

# Estimation of Business Expenses

## 1. INTRODUCTION

This project, titled "Estimation of Business Expenses using Tableau," was undertaken to develop a comprehensive understanding of business expenditures and to streamline the estimation process using the advanced analytics and visualization capabilities of Tableau. The primary goal was to provide stakeholders with an efficient and visually intuitive tool to estimate, track, and analyze business expenses, enabling data-driven decision-making.

### 1.1 Overview

#### *1.1.1 Objectives:*

- Develop a centralized system for estimating and tracking business expenses.
- Utilize Tableau's visualization capabilities for clear and interactive expense reporting.
- Provide insights into spending patterns, cost drivers, and areas for optimization.
- Enhance the accuracy and efficiency of expense estimation processes.

#### *1.1.2 Methodology:*

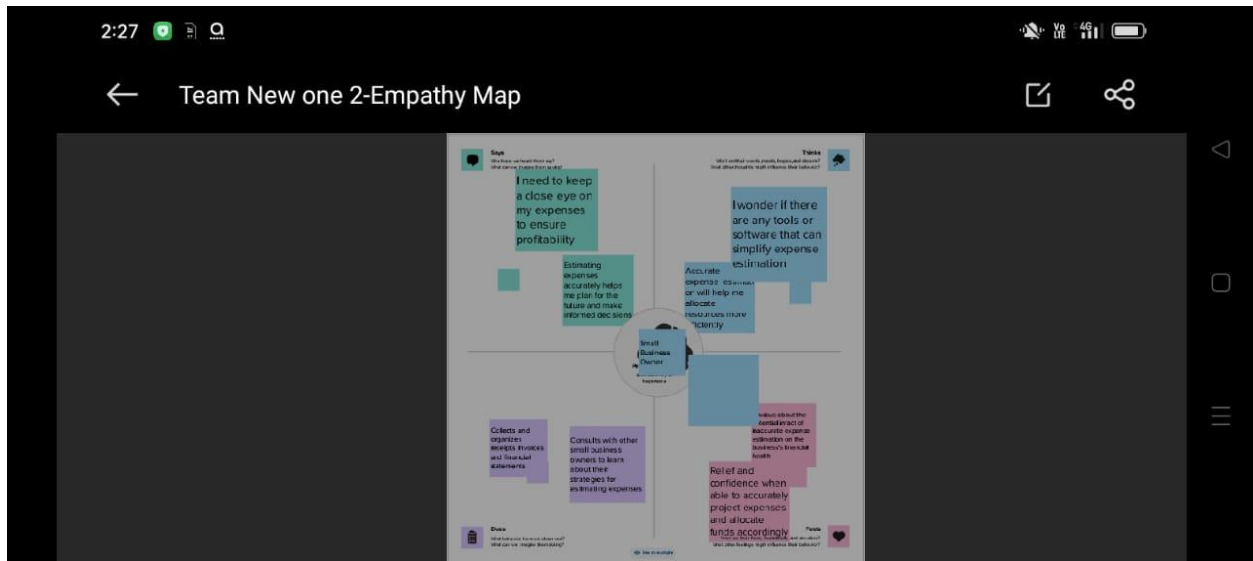
- **Data Collection:** Gathered historical expense data from various departments and sources within the organization.
- **Data Cleaning and Integration:** Processed and integrated disparate data sets to create a unified and clean dataset suitable for analysis.
- **Data Analysis:** Utilized Tableau to create interactive dashboards and visualizations for comprehensive expense analysis.
- **Estimation Models:** Developed estimation models within Tableau to project future expenses based on historical trends and key drivers.

#### *1.2 Purpose:*

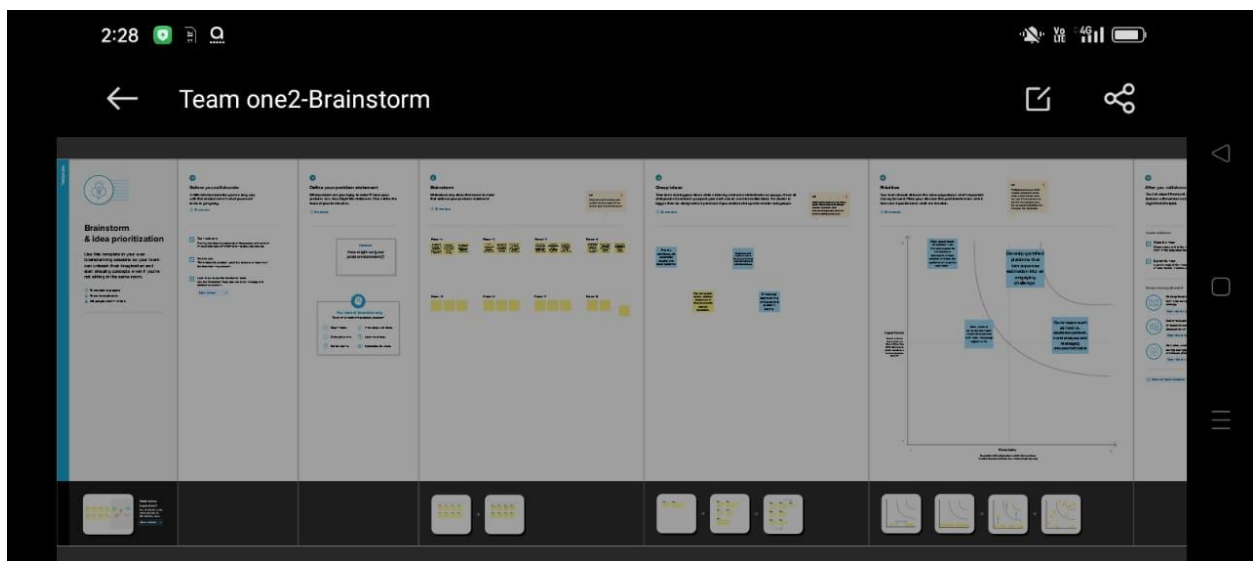
Using Tableau for the estimation of business expenses enables organizations to gain actionable insights, make informed financial decisions, and enhance overall financial management. The platform's visualization capabilities contribute to improved communication of complex financial data to stakeholders across the organization.

