Estimation of Business Expenses

1 INTRODUCTION

1.1 Overview

Our project "Estimation of Business Expenses" focuses on estimating the expenses of an organization for a particular year. The project aims to provide a reliable estimation of the expenses incurred by the organization to aid in budgeting and financial planning. The project involves creating visualizations to represent the overall expenses in a clear and understandable manner.

1.2 Purpose

The purpose of this project is to assist organizations in accurately estimating their expenses for a specific year. By providing a comprehensive estimation, businesses can make informed decisions regarding resource allocation, cost management, and financial forecasting, budgeting and planning. The visualizations help stakeholders gain insights into the distribution and trends of the expenses, enabling better financial planning and decision-making.

2 LITERATURE SURVEY

2.1 Existing Problem

Existing methods of estimating business expenses often rely on manual calculations and general assumptions such as Historical Data Analysis, Top-Down Approach, Bottom-Up Approach, Benchmarking, Predictive Analytics etc. The lack of automated tools for expense estimation hinders organizations' ability to effectively plan their budgets and manage their finances. Furthermore, the absence of visualizations makes it challenging to comprehend the overall expenses and identify patterns or anomalies.

2.2 Proposed Solution

The suggested approach involves utilizing visualizations to estimate business expenses effectively. By leveraging historical expense data, industry benchmarks, and relevant financial indicators, the solution aims to generate precise expense estimates. Additionally, the use of visualizations will enable stakeholders to easily comprehend the overall distribution of expenses, enhancing their understanding of the financial landscape. Using web app, it clears all the confusion about the expenses. We've also used flask framework to deploy website by deploying the visualizations.

3 THEORETICAL ANALYSIS

``` 3.1 Block diagram

Diagrammatic overview of the project.

**3.2 Hardware / Software Designing**

Hardware Requirements:

- The hardware requirements for designing can vary depending on the complexity of the data and the scale of the project. Here are the general requirements such as:

1. CPU (core i5)
2. RAM (8 GB)
3. Graphics Card

Etc..

Software Requirements:

- Here are the software requirements for designing the project. We need Programming languages such as: HTML, CSS, JS, PHP, Python (Flask) for Web app and deploying the web app using Flask. To create visualizations, we need Tableau through we can create visualizations, interactive dashboards and stories.

**4 EXPERIMENTAL INVESTIGATIONS**

The project involves the following experimental investigations:
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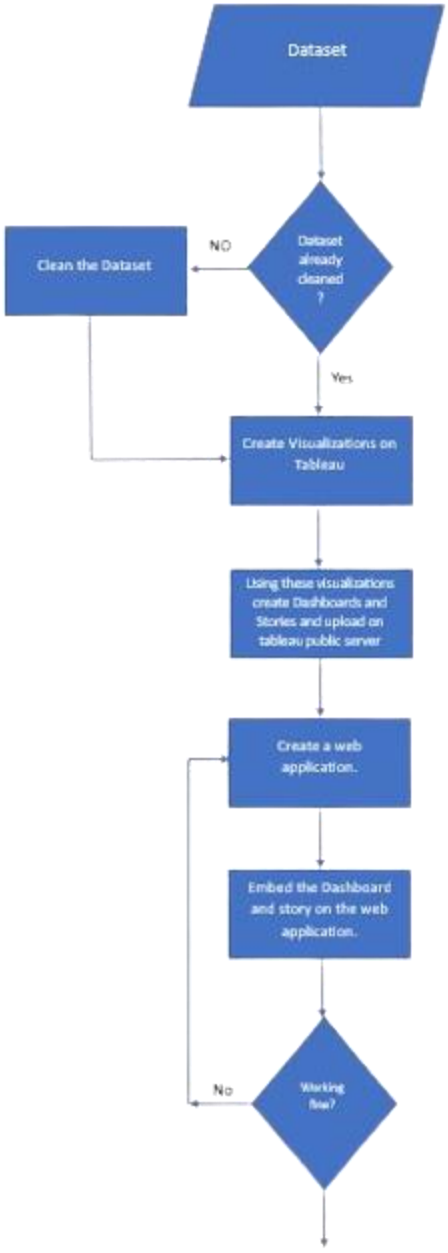
- Data Collection: Gathering historical expense data from the organization, including details such as expense categories, amounts, and timestamps.

