GOVERNMENT ARTS COLLEGE (AUTONOMOUS), COIMBATORE – 18.

DEPARTMENT OF PHYSICS

A PROJECT REPORT ON

ESTIMATION OF BUSINESS EXPENSES

BASED ON THE COURSE

FUNDAMENTALS OF DATA ANALYTICS WITH TABLEAU – SMARTBRIDGE

MARIAMMAL N	bru001221bph006
NANDHINI R	bru001221bph007
PAVITHRA A	bru001221bph008
RADHAMANI T	bru001221bph009

TEAM ID – NM2023TMID24828

UNDER THE GUIDANCE OF

Dr.G.KANCHANA M.Sc., Ph.D.

ASSOCIATE PROFESSOR

DEPARTMENT OF PHYSICS

SUBMITTED TO

NAAN MUDHALVAN – SMART INTERNZ

DATA ANALYTICS UPSKILL PROGRAMING

FUNDAMENTALS OF DATA ANALYTICS WITH TABLEAU - SMARTBRIDGE

NAAN MUDHALVAN ID:

MARIAMMAL N	**23829FB6B9FEDBCB5504F88CE2FB12C5**
NANDHINI R	**83531A7EEAD81F9B9524A1AA369FCE9E**
PAVITHRA A	**58B210C74A417C9C645D723586697A**
RADHAMANI T	**EDF070D808A113DBFE6483ED37D1A1C5**

ACKNOWLEDGEMENT

INDEX

S.NO	CONTENTS (PROJECT FLOW)
1	**INTRODUCTION** 1.1 Overview 1.2 Purpose
2	**PROBLEM DEINITION & DESIGN THINKING** 2.1 Empathy Map 2.2 Ideation & Brainstorming Map
3	**RESULT**
4	**ADVANTAGES & DISADVANTAGES**
5	**APPLICATIONS**
6	**CONCLUSION**
7	**FUTURE SCOPE**

INTRODUCTION

1.1 OVERVIEW

Estimation of business expenses is the process of forecasting the costs that a business will incur during a specific period. It is an important part of business planning and budgeting, as it helps businesses to make informed decisions about how to allocate their resources.

There are two main types of business expenses:

- Cost of goods sold (COGS): These are the costs directly associated with the production or acquisition of goods or services sold by the business. Examples of COGS include the cost of raw materials, direct labor, and inventory.
- Operating expenses: These are all other expenses incurred by the business, such as rent, utilities, salaries, marketing, and insurance.

1.2 PURPOSE

The purpose of estimation of business expenses is to predict the amount of money that a business will spend over a period. This can be done for a single project, a department, or the entire business. Expense estimates are used for a variety of purposes, including:

2.**Budgeting:** Expense estimates are used to create budgets, which help businesses to track their spending and ensure that they are staying on track financially.

3.**Pricing:** Expense estimates are used to set prices for products and services. Businesses need to make sure that their prices are high enough to cover their costs and generate a profit.

3.**Decision-making:** Expense estimates are used to make informed decisions about business activities, such as whether to launch a new product or enter a new market.

4.**Tracking performance:** Expense estimates can be compared to actual spending to track the performance of the business and identify areas where costs can be reduced.

PROBLEM DEFINITION & DESIGN THINKING

EMPATHY MAP & BRAINSTORMING MAP

In order to fulfil the milestone Empathy map and Brainstorming map were created by group discussions. Those maps are uploaded in GitHub and the links to access those files are hyperlinked here -Brainstorming,Empathy Map

