ESTIMATIONOFBUSINESSEXPENSES

PROJECTSUBMITTEDBY:

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R.SELVASUNDARI

P.SIVAJAYASRI

INTRODUCTION:

Abusinessestimateisadocument detailinghowmuchyouplanon chargingacustomerfor agood or service.

Thisinvolvesestimatingalltheexpensesrequiredtostartandoperatethe business,suchasequipment,rent,inventory,and marketing. By calculating these costs upfront, businessowners can better plan their budget and avoid unexpectedexpenses.

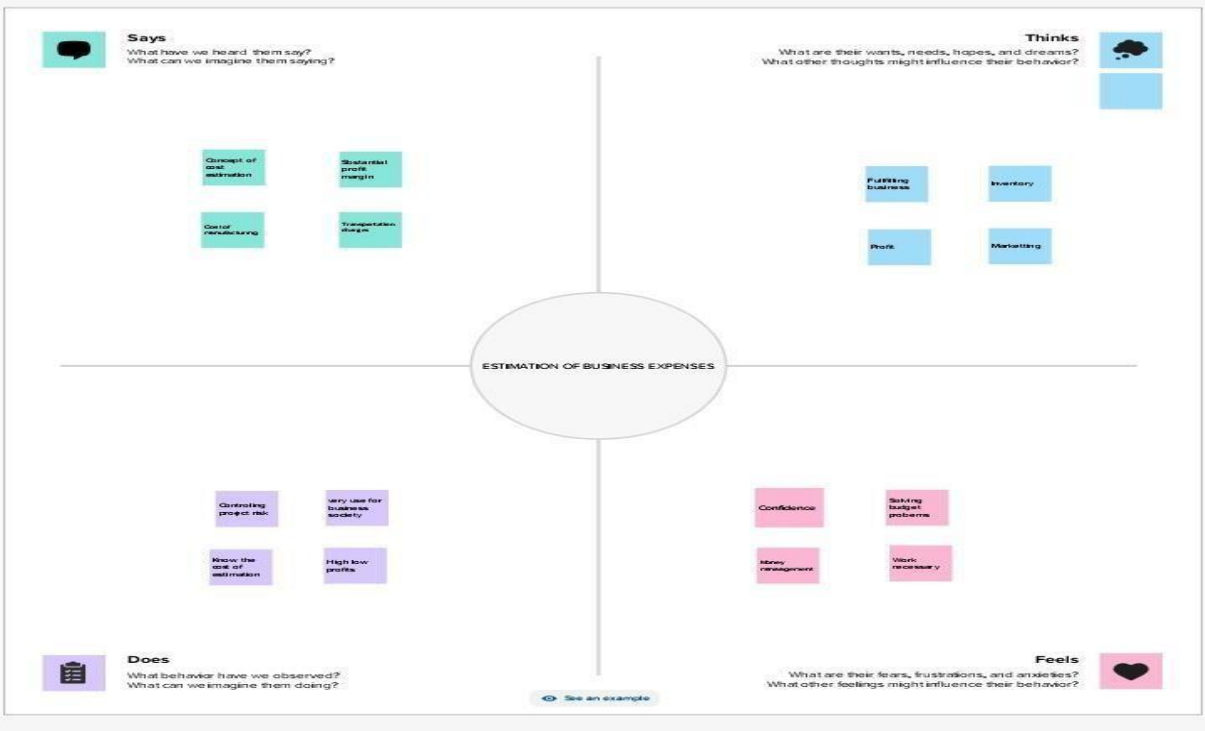
Estimated expense means the amount of the expenses whichtheAuthorityconsiderareproperlytobeincurredintheexecutionof the eligible works together with the amount of the costs whichthe Authority considers have been properly incurred, or areproperlytobeincurred,withrespecttopreliminaryorancillary.

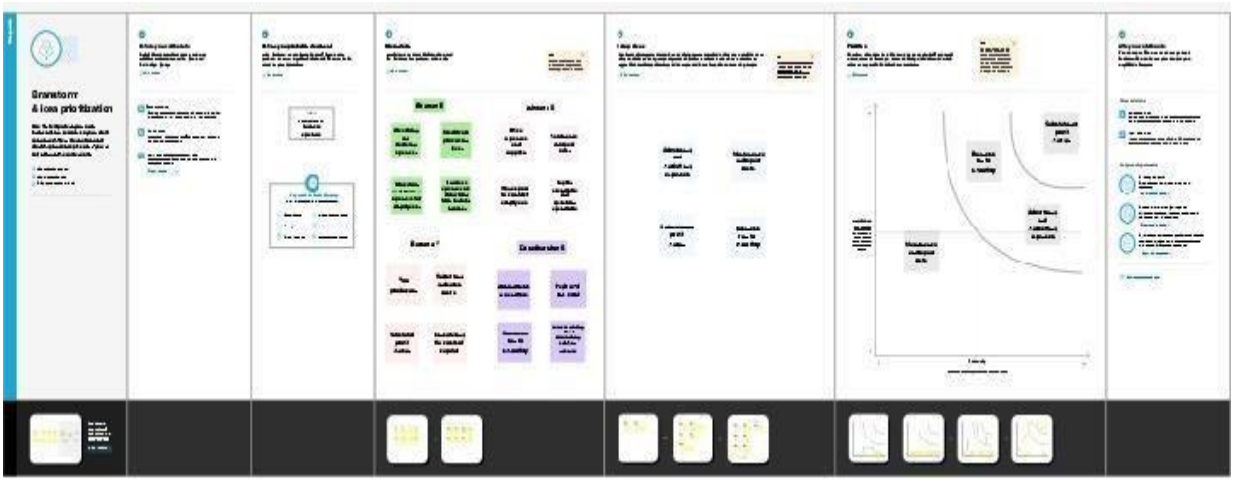
Cost estimation is an indispensable process that providesnumerous benefits to project management. These benefitsincludebudgetplanning,resourceallocation,riskmanagement,imp roveddecision-making,andcompetitiveadvantage.

Estimation is a key technique for predicting and controllingproject risks.Accurateproject estimatestoaidintheidentificationof cost and schedule requirements with relative precision,lowering the danger of running out of time, resources, and moneyduringa project.

Milestone1:DefineProblem/ProblemUnderstanding

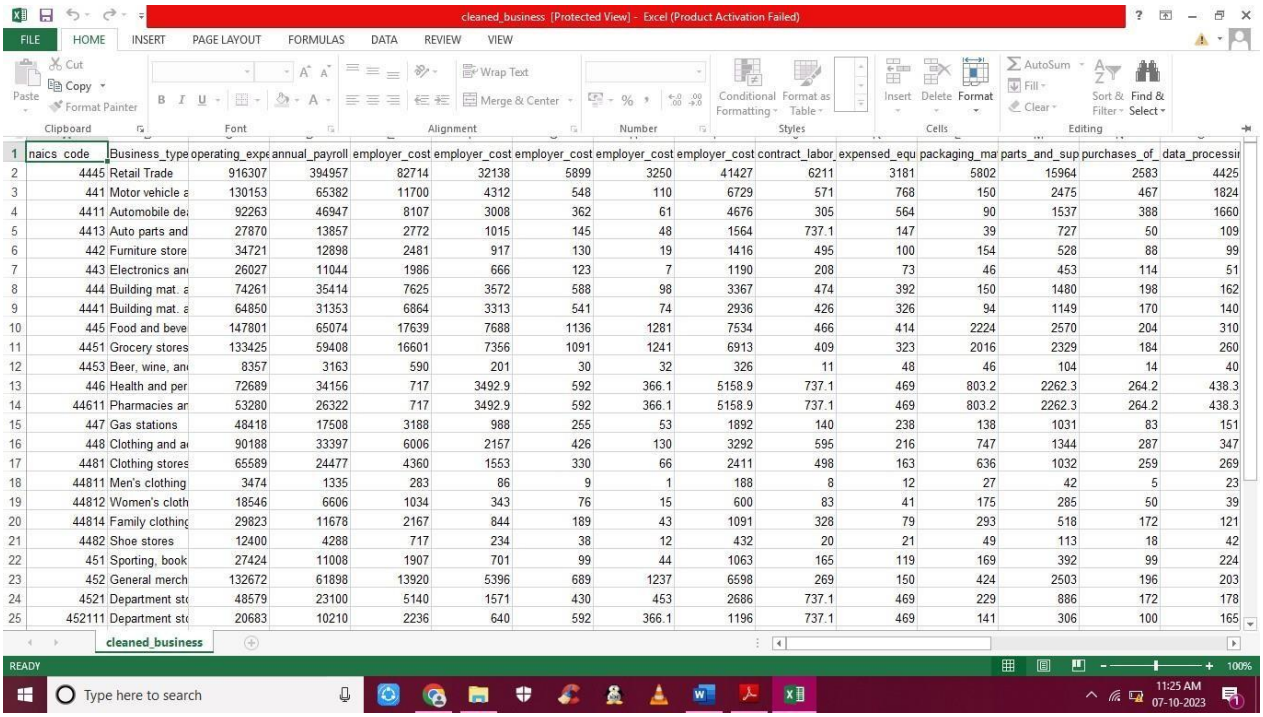
- ✓ **Specifythebusinessproblem**
- ✓ **Businessrequirements**
- ✓ **LiteratureSurvey**
- ✓ **SocialorBusinessImpact**