- Data Preprocessing: Cleaning and transforming the expense data to ensure consistency and accuracy for further analysis.

- Visualization Design: Designing visualizations, such as bar charts, pie charts, and line plots, to represent the overall expenses and highlight important patterns or trends.

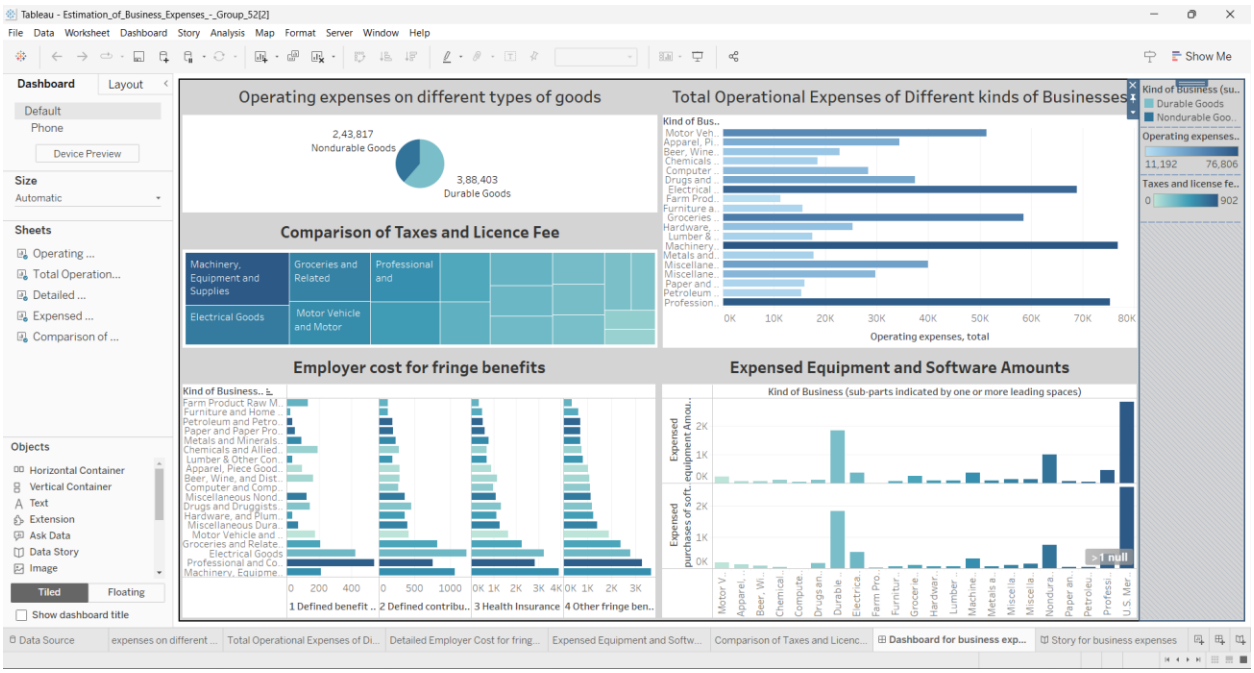
Flowchart


Dataset
Dataset already cleaned ?
NO
Clean the Dataset
Yes
Create Visualizations on Tableau
Using these visualizations create Dashboards and Stories and upload on tableau public server
Create a web application.
Embed the Dashboard and story on the web application.
Working fine?
No

6 RESULT

The final result of the project is an estimation of business expenses with visually appealing and informative visualizations representing the overall expenses. The expense estimation provides organizations with an accurate understanding of their projected expenses, and the visualizations facilitate better interpretation of the expense patterns and trends.