## 2. PROBLEM DEFINITION & DESIGN THINKING

### *2.1 Empathy Map*



## 2.2 Ideation & Brainstorming Map



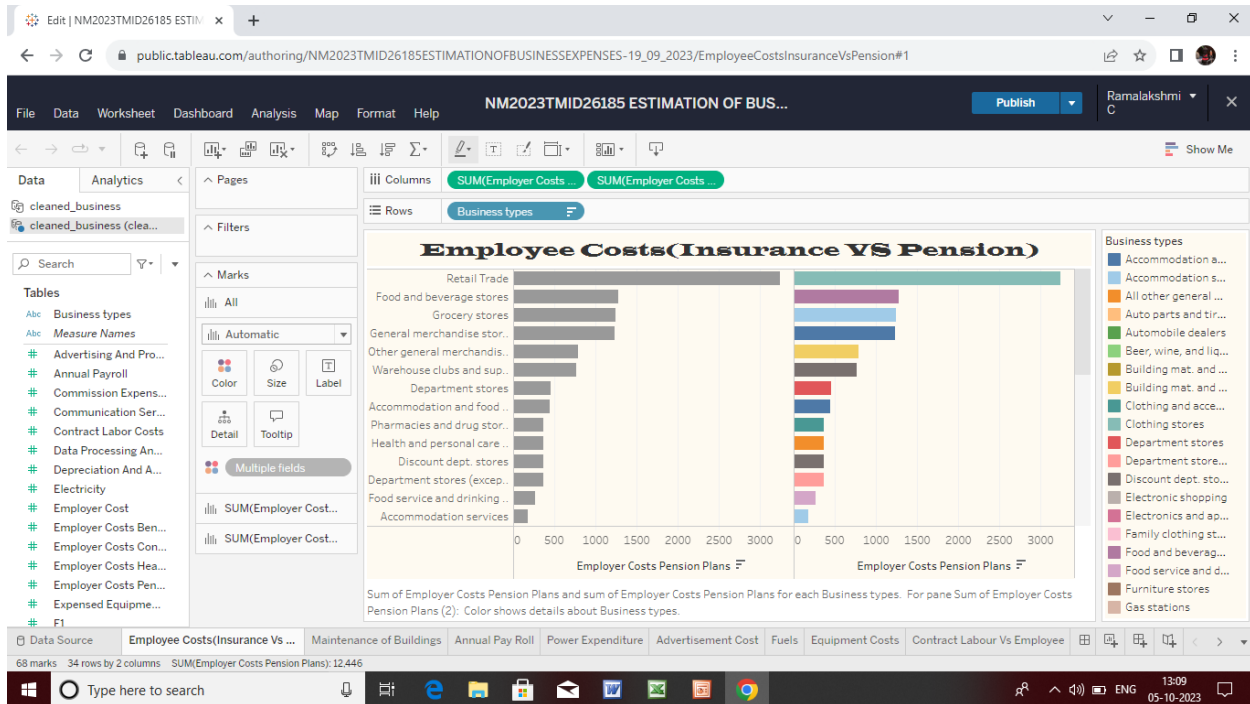
## 3. RESULT

Data visualization is the art of translating complex data into visual forms, like charts, graphs, and maps, to enhance comprehension and exploration. The primary aim is to render intricate datasets more user-friendly, intuitive, and easily interpretable. Through the strategic use of visual elements, data visualizations expedite the identification of patterns, trends, and anomalies within the data, enabling individuals to swiftly grasp the insights embedded in the information.