2.1 EMPATHY MAP

2.2 BRAINSTORMING MAP

RESULT

VISULIZATIONS OF SHEETS

1. Annual Pay Roll

2.Contact Labour Vs Employee

3. Equipment Costs

4. Advertisement Cost

5. Rental Payment Machinery

6. Power Expenditure

Power Expenditure

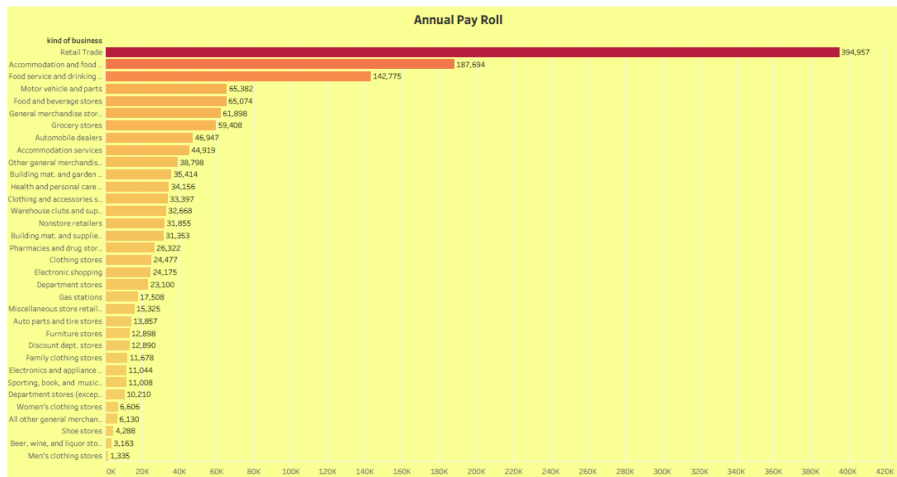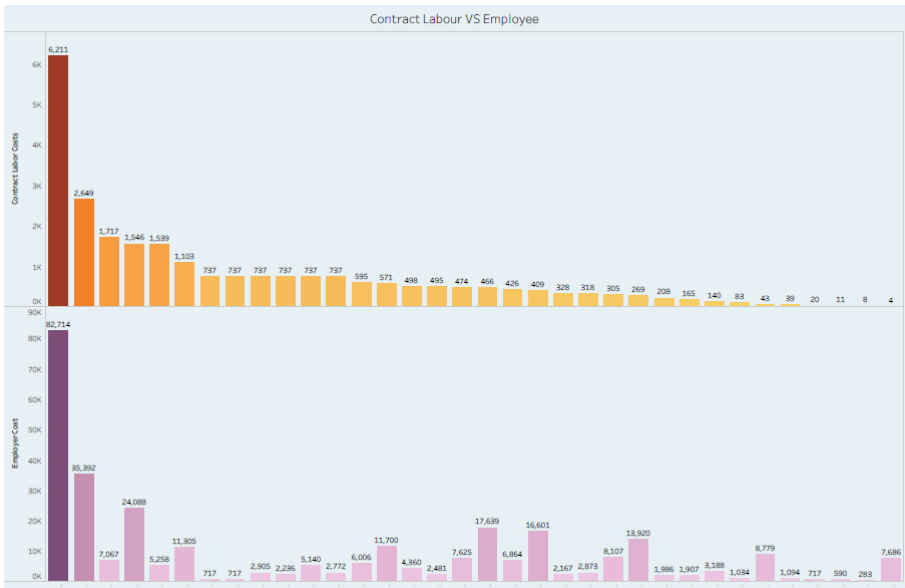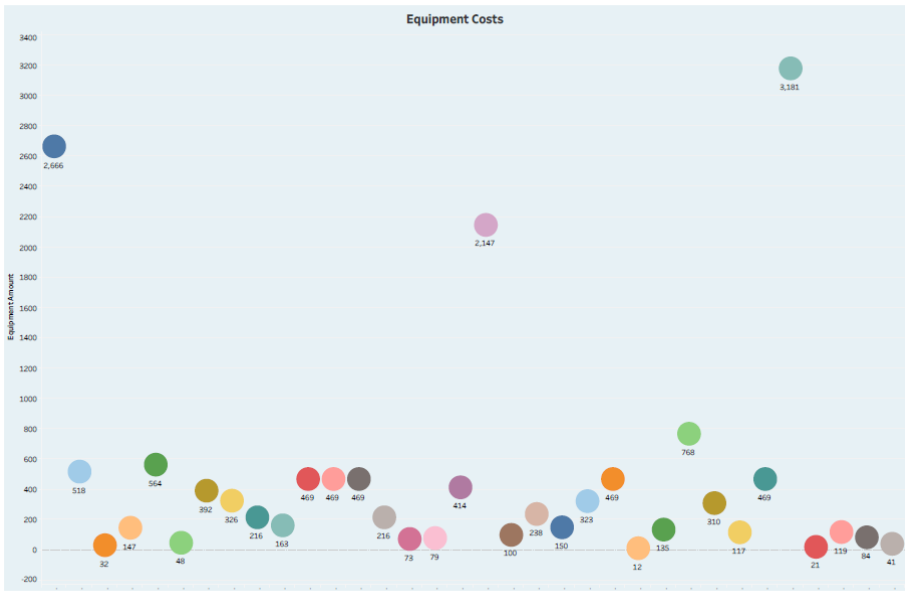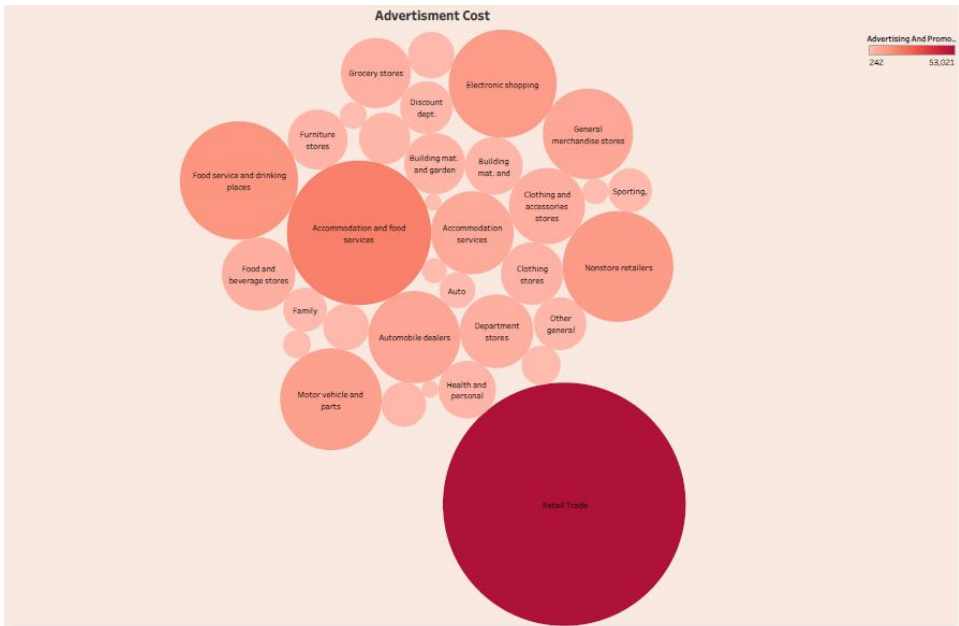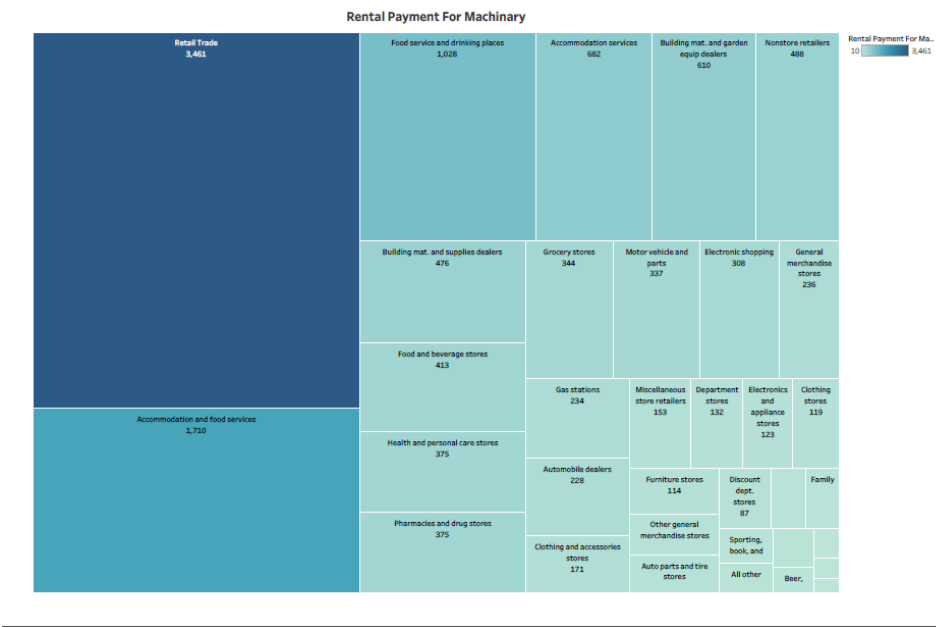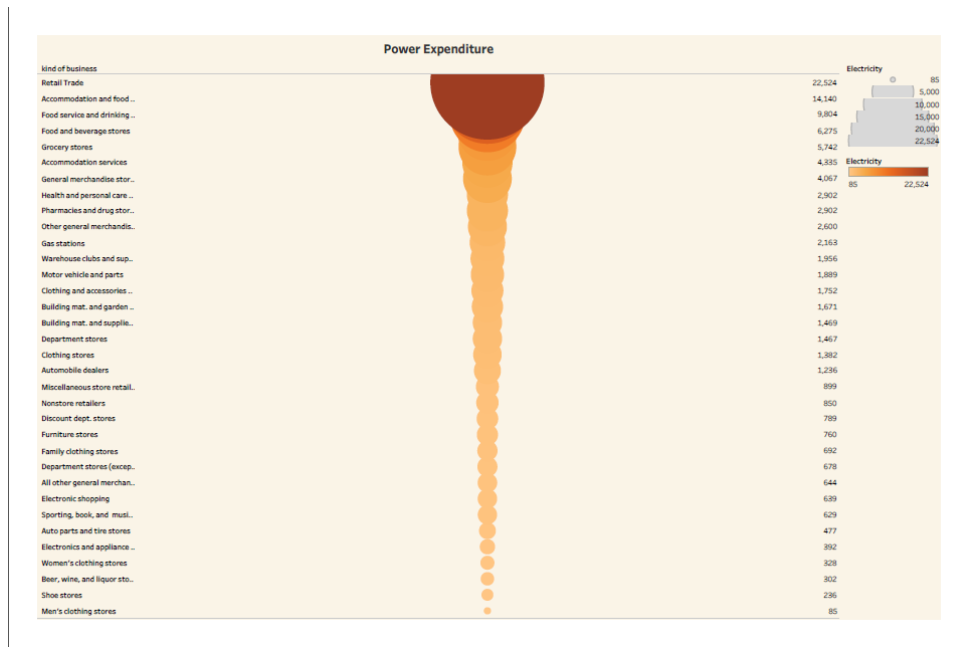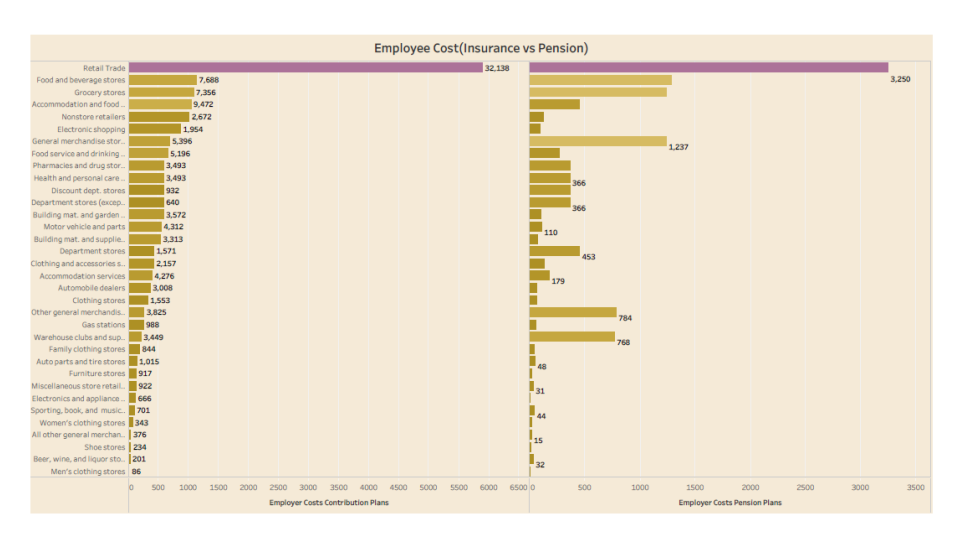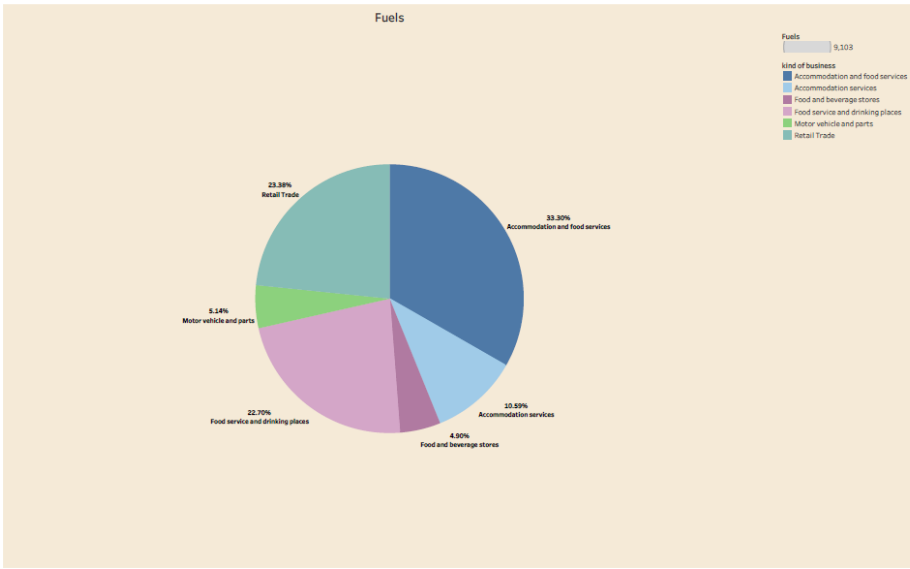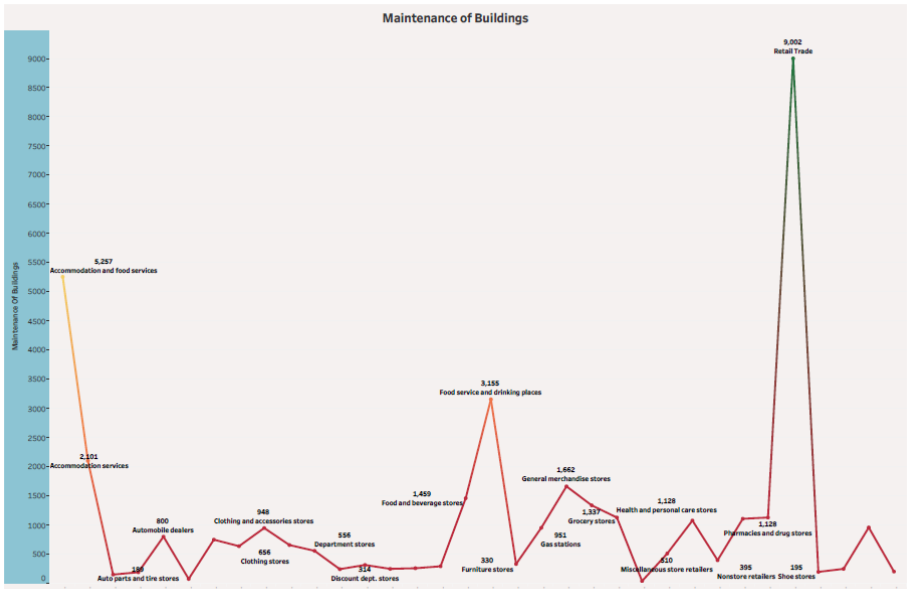| kind of business	Electricity
Retail Trade	22,524
Accommodation and food ...	14,140
Food service and drinking ...	9,804
Food and beverage stores	6,275
Grocery stores	5,742
Accommodation services	4,335
General merchandise stor...	4,067
Health and personal care ...	2,902
Pharmacies and drug stor...	2,902
Other general merchandis...	2,600
Gas stations	2,163
Warehouse clubs and sup...	1,956
Motor vehicle and parts	1,889
Clothing and accessories ...	1,752
Building mat. and garden ...	1,671
Building mat. and supplie...	1,469
Department stores	1,467
Clothing stores	1,382
Automobile dealers	1,236
Miscellaneous store retail...	899
Nonstore retailers	850
Discount dept. stores	789
Furniture stores	760
Family clothing stores	692
Department stores (excep...	678
All other general merchan...	644
Electronic shopping	639
Sporting, book, and musi...	629
Auto parts and tire stores	477
Electronics and appliance ...	392
Women's clothing stores	328
Beer, wine, and liquor sto...	302
Shoe stores	236
Men's clothing stores	85