Here are the screenshots of the project:



Dashboard

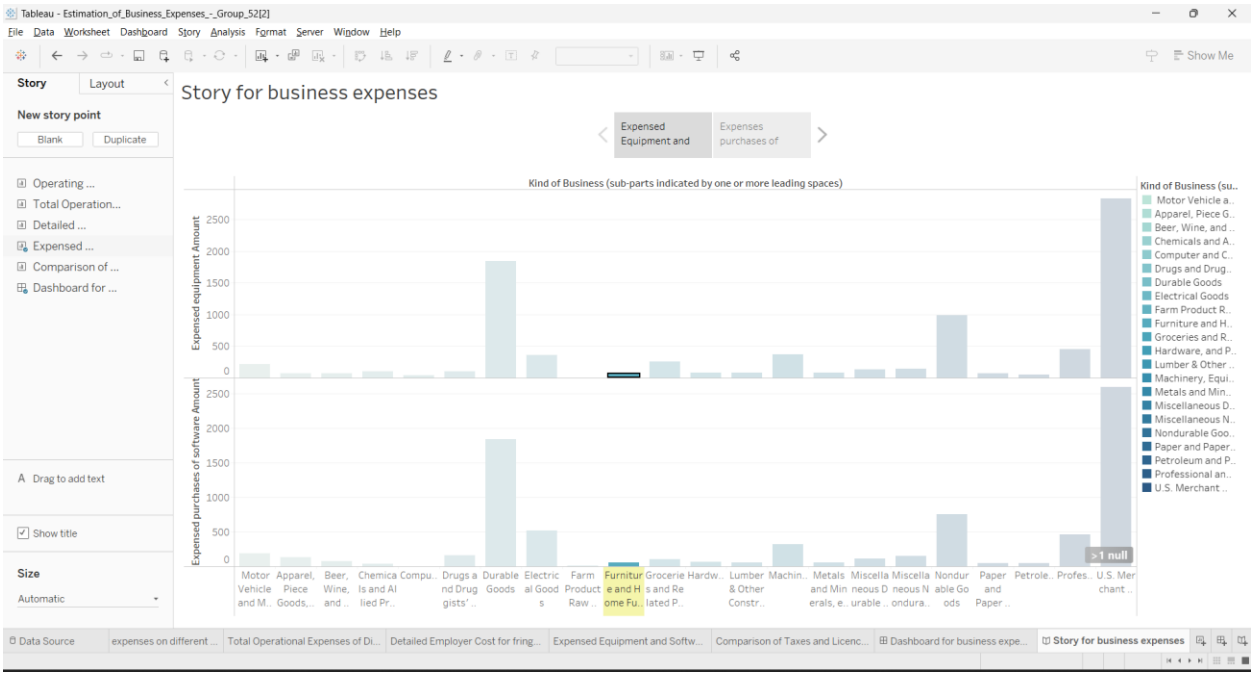


Tableau - Estimation_of_Business_Expenses_-_Group_52[2]
File Data Worksheet Dashboard Story Analysis Format Server Window Help
Story
Layout
New story point
Blank
Duplicate
Operating ...
Total Operation...
Detailed ...
Expensed ...
Comparison of ...
Dashboard for ...
Drag to add text
Show title
Size
Automatic
Show Me
Story for business expenses
Expensed Equipment and
Expenses purchases of
Kind of Business (sub-parts indicated by one or more leading spaces)
Expensed equipment Amount
Expensed purchases of software Amount
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Kind of Business (su..
Motor Vehicle a..
Apparel, Piece G..
Beer, Wine, and ..
Chemicals and A..
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Durable Goods
Electrical Goods
Farm Product R..
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Lumber & Other ..
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Groceries and Related P..
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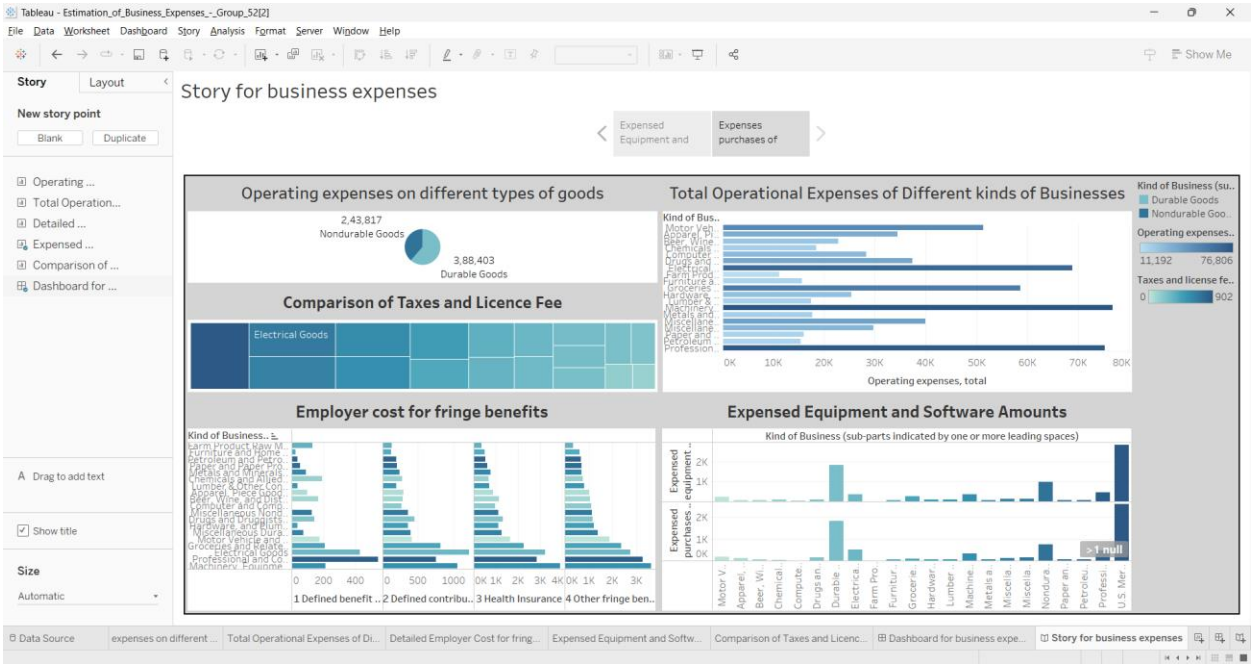
Detailed Employer Cost for fring...