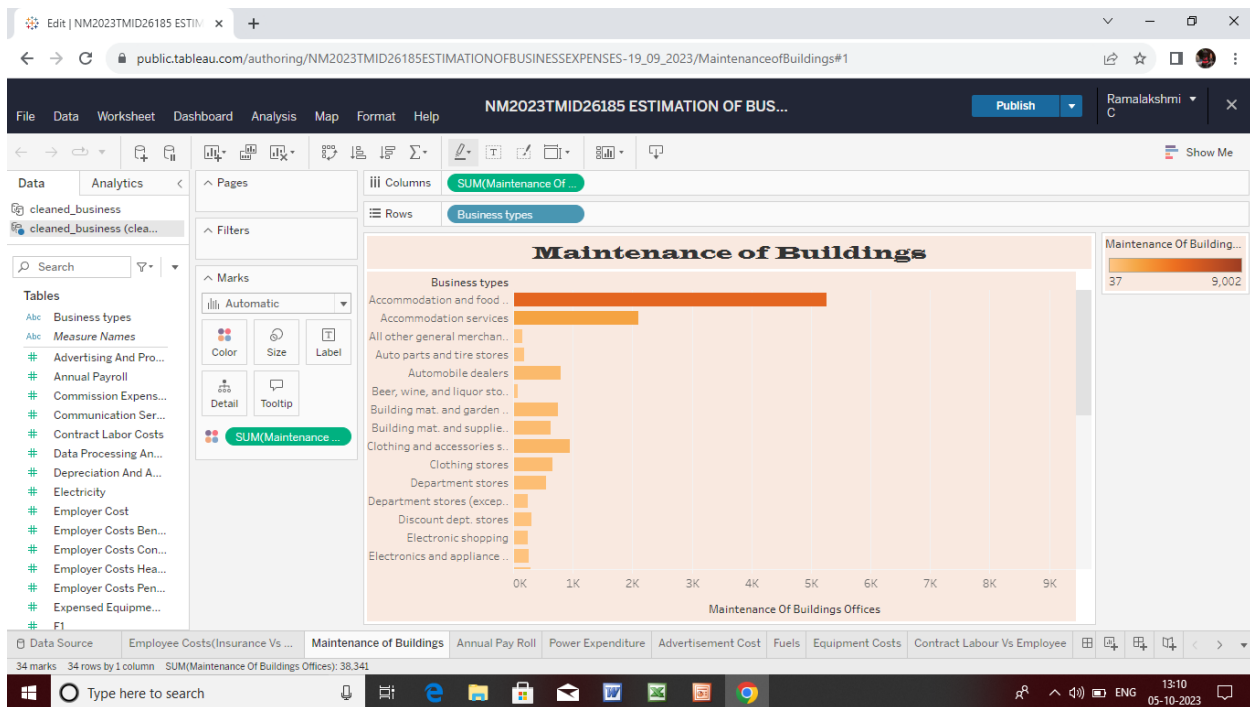
### 3.1 Visualizations

The dataset's versatility is reflected in the myriad visualizations it can yield. Bar charts, line charts, heat maps, scatter plots, pie charts, maps, and more offer diverse tools to scrutinize and assess the performance and efficiency of banks. These visual representations enable comprehensive analysis, providing insights into various aspects of banking operations.

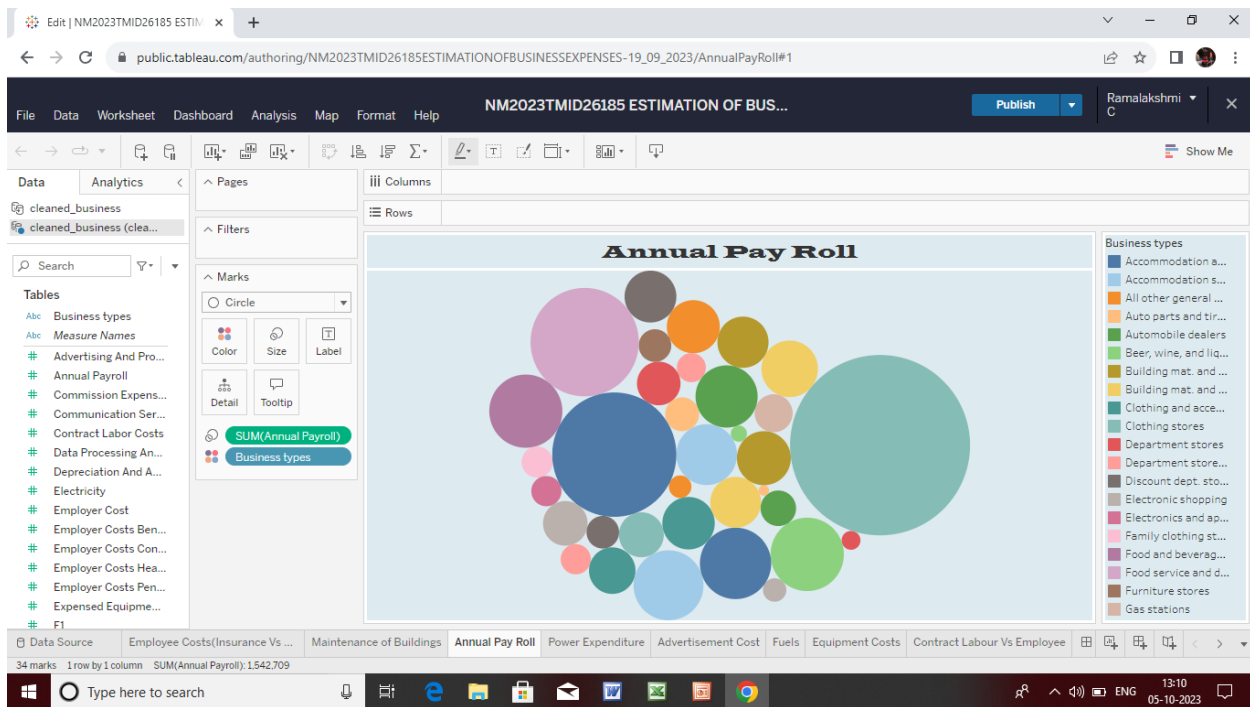
## Employee Costs(Insurance Vs Pension)