Electricity: 85, 5,000, 10,000, 15,000, 20,000, 22,524
Electricity: 85 – 22,524

7.Employee Cost (Insurance vs pension)

Employee Cost(Insurance vs Pension)

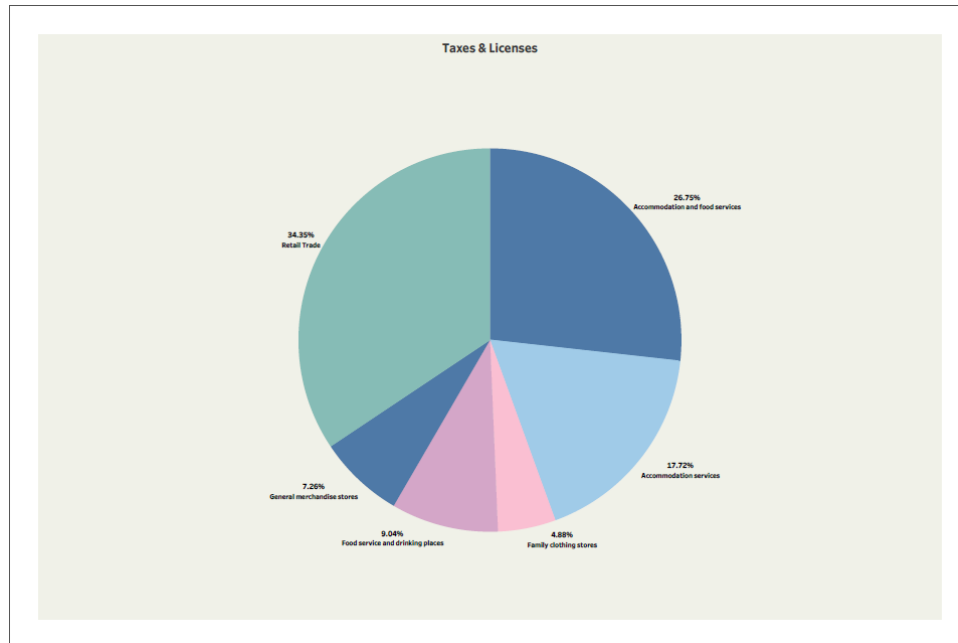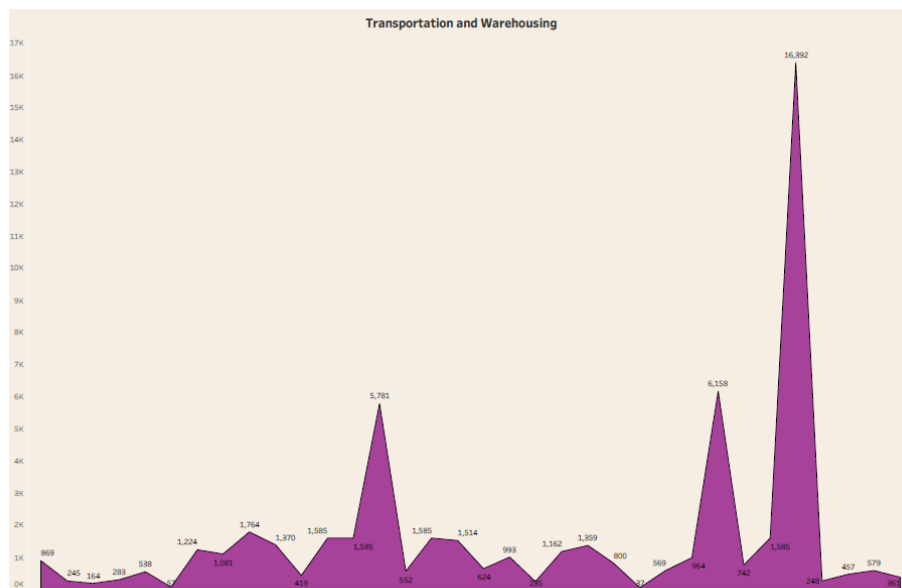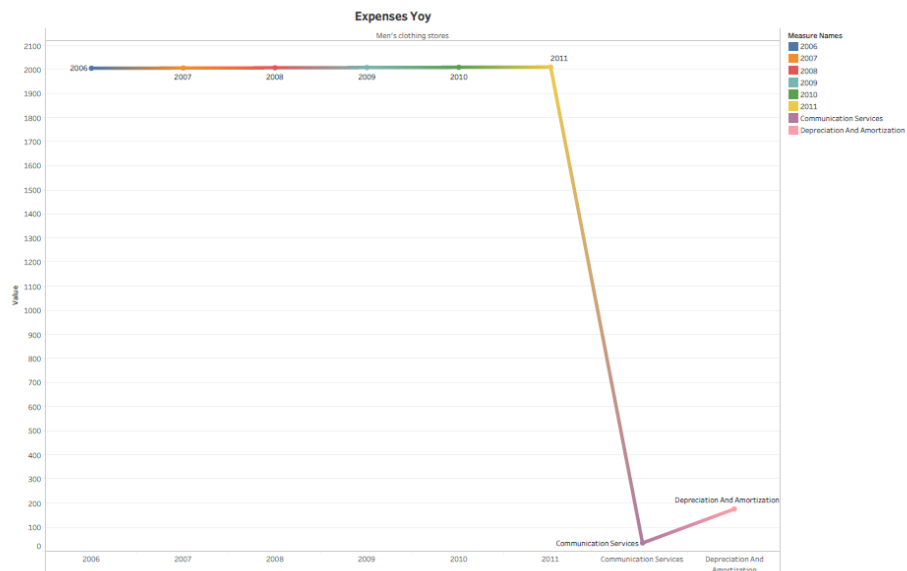| kind of business	Employer Costs Contribution Plans	Employer Costs Pension Plans
Retail Trade	32,138	3,250
Food and beverage stores	7,688	
Grocery stores	7,356	
Accommodation and food ...	9,472	
Nonstore retailers	2,672	
Electronic shopping	1,954	
General merchandise stor...	5,396	1,237
Food service and drinking ...	5,196	
Pharmacies and drug stor...	3,493	
Health and personal care ...	3,493	366
Discount dept. stores	932	
Department stores (excep...	640	366
Building mat. and garden ...	3,572	
Motor vehicle and parts	4,312	110
Building mat. and supplie...	3,313	
Department stores	1,571	453
Clothing and accessories s...	2,157	
Accommodation services	4,276	179
Automobile dealers	3,008	
Clothing stores	1,553	
Other general merchandis...	3,825	784
Gas stations	988	
Warehouse clubs and sup...	3,449	768
Family clothing stores	844	
Auto parts and tire stores	1,015	48
Furniture stores	917	
Miscellaneous store retail...	922	31
Electronics and appliance ...	666	
Sporting, book, and music...	701	44
Women's clothing stores	343	
All other general merchan...	376	15
Shoe stores	234	
Beer, wine, and liquor sto...	201	32
Men's clothing stores	86	