Milestone2:DataCollection&Extraction

Activity1:Downloadingthedataset



naics_code	Business_type	operating_expe	annual_payroll	employer_cost	employer_cost	employer_cost	employer_cost	employer_cost	contract_labor	expensed_equ	packaging_ma	parts_and_sup	purchases_of_	data_processir
4445	Retail Trade	916307	394957	82714	32138	5899	3250	41427	6211	3181	5802	15964	2583	4425
441	Motor vehicle a	130153	65382	11700	4312	548	110	6729	571	768	150	2475	467	1824
4411	Automobile dea	92263	46947	8107	3008	362	61	4676	305	564	90	1537	388	1660
4413	Auto parts and	27870	13857	2772	1015	145	48	1564	737.1	147	39	727	50	109
442	Furniture store	34721	12898	2481	917	130	19	1416	495	100	154	528	88	99
443	Electronics an	26027	11044	1986	666	123	7	1190	208	73	46	453	114	51
444	Building mat. a	74261	35414	7625	3572	588	98	3367	474	392	150	1480	198	162
4441	Building mat. a	64850	31353	6864	3313	541	74	2936	426	326	94	1149	170	140
445	Food and beve	147801	65074	17639	7688	1136	1281	7534	466	414	2224	2570	204	310
4451	Grocery stores	133425	59408	16601	7356	1091	1241	6913	409	323	2016	2329	184	260
4453	Beer, wine, and	8357	3163	590	201	30	32	326	11	48	46	104	14	40
446	Health and per	72689	34156	717	3492.9	592	366.1	5158.9	737.1	469	803.2	2262.3	264.2	438.3
44611	Pharmacies an	53280	26322	717	3492.9	592	366.1	5158.9	737.1	469	803.2	2262.3	264.2	438.3
447	Gas stations	48418	17508	3188	988	255	53	1892	140	238	138	1031	83	151
448	Clothing and a	90188	33397	6006	2157	426	130	3292	595	216	747	1344	287	347
4481	Clothing stores	65589	24477	4360	1553	330	66	2411	498	163	636	1032	259	269
44811	Men's clothing	3474	1335	283	86	9	1	188	8	12	27	42	5	23
44812	Women's cloth	18546	6606	1034	343	76	15	600	83	41	175	285	50	39
44814	Family clothing	29823	11678	2167	844	189	43	1091	328	79	293	518	172	121
4482	Shoe stores	12400	4288	717	234	38	12	432	20	21	49	113	18	42
451	Sporting, book	27424	11008	1907	701	99	44	1063	165	119	169	392	99	224
452	General merch	132672	61898	13920	5396	689	1237	6598	269	150	424	2503	196	203
4521	Department sto	48579	23100	5140	1571	430	453	2686	737.1	469	229	886	172	178
452111	Department sto	20683	10210	2236	640	592	366.1	1196	737.1	469	141	306	100	165

Activity1.1:Understandthedata

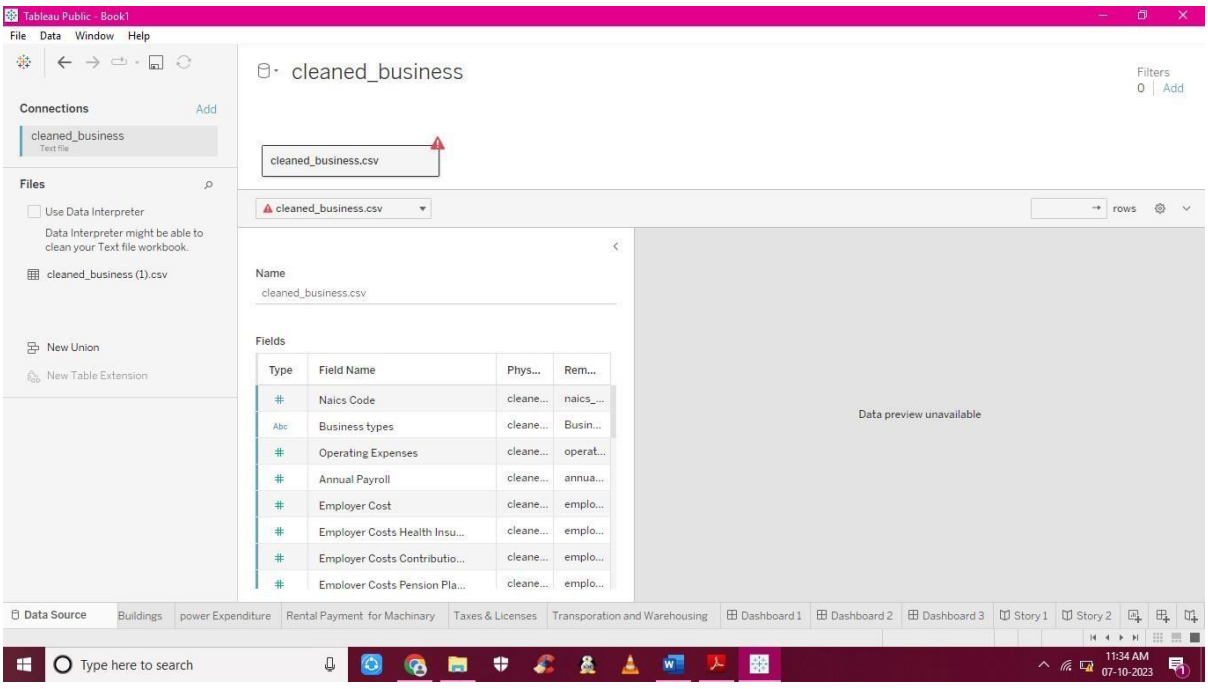
Dataconsistsof33rowswhichcorrespondto33differentbusinesstypesand29columnst hatcorrespondto differentoperatingexpenses.