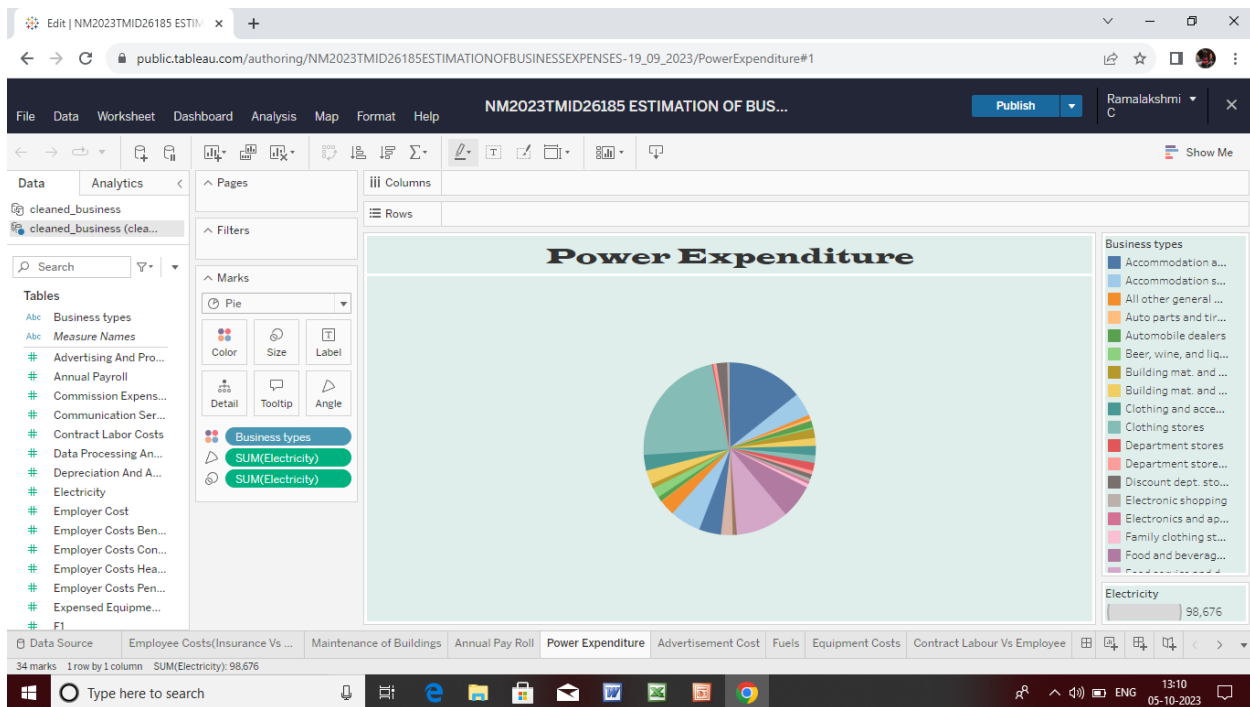
## Maintenance of Buildings



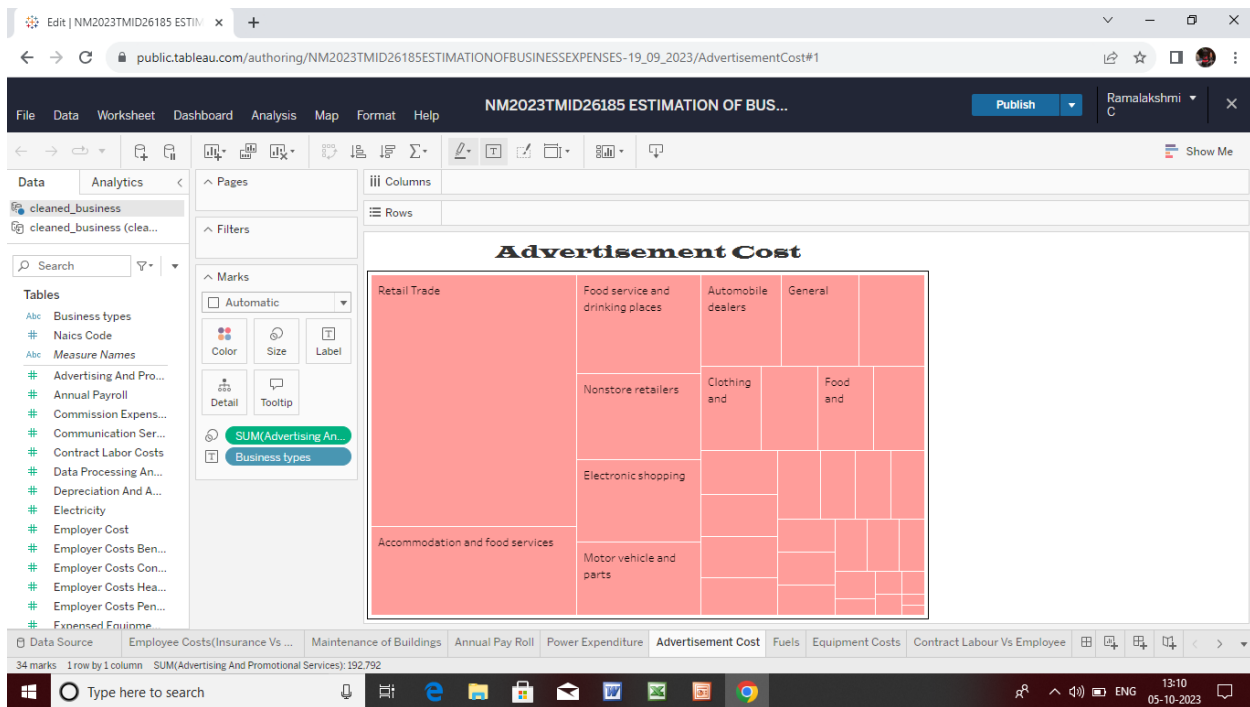
## Annual Pay Roll



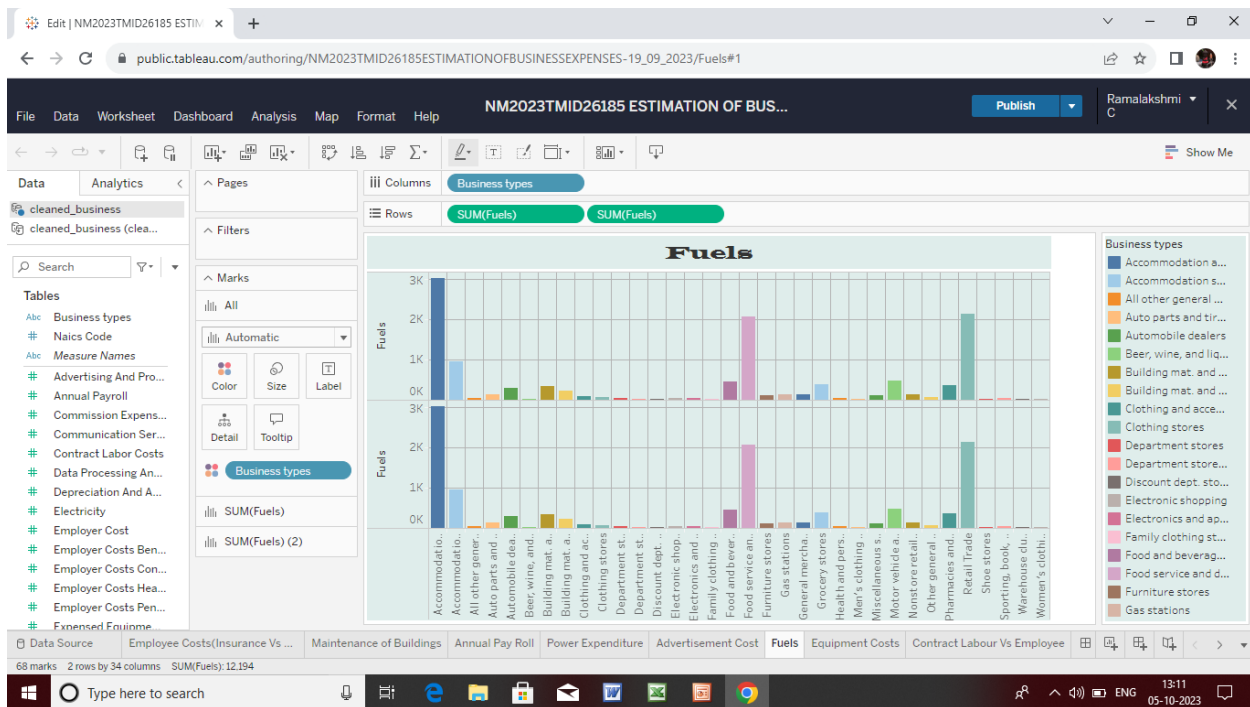