Expensed Equipment and Softw...
Comparison of Taxes and Licenc...
Dashboard for business expe...
Story for business expenses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Expensed ...
Comparison of ...
Dashboard for ...
Drag to add text
Show title
Size
Automatic
Show Me
Story for business expenses
Expensed Equipment and
Expenses purchases of
Operating expenses on different types of goods
2,43,817
Nondurable Goods
3,88,403
Durable Goods
Total Operational Expenses of Different kinds of Businesses
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Operating expenses, total
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Durable Goods
Nondurable Goo..
Operating expenses..
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Comparison of Taxes and Licence Fee
Electrical Goods
Employer cost for fringe benefits
Kind of Business..
1 Defined benefit ..
2 Defined contribu..
3 Health Insurance
4 Other fringe ben..
Expensed Equipment and Software Amounts
Kind of Business (sub-parts indicated by one or more leading spaces)
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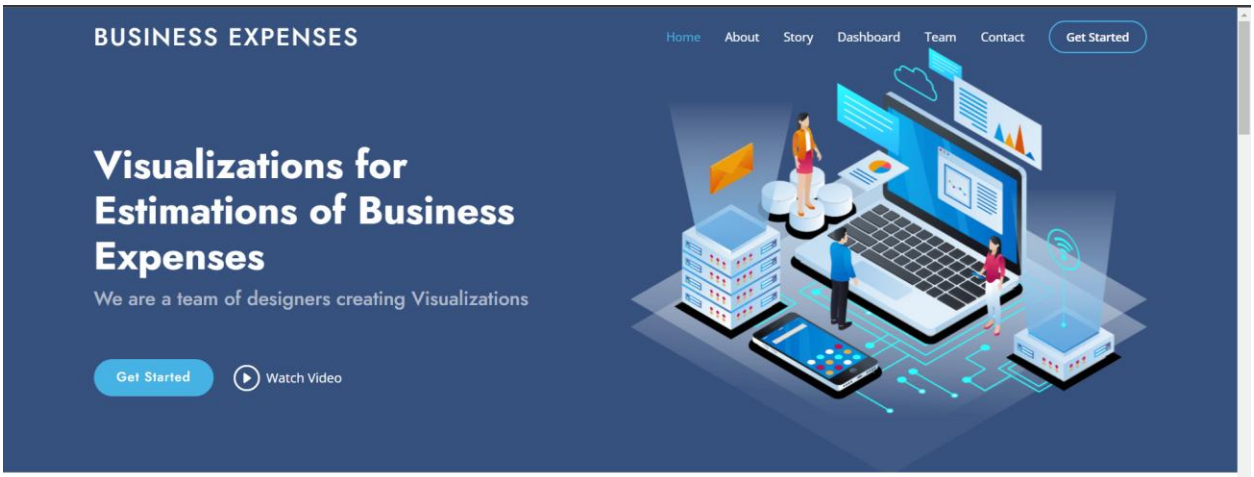
Expensed Equipment and Softw...
Comparison of Taxes and Licenc...
Dashboard for business expe...
Story for business expenses

Story


BUSINESS EXPENSES
Home
About
Story
Dashboard
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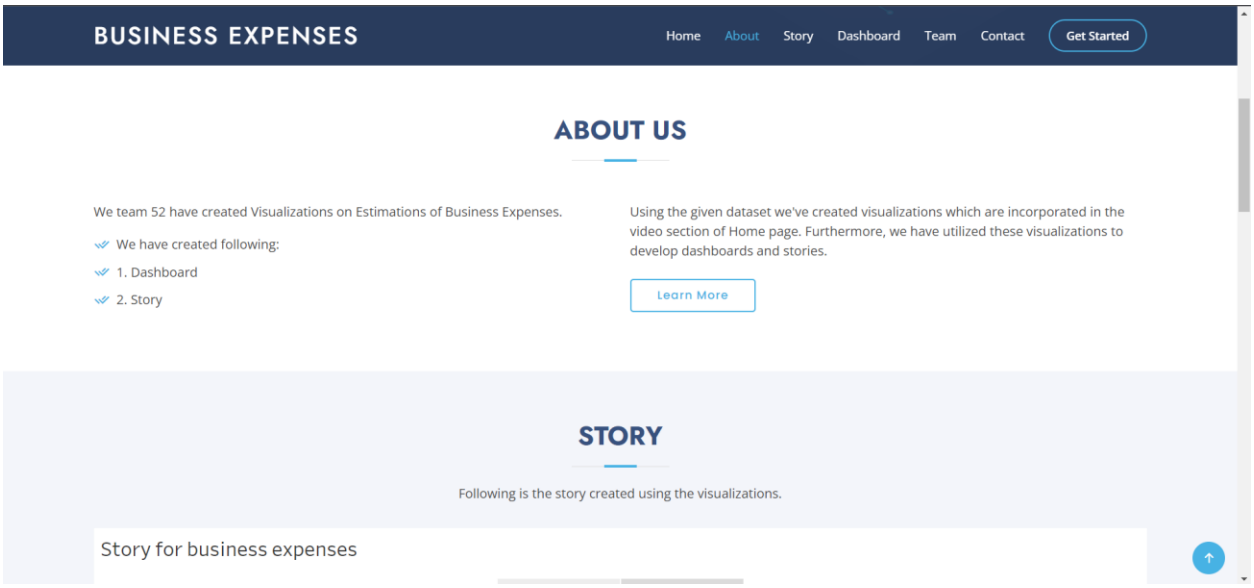
Get Started
Visualizations for Estimations of Business Expenses
We are a team of designers creating Visualizations
Get Started
Watch Video


BUSINESS EXPENSES
Home
About
Story
Dashboard
Team
Contact
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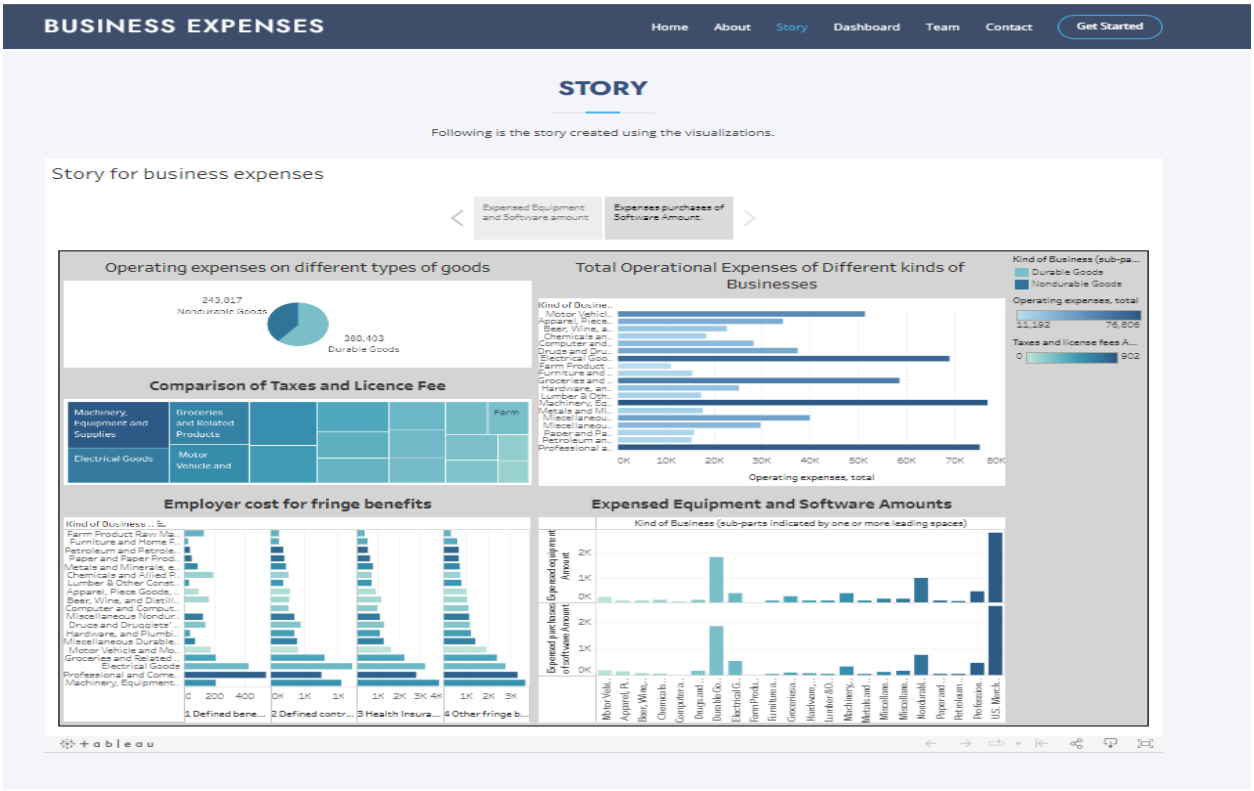
ABOUT US
We team 52 have created Visualizations on Estimations of Business Expenses.
We have created following:
1. Dashboard
2. Story
Using the given dataset we've created visualizations which are incorporated in the video section of Home page. Furthermore, we have utilized these visualizations to develop dashboards and stories.
Learn More
STORY
Following is the story created using the visualizations.
Story for business expenses


BUSINESS EXPENSES
Home
About
Story
Dashboard
Team
Contact
Get Started
STORY
Following is the story created using the visualizations.
Story for business expenses
Expensed Equipment and Software amount
Expenses purchases of Software Amount.
Operating expenses on different types of goods
243,617
Nondurable Goods
380,403
Durable Goods
Total Operational Expenses of Different kinds of Businesses
Kind of Business (sub-pa...
Durable Goods
Nondurable Goods
Operating expenses, total
11,192
76,806
Taxes and license fees A...
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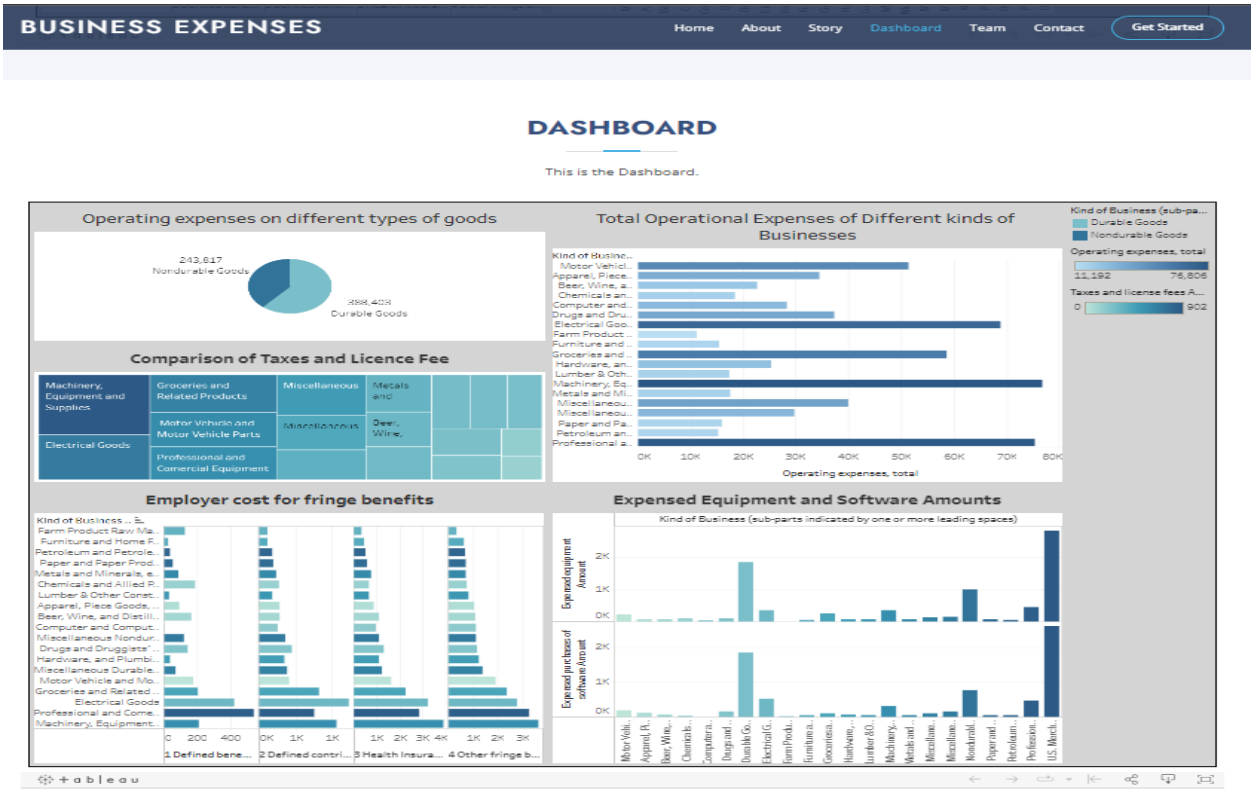
902
Operating expenses, total
Comparison of Taxes and Licence Fee
Machinery, Equipment and Supplies
Groceries and Related Products
Farm
Electrical Goods
Motor Vehicle and
Employer cost for fringe benefits
1 Defined bene...
2 Defined contr...
3 Health Insura...
4 Other fringe b...
Expensed Equipment and Software Amounts
Kind of Business (sub-parts indicated by one or more leading spaces)
Expensed equipment Amount
Expensed purchases of software Amount
tableau


BUSINESS EXPENSES
Home
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DASHBOARD
This is the Dashboard.
Operating expenses on different types of goods
243,617
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Total Operational Expenses of Different kinds of Businesses
Kind of Business (sub-pa...
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Machinery, Equipment and Supplies
Groceries and Related Products
Miscellaneous
Metals and
Motor Vehicle and Motor Vehicle Parts
Miscellaneous
Beer, Wine,
Electrical Goods
Professional and Comercial Equipment
Employer cost for fringe benefits
1 Defined bene...
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3 Health Insura...
4 Other fringe b...
Expensed Equipment and Software Amounts
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Expensed equipment Amount
Expensed purchases of software Amount
tableau

Website

7 ADVANTAGES & DISADVANTAGES

Advantages of the proposed solution:

- Accurate Expense Estimation: The system leverages historical expense data and relevant financial indicators to generate reliable expense estimates.

- Efficient Financial Planning: Organizations can utilize the expense visualizations to plan their budgets, allocate resources effectively, and make informed financial decisions.

- Improved Visualization: The visualizations enhance the understanding of expense patterns and trends, enabling stakeholders to identify cost-saving opportunities and anomalies.

Disadvantages of the proposed solution:

- Data Dependency: The accuracy of the expense estimation heavily relies on the availability and quality of historical expense data.

8 APPLICATIONS

The proposed solution can be applied in various business contexts, including:

- Financial Management, Budget Planning: Organizations can utilize the expense estimation and visualizations to gain insights into their financial status, analyze cost drivers, and optimize their spending.

- Stakeholder Communication: The visualizations can be used to effectively communicate expense-related information to stakeholders, facilitating discussions and decision-making processes.

9 CONCLUSION

The project "Estimation of Business Expenses" focuses on providing organizations with accurate expense estimations for a particular year. The visualizations enhance the interpretation of the overall expenses, aiding stakeholders in financial planning and decision-making processes. The project's findings demonstrate the potential visualization techniques in improving financial management.

10 FUTURE SCOPE

Future enhancements for the project include:

- Integration of Real-Time Data: Incorporating real-time data sources to adapt the expense estimation to dynamic business conditions and enable up-to-date financial planning.

- Advanced Visualization Techniques: Exploring interactive and advanced visualization methods, such as heatmaps, to provide more comprehensive insights into expense patterns.

- Integration with Financial Systems: Developing integrations with existing financial systems or accounting software to streamline the expense estimation process and enhance data accuracy.