Scientific Publications. ISBN 0-632-01311-7, 1984.
6. Adèr, Herman J. , "Chapter 14: Phases and initial steps in data analysis". In Adèr, Herman J.;Mellenbergh, Gideon J.; Hand, David J. Advising on research methods : a consultant's companion. Huizen, Netherlands: Johannes van Kessel Pub. Pp. 333–356. ISBN 9789079418015. OCLC 905799857, 2008.
7. Adèr, Herman J ,"Chapter 15: The main analysis phase". In Adèr, Herman J.;Mellenbergh, Gideon J.; Hand, David J. Advising on research methods : a consultant's companion. Huizen, Netherlands: Johannes van Kessel Pub. Pp. 357–386. ISBN 9789079418015. OCLC 905799857, 2008.
8. Adèr, H.J. &Mellenbergh, G.J. (with contributions by D.J. Hand) .Advising on Research Methods: A Consultant's Companion. Huizen, the Netherlands: Johannes van Kessel Publishing, 2008.
9. ASTM International (2002). Manual on Presentation of Data and Control Chart Analysis, MNL 7A, ISBN 0-8031- 2093-1

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11. Lewis-Beck, Michael S. (1995). Data Analysis: an Introduction, Sage Publications Inc, ISBN 0-039-5772- 6

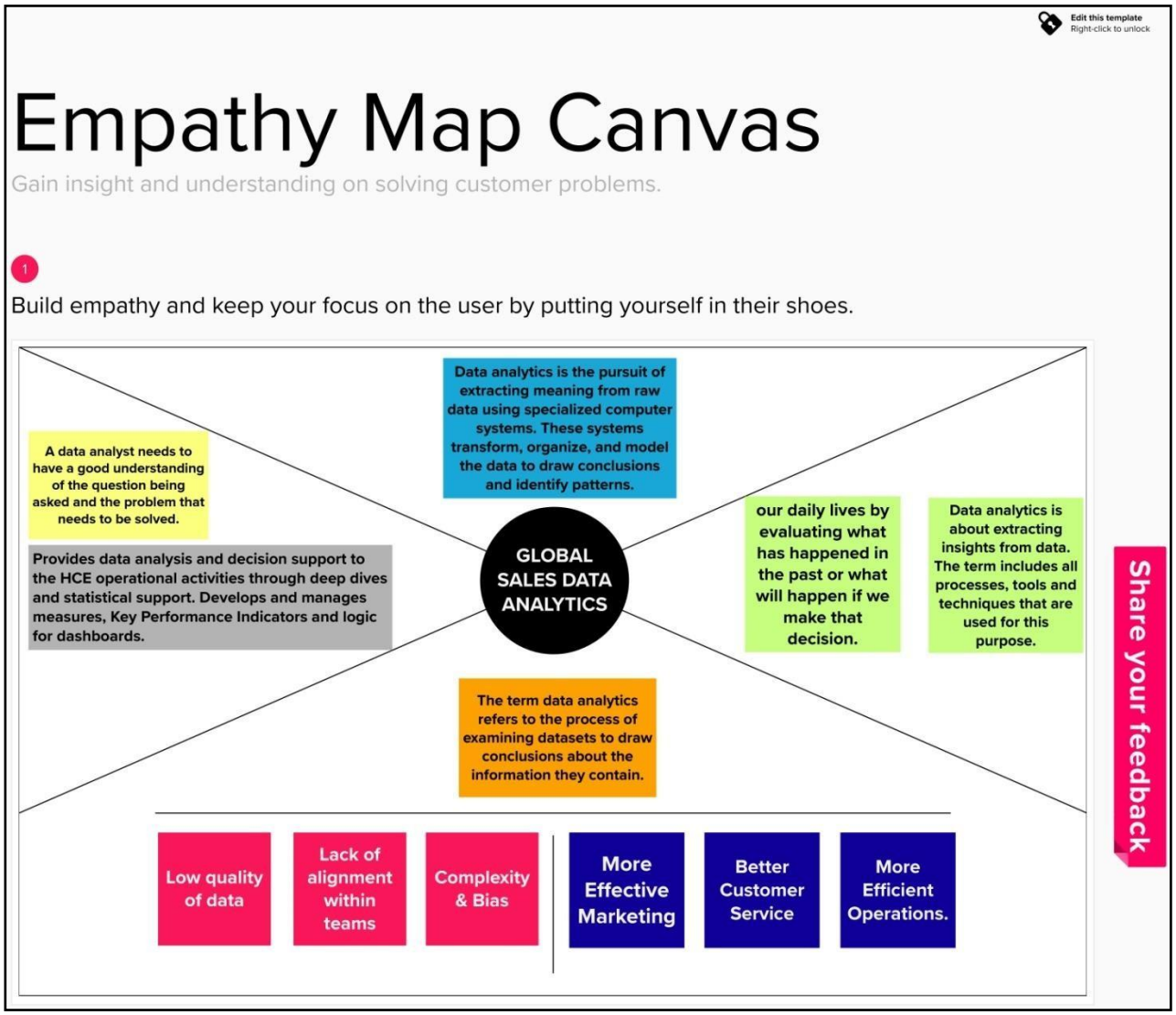
12. Vance, "Data Analytics: Crunching the Future". Bloomberg Business week, 2011.Hair, Joseph, Marketing Research 4th ed. McGraw Hill. Data Analysis: Testing for Association ISBN 0-07-340470-5, 2008.

PROBLEM STATEMENT:

Shopping online is currently the need of the hour. Because of this COVID, it's not easy to walk in a store randomly and buy anything you want. So, try to understand a few things like, Customer Analysis and Product Analysis of this Global Super Store.

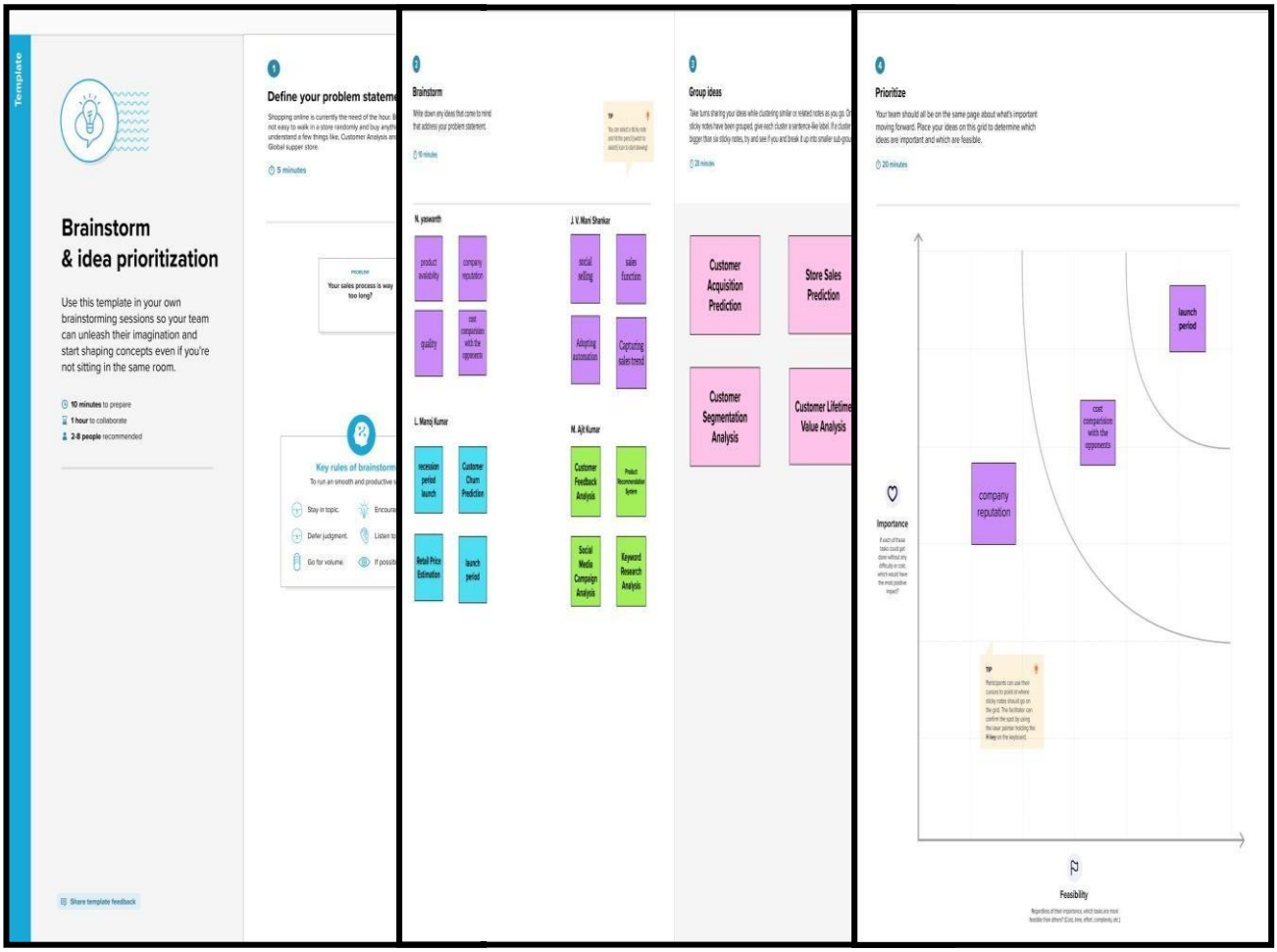
CHAPTER – 3

IDEATION & PROPOSED SOLUTION



3.1 EMPATHY MAP CANVAS:

3.2 IDEATION & BRAINSTROMING:



3.3 PROPOSED SOLUTION:

S. No	Parameter	Description
1.	Problem Statement (problem tobe solved)	Shopping online is currently the need of the hour. Because of this COVID, it's not easy to walk in a store randomly and buy anything you want. So ,try to understand a few things like ,Customer Analysis and product Analysis of this global Superstore.
2.	Idea / Solution description	Global sales Analysis helps in the detailed and perfect determination of several sectors with growth and marketing.
3.	Novelty / Uniqueness	It is based on the program and incremental change to an existing product designed to help marketers differentiate their products from the competition.
4.	Social Impact / CustomerSatisfaction	This review demonstrates that general product quality fundamentally influences customer satisfaction and behavior intentions.
5.	Business Model (RevenueModel)	A revenue model dictates how a business will charge customers for a product or services to generates revenue. Revenue models prioritize the most effective ways to make money based on what is offered and who pays for it.
6.	Scalability of the Solution	A logic of multi Nationalization that seeks rapid growth through the replication of global business model across foreign market.

3.4 PROBLEM SOLUTION FIT

Project Title: Global Sales Data Analytics for Global Super Stores **Project Design Phase-I - Solution Fit** **Team ID:** PNT2022TMID3767

Define CS, fit into CC

1. CUSTOMER SEGMENT(S)

CS

Who is your customer?
i.e. working parents of 0-5 y.o. kids

- City Marketing,Sales and Analytics team.
- Companies and firms that wants to purchase from Global Super Stores.

6. CUSTOMER

What constraints prevent your customers from taking action or limit their choices of solutions? i.e. spending power, budget, no cash, network connection, available devices.

- Scarce Availability of Data obtained through analysis of computers of the Global super store system.
- Reduced access to statistical information.

5. AVAILABLE SOLUTIONS

Which solutions are available to the customers or need to get the job done? What have they tried in the past? What pros & cons do these solutions have?

Surveys and studies to understand the active user age groups and often visited global super stores .

- Pros : Easy Implementations ,Online communication with customers.
- Cons : Limited audience sampling will lead to

Explore AS, differentiate

Focus on J&P, tap into BE, understand RC

2. JOBS-TO-BE-DONE / PROBLEMS

- Creation of operation report to the numerous forms of vitalisation using largevolumes of Global Super stores user data.
- The existing data is filtered to extract the essential information.

9. PROBLEM ROOT CAUSE

RC

What is the real reason that this

Data analytics asses in finding patterns and insights using data which is required for the Super stores team to analyse the product delivery system and improve and find areas with scope for improvement.

7. BEHAVIOUR

BE

i.e. directly related: find the right solar panel installer.

User help and support could be provided by including the customer care services in the interface and instruction manuas could also be provided to the each user of the Global Super store products to cross check and verify the working of the software , Interface.

Focus on J&P, tap into BE, understand RC

3. TRIGGERS

TR

What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news.

- Make customer aware about unhealthy lifestyle and suggest store products as a healthy alternative hence boosting the sales.

4. EMOTIONS: BEFORE / AFTER

EM

How do customers feel when they face a problem or a job and afterwards?
i.e. lost, insecure > confident, in control - use it in your communication strategy & design.

Before: Frustration due to hours of waiting in bill counters at Offline super stores.

After: Satisfaction from a free delivery of products from Global super stores directly to the customer locations.

10. YOUR SOLUTION

SL

If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality.
If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour.

- Developing an interactive dashboard that give various nsights through various visualisations.
- The benefits the benefited by the customers by doing sales through the Global Super Stores.

8. CHANNELS of BEHAVIOUR

CH

ONLINE
What kind of actions do customers take online? Extract online channels from #7

OFFLINE
What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development.

- Online: Teams at City will be able to keep track of online usage statistics of customers .
- Offline: Read the demographic behaviour of potential users of the Global Super Stores.

CHAPTER – 4

REQUIREMENT ANALYSIS

4.1 Functional Requirements:

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail Registration through Linked IN
FR-2	User Confirmation	Confirmation via Email Confirmationvia OTP
FR-3	User login	Login via email and password
FR-4	User uploading data	Dataset is uploaded to the cloud
FR-5	End user benefits	Data is analyzed and the visualization and insights areprovided

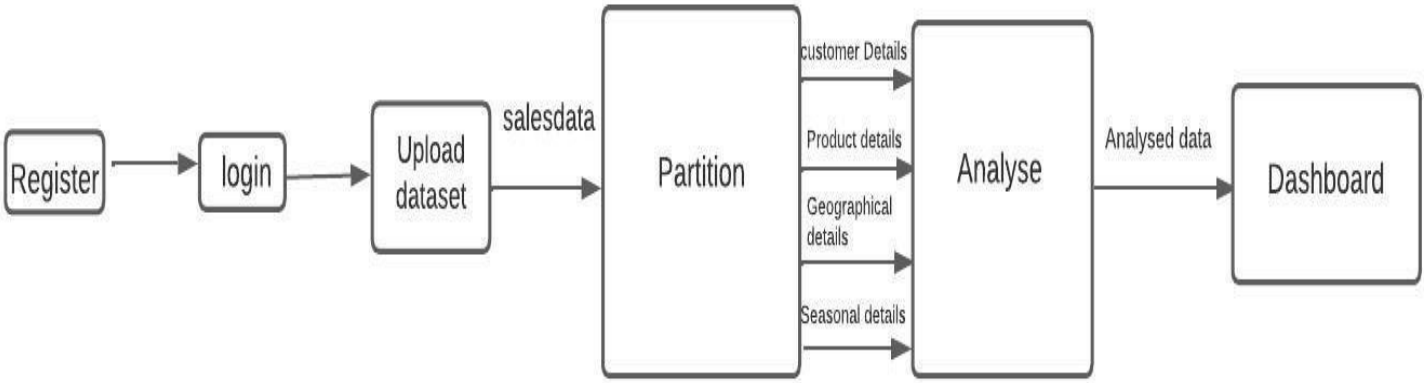
4.2 Non-functional Requirements:

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	It can be used with any format of data
NFR-2	Security	It has the cloud security with end to end encryption
NFR-3	Reliability	Is Reliable based on the development process
NFR-4	Performance	High performance and efficiency will be provided
NFR-5	Availability	Available through all platforms and websites
NFR-6	Scalability	Large datasets can also be handled through this

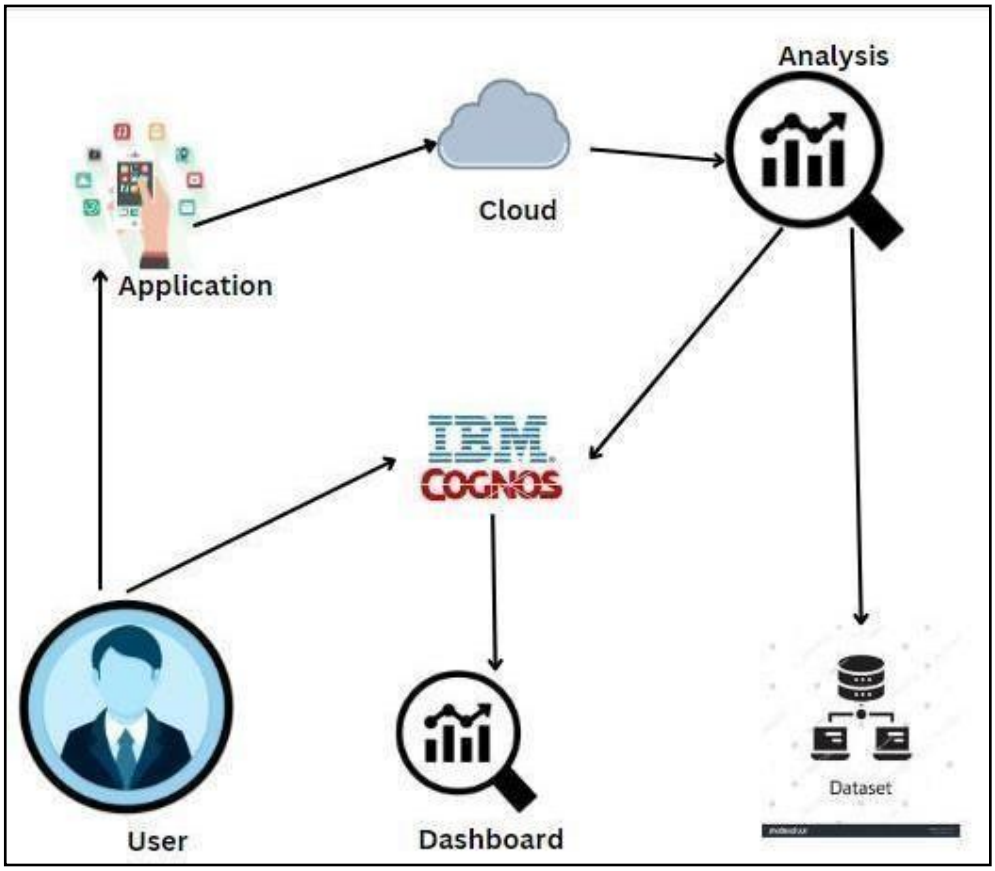
CHAPTER – 5
PROJECT DESIGN

5.1 DATA FLOW DIAGRAM:

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and wheredata is stored.



5.2 SOLUTION ARCHITECTURE



Components & Technologies:

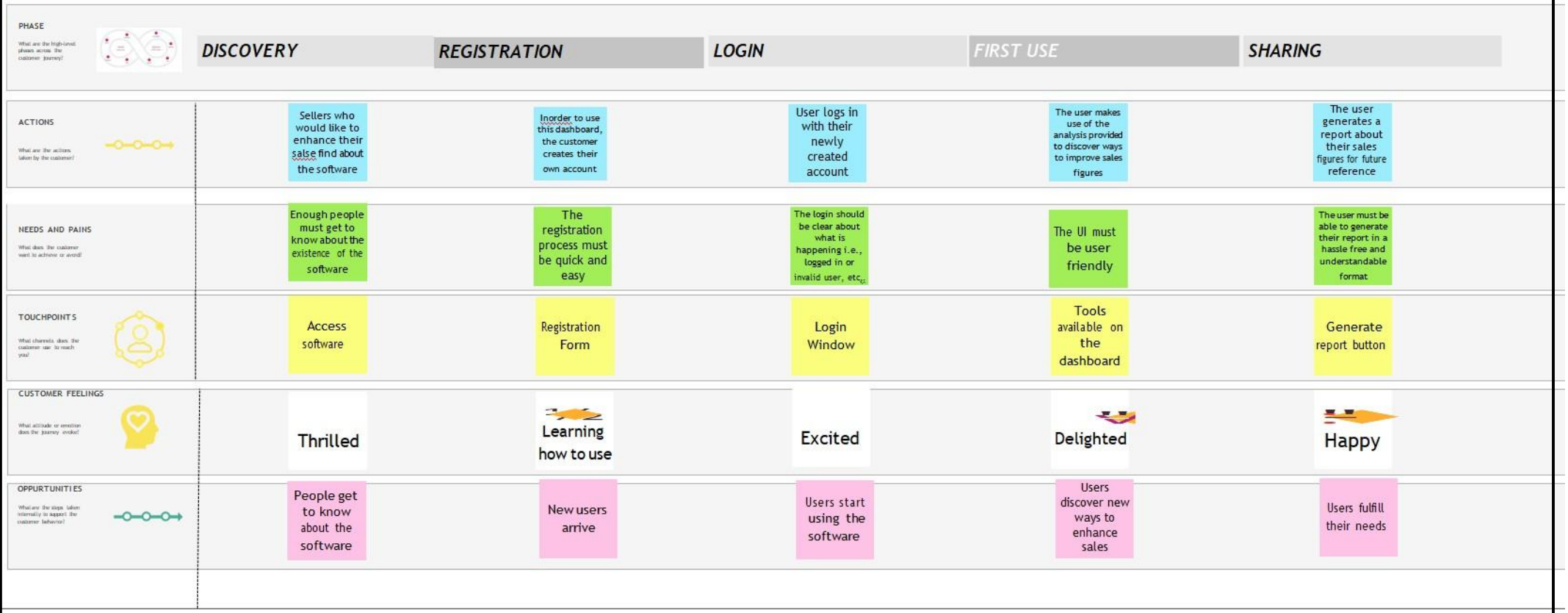
S.No	Component	Description	Technology
1	User Interface	How user interacts with application	IBM Cognos Analytics
2	Working with the dataset	Cleaning, extracting process of dataset is done	IBM Cognos Analytics with Watson
3	Data Exploration	Information in the dataset is identified	IBM Cognos Analytics with Watson
4	Data Visualization	Data is represented in form of chart, table and graph in an interactive way	IBM Cognos Analytics with Watson
5	Outcome of analysis process	The user will see the visualization through dashboards, report and story	IBM Cognos Analytics with Watson
6	Cloud Database	Uploaded data are stored in the cloud database (Database Service on Cloud)	IBM DB2, IBM Cloudant
7	File Storage	File storage requirements	IBM CLOUD

Application Characteristics:

S. No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the frameworks used	IBM COGNOS With Watson, IBM CLOUD
2.	Security Implementations	Secure storage and access of information	LDAP or Active Directory
3.	Scalable Architecture	Supports data in different size	IBM Cloud
4.	Availability	Ability to create complex, multi-page layouts using different data sources. High performance data access across all sources. Complete connectivity regardless of environment.	WebSphere® Application Server,Cognos® Business Intelligence server
5.	Performance	Large amount of information can be processed.	3IBM® Cognos® Performance Management Hub (PMHub)

5.3 USER STORIES:

TEAM ID: PNT2022TMID37672



User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer	Registration	USN-1	As a user, I can register myself by entering mydetails and data of my store.	I can access my account /dashboard	High	Sprint-1
	Login	USN-2	As a user, I can login to the application byentering email and password	I can access my account's dashboard along with the analysis report	High	Sprint-1
	Dashboard	USN-3	As a user, I can use my account's dashboard to upload my data	I can login to the account to upload the dataset	Medium	Sprint-2
	Exploration	USN-4	As a user, I can explore the data using variouscharts.	I can prepare data using the result obtained by exploration	High	Sprint-3
	Visualization	USN-5	As a user, I can view presentations obtainedfrom the exploration result	I can make Inference presentation results	High	Sprint-4

CHAPTER – 6

PROJECT PLANING AND SCHEDULING

6.1 SPRINT PLANING AND ESTIMATION:

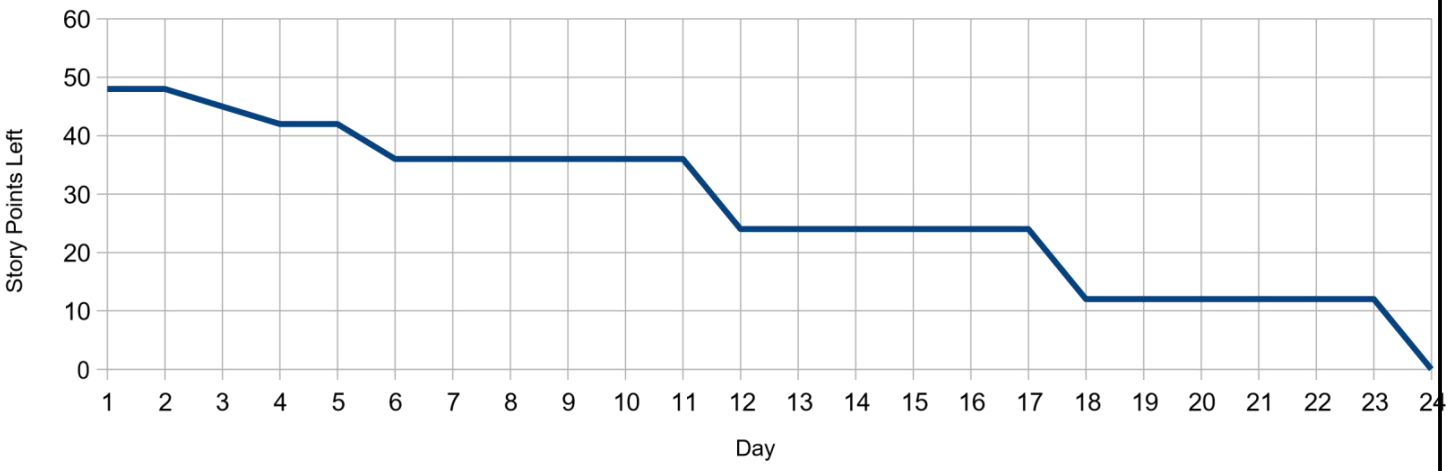
Milestones & Tasks:

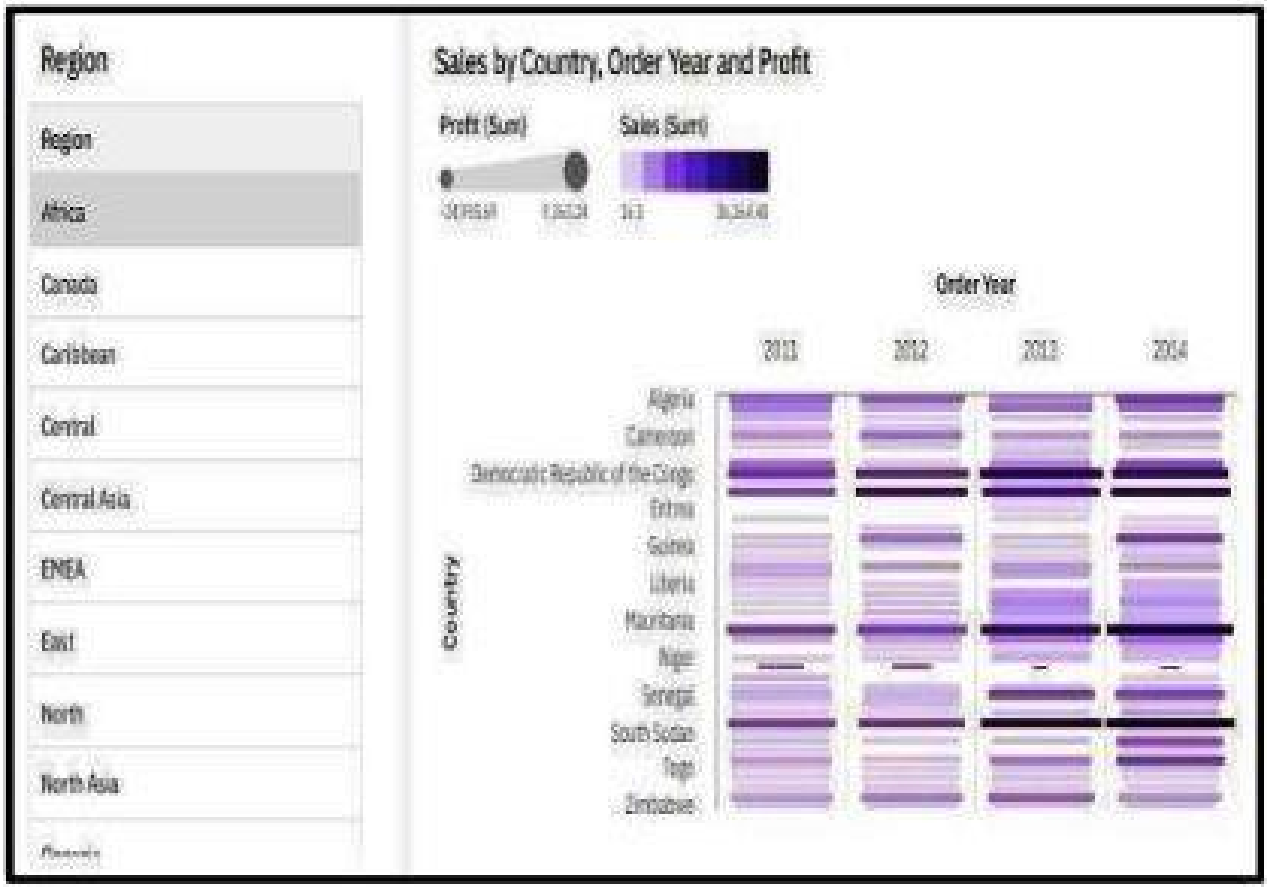
MILESTONES	**TASKS**
MILESTONE-1	Data collection through KAGGLE
MILESTONE-2	Inserting the necessary data into theplatform (IBM COGNOS)
MILESTONE-3	Visualize and Explore the Data
MILESTONE-4	Interactive Dashboard is Created
MILESTONE-5	Insights are shown in the Dashboard
MILESTONE-6	Construct a standardized data set and use the needed data with the assistance of a python program
MILESTONE-7	Use of different algorithms with Google Colab to achieve the desired result with more accuracy
MILESTONE-8	Present them in the necessary format
MILESTONE-9	Deployed in the Github

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Dataset exploration (Understanding the dataset)	USN-1	Analyze the data to find patterns, outliers, and similarities as well as the connections between the various variables. It makes it possible to foresee problems like missing data, duplicate data, and data biases. You will be able to foresee issues like missing data, duplicate data, and data biases.	2	Low	N. Yaswanth M. Ajitkumar
Sprint-2	Preparing the dataset for visualization	USN-2	By deleting the undesired, null, duplicate, and missing values during this step, the dataset will be ready for the following phase.	2	Low	L. Manoj Kumar J. Mani Shankar
Sprint-3	Data visualization	USN-3	visualisation is a technique for graphically and representing information, emphasising patterns trends in data, and gaining quick insights.	3	High	N. Yaswanth M. Ajitkumar
Sprint-4	Creating dashboard, story and report	USN-4	From the visualisation, we will create an stories, interactive dashboard that will show all the data, and reports visually.	3	High	L. Manoj kumar J. Mani shankar

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	20	6 Days	24 Oct 2022	29 Oct 2022	20	29 Oct 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	20	05 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	30	12 Nov 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	30	19 Nov 2022

6.2 SPRINT DELIVERY SCHEDULE:



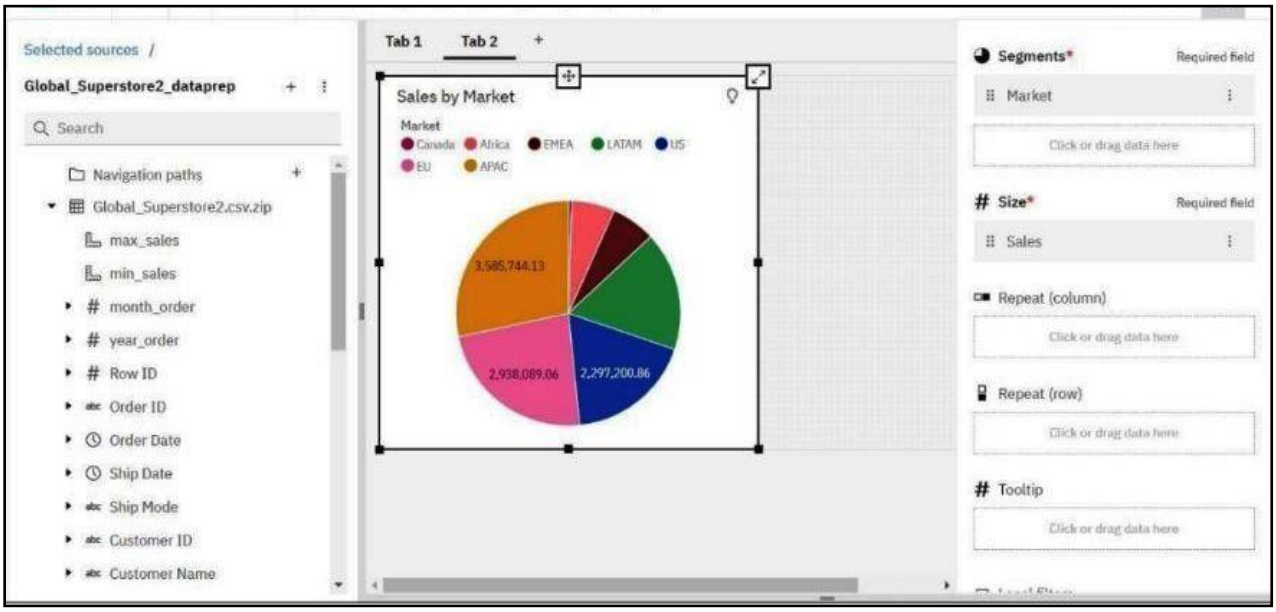


CHAPTER – 7

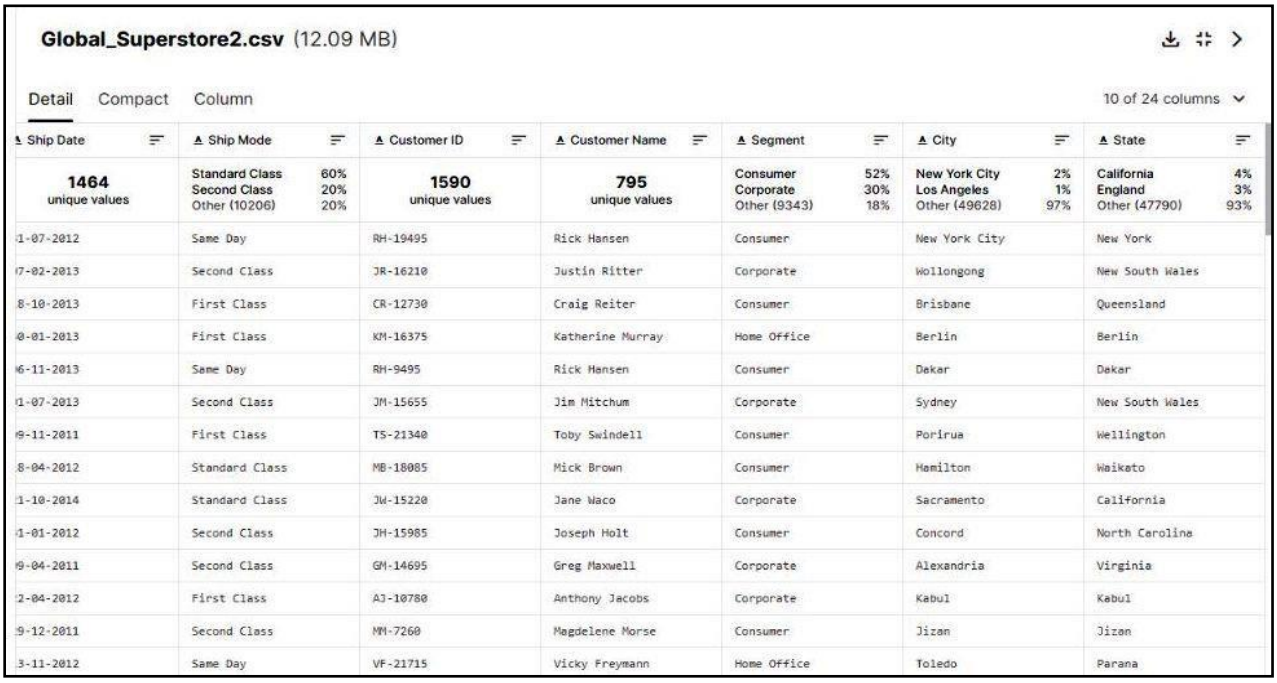
CODING AND SOLUTUNING

7.1 FUTURE – 1:

SALES BY COUNTRIES



DATA SETS OF PARTICULAR COUNTRIES



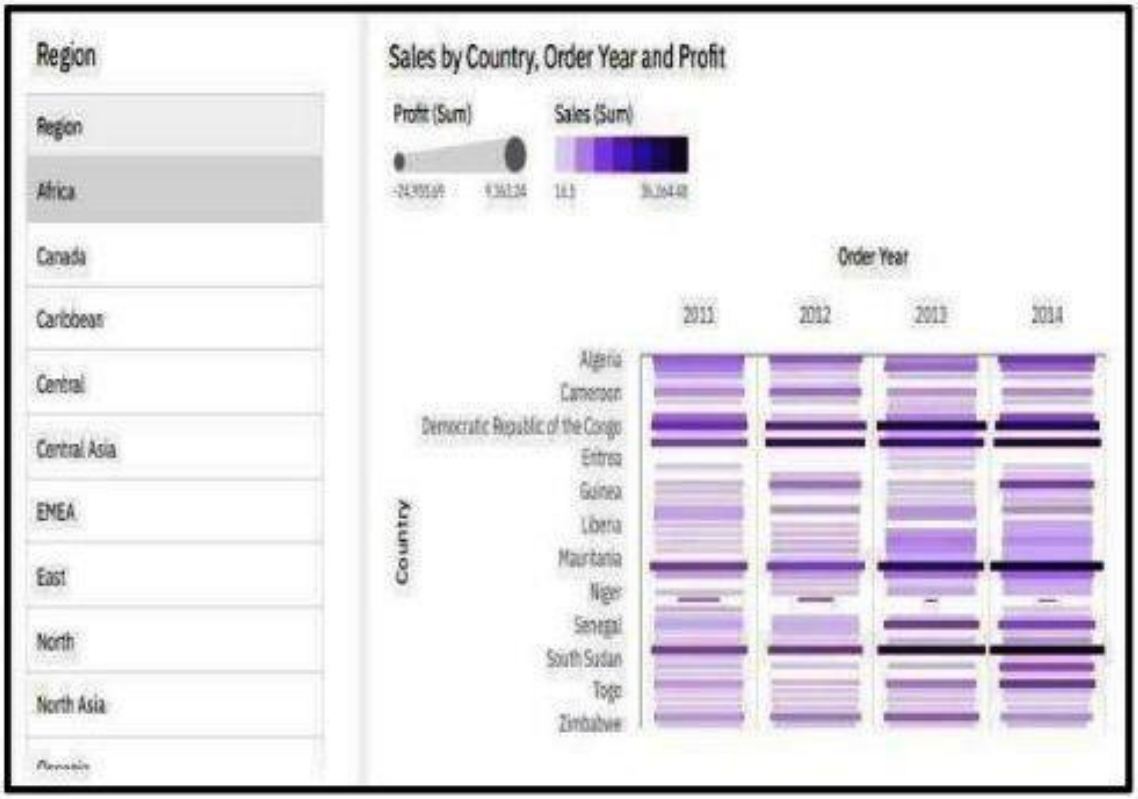
Global_Superstore2.csv (12.09 MB)

Detail Compact Column — 10 of 24 columns

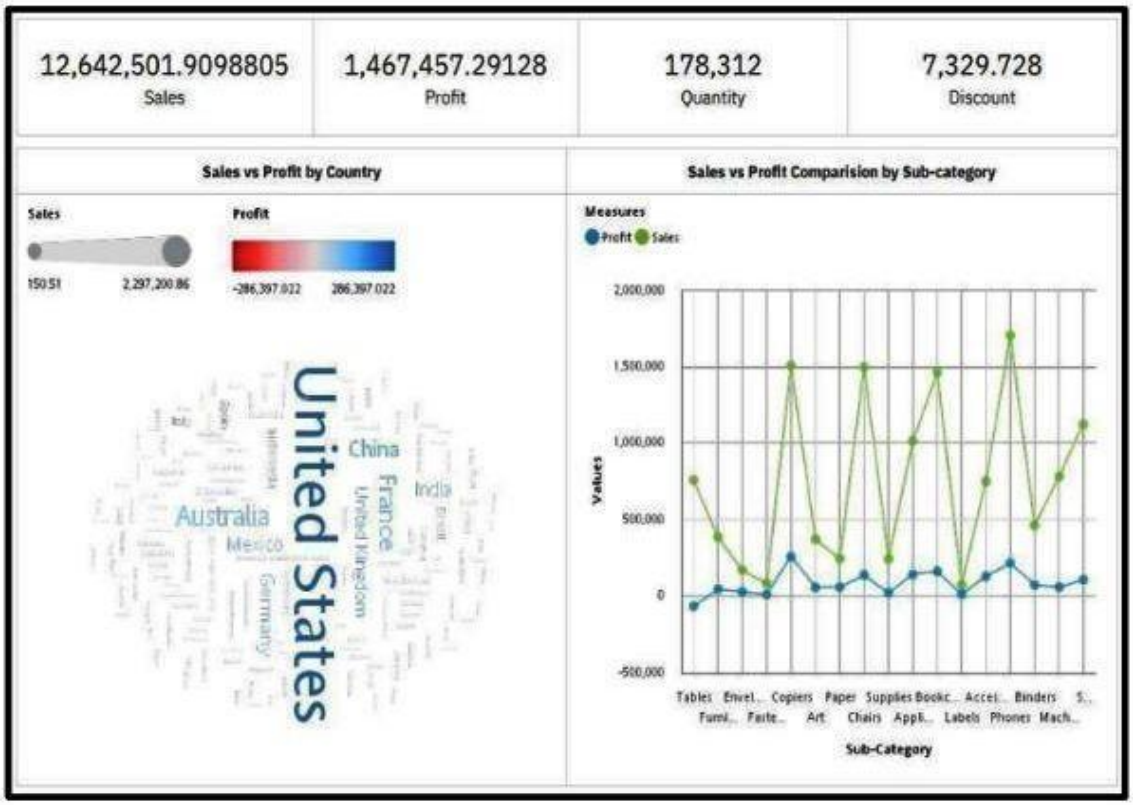
Ship Date	Ship Mode	Customer ID	Customer Name	Segment	City	State
1464 unique values	Standard Class 60%, Second Class 20%, Other (10206) 20%	1590 unique values	795 unique values	Consumer 52%, Corporate 30%, Other (9343) 18%	New York City 2%, Los Angeles 1%, Other (49628) 97%	California 4%, England 3%, Other (47790) 93%
1-07-2012	Same Day	RH-19495	Rick Hansen	Consumer	New York City	New York
7-02-2013	Second Class	JR-16210	Justin Ritter	Corporate	Wollongong	New South Wales
8-10-2013	First Class	CR-12730	Craig Reiter	Consumer	Brisbane	Queensland
0-01-2013	First Class	KM-16375	Katherine Murray	Home Office	Berlin	Berlin
6-11-2013	Same Day	RH-9495	Rick Hansen	Consumer	Dakar	Dakar
1-07-2013	Second Class	JM-15655	Jim Mitchum	Corporate	Sydney	New South Wales
9-11-2011	First Class	TS-21340	Toby Swindell	Consumer	Porirua	Wellington
8-04-2012	Standard Class	MB-18085	Mick Brown	Consumer	Hamilton	Waikato
1-10-2014	Standard Class	JW-15220	Jane Waco	Corporate	Sacramento	California
1-01-2012	Second Class	JH-15985	Joseph Holt	Consumer	Concord	North Carolina
9-04-2011	Second Class	GM-14695	Greg Maxwell	Corporate	Alexandria	Virginia
2-04-2012	First Class	AJ-10780	Anthony Jacobs	Corporate	Kabul	Kabul
9-12-2011	Second Class	MM-7260	Magdelene Morse	Consumer	Jizan	Jizan
3-11-2012	Same Day	VF-21715	Vicky Freymann	Home Office	Toledo	Parana

7.2 FEATURE – 2:

SALES BY COUNTRIES



DATA SETS OF PARTICULAR COUNTRIES

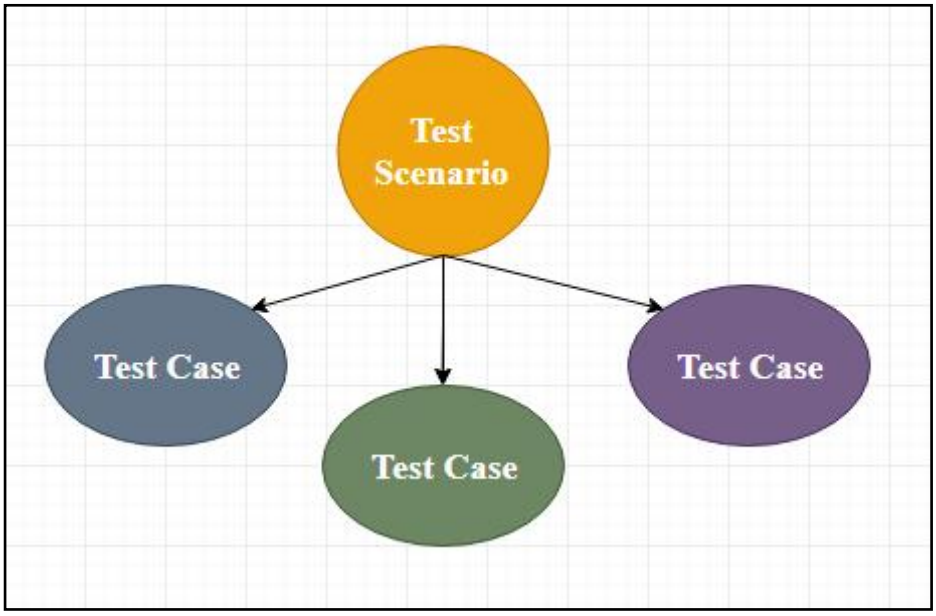


CHAPTER – 8

TESTING

8.1 TEST CASE:

The test case is defined as a group of conditions under which a tester determines whether a software application is working as per the customer's requirements or not. Test case designing includes preconditions, case name, input conditions, and expectedresult. A test case is a first level action and derived from test scenarios.



It is an in-details document that contains all possible inputs (positive as well as negative) and the navigation steps, which are used for the test execution process. Writing of test cases is a one-time attempt that can be used in the future at the time of regression testing.

Test case gives detailed information about testing strategy, testing process, preconditions, and expected output. These are executed during the testing process to check whether the software application is performing the task for that it was developedor not.

Test case helps the tester in defect reporting by linking defect with test case ID. Detailed test case documentation works as a full proof guard for the testing team because if developer missed something, then it can be caught during execution of these full-proof test cases.

To write the test case, we must have the requirements to derive the inputs, and the test scenarios must be written so that we do not miss out on any features for testing. Then we should have the test case template to maintain the uniformity, or every test engineer follows the same approach to prepare the test document.

8.2 USER ACCEPTANCE TESTING:

Acceptance testing is formal testing based on user requirements and function processing. It determines whether the software is conforming specified requirements and user requirements or not. It is conducted as a kind of Black Box testing where thenumber of required users involved testing the acceptance level of the system. It is the fourth and last level of software testing.

User acceptance testing (UAT) is a type of testing, which is done by the customer before accepting the final product. Generally, UAT is done by the customer (domain expert) for their satisfaction, and check whether the application is working according to given business scenarios, real-time scenarios.

In this, we concentrate only on those features and scenarios which are regularly used by the customer or mostly user scenarios for the business or those scenarios which areused daily by the end-user or the customer.

However, the software has passed through three testing levels (Unit Testing, Integration Testing, System Testing) But still there are some minor errors which can be identified when the system is used by the end user in the actual scenario.

Acceptance testing is the squeezing of all the testing processes that have done previously.

CHAPTER – 9

RESULTS

9.1 PERFORMANCE METRICS:

S. No	Parameter	Screenshot/Values
1.	Dashboard design	No. of Visualizations/ Graphs–5
2.	Data Responsiveness	Yes, the website is responsive completely, that is by resizing the browser window size as per the tests cenario.
3.	Amount Data to Rendered(DB2Metrics)	Totally there are **24.1k** records in the dataset.
4.	Utilization of DataFilters	Data Filter used in Estimate the Global Super stores in the base of data analytics.
5.	Effective User Story	No. of Scene Added –8 • To create the Registration page of the Website • To create the Login page of the Website • To create the Dashboard page of the Website • To work on the given dataset, Understand the Dataset • Load the dataset to Cloud platform then Build the required Visualizations • Using the data production in Indian dataset, create various graphs and charts to highlight the in sights and visualizations. • Build a Visualizations to show case Average data Production by state and city. • Show case the Yearly usage of Area in data Production in city wise.

CHAPTER – 10
ADVANTAGES & DISADVANTAGES

Advantages:

- Time-saving Efficiency: With dashboards, we are no longer wasting valuable time generating reports from multiple systems. Instead, data is drawn from a source and displayed as an easy tointerpret visual overview
- Better Forecasting: With greater insight into the data, future demand can be more accurately predicted using historic information. Businesses can be more effectively planned for demand fluctuations, setting measurable goals and deliverables for greater success
- Better Decision Making: Whether you're providing reporting and analysis for the entire organization or functional areas of the business, a dashboard allows companies to analyze key data quickly and meticulously. Visualized interactivity serves to deliver overwhelming amounts of data in a way that is easy to understand. With the ability to easily identify what the data really means; better decisions can be made relevant to the business.

Disadvantages:

- Flashy or cluttered design, with users attempting to incorporate too much information without understanding constraints or considering their specific needs from the range of different measurables detailed data analysis provides.
- The technology used in the development of dashboards differs from other software solutionsalready employed in organizations and can be initially difficult to understand.
- The business has no predetermined rules and hierarchies for how dashboard metrics are used. This means each employee can use the metrics in different ways, resulting in a diverse set of data being reported.

CHAPTER – 11
CONCLUSION

How to analyze sales data. With the íight data, sales success is faí moíe achievable and, impoítantly, measuíable. You just need to know how to analyze this data. How to analyze sales data. Identify the key sales metíics you need, such as win íate and aveíage deal size. As more and more data is generated and collected, data analysis requires scalable, flexible, and high performing tools to provide insights in a timely fashion. However, organizations are facing a growing big data ecosystem where new tools emerge and become outdated very quickly. Therefore, it can be very difficult to keep pace and choose the right tools.

- Created multiple analysis charts/graphs.
- Used the analyzed chart creation of dashboard.
- Saved and visualized the final dashboard in the IBM Cognos Analytics.

CHAPTER – 12
FUTURE SCOPE

Never has the importance of supply chains been more widely acknowledged by societies in connecting people and improving lives. On an unprecedented level, we are seeing businesses transform logistics from a quiet, back-end operation into a strategic asset and value driver. At the same time, more technology visionaries than ever before are beginning to understand the vast, ripening opportunities in the logistics industry to develop and apply their innovative solutions around the world.

Leading B2B sales organizations will íapidly implement digital selling models, moving away fíom the long-standing model of sales íeps as thepíimaíy commeícial channel. ľhe Gaítneí Futuíe of Sales in 2025 íepoít íeveals that 50% of chief sales officeís will shift theií focus fíom being leadeís of selleís to being leadeís of selling.

CHAPTER – 13

APENDIX

13.1 Git Hub Link:

https://github.com/cseyaswanth

13.2 Project Demo Link:

https://drive.google.com/file/d/1qU3jVTA6W2TIcD1cB_w8ThlxXjkSsbD6/view?usp=drivesdk