

GLOBAL SALES- DATA ANALYTICS

A MINI PROJECT REPORT

Submitted by

KUMARAVEL V (AC19UCS060)

PAVITHRAN M (AC19UCS083)

PUNITH RAJ R (AC19UCS089)

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*in partial fulfilment for the award of the
degree of*

BACHELOR OF ENGINEERING

in

COMPUTER SCIENCE AND ENGINEERING

ADHIYAMAAN COLLEGE OF ENGINEERING

DR. M.G.R NAGAR, HOSUR-635130

**ANNA UNIVERSITY: CHENNAI 600
025**

NOVEMBER 2022

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BONAFIDE CERTIFICATE

Certified that this mini project report “**GLOBAL SALES DATA ANALYTICS USING DATA ANALYTICS** ” is the bonafide work of “**KUMARAVEL V (AC19UCS060), PAVITHRAN M (AC19UCS083), PUNITH RAJ R M(AC19UCS089), SANJAY S (AC19UCS096)**” who carried out the project under my supervision.

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ABSTRACT

Data is being generated very rapidly due to increase in information in everyday life. Huge amount of data get accumulated from various organizations that is difficult to analyze and exploit. Data created by an expanding number of sensors in the environment such as traffic cameras and satellites, internet activities on social networking sites, healthcare database, government database, sales data etc., are example of huge data. Processing, analyzing and communicating this data are a challenge. Online shopping websites get flooded with voluminous amount of sales data every day. Analyzing and visualizing this data for information retrieval is a difficult task. Therefore a system is required which will effectively analyze and visualize data. This paper focuses on a system which will visualize sales data which will help users in applying intelligence in business, revenue generation, and decision making, managing business operation and tracking progress of tasks. The main Achievement of this Global Sales Data Analytics is to reduce the manufacturing cost of the raw material and improved the sales forecasting by identifying the key factors like the total sales revenue on a monthly and quarterly basis on the region and the sale amount. And the decision support system Data Warehousing Project is focused on analyzing the entire business process. In order to provide critical information like daily revenue, Weekly Revenue, Monthly Revenue, total sales, goals, information on employees and vision of the company developed Business Intelligence System.

CHAPTER 1

INTRODUCTION

1.1 project Overview

The main focus here is to read and analyze data to produce insights and the company's overall sales. Retail stores sell products and gain profit from it. There can be a network of stores of a company located at different geographical locations, the company would find it difficult to understand the customer needs and market potentials at these various locations. In this work, we will be using the sales data of a company to understand the factors affecting the sales, for example, the unemployment rate, popularity of product, and holidays in the different stores located at different locations, so that the resources can be managed wisely to maximize sales and earn maximum profit. These analytics will help companies to understand market conditions of the various factors affecting sales. For example Diwali holidays would induce a spike in sales and companies can better prepare for those time intervals. Thus, customer demands can be observed easily based on the above factors. When the data is properly stored, managed and analyzed, the owners will start to see patterns, insights and the big picture of the company, and accordingly the required suitable actions can be taken. This will also help to optimize the company's operations and also help in maximizing sales and profit. Additionally, this data can be used to forecast future sales of a company in the coming time so that the retailers can have a clear understanding about the company's future

1.2 Purpose

To Create a Data Visualisation charts like mention below

- i. Segment wise Sales, Profit and Qty
- ii. Use Pie to showcase Sales by Order Priority and
- iii. Sales by Market
- iv. Use a Tree Map to present Sales by Sub-Category
- v. Using a Bar chart present Sales by Region by Sales order
- vi. Present Regional Sales using Map Country points -- Show case Top 10 countries.
- vii. Present Sales (Bar), Profit (line) by Sub-Category using Line and Column Chart
- viii. Sales vs Profit Scatter Plot with Sub-Category points and Region in Colour
- ix. Sales and Profit Forecast by Month Country as Region and Region as Filter
- x. Sales vs Profit forecast by Month by Order Priority
- xi. Show the Min, Max, Avg Sales by Sub-Category using Box plot By setting 10% extra Target for Sales Present Segment-wise Sales use Bullet Chart
- xii. Present Sales using Hierarchy Bubbles by Market / Region
- xiii. Using a Legacy Map Present Sales vs Profit by Country / Region
- xiv. Show case Quantity Sold by Radar Chart across various Regions
- xv. Present Monthly Sales by Sub-Category using Waterfall chart
- xvi. Present Sales Vs Profit of Countries by Word Cloud.
- xvii. Sales dashboard with Summary Cards.

CHAPTER 2

2.1 LITERATURE SURVEY

India will rank first in terms of e-commerce development with a compound annual growth rate (CAGR) of 17.8 in the following projected period from 2019 to 2023. Online shopping is one of the most popular internet activities - with some product categories being more popular than others. Customers nowadays are always in a search of innovative products. Innovation can be either in product, place, promotion, or even price. Now it's easier to enter a new market and one can evaluate his/her product and company's performance.

The customer data platform market is steadily rising from USD 2.4 billion in 2020 to USD 10.3 billion in 2025. Parallely, businesses focusing on customer experience enjoy an 80% revenue spike. Up to 84% of online store customers said eCommerce customer service is one of the key factors influencing purchasing decisions.

Customer information gathered via post-checkout surveys can improve customer service and create more helpful FAQ pages, newsletters, and communication.