8. Fuels

9. Maintenance of Buildings
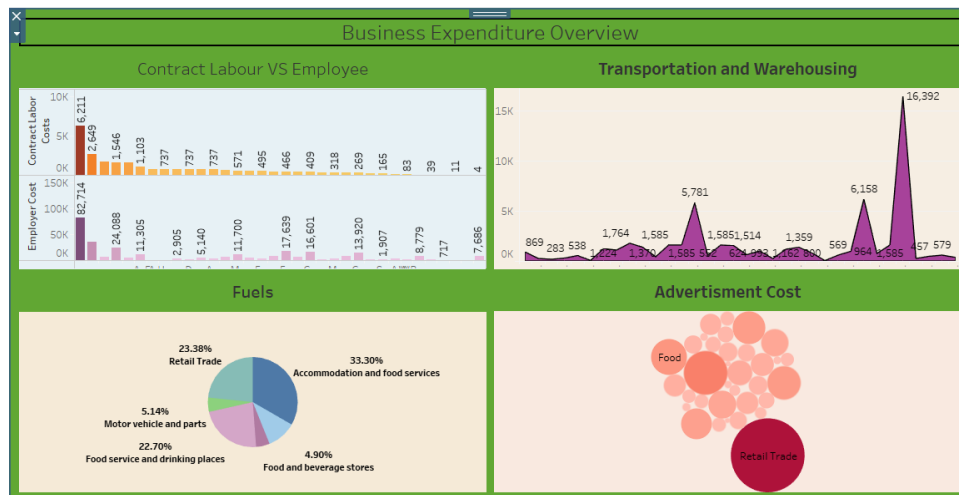
10.Taxes & Licenses

11. Transportation and Warehousing

12.Expenses YoY

DASHBOARDS

DASHBOARD 1

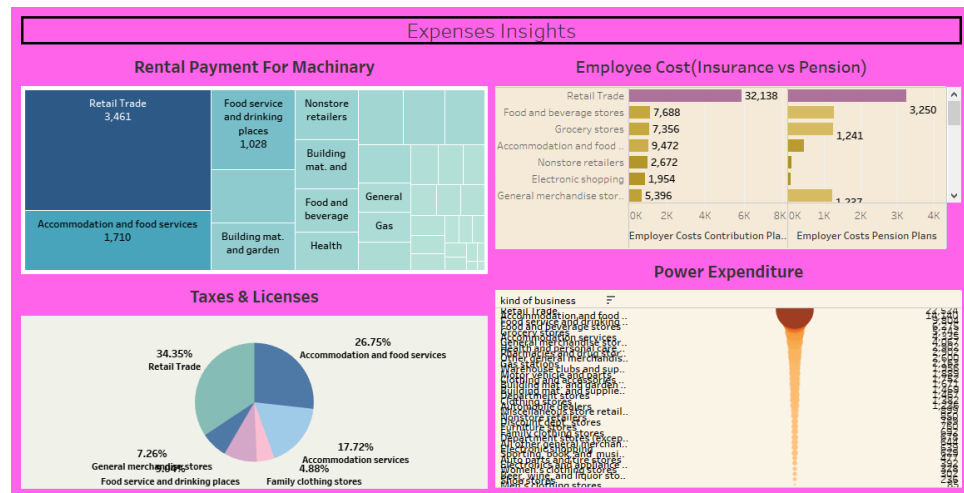# DASHBOARD 2

Expenses Insights

Rental Payment For Machinary

Retail Trade 3,461
Food service and drinking places 1,028
Nonstore retailers
Building mat. and
Accommodation and food services 1,710
Building mat. and garden
Food and beverage
General
Gas
Health

Employee Cost(Insurance vs Pension)

Retail Trade	32,138	
Food and beverage stores	7,688	3,250
Grocery stores	7,356	1,241
Accommodation and food ..	9,472	
Nonstore retailers	2,672	
Electronic shopping	1,954	
General merchandise stor..	5,396	1,227

0K 2K 4K 6K 8K 0K 1K 2K 3K 4K
Employer Costs Contribution Pla... Employer Costs Pension Plans

Taxes & Licenses

34.35% Retail Trade
26.75% Accommodation and food services
7.26% General merchandise stores
Food service and drinking places
17.72% Accommodation services
4.88% Family clothing stores

Power Expenditure

kind of business

DASHBOARD 3

Expense Breakdown : Insights into Diverse Business Costs

Annual Pay Roll

kind of business

Retail Trade	3,94,957
Accommodation and food ..	1,87,694
Food service and drinking ..	1,42,775
Motor vehicle and parts	65,382
Food and beverage stores	65,074
General merchandise stor..	61,898
Grocery stores	59,408
Automobile dealers	46,947
Accommodation services	44,919

0K 100K 200K 300K 400K

Taxes & Licenses

34.35% Retail Trade
26.75% Accommodation and food services
7.26% General merchandise stores
Food service and drinking places
17.72% Accommodation services
4.88% Family clothing stores

kind of busi.. Men's clothing s...

Maintenance of Buildings

9,002 Retail Trade
5,257 Accommodation and food services
3,155 Food service and drinking places
1,337 Grocery stores
948 Clothing and accessories stores
851 Gas stations

Expenses Yoy

Men's clothing stores

2006 2007 2008 2009 2010 2011

Depreciation And Amortization
Communication Services

2006 2007 2008 2009 2010 2011
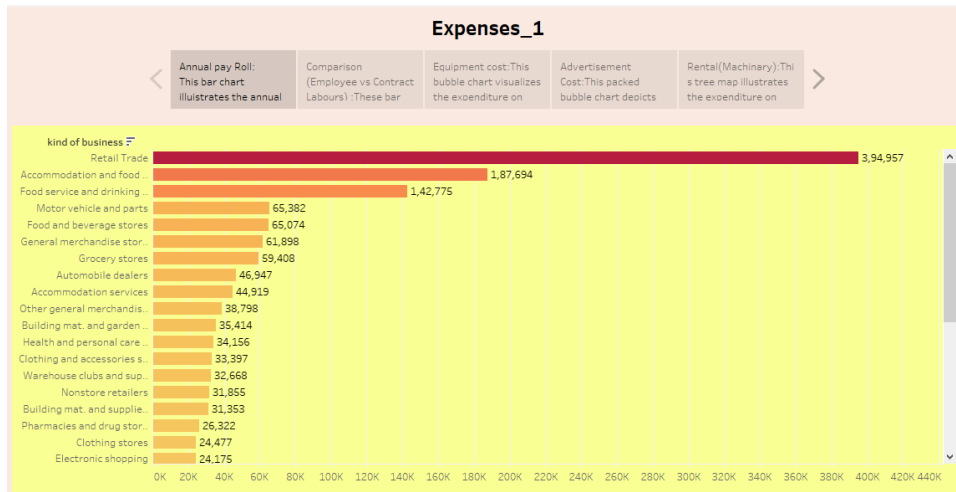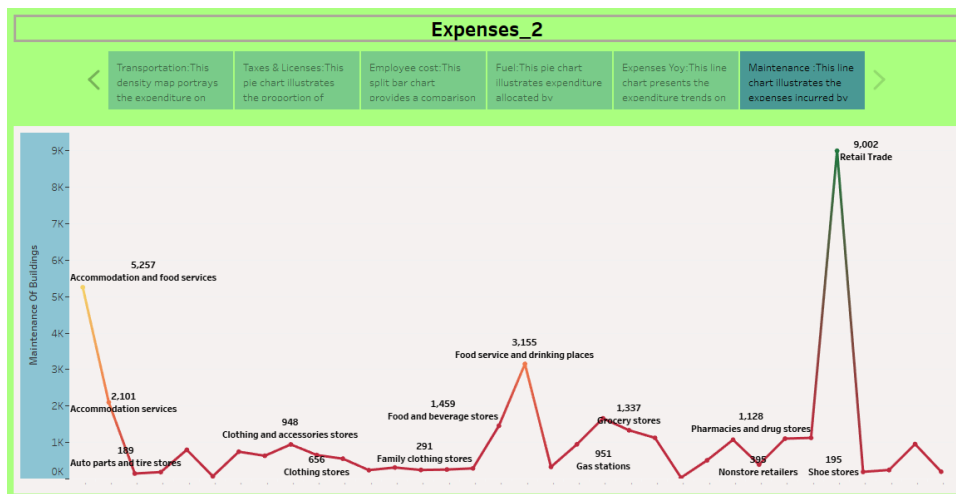Communic Depreciati
ation Ser.. on And A..

STORY

STORY 1

STORY 2

In the created story line, we have a total of 5 scenes showcasing the details of created worksheets.

The visualization of sheets, story & dashboard are published in the tableau public server.
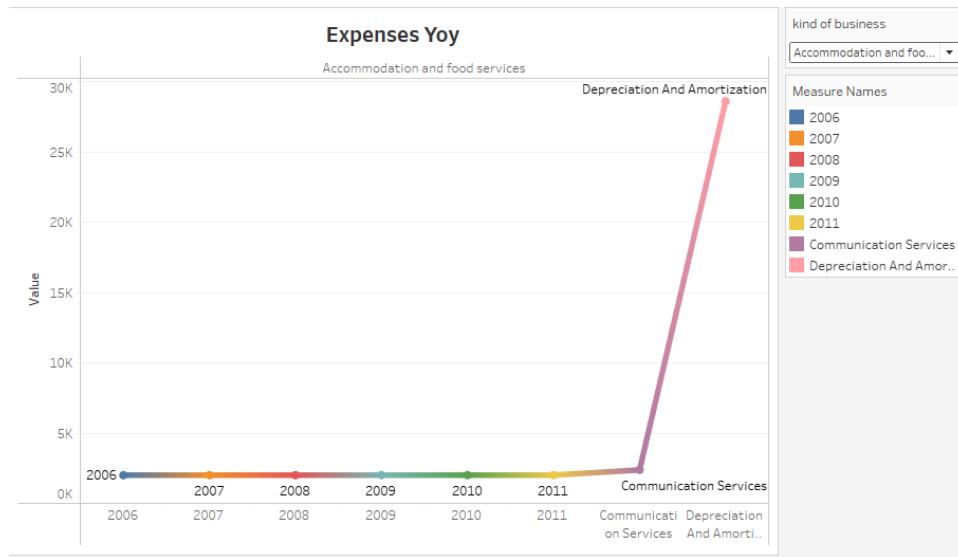
UTILIZATIONS OF FILTERS

In every worksheet we can apply general, or action filters based on input data provided to create visualizations. Based on these action filters the visualizations can be changed in certain aspects of categorizations (i.e., annual pay roll, fuels, expenses yoy, etc.).

For example, the dashboard below represents data without any filters.
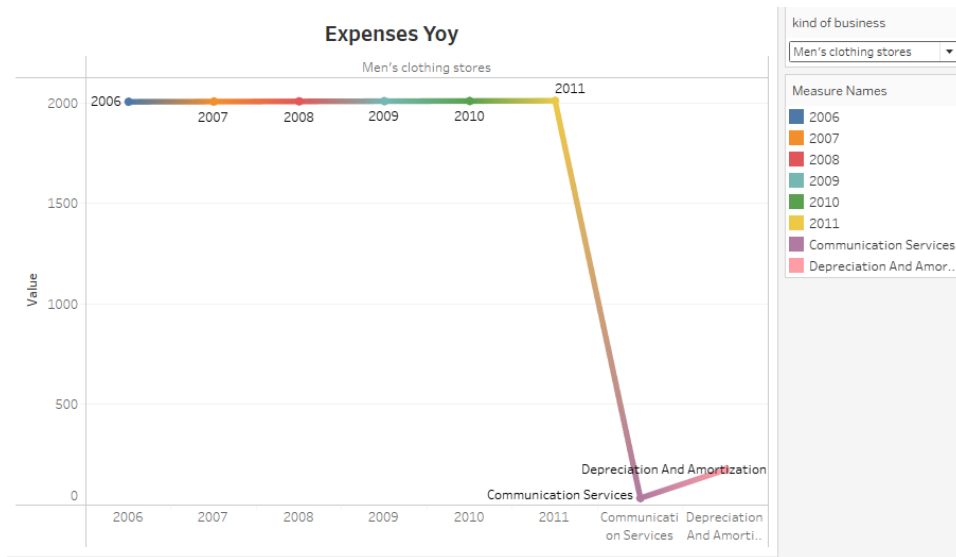
Now if we apply an action filter expenses yoy , we can get data in accordance with the type of filter applied. The dashboard below represents data when filter is applied.

Now we can see that our dashboard's visualizations have been changed when we apply a filter in the accommodation of food services the graph is change that expenses yoy .

This is one of the examples for Utilization of filters.

NUMBER OF VISUALIZATIONS/ GRAPHS

1.Annual pay roll

2.Contact labour vs employee

3.Equipment costs

4. Advertisement cost

5.Rental payment machinery

6. Power expenditure

7. Employee costs (Insurance vs pension)

 8.Fuels

9.Maintenance of buildings

10.Taxes & Licenses

11.Tranceportation and Warehousing

12.Exoenses yoy

PUBLISHING

Publishing helps us to track and monitor key performance metrics, to communicate results and progress. help a publisher stay informed, make better decisions, and communicate their performance to others. The story and dashboard are published in the tableau public server. The link for visiting the site is hyperlinked here – Estimation of businesses of expenses
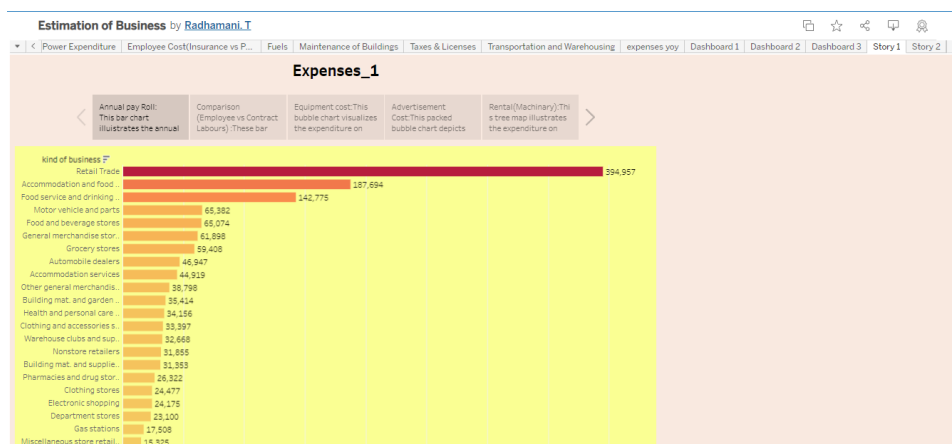
LINKS TO ACCESS PROJECT FILES:

1.Github Repository

2.Brainstorm Map

3.Empathy Map

4.Dashboard

5.Tabelau Public Server-Estimation of Business

6.Story

7.1[Visualisation of sheets](#)

ADVANTAGES

**There are many advantages to estimating business expenses,
including**:

1.Better budgeting: Accurate expense estimates allow businesses to create realistic budgets and track their spending over time. This helps businesses to ensure that they are staying on track financially and to identify any areas where they can cut costs.

2.Improved decision-making: When businesses have a good understanding of their expenses, they can make better decisions about where to allocate their resources. For example, a business may decide to invest in a new marketing campaign if they know that it is likely to generate more revenue than it costs.

3.Increased profitability: By managing their expenses effectively, businesses can increase their profitability. This is because they will be able to keep more of their revenue after covering their costs.

4.Reduced risk: Accurate expense estimates can help businesses to identify and mitigate potential risks. For example, if a business knows that it has a large upcoming expense, it may be able to negotiate a better price with a supplier or to secure additional funding.

5.Improved relationships with clients and customers: When businesses can provide accurate estimates of their services, it builds trust with their clients and customers. This can lead to repeat business and increased referrals.

DISADVANTAGES

There are several disadvantages to estimation of business expenses, including

1.Inaccuracy: Expense estimates are inherently inaccurate, as they are based on assumptions about future events. This means that there is always a risk that the actual expenses will be higher or lower than the estimated expenses.

2.Time-consuming: Estimating expenses can be a time-consuming process, especially for complex projects or businesses with many expenses.

3.Requires expertise: Estimating expenses accurately requires expertise in the specific industry and business. This means that businesses may need to hire consultants or other professionals to help them with this process.

4.Can lead to overspending: If expense estimates are too low, businesses may end up overspending. This can lead to financial problems, such as cash flow shortages and debt.

5.Can lead to underinvestment: If expense estimates are too high, businesses may be less likely to invest in new projects or initiatives. This can stifle growth and innovation.

APPLICATIONS

Estimation of business expenses has a wide range of applications, including:

1.Budgeting: Expense estimates are used to create budgets, which help businesses to track their spending and ensure that they are staying on track financially.

2.Pricing: Expense estimates are used to set prices for products and services. Businesses need to make sure that their prices are high enough to cover their costs and generate a profit.

3.Decision-making: Expense estimates are used to make informed decisions about business activities, such as whether to launch a new product or enter a new market.

4.Tracking performance: Expense estimates can be compared to actual spending to track the performance of the business and identify areas where costs can be reduced.

5.Project management: Expense estimates are used to create budgets for projects and track spending to ensure that projects stay on budget.

6.Financial forecasting: Expense estimates are used to create financial forecasts for the business. This helps the business to identify potential financial risks and opportunities.

6.Funding requirements: Expense estimates are used to determine how much funding a business need. This is important for businesses that are seeking investors or loans.

7.Tax planning: Expense estimates are used to plan for taxes. This helps businesses to minimize their tax liability and maximize their profits.

8.Expense estimates are used to comply with various regulations. For example, publicly traded companies are required to disclose their expense estimates to investors.

CONCLUTION

Estimation of business expenses is an important process for businesses of all sizes. It helps businesses to plan, make informed decisions, and reduce risk.

There are a few different methods that businesses can use to estimate their expenses. The best method will vary depending on the size and complexity of the business, as well as the specific needs of the business.

It is important to note that expense estimates are not always accurate. There are many factors that can affect business costs, such as changes in the economy, market fluctuations, and unexpected events. However, by using accurate and up-to-date data, involving all relevant stakeholders in the estimation process, and regularly reviewing and updating estimates, businesses can minimize the risk of inaccurate estimates.

Expense estimation has a wide range of applications, including budgeting, pricing, decision-making, tracking performance, project management, financial forecasting, funding requirements, tax planning, and compliance.

Overall, expense estimation is a valuable tool for businesses that can help them to improve their financial performance and reduce risk.

FUTURE SCOPE

The future scope of estimation of business expenses is very bright. As technology continues to advance, we can expect to see new and more sophisticated tools and techniques that can help businesses to estimate their expenses more accurately and efficiently.

One of the most exciting trends in the field of expense estimation is the use of artificial intelligence (AI) and machine learning (ML). AI and ML can be used to analyze large amounts of historical data to identify patterns and trends. This information can then be used to make more accurate predictions about future expenses.

Another trend is the development of cloud-based expense estimation software. Cloud-based software is easy to use and accessible from anywhere with an internet connection. This makes it ideal for businesses of all sizes, including small businesses and startups.

Here are some specific examples of how AI, ML, and cloud-based software can be used to improve the future of expense estimation:

1.AI-powered expense estimation software can be used to automatically analyze and categorize transactions. This can save businesses a lot of time and effort, and it can also help to improve the accuracy of estimates.
2.ML algorithms can be used to identify patterns and trends in historical expense data. This information can then be used to make more accurate predictions about future expenses.
3.Cloud-based expense estimation software can make it easier for businesses to track and manage their expenses. This can help businesses to identify areas where they can cut costs and improve their profitability.

Overall, the future of expense estimation is very promising. As technology continues to advance, we can expect to see new and more sophisticated tools and techniques that can help businesses to estimate their expenses more accurately and efficiently.

In addition to the trends mentioned above, there are a few other factors that are likely to shape the future of expense estimation:

1.The increasing globalization of businesses is making it more complex to estimate expenses. Businesses now need to consider factors such as currency fluctuations, import duties, and international shipping costs.
2.The growing popularity of remote work is also making expense estimation more challenging. Businesses need to find ways to track and manage the expenses of remote employees, such as travel costs and home office expenses.
3.The increasing demand for sustainability is also having an impact on expense estimation. Businesses need to consider the environmental impact of their activities and factor this into their expense estimates.

Overall, the future of expense estimation is likely to be more complex and challenging than ever before. However, the new tools and techniques that are being developed will help businesses to overcome these challenges and estimate their expenses more accurately and efficiently.