## Power Expenditure



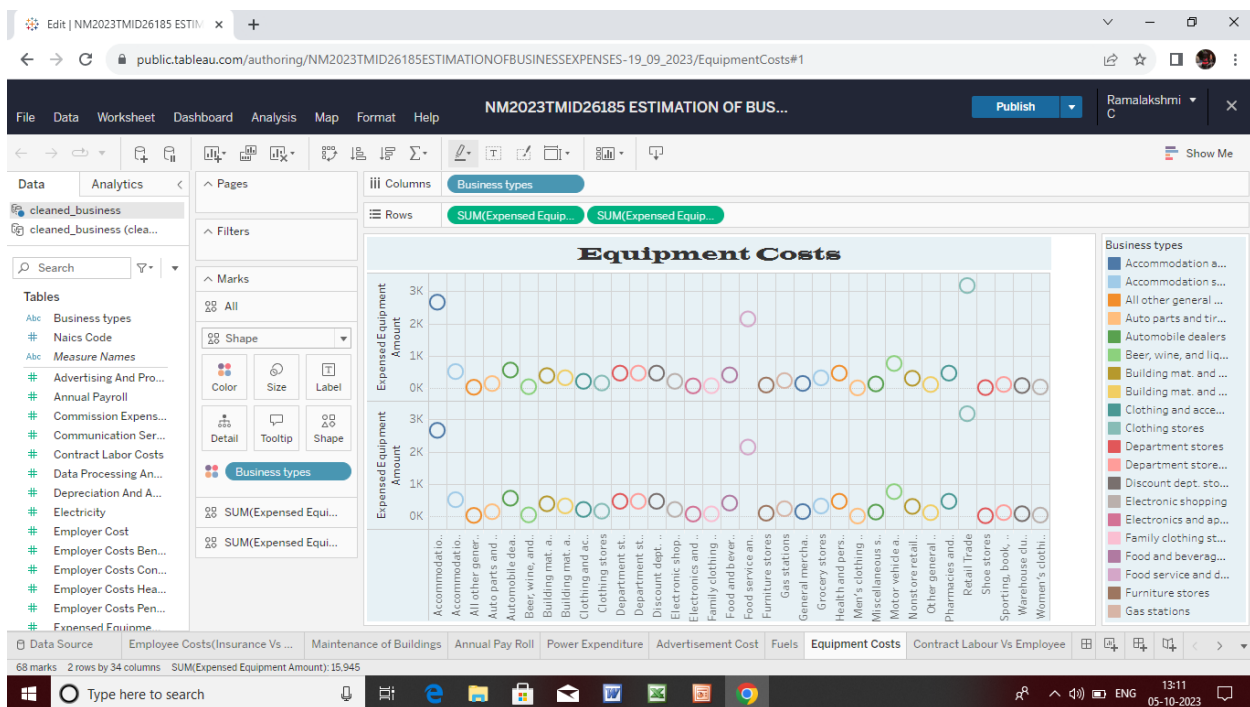
## Advertisement Costs



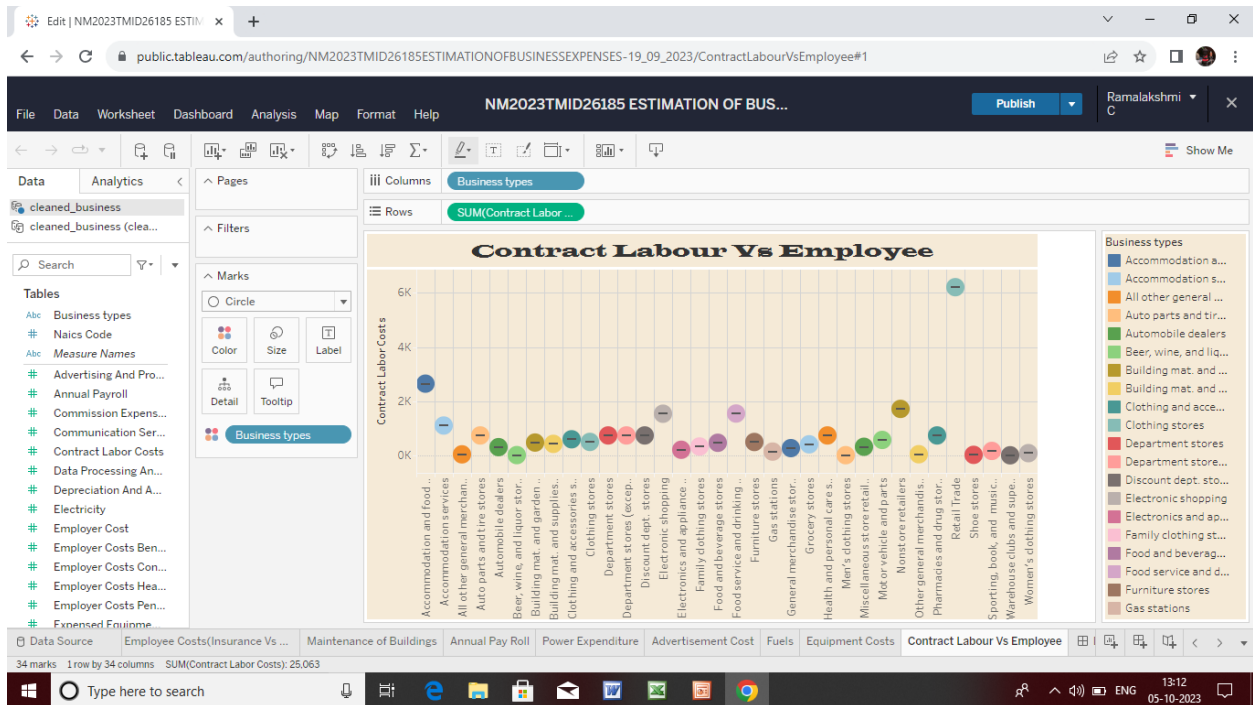
## Fuels



## Equipment Costs

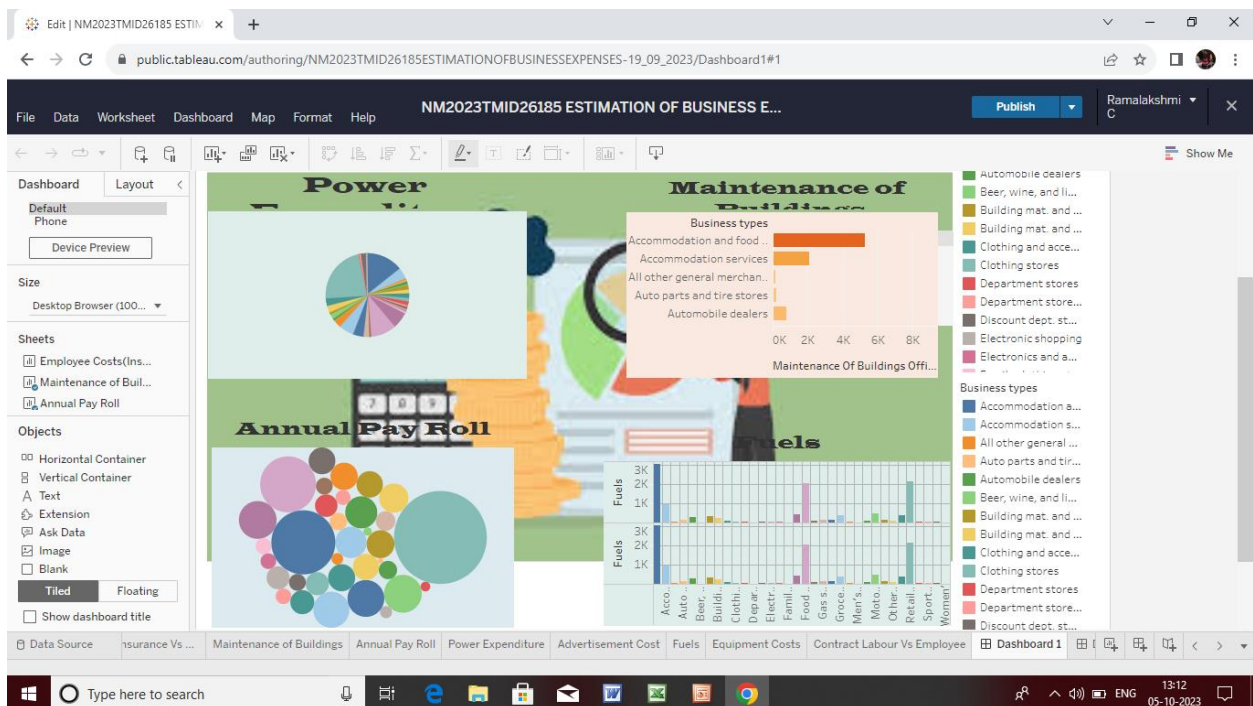


## Contract Labour vs Employee



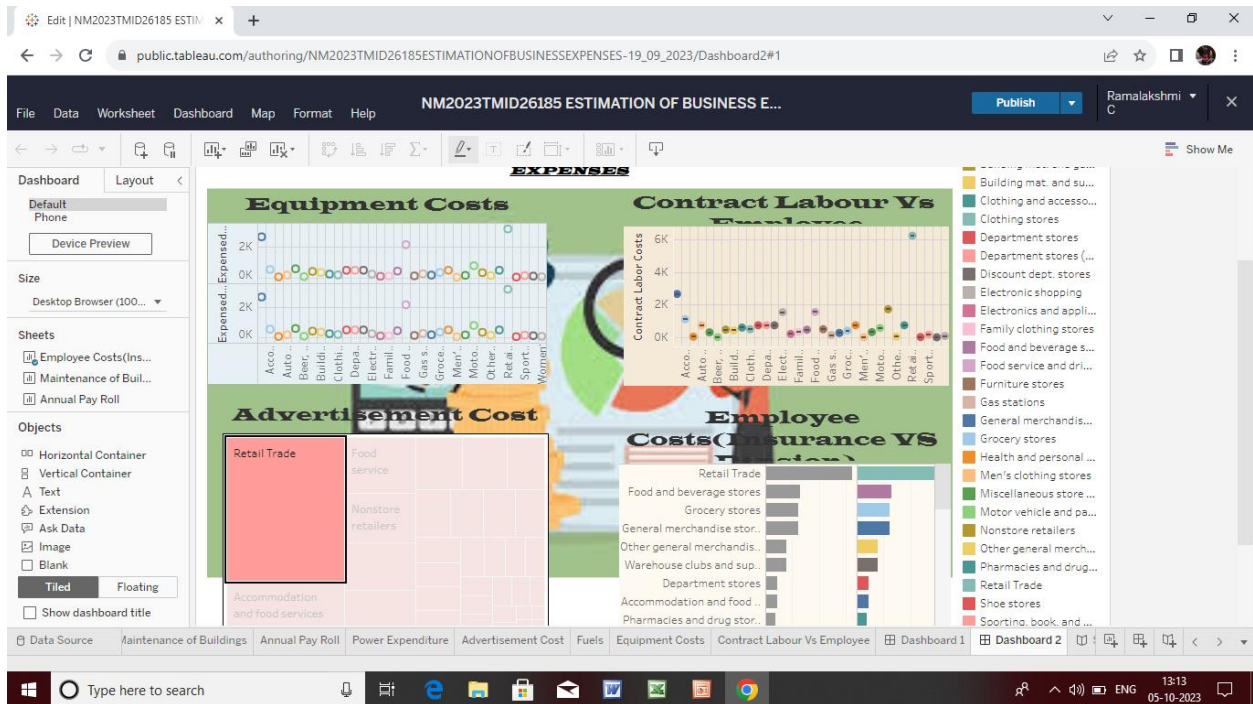
## 3.2 Dashboard

### Dashboard I

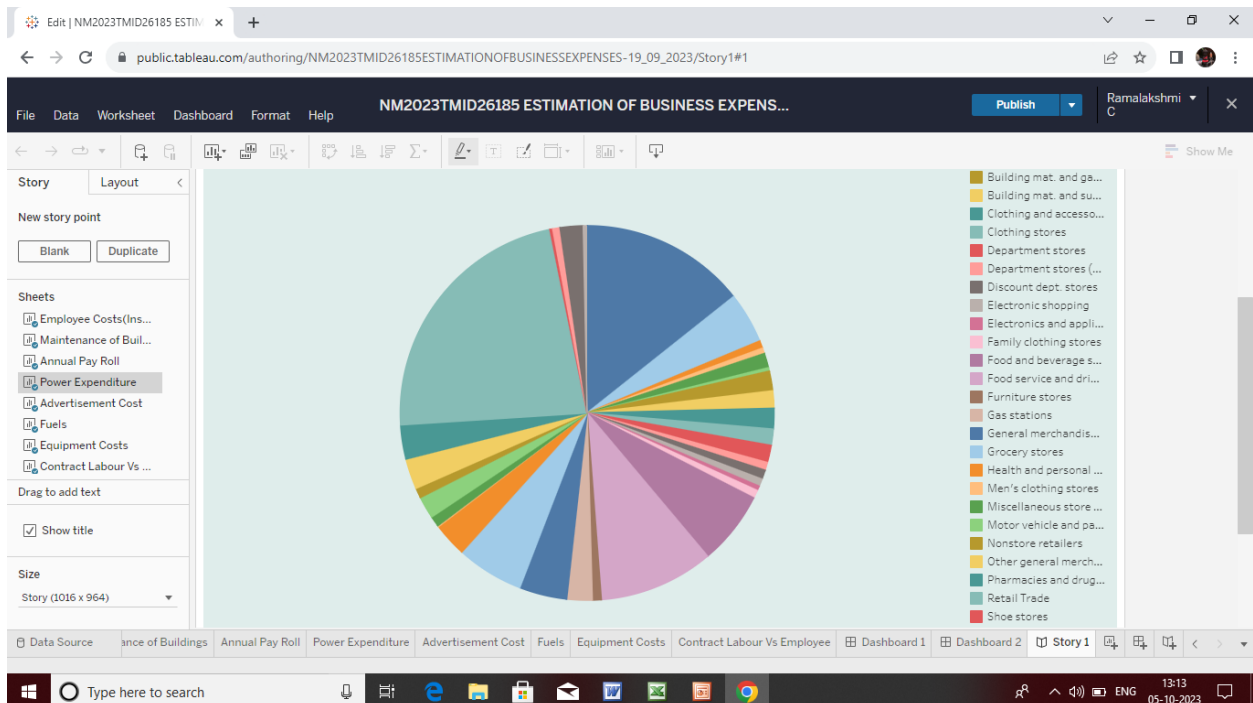




## Dashboard II



### 3.3 Story



### 3.4 Performance Testing

❖ Amount of Data Rendered to Tableau:



The volume of data presented in Tableau is directly influenced by the dimensions of the dataset.

❖ **No of Visualizations/ Graphs:**

❖ **I. Employee Costs(Insurance vs Pensions)**

**II. Maintenance of Buildings**

**III. Annual Pay Roll**

**IV. Power Expenditure**

**V. Advertisement Costs**

**VI. Fuels**

**VII. Equipment Costs**

**VIII. Contract Labour vs Employee**

## **4. ADVANTAGES & DISADVANTAGES**

### ***4.1 Advantages***

**Visual Clarity:** Tableau provides clear and visually intuitive representations of business expenses, making it easier for stakeholders to understand complex financial data.

**Interactivity:** Tableau's interactive features allow users to explore and interact with expense data dynamically, facilitating deeper analysis and insights.

**Efficiency in Analysis:** Tableau streamlines the analysis process, enabling quick and efficient examination of historical expenses, trends, and projections.

**Holistic Overview:** Tableau dashboards offer a holistic overview of business expenses, allowing for a comprehensive understanding of spending patterns across different categories and departments.

**Forecasting Capabilities:** Tableau's integration of predictive modeling supports accurate forecasting of future expenses, aiding in proactive budget planning and resource allocation.

**Customization:** Tableau allows for the customization of dashboards and visualizations, empowering users to tailor the interface according to specific business needs.

**Data Integration:** Tableau can seamlessly integrate with various data sources, facilitating the incorporation of diverse datasets into expense analysis for a more comprehensive view.

### ***4.2 Disadvantages***

**Learning Curve:** Tableau has a learning curve, and users unfamiliar with the tool may require training, potentially slowing down the implementation process.

**Cost of Licensing:** The licensing costs for Tableau can be relatively high, especially for larger organizations, posing a financial challenge for some businesses.

**Data Security Concerns:** Handling sensitive financial data requires robust security measures. If not properly configured, Tableau deployments may pose data security risks.

**Dependency on Data Quality:** The effectiveness of Tableau is highly dependent on the quality of input data. Inaccurate or incomplete data may lead to misleading expense insights.

**Limited Offline Access:** While Tableau offers some offline capabilities, full functionality often requires an internet connection, limiting accessibility in certain scenarios.

**Resource Intensive:** Complex visualizations and large datasets can be resource-intensive, requiring substantial computing power and potentially impacting performance.

In conclusion, while Estimation of Business Expenses using Tableau offers numerous advantages in terms of visualization, interactivity, and efficiency, organizations should carefully consider the associated challenges, including the learning curve, cost, and data security, to ensure a balanced and effective implementation.

## 5. APPLICATIONS

The application of "Estimation of Business Expenses using Tableau" spans across various business domains, providing valuable insights for financial planning, decision-making, and optimization. Here are some key applications:

- ❖ Budget Planning
- ❖ Expense Tracking and Analysis
- ❖ Resource Allocation
- ❖ Financial Forecasting
- ❖ Cost Optimization
- ❖ Executive Reporting
- ❖ Vendor Performance Analysis
- ❖ Scenario Analysis
- ❖ Compliance Reporting
- ❖ Benchmarking

The applications of Estimation of Business Expenses using Tableau are versatile, offering a holistic approach to financial management, planning, and strategic decision-making. By leveraging the power of Tableau's visualizations and analytical tools, organizations can gain actionable insights into their financial data for sustained growth and efficiency.

## 6. CONCLUSION

The "Estimation of Business Expenses using Tableau" project successfully leveraged Tableau's capabilities to streamline the estimation and analysis of business expenses. The developed dashboards and visualizations empower stakeholders with actionable insights, facilitating more informed decision-making regarding budgeting, resource allocation, and cost optimization.

This project emphasizes the transformative power of Tableau in enhancing the efficiency and accuracy of expense estimation processes. The visualizations provided by Tableau not only offer a comprehensive overview of historical expenses but also enable organizations to make proactive decisions by forecasting future expenditures. As businesses evolve, the insights generated through Tableau will play a pivotal role in adapting to changing financial landscapes and ensuring sustained financial health.

## **7. FUTURE SCOPE**

The future of Estimation of Business Expenses using Tableau is likely to be marked by advancements in predictive analytics, machine learning, data integration, and user accessibility. These developments will contribute to a more sophisticated and user-friendly experience, empowering organizations to make more informed financial decisions and drive efficiency in expense management.

## **8. APPENDIX**

### **Source Code:**

Video Link:

[https://drive.google.com/file/d/1I10bWJSJKbPe\\_hb1LVIR4p2bvizlgEnc/view?usp=sharing](https://drive.google.com/file/d/1I10bWJSJKbPe_hb1LVIR4p2bvizlgEnc/view?usp=sharing)

Tableau Public Link:

[https://public.tableau.com/shared/9MFTD5383?:display\\_count=n&:origin=viz\\_share\\_link](https://public.tableau.com/shared/9MFTD5383?:display_count=n&:origin=viz_share_link)

Data Set Link:

[https://drive.google.com/file/d/1KqaD\\_WdoDr\\_6j8RplxMy7K0bj9qrmxsp/view?usp=sharing](https://drive.google.com/file/d/1KqaD_WdoDr_6j8RplxMy7K0bj9qrmxsp/view?usp=sharing)

<https://docs.google.com/spreadsheets/d/1NQChpTW9WaWXkZlnNk4Wbs3WpEyRW6or/edit?usp=sharing&ouid=105687860925857683170&rtpof=true&sd=true>

[https://docs.google.com/spreadsheets/d/1nmEdb8PuaUsNXHVvoE\\_xPdS-R0pm\\_kr2/edit?usp=sharing&ouid=105687860925857683170&rtpof=true&sd=true](https://docs.google.com/spreadsheets/d/1nmEdb8PuaUsNXHVvoE_xPdS-R0pm_kr2/edit?usp=sharing&ouid=105687860925857683170&rtpof=true&sd=true)