ColumnDescriptionoftheDataset:

Costs	BusinessTypes
Operatingexpenses	TotalOperatingexpenses
Annualpayroll	Totalyearlypayment

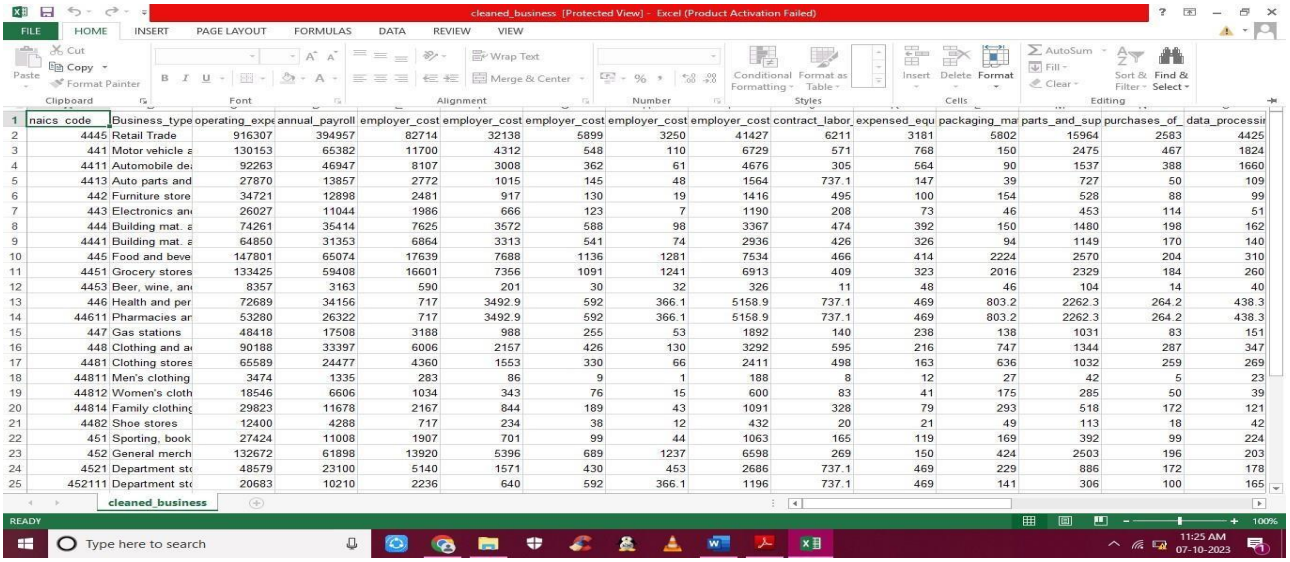
Employercost	Amountspenton employees
Employercostshealthinsurance	Amountspenton healthinsurance
Employercostspensionplans	Amountspentonpensionplansforemployees
Packagingmaterialsandcontainers	Amountspentonpackaging
Repairsandmaintenanceofequipment	Amount spent onrepairsandmaintenance

Activity2:ConnectDatasetwithTableau



Milestone3:DataPreparation

Activity1:PrepareetheDataforVisualization



naics_code	Business_type	operating_exp	annual_payroll	employer_cost	employer_cost	employer_cost	employer_cost	employer_cost	contract_labor	expensed_equ	packaging_ma	parts_and_sup	purchases_of_	data_processi
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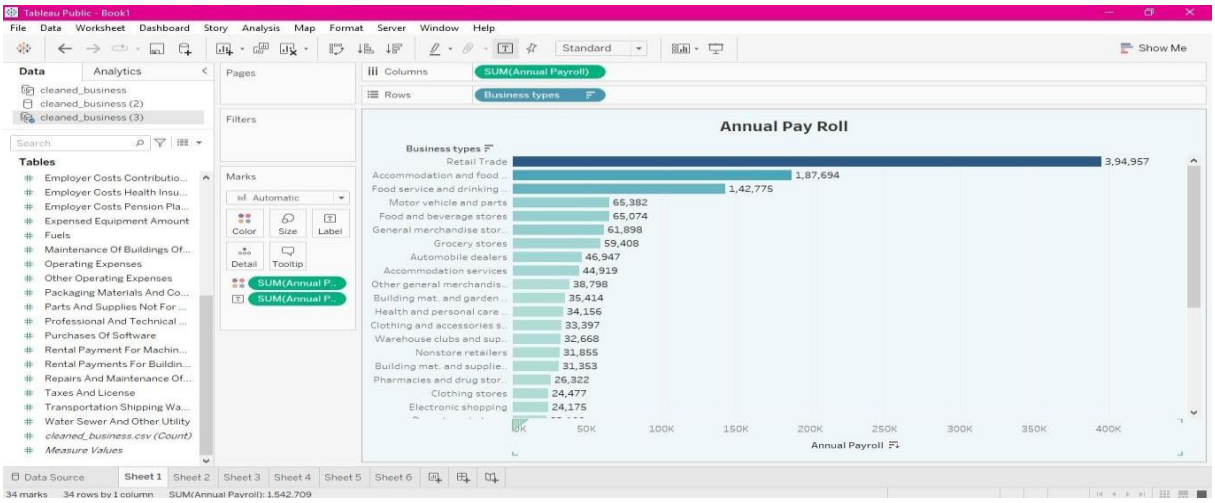
452111	Department st	20683	10210	2236	640	592	366.1	1196	737.1	469	141	306	100	165

Milestone4:DataVisualization

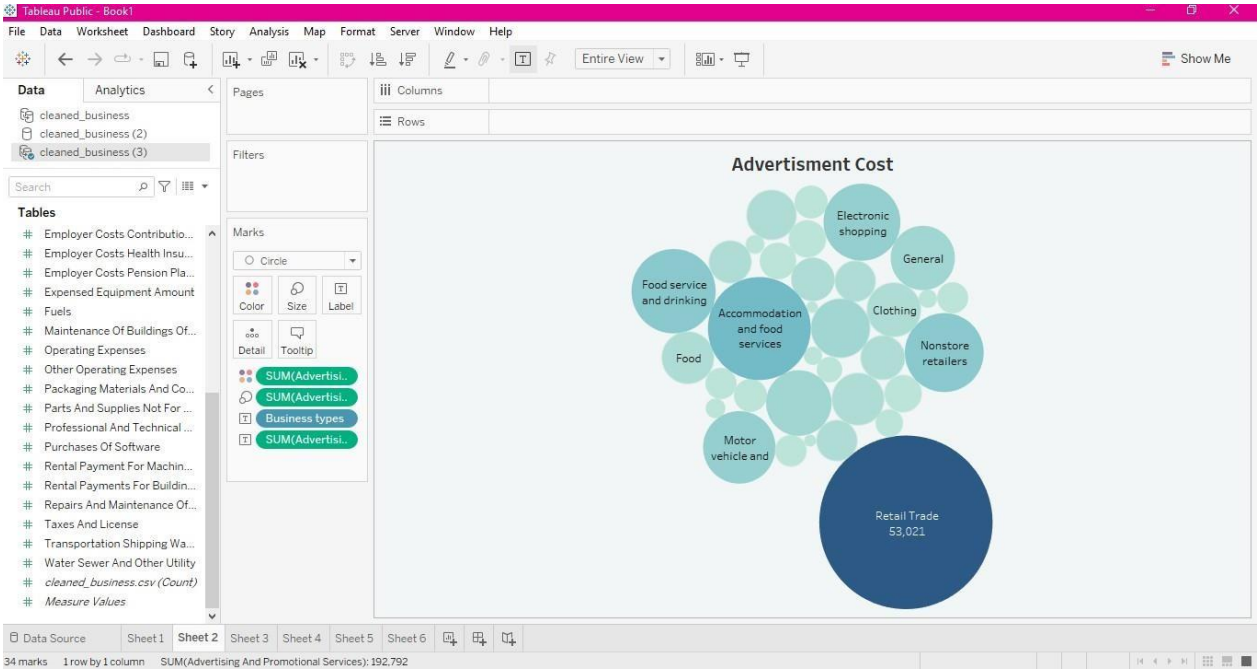
Activity1:NoofUniqueVisualization

ThenumberofuniqueVisualizationthatcanbecreatedwith agivendataset.

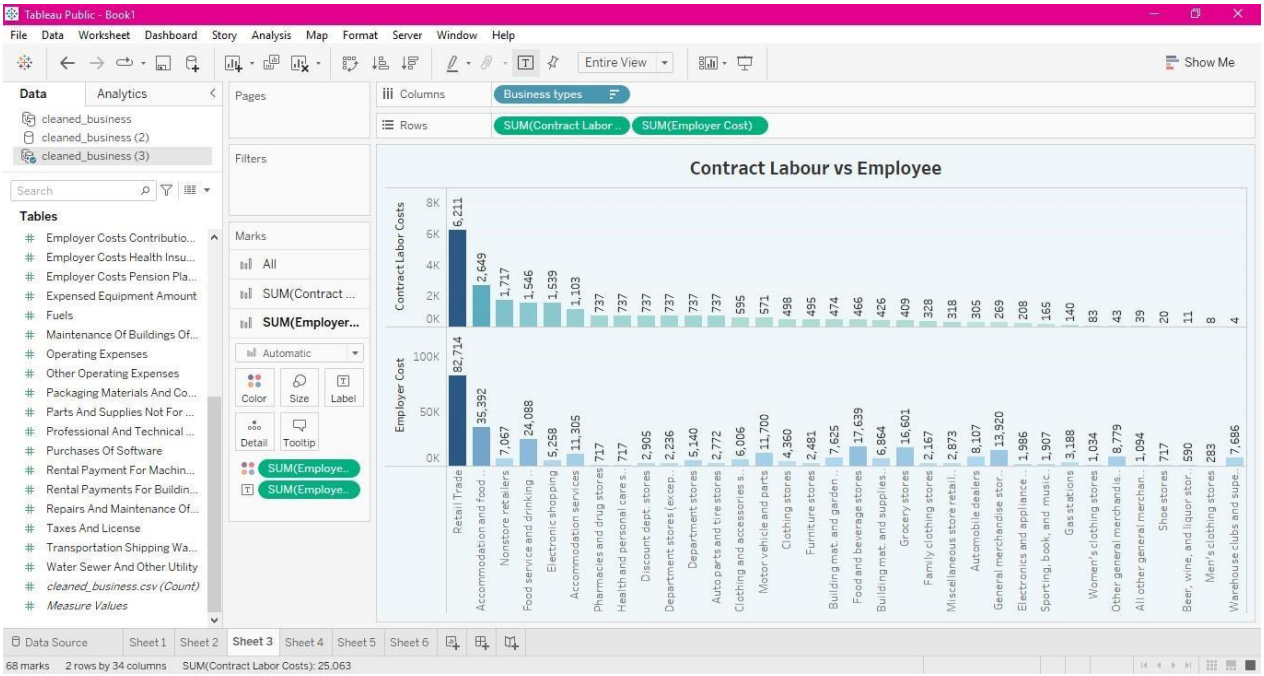
Activity1.1:AnnualPayRoll



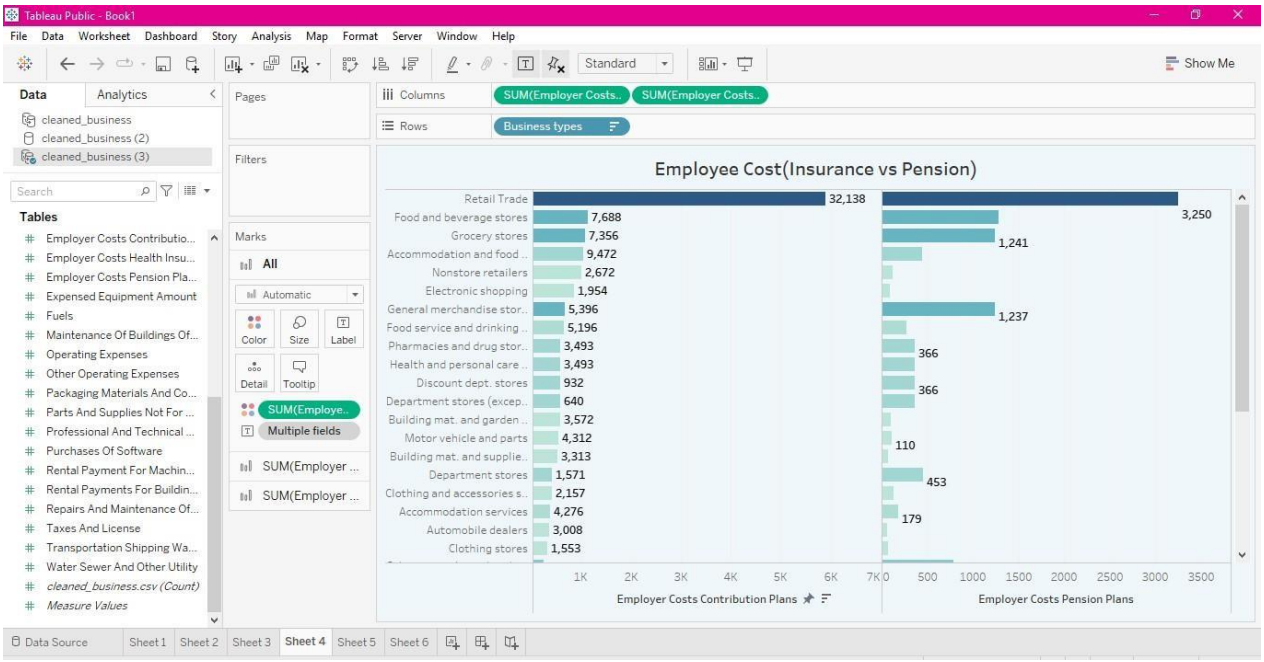
Activity1.2:AdvertisementCost



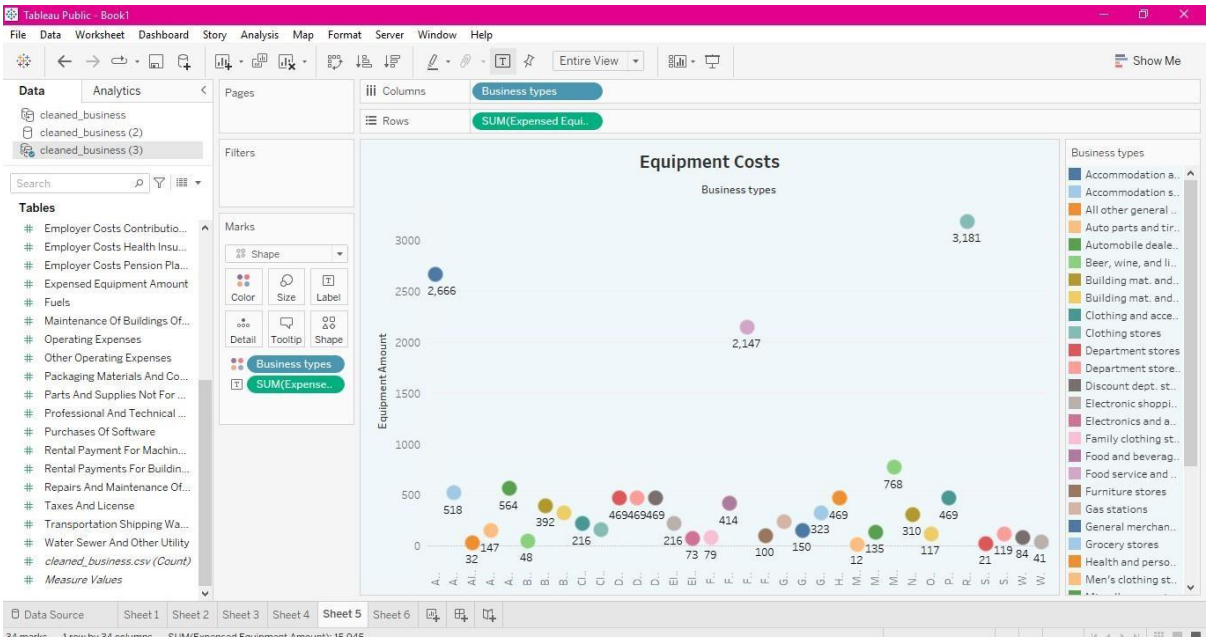
Activity1.3:ContractLaborvsEmployee



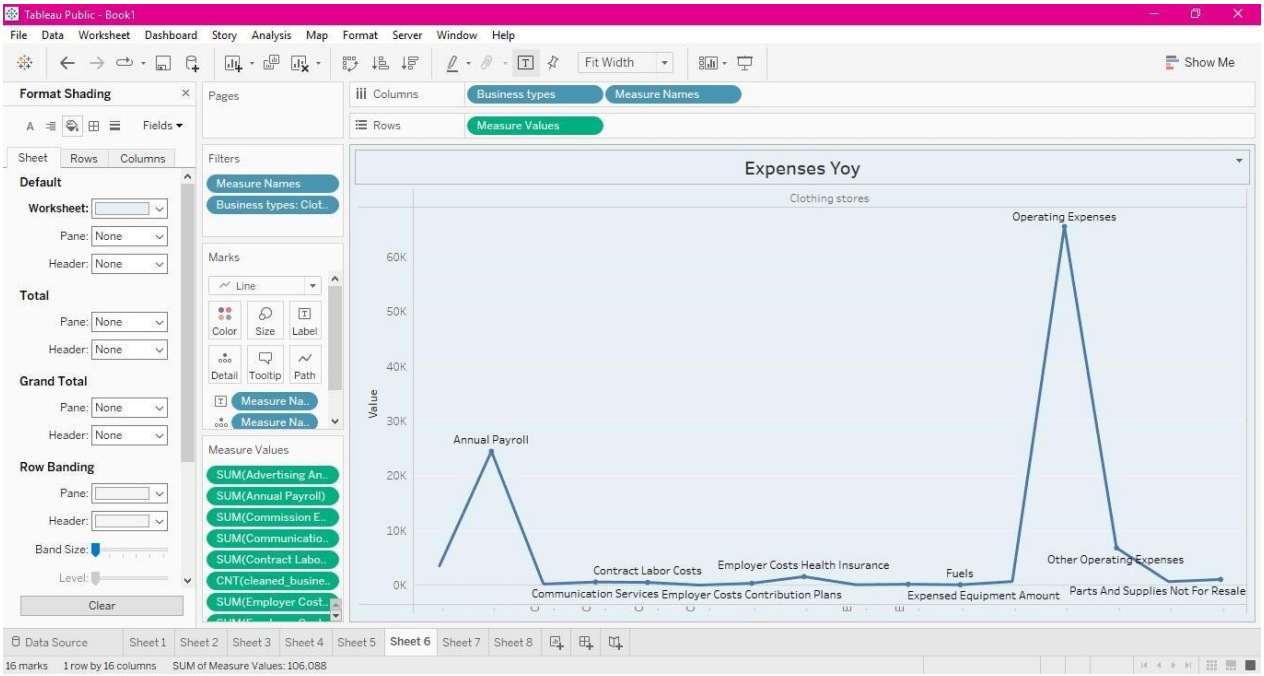
Activity1.4:Employee (Insurancevspension)



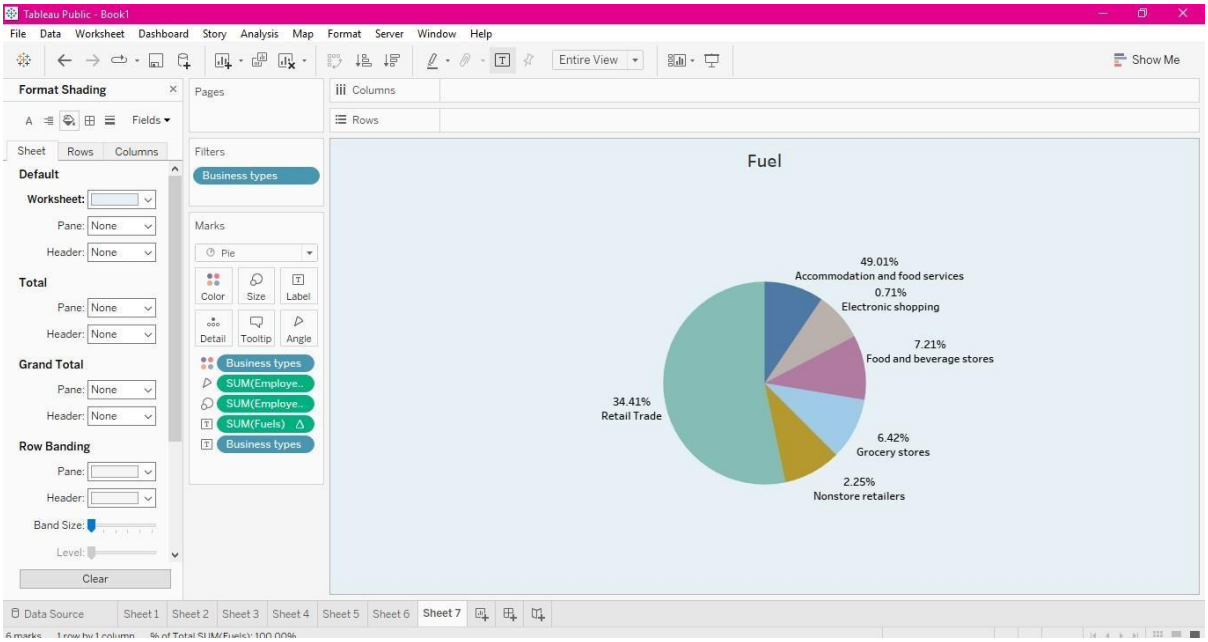
Activity1.5:EquipmentCosts



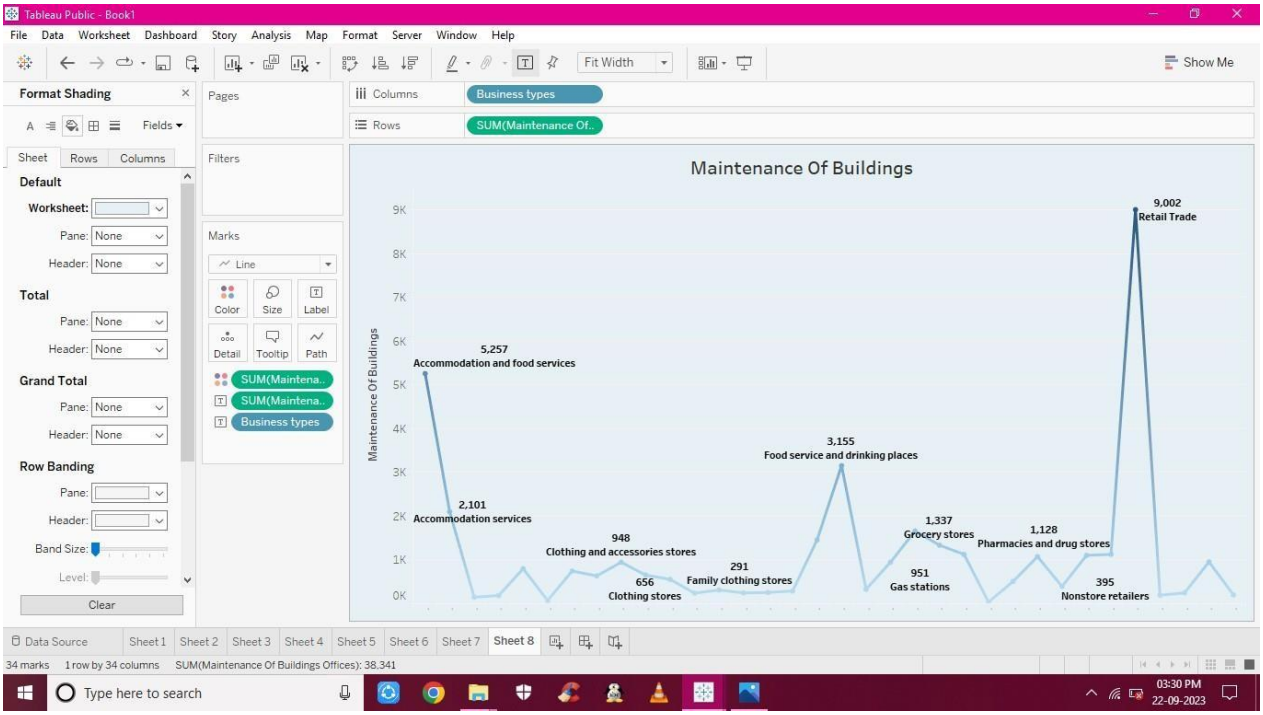
Activity1.6:ExpensesYoY



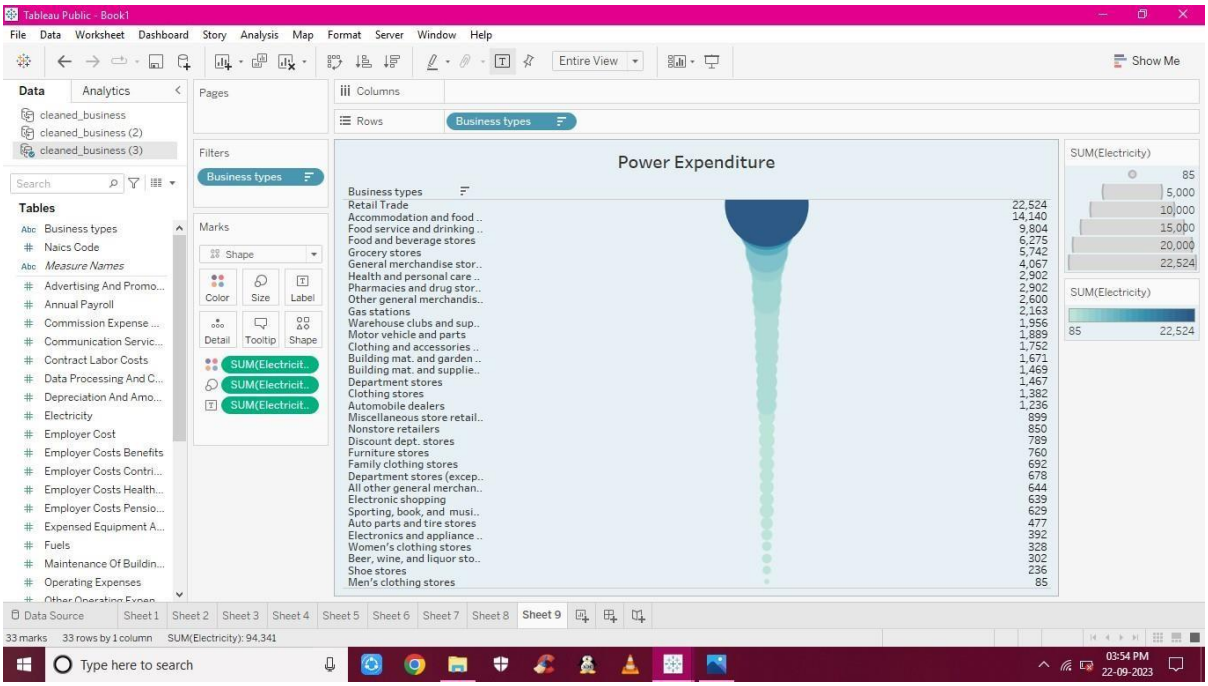
Activity1.7:Fuel



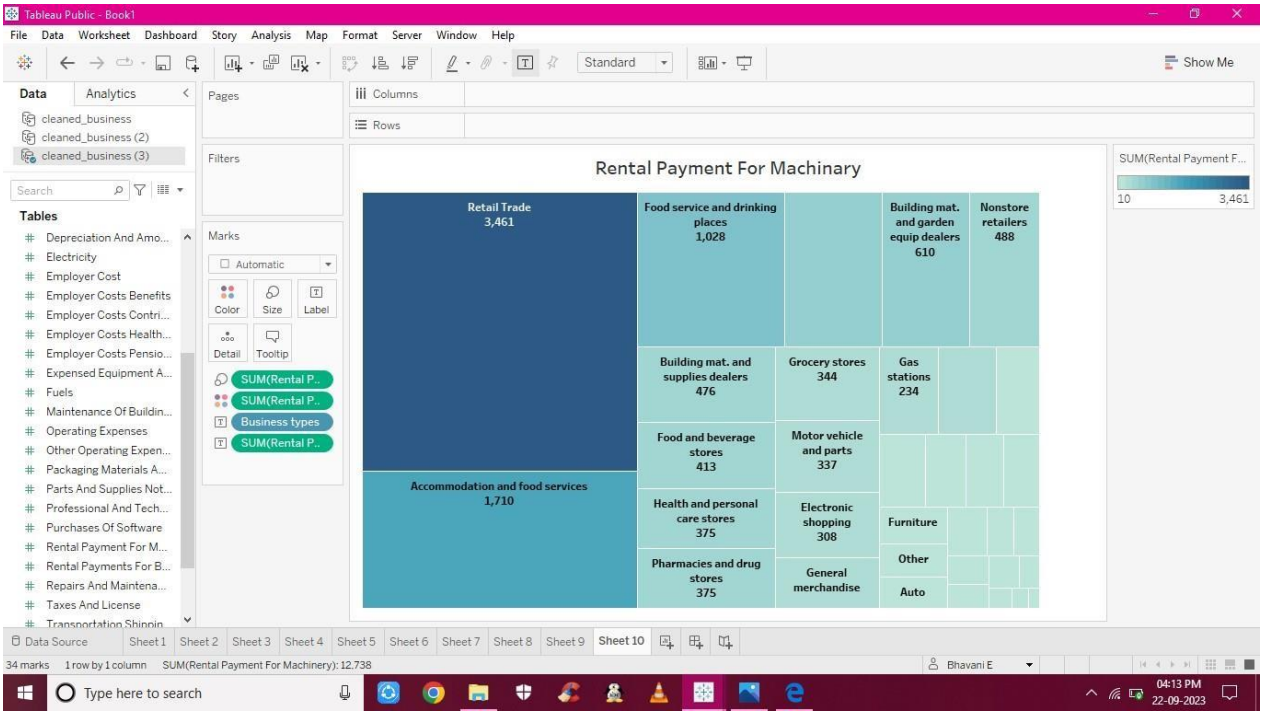
Activity1.8:MaintenanceofBuildings



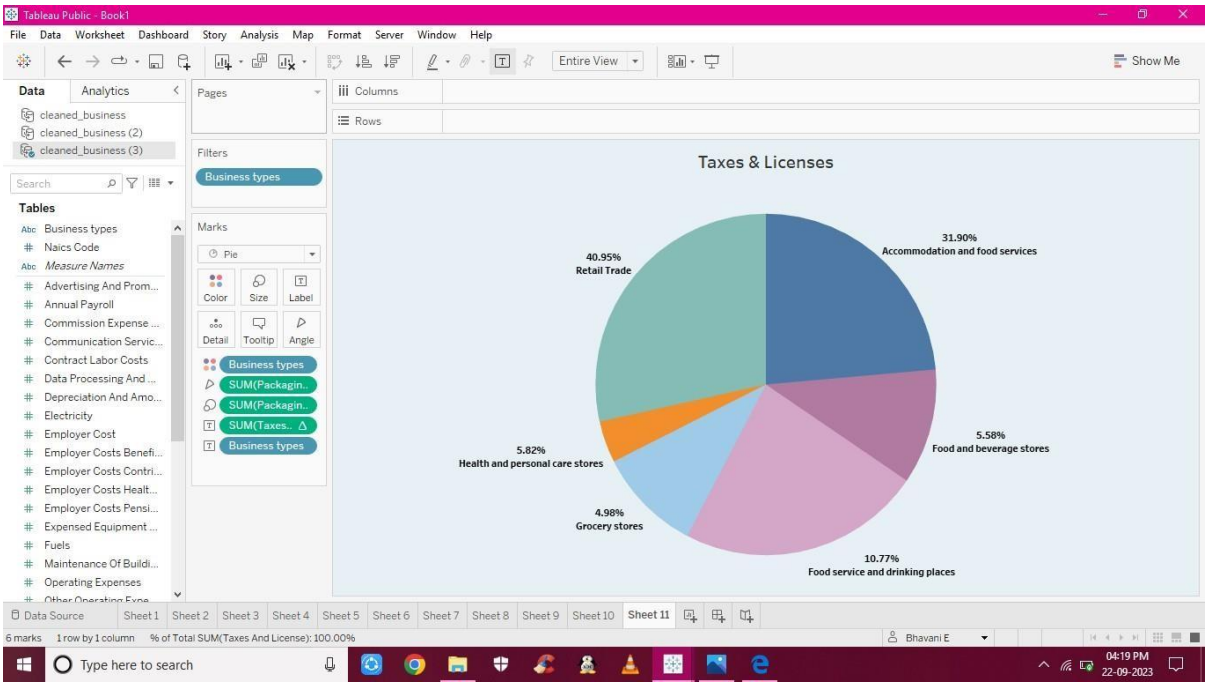
Activity1.9:PowerExpenditure



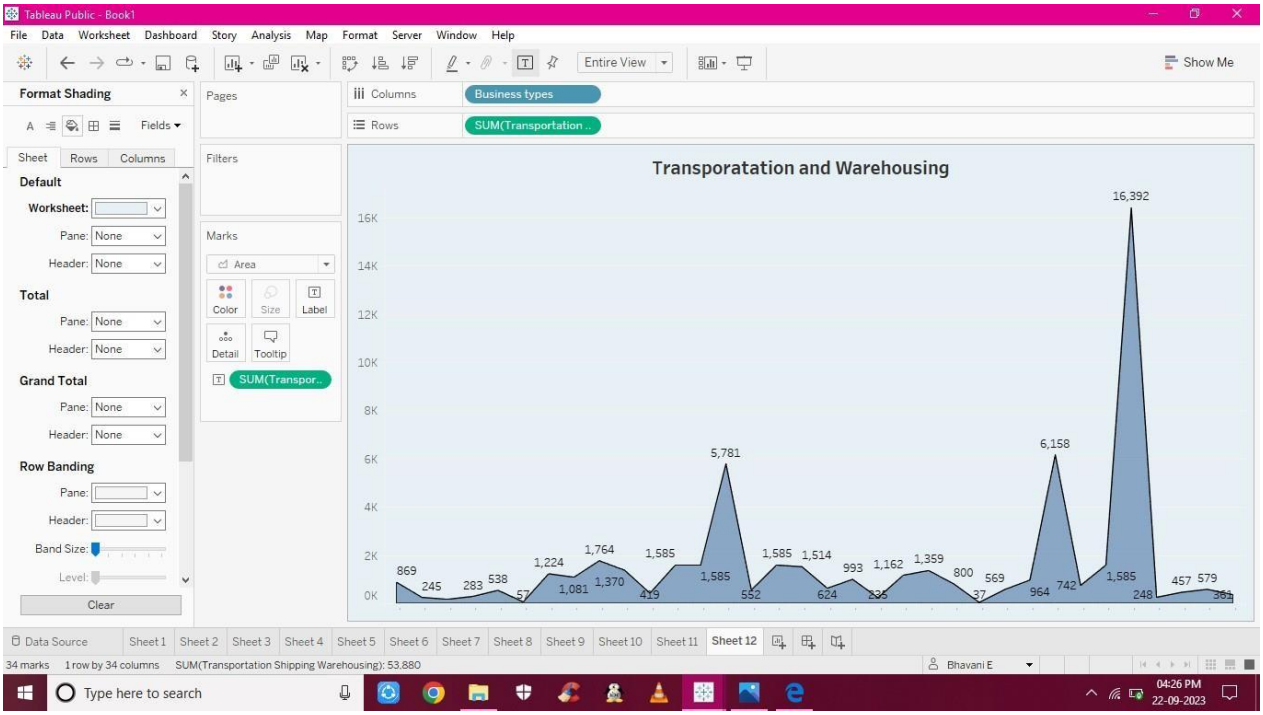
Activity1.10:RentalPaymentMachinery



Activity1.11:Taxes&Licenses



Activity1.12:Transportation

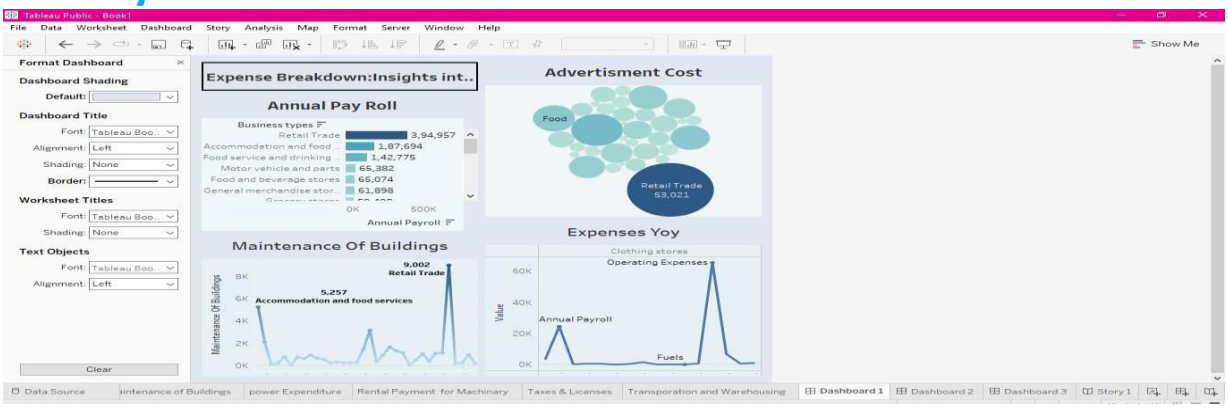


Milestone5:Dashboard

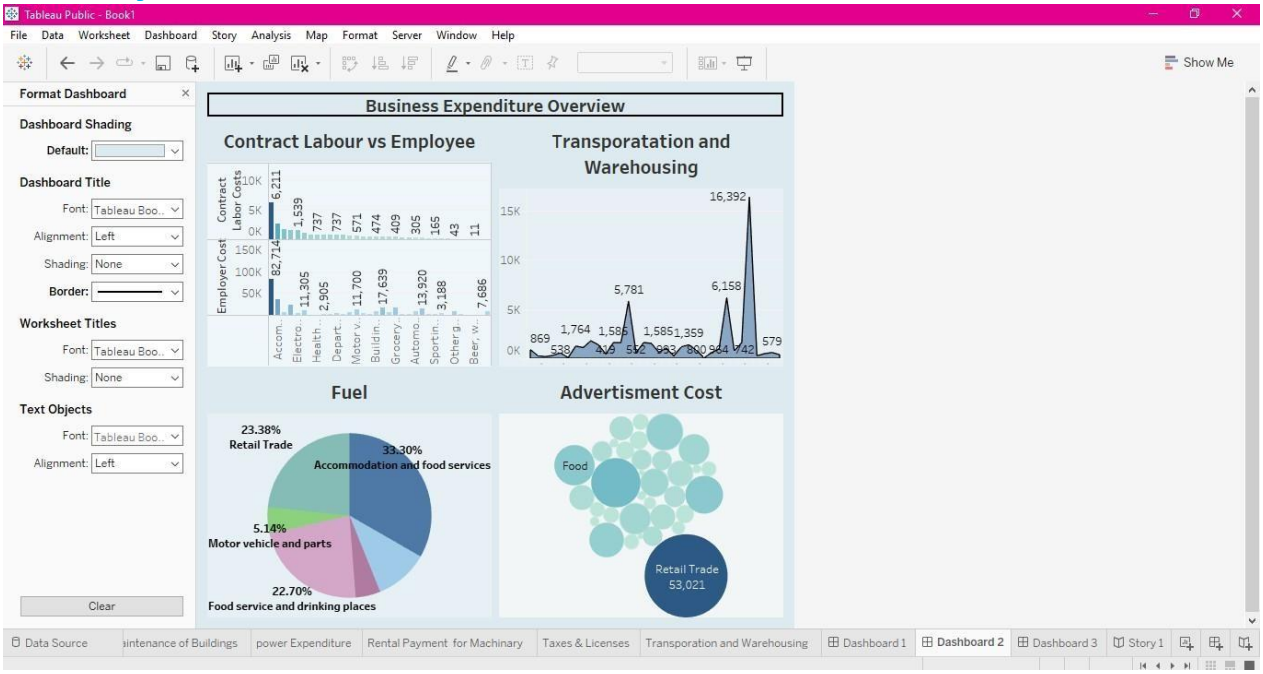
Activity1:ResponsiveandDesignofdashboard

Onceyouhavecreatedviewsondifferentsheetsin Tableau,youcanpullthe mintoadashboard.

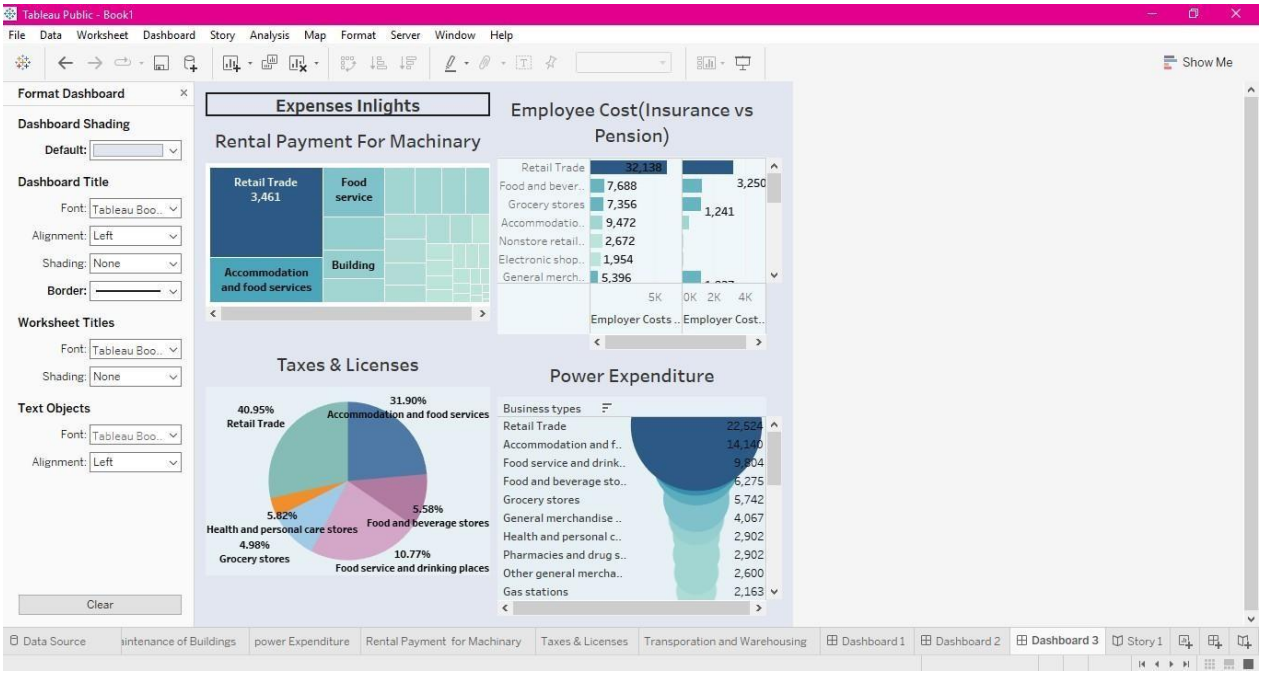
Activity1.1:Dashboard1



Activity1.2:Dashboard2



Activity1.3:Dashboard3

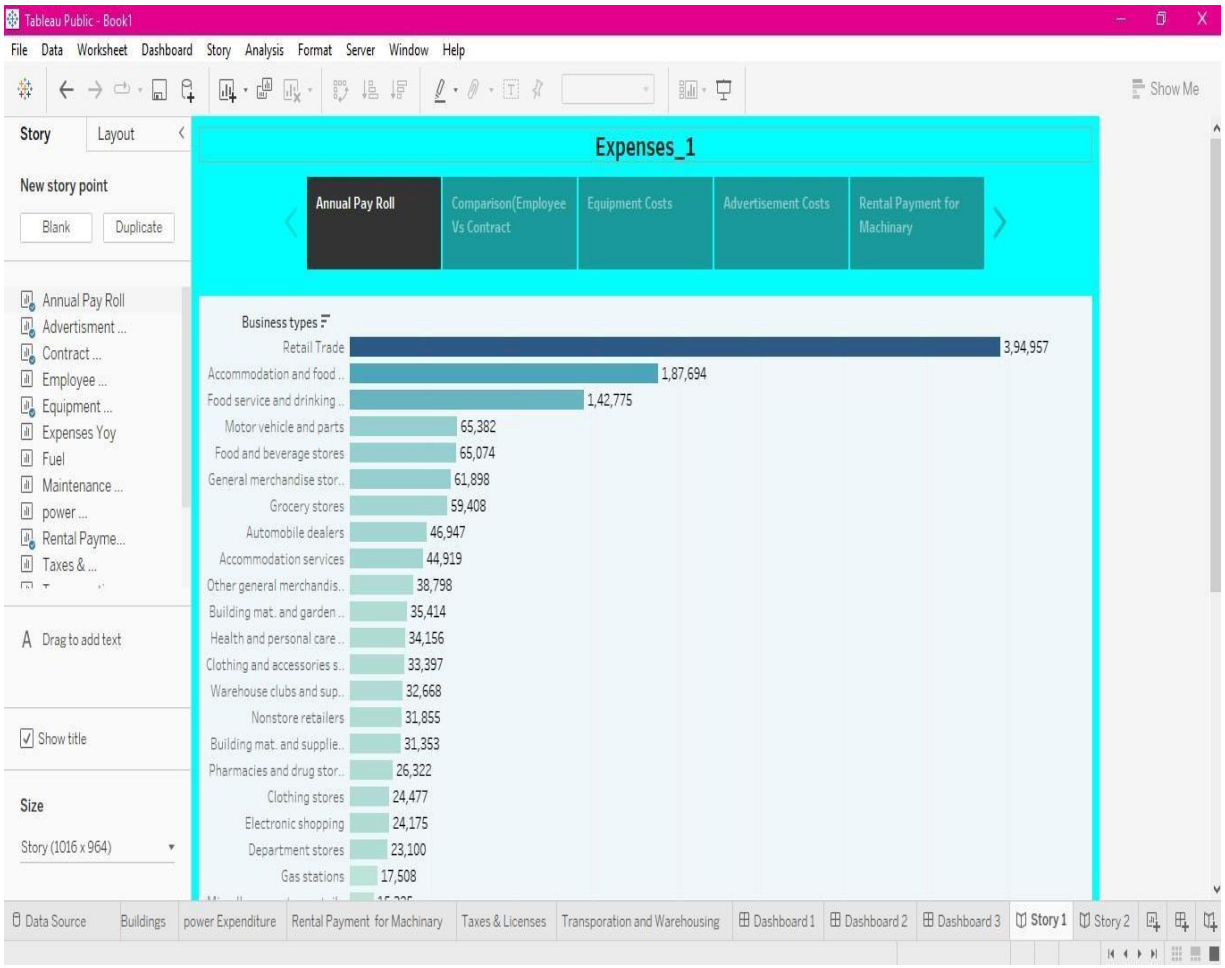


Milestone6:Story

Activity1:Numberofscenesinastory

The Storyboard is a visual representation of the data analysisprocessanditbreaksdowntheanalysisintoaseriesofstepsorscenes .

Activity1.1:Story1