While forecasting demand, customer data is used to predict potential interest in products or services. This can significantly help you lower your operating costs (in particular storage costs) and improve the efficiency of your online store. After acquiring Goodreads in 2013, Amazon integrated the social networking service of roughly 25 million users with some Kindle functions. This enabled the users to highlight words and notes and also to share them among their peers as a means to discuss the book. The company benefited from this in a way that it could regularly monitor the highlighted words in Kindle to know about the interest of

the readers. They further used this data to recommend eBooks to their customers and also to enhance the reading experience.

According to the research findings, the largest obstacles to business analytics are inadequately staffed and trained professionals, followed by data size quality challenges including market competitiveness. Consumer data protection is one of the major challenges as consumers are concerned about how their personal information is being used in the external world. Analysis of data by collecting data from multiple sources is also a big challenge

2.2 EXISTING PROBLEM

The aim of sales analytics is to predict revenue more accurately and make the most of the opportunities in your reach. It provides a visual representation of your most recent performance metrics. It gives you a concise view of results-based data like sales- to-date, sales-by-region, lead conversionrate, sales growth, and so on. Dashboards are an essential tool for any business with plans to increase revenue and set ambitious growth goals. Without a sales dashboard, you're left to analyze dizzying amounts of data on your own. Trying to compile all those sales analytics metrics manually is an impossibly exhausting task with a massive risk of critical human errors. IBM Cognos tools allows users to receive insights immediately with a simple setup, no training required, and dashboards for services like sales force, Google Analytics, and Microsoft Dynamics.

2.3 PROBLEM STATEMENT DEFINITION 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. In this I am trying to understand few things like, Customer Analysis and Product Analysis of this Global Super Store.

- **Customers Analysis**

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

- **Product Analysis**

1. Which country has top sales?
2. Which are the top 5 profit-making product types on a yearly basis
3. How is the product price varying with sales - Is there any increase in sales with the decrease in price at a day level
4. What is the average delivery time across the counties - bar plot

CHAPTER 3

IDEATION AND PROPOSED SOLUTION

3.1 Empathy Map Canvas:

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviours and attitudes.

It is a useful tool to help teams better understand their users.

Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user's perspective along with his or her goals and challenges.



Fig 1 :Empathy Map


3.2 Ideations and Brainstorming:

Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich number of creative solutions.

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

Step-1: Team Gathering, Collaboration and Select the Problem Statement

Template




Brainstorm & idea prioritization

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

⌚ 10 minutes to prepare
 🕒 1 hour to collaborate
 👤 2-8 people recommended

[Share template feedback](#)



Need some inspiration?
See a finished version of this template to kickstart your work.

[Open example](#)

➔

Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

⌚ 10 minutes

A

Team gathering
 Define who should participate in the session and send an invite. Share relevant information or pre-work ahead.

B

Set the goal
 Think about the problem you'll be focusing on solving in the brainstorming session.

C

Learn how to use the facilitation tools
 Use the Facilitation Superpowers to run a happy and productive session.

[Open article](#)

1


Define your problem statement

The main objective of this project is to make a sales pattern analysis and customer analysis which would be leading to more accurate forecasting and quotas.

⌚ 5 minutes

PROBLEM

How might we make a sales pattern analysis and customer analysis which would be leading to more accurate forecasting and quotas ?



Key rules of brainstorming

To run an smooth and productive session

Stay in topic.

Encourage wild ideas.

Defer judgment.

Listen to others.

Go for volume.

If possible, be visual.

Fig 2 : Select The Problem

Step-2: Brainstorm, Idea Listing and Grouping

Write down any ideas that come to mind that address your problem statement.

11 notes

PAVITHRAN M.

NUMARVEL V.

SAHINI S.

PUNITH RAJ R.

Final user analysis

Plan a solution around

Quality of the product impacted for further production.

Defect product generation

Damage control of Statement

Collateral Damages

Time Series

Clustering

Classification

Regression

Risk

Probability and distribution

Take turns sharing your ideas while clustering similar or related notes as you go. In the last 10 minutes, give each cluster a new name-like label. If a cluster is bigger than six sticky notes, try and see if you can break it up into smaller sub-groups.

20 minutes

Win Rate

downgraded size

Index Revenue

Lead Response Time

Data via feedback

Fig 3 : Brainstorming

Step-3: Idea Prioritization

4

Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

🕒 20 minutes

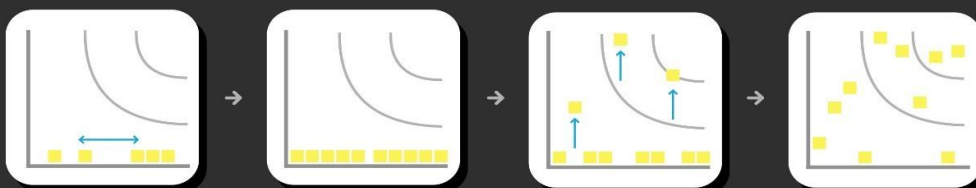


Fig 4 : Idea Prioritization

3.3 PROPOSED SOLUTION

The main objective of this project is to make a sales pattern analysis and customer analysis which would be leading to more accurate forecasting and quotas.

The sales pattern analysis focuses on finding trends within sales data, which can help you better understand your product demand.

By the customer analytics, create a single, accurate view of an organization's customer base, which can inform decisions about how to best acquire and retain future customers.

It can identify high-value customers and suggest proactive ways to interact with them. Creating dashboard and cloud storage.it is the E-commerce website that provides the dashboard.

3.4 PROPOSED SOLUTION FIT

A business people are the owner who is in control of the operational and monetary aspects of e commerce services. The main objective of this project is to make a sales pattern analysis and customer analysis which would be leading to more accurate forecasting and quotes.

To predict the future business in the developing e commerce. Graphical dashboard is made with Many data analysis ie., graphs. Appropriate data must be given on final decision must be made from the analysis.

Data is collected on through cloud analysis pattern is identified. Online: based on cloud analysis. To analyse the best product and to prevent the loss of clients. Creating an interactive simple dashboard to interact with the customer and make better predictions

CHAPTER 4

SYSTEM REQUIREMENTS

4.1 FUNCTIONAL REQUIREMENTS

4.1.1 HARDWARE REQUIREMENTS

Component	Minimum Requirement
Processor	64-bit, four-core, 2.5 GHz minimum per core
RAM	8 GB for developer or evaluation use 16 GB for production use
Hard disk	20 GB

4.1.2 SOFTWARE REQUIREMENTS

- Google Chrome / Mozilla Firefox
- IBM Cognos Tools
- Google Colab
- IBM cloud

4.2 NON-FUNCTIONAL REQUIREMENTS

Non-functional requirements are requirements which specify criteria that can be used to judge the operation of a system, rather than specific behaviours. This should be contrasted with functional requirements that specify specific behaviour or functions. Typical non-functional requirements are reliability, scalability, and cost. Non-functional requirements are often called the ileitis of a system. Other terms for non-functional requirements are "constraints", "quality attributes" and "quality of service requirements".

Reliability: If any exceptions occur during the execution of the software, it should be caught and thereby prevent the system from crashing.

Scalability: The system should be developed in such a way that new modules and functionalities can be added, thereby facilitating system evolution.

Cost: The cost should be low because a free availability of software package.

Performance: The systems performance is based on the dataset used for analysing.

Availability: The developed system is available for all the users to analyse the data on sales.

Security: The system provides more security to the user information

CHAPTER-5

PROJECT DESIGN

5.1 SOLUTION ARCHITECTURE

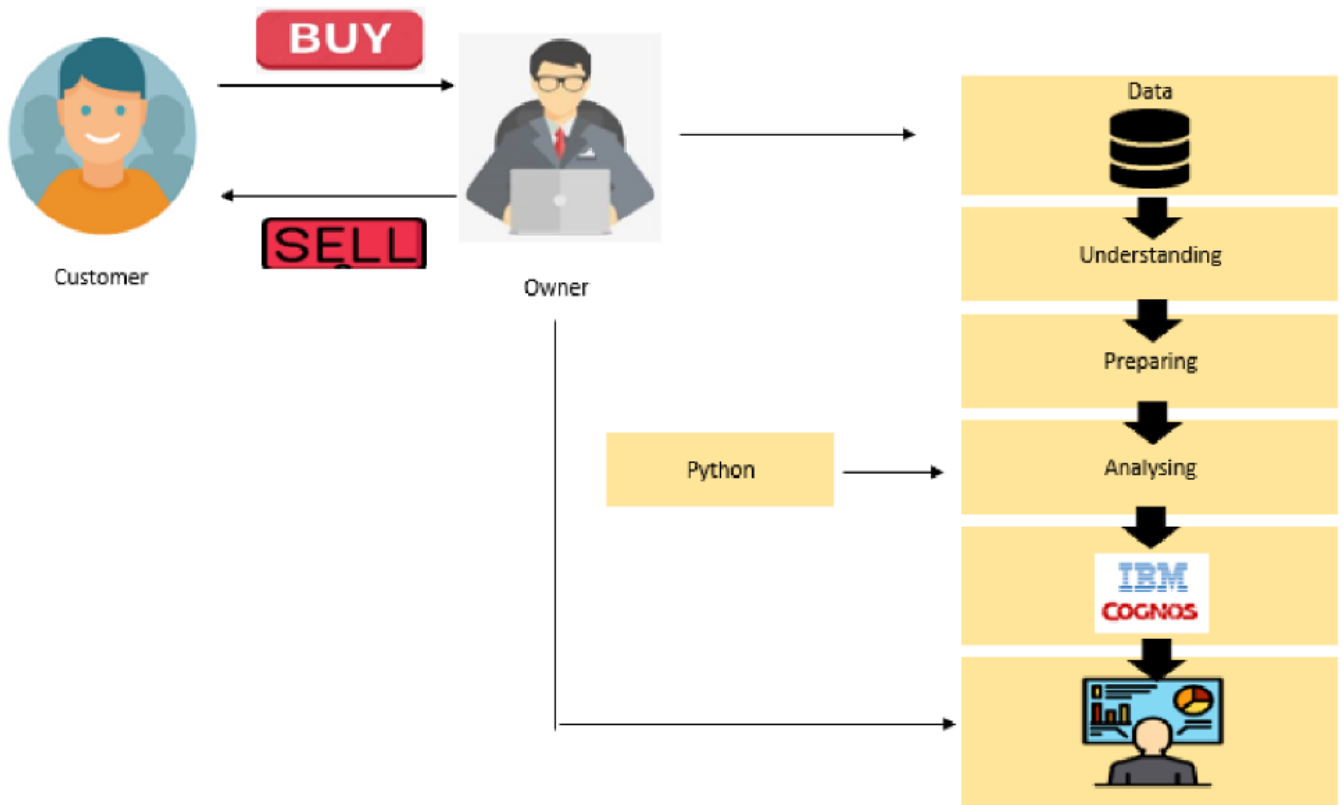


Fig 5 : Solution Architecture

5.2 USER STORIES

i. USER TYPE: Customer (Mobile user)

FUNCTIONAL REQUIREMENT (EPIC): Registration

As a user, I can register for the application by entering my email, password, and confirming my Password. through this I can access my account / dashboard which will be in high priority.

FUNCTIONAL REQUIREMENT (EPIC): Login

As a user, I can log into the application by entering email & password through this I can login using my E-mail ID accounts or user credentials

FUNCTIONAL REQUIREMENT (EPIC): Dashboard

As a user, I may access the dashboard as a user by entering the credentials.

ii. USER TYPE: Customer (Web user)

FUNCTIONAL REQUIREMENT (EPIC): Registration

As a user, I can sign in as a user with my email and the specified password.

FUNCTIONAL REQUIREMENT (EPIC): Login

As a user, I can login to my web dashboard with the login credentials through this I can login using my user credentials

FUNCTIONAL REQUIREMENT (EPIC): Dashboard

As a user, I may access the dashboard as a user by entering the credentials.

iii. USER TYPE: Administrator

FUNCTIONAL REQUIREMENT (EPIC): Login

As an admin, I can login to the website using my login credentials through this I can login to the website using my login credentials

FUNCTIONAL REQUIREMENT (EPIC): Dashboard

As an admin, I can view the dashboard of the application through this I can access my dashboard

CHAPTER 6

PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning & Estimation

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Collect the dataset	USN-1	Download the dataset from Kaggle API	3	High	Pavithran M, Kumaravel V PunithRaj R Sanjay S
Sprint-1	Understand the dataset	USN-2	To understand the data in dataset	2	Medium	Pavithran M, Kumaravel V PunithRaj R Sanjay S
Sprint-2	Loding the dataset	USN-3	Load the dataset in IBM cognos analytics	5	High	Pavithran M, Kumaravel V PunithRaj R Sanjay S
Sprint-2	Preparation of data	USN-4	Prepare the data with no null values	2	Low	Pavithran M, Kumaravel V PunithRaj R Sanjay S
Sprint-2	Performing calculations	USN-5	Create new calculation for perfect visualization	3	Medium	Pavithran M, Kumaravel V PunithRaj R Sanjay S

CHAPTER 7

CODING & SOLUTIONING

7.1 SOURCE CODE

```
<!DOCTYPE html>

<html lang="en">

  <head>

    <meta charset="utf-8" />

    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-
to-fit=no" />

    <meta name="description" content="" />

    <meta name="author" content="" />

    <title>Global sales Data Analytics</title>

    <!-- Favicon-->

    <link rel="icon" type="image/x-icon" href="assets/favicon.ico" />

    <!-- Bootstrap icons-->

    <link href="https://cdn.jsdelivr.net/npm/bootstrap
icons@1.4.1/font/bootstrap-icons.css" rel="stylesheet" />

    <!-- Core theme CSS (includes Bootstrap)-->

    <link href="css/styles.css" rel="stylesheet" />

  </head>
```



```

<body>

<!-- Responsive navbar-->

<nav class="navbar navbar-expand-lg navbar-dark bg-dark">

    <div class="container px-5">

        <a class="navbar-brand" href="#">Global data</a>

        <button class="navbar-toggler" type="button" data-bs-toggle="collapse"
data-bs-target="#navbarSupportedContent"                aria-
controls="navbarSupportedContent"  aria-expanded="false"  aria-label="Toggle
navigation"><span class="navbar-toggler-icon"></span></button>

        <div class="collapse navbar-collapse" id="navbarSupportedContent">

            <ul class="navbar-nav ms-auto mb-2 mb-lg-0">

                <li class="nav-item"><a class="nav-link active" aria-current="page"
href="#">Home</a></li>

                <li class="nav-item"><a class="nav-link"
href="#svs">Services</a></li>

                <li class="nav-item"><a class="nav-link"
href="#ctus">Contact</a></li>

                <li class="nav-item"><a class="nav-link"
href="#abus">About</a></li>

            </ul>

        </div>

    </div>

</nav>

<!-- Header-->

```

```

<header class="bg-dark py-5">

  <div class="container px-5">

    <div class="row gx-5 justify-content-center">

      <div class="col-lg-6">

        <div class="text-center my-5">

          <h1 class="display-5 fw-bolder text-white mb-2">Estimate,
Explore and Analyze Global Sales Data</h1>

          <p class="lead text-white-50 mb-4">Quickly perform data
analysis and explore the data with our tool, India's most popular website to analyze
the data</p>

          <div class="d-grid gap-3 d-sm-flex justify-content-sm-center">

            <a class="btn btn-primary btn-lg px-4 me-sm-3"
href="#explore1">Get Started</a>

            <a class="btn btn-outline-light btn-lg px-4"
href="#abus">Learn More</a>

          </div>

        </div>

      </div>

    </div>

  </div>

</header>

<!-- Pricing section-->

<section class="bg-light py-5 border-bottom" id="explore1">

  <div class="container px-5 my-5" id="svs">

```

```

<div class="text-center mb-5">

    <h2 class="fw-bolder">Choose from our service</h2>

    <p class="lead mb-0">we provide wide range of service for our
clients</p>

</div>

<div class="row gx-5 justify-content-center">

    <!-- Pricing card free-->

    <div class="col-lg-6 col-xl-4">

        <div class="card mb-5 mb-xl-0">

            <div class="card-body p-5" style="text-align:center ;">

                <div class="d-grid"><a class="btn btn-outline-primary"
href="#db">View Dashboard</a></div>

            </div>

        </div>

    </div>

    <!-- Pricing card pro-->

    <div class="col-lg-6 col-xl-4">

        <div class="card mb-5 mb-xl-0">

            <div class="card-body p-5" style="text-align:center ;">

```

```
                <div class="d-grid"><a class="btn btn-outline-primary"
href="#vr">View Report</a></div>
```

```
            </div>
```

```
        </div>
```

```
    </div>
```

```
<!-- Pricing card enterprise-->
```

```
<div class="col-lg-6 col-xl-4">
```

```
    <div class="card">
```

```
        <div class="card-body p-5" style="text-align:center ;">
```

```
            
```

```
                <div class="d-grid"><a class="btn btn-outline-primary"
href="#vs">View Story</a></div>
```

```
            </div>
```

```
        </div>
```

```
    </div>
```

```
</div>
```

```
</div>
```

```
</section>
```

```
<!-- Features section-->
```

```
<section class="py-5 border-bottom" id="features">
```

```
    <div class="text-center mb-5" id="db">
```

```
        <h2 class="fw-bolder">Dashboard</h2>
```

```

    <p class="lead mb-0">Interaction made easy with our dashboard</p>

</div>

<div class="container px-5 my-5">

    <div class="row gx-5">

        <iframe
src="https://us3.ca.analytics.ibm.com/bi/?perspective=dashboard&pathRef=.public
_folders%2Fproject%2FGlobal%2BSuperStore%2Bdashboard&action=view&mod
e=dashboard&subView=model000001848b064b07_000000000"        width="500"
height="900"    frameborder="0"    gesture="media"    allow="encrypted-media"
allowfullscreen=""></iframe>

        <div class="col-lg-4 mb-5 mb-lg-0">


        </div>

        <div class="col-lg-4 mb-5 mb-lg-0">


        </div>

        <div class="col-lg-4">


        </div>

    </div>

</div>

<div class="text-center mb-5" id="vr">

    <h2 class="fw-bolder">Report</h2>

```

```

    <p class="lead mb-0">Gather further information on the given data</p>

</div>

<div class="container px-5 my-5">

    <div class="row gx-5">

        <iframe
src="https://us3.ca.analytics.ibm.com/bi/?perspective=dashboard&pathRef=.public
_folders%2Fproject%2FGlobal%2BSuperStore%2Bdashboard&action=view&mod
e=dashboard&subView=model0000001848af818a3_000000000"          width="500"
height="1500"  frameborder="0"  gesture="media"  allow="encrypted-media"
allowfullscreen=""></iframe>

        <div class="col-lg-4 mb-5 mb-lg-0">


        </div>

        <div class="col-lg-4 mb-5 mb-lg-0">


        </div>

        <div class="col-lg-4">


        </div>

    </div>

</div>

<div class="text-center mb-5" id="vs">

    <h2 class="fw-bolder">Story</h2>

```

```

        <p class="lead mb-0">Learn and explore more insights on the data</p>

    </div>

    <div class="container px-5 my-5">

        <div class="row gx-5">

            <iframe
src="https://us3.ca.analytics.ibm.com/bi/?perspective=dashboard&pathRef=.public
_folders%2Fproject%2FGlobal%2BSuperStore%2Bdashboard&action=view&mod
e=dashboard&subView=model0000001848afd59ef_000000000"          width="500"
height="800"  frameborder="0"  gesture="media"  allow="encrypted-media"
allowfullscreen=""></iframe>

            <div class="col-lg-4 mb-5 mb-lg-0">


        </div>

        <div class="col-lg-4 mb-5 mb-lg-0">


        </div>

        <div class="col-lg-4">


        </div>

    </div>

</div>

</div>

</div>

</section>

<!-- Testimonials section-->

<section class="py-5 border-bottom">

```

```

<div class="container px-5 my-5 px-5" id="abus">

  <div class="text-center mb-5">

    <h2 class="fw-bolder">About Us</h2>

    <p class="lead mb-0">We are a team of four members working on a
project under the domain of Data Analytics.</p>

  </div>

<div class="container">

  <div class="row">

    <!-- Team Member 1 -->

    <div class="col-xl-3 col-md-6 mb-4">

      <div class="card border-0 shadow">

        <div class="card-body text-center">

          <h5 class="card-title mb-0">PAVITHRAN M</h5>

          <div class="card-text text-black-50" style="font-weight:700
;">Team Leader</div>

          <div class="card-text text-black-50">Data Analyst</div>

        </div>

      </div>

    </div>

    <!-- Team Member 2 -->

    <div class="col-xl-3 col-md-6 mb-4">

      <div class="card border-0 shadow">

```



```



<div class="card-body text-center">

  <h5 class="card-title mb-0">KUMARAVEL V</h5>

  <div class="card-text text-black-50" style="font-weight:700
;">Team Member</div>

  <div class="card-text text-black-50">Data Analyst</div>

</div>

</div>

</div>

<!-- Team Member 3 -->

<div class="col-xl-3 col-md-6 mb-4">

  <div class="card border-0 shadow">

    <div class="card-body text-center">

      <h5 class="card-title mb-0">SANJAI S</h5>

      <div class="card-text text-black-50" style="font-weight:700
;">Team Member</div>

      <div class="card-text text-black-50">Data Analyst</div>

    </div>

  </div>

</div>

<!-- Team Member 4 -->

<div class="col-xl-3 col-md-6 mb-4">

```

```

<div class="card border-0 shadow">

  <div class="card-body text-center">

    <h5 class="card-title mb-0">PUNITHRAJ R</h5>

    <div class="card-text text-black-50" style="font-weight:700
; ">Team Member</div>

    <div class="card-text text-black-50">Data Analyst</div>

  </div>

</div>

</div>

</div>

</div>

<!-- /.row -->

</div>

</div>

</section>

<!-- Contact section-->

<section class="bg-light py-5">

  <div class="container px-5 my-5 px-5" id="ctus">

    <div class="text-center mb-5">

      <div class="feature bg-primary bg-gradient text-white rounded-3 mb-3"><i class="bi bi-envelope"></i></div>

      <h2 class="fw-bolder">Let's get in touch</h2>

```

```

    <p class="lead mb-0">We'd love to hear from you</p>

</div>

<div class="row gx-5 justify-content-center">

    <div class="col-lg-6">

        <!-- * * * * * -->

        <!-- * * SB Forms Contact Form * * -->

        <!-- * * * * * -->

        <!-- This form is pre-integrated with SB Forms.-->

        <!-- To make this form functional, sign up at-->

        <!-- https://startbootstrap.com/solution/contact-forms-->

        <!-- to get an API token!-->

        <form id="contactForm" data-sb-form-api-token="API_TOKEN">

            <!-- Name input-->

            <div class="form-floating mb-3">

                <input      class="form-control"      id="name"      type="text"
placeholder="Enter your name..." data-sb-validations="required" />

                <label for="name">Full name</label>

                <div          class="invalid-feedback"          data-sb-
feedback="name:required">A name is required.</div>

            </div>

            <!-- Email address input-->

            <div class="form-floating mb-3">

```

```
<input class="form-control" id="email" type="email"
placeholder="name@example.com" data-sb-validations="required,email" />
```

```
<label for="email">Email address</label>
```

```
<div class="invalid-feedback" data-sb-
feedback="email:required">An email is required.</div>
```

```
<div class="invalid-feedback" data-sb-
feedback="email:email">Email is not valid.</div>
```

```
</div>
```

```
<!-- Phone number input-->
```

```
<div class="form-floating mb-3">
```

```
<input class="form-control" id="phone" type="tel"
placeholder="(123) 456-7890" data-sb-validations="required" />
```

```
<label for="phone">Phone number</label>
```

```
<div class="invalid-feedback" data-sb-
feedback="phone:required">A phone number is required.</div>
```

```
</div>
```

```
<!-- Message input-->
```

```
<div class="form-floating mb-3">
```

```
<textarea class="form-control" id="message" type="text"
placeholder="Enter your message here..." style="height: 10rem" data-sb-
validations="required"></textarea>
```

```
<label for="message">Message</label>
```

```
<div class="invalid-feedback" data-sb-
feedback="message:required">A message is required.</div>
```

```
</div>
```

```

<!-- Submit success message-->

<!-->

<!-- This is what your users will see when the form-->

<!-- has successfully submitted-->

<div class="d-none" id="submitSuccessMessage">

    <div class="text-center mb-3">

        <div class="fw-bolder">Form submission successful!</div>

        To activate this form, sign up at

        <br />

        <a href="https://startbootstrap.com/solution/contact-forms">https://startbootstrap.com/solution/contact-forms</a>

    </div>

</div>

<!-- Submit error message-->

<!-->

<!-- This is what your users will see when there is-->

<!-- an error submitting the form-->

<div class="d-none" id="submitErrorMessage"><div class="text-center text-danger mb-3">Error sending message!</div></div>

<!-- Submit Button-->

<div class="d-grid"><button class="btn btn-primary btn-lg" id="submitButton" type="submit">Submit</button></div>

</form>

```

</div>

</div>

</div>

</section>

<!-- Footer -->

<footer class="text-center text-lg-start bg-light text-muted">

>

<!-- Section: Links -->

<section class="" style="background-color: #212529; color: rgb(185, 185, 185); padding-top: 1%;">

<div class="container text-center text-md-start mt-5">

<!-- Grid row -->

<div class="row mt-3">

<!-- Grid column -->

<div class="col-md-3 col-lg-4 col-xl-3 mx-auto mb-4">

<!-- Content -->

<h6 class="text-uppercase fw-bold mb-4">

<i class="fas fa-gem me-3"></i>Global data

</h6>

<p>

We provide you with India's most popular website to analyze the data

</p>

</div>

<!-- Grid column -->

<!-- Grid column -->

<div class="col-md-3 col-lg-2 col-xl-2 mx-auto mb-4">

<!-- Links -->

<h6 class="text-uppercase fw-bold mb-4">

Useful links

</h6>

<p>

Home

</p>

<p>

Services

</p>

<p>

About us

</p>

<p>

Contact

</p>

</div>

<!-- Grid column -->

<!-- Grid column -->

<div class="col-md-2 col-lg-2 col-xl-2 mx-auto mb-4">

<!-- Links -->

<h6 class="text-uppercase fw-bold mb-4">

Social Media

</h6>

<p>

Facebook

</p>

<p>

Twitter

</p>

<p>

Instagram

</p>

<p>

Linkedin

</p>

</div>


```

<!-- Grid column -->

<!-- Grid column -->

<div class="col-md-4 col-lg-3 col-xl-3 mx-auto mb-md-0 mb-4">

  <!-- Links -->

  <h6 class="text-uppercase fw-bold mb-4">Contact</h6>

  <p><i class="fas fa-home me-3"></i> N178, Merchant Street, Chennai,
India</p>

  <p>

    <i class="fas fa-envelope me-3"></i>

  </p>

  <p><i class="fas fa-phone me-3"></i> + 01 234 567 88</p>

  <p><i class="fas fa-print me-3"></i> + 01 234 567 89</p>

</div>

<!-- Grid column -->

</div>

<!-- Grid row -->

</div>

</section>

<!-- Section: Links -->

<!-- Copyright -->

```

<div class="text-center p-4" style="background-color: #212529; color: rgb(185, 185, 185);">

© 2021 Copyright:

agrocorps.com

</div>

<!-- Copyright -->

</footer>

<!-- Footer -->

<!-- Bootstrap core JS-->

<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/js/bootstrap.bundle.min.js">
</script>

<!-- Core theme JS-->

<script src="js/scripts.js"></script>

<!-- * * * * *
*-->

<!-- * * SB Forms JS * *-->

<!-- * * Activate your form at https://startbootstrap.com/solution/contact-forms
* *-->

<!-- * * * * *
*-->

<script src="https://cdn.startbootstrap.com/sb-forms-latest.js"></script>

</body>

</html>

WEBPAGE:

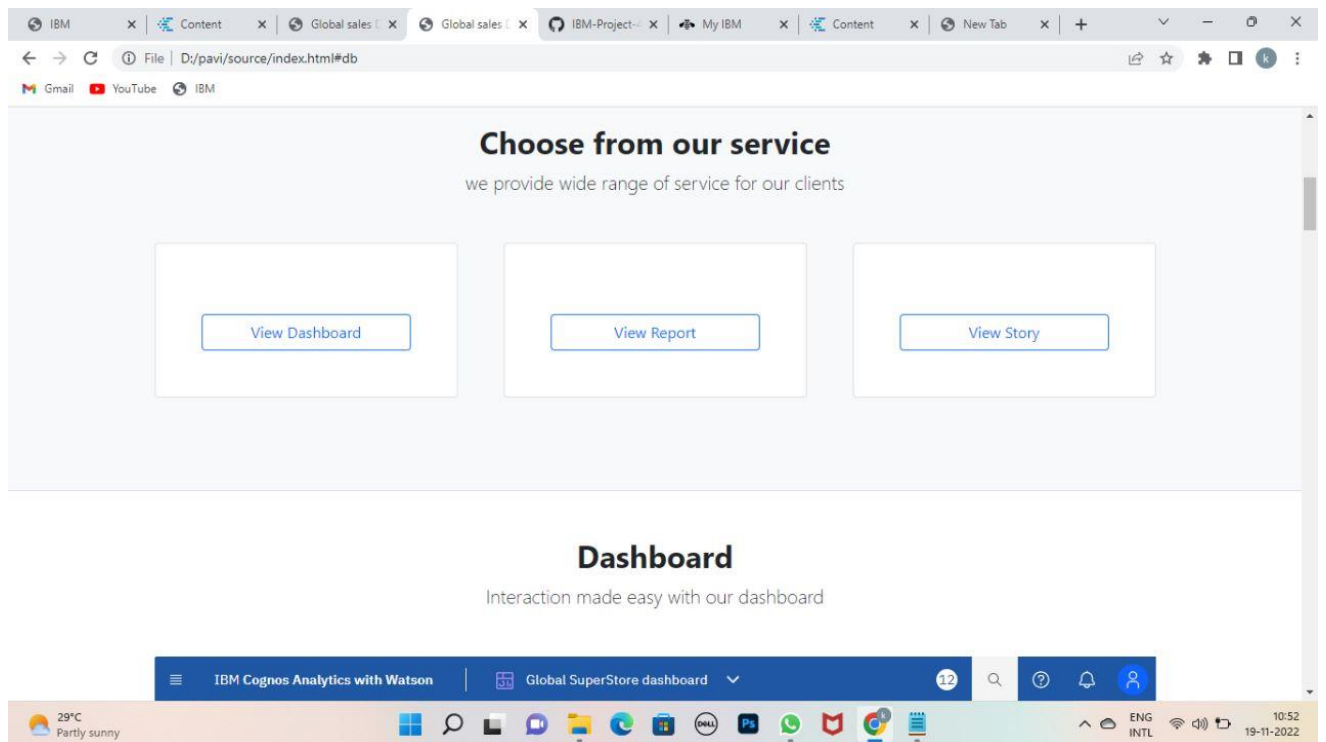


Fig 6 : Webpage Outlook

DASHBOARD:

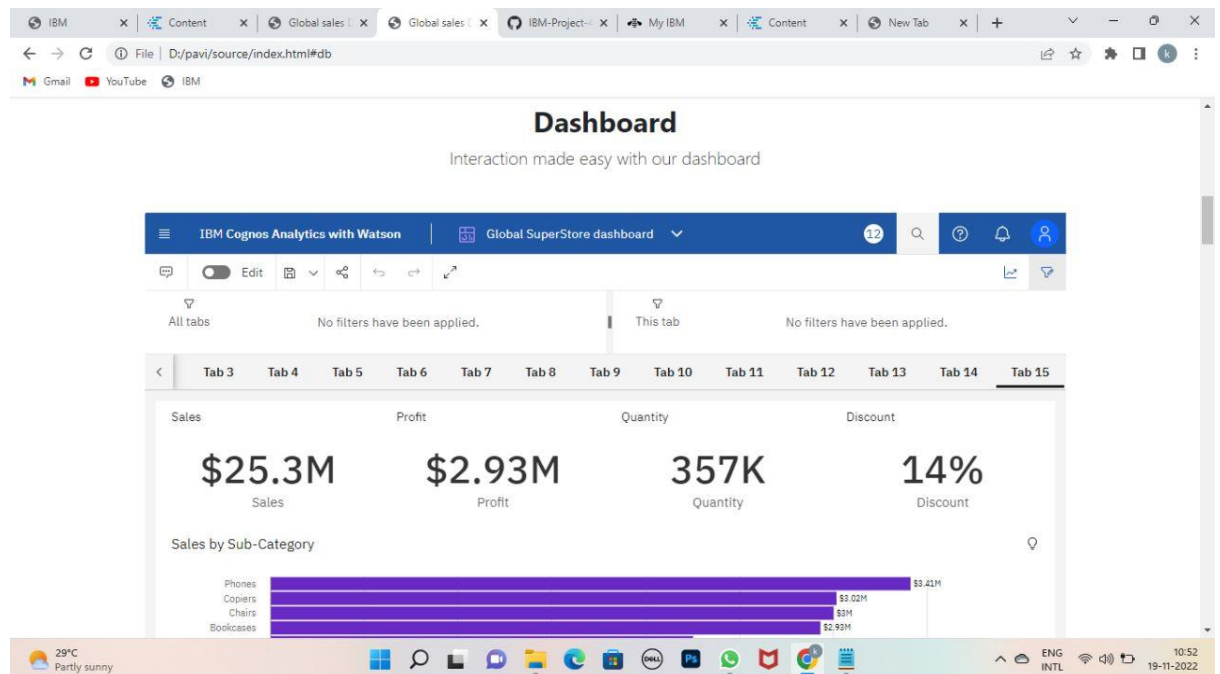


Fig 7 : Dashboard

REFERENCE:

SNO	TITLE	PROPOSED WORK	TOOLS USED / ALGORITHM	TECHNO-LOGY	ADVANTAGES / DISADVANTAGS
1	<u>Data Analysis and Visualization of Sales Data</u>	<p>It is the system that used to analyze and visualise sales data.</p> <p>The data is graphed in</p> <p>On different parameters.</p>	<ul style="list-style-type: none"> • Hadoop MapReduce framework • Apache Spark <p>along with Scala</p>	DATA ANALYSIS	<p>Flexibility and versatility of the visualization procedure are</p> <p>Transparency to get at supporting evidence</p> <p>The processing cost is high ,and the computation speed is low</p>
2	<u>Walmart's Sales Data Analysis</u>	<p>Retailers need to plan and evaluate according to the market driving factors which are, and not limited to, the temperature, unemployment rate, fuel prices holidays, human resources, geographical location and many more.</p>	<p>Hadoop Distributed File Systems (HDFS)</p> <p>Apache Spark</p> <p>along with Scala</p>	DATA ANALYSIS	<p>Analyzing and visualizing this data for information retrieval is a difficult task.</p>

CHAPTER-9

RESULTS

9.1 PERFORMANCE:

Future sales prediction:

The prospect of future sales gives the companies that work with sales enormous relief. Those who sell have stock and must manage it intelligently. If there are too many items in stock, they risk having an insufficient room or having to sell at discounts for other items. Instead, when things are too little, the sales decline. Future sales can enable these issues to be avoided and better decisions to be taken.

Inventory Management:

The stock referred to the stocking of products and afterward used in crisis times. For enterprises to optimize resources and increase sales, inventory management is therefore vital. Retailers need to effectively manage inventories so that supply stays unimpacted, although sales suddenly rise. The supply networks and inventory chains are thoroughly analyzed to achieve this.

Merchandising:

The objective is to develop tactics to improve product sales and promotions. Customer decision-making using datasets will be influenced by merchandising. While appealing packaging and branding capture the attention of customers and increase their aesthetic look, rotary goods help to keep their products fresh and new. Data sets are gather to insights and create customer priority sets that take account of seasonality, relevance, and trends.

price prediction:

The objective is to predict &set pricing, for both seller and buyer should satisfactory. price prediction should be done using analysis of previous dataset .Price optimization affects the satisfaction ratings of clients directly.

CHAPTER 10

ADVANTAGE & DISADVANTAGE

ADVANTAGES:

- **Enhanced Visibility:** Dashboards provide greater visibility with information available whenever it is required to ensure businesses are better placed to respond to changing market conditions.
- **Timesaving 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 to interpret 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 organisation or functional areas of the business, a dashboard allows companies to analyse key data quickly and meticulously. Visualised 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 decision can be made 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 solutions already employed in organisations 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 d ng in a diverse set of data being reported

APPLICATIONS

- If you manage complex campaigns, you usually end up having several analytics solutions for each platform and needing to consult them separately, which hinders the overall view. Instead, the dashboard displays data from different sources, like web analytics solutions, social media metrics. This way makes it much easier to compare them and see how they develop.
- A good dashboard clearly shows you a number of key metrics, so you don't need to be an analytics expert to understand them. If you want to look further into a particular data set, you always have the option of employing more specific tools.
- If you synchronize your dashboard automatically in the cloud, you can create different users so that your entire team can access the same Information from anywhere. It's even possible to project the dashboard onto a screen in your office so that the whole team can see what is going on in real time.
- Having a centralized dashboard will save you a lot of time. Instead of collecting data from different sources and making charts on your own. dashboards do all this work for you. You just need to invest some time at the beginning to set up the metrics and decide how to present them. From that point on, the reports are created automatically.

CHAPTER 11

CONCLUSION

From this project, we have successfully:

Created multiple analysis charts/graphs

Used the analysed chart creation of dashboard

Saved and visualised the final dashboard in the IBM Cognos Analytics

CHAPTER 12

FUTURE SCOPE

Various other charts can be prepared like:

Regarding Year Order and Day Order Columns

Regarding Market and Shipping Costs Columns

CHAPTER 13

APPENDIX

13.1 GITHUB LINK :

<https://github.com/IBM-EPBL/IBM-Project-9948-1659084849/tree/main/FINAL%20DELIVERABLES>

13.2 PROJECT DEMO LINK:

<https://youtu.be/CbAWb9KmqQY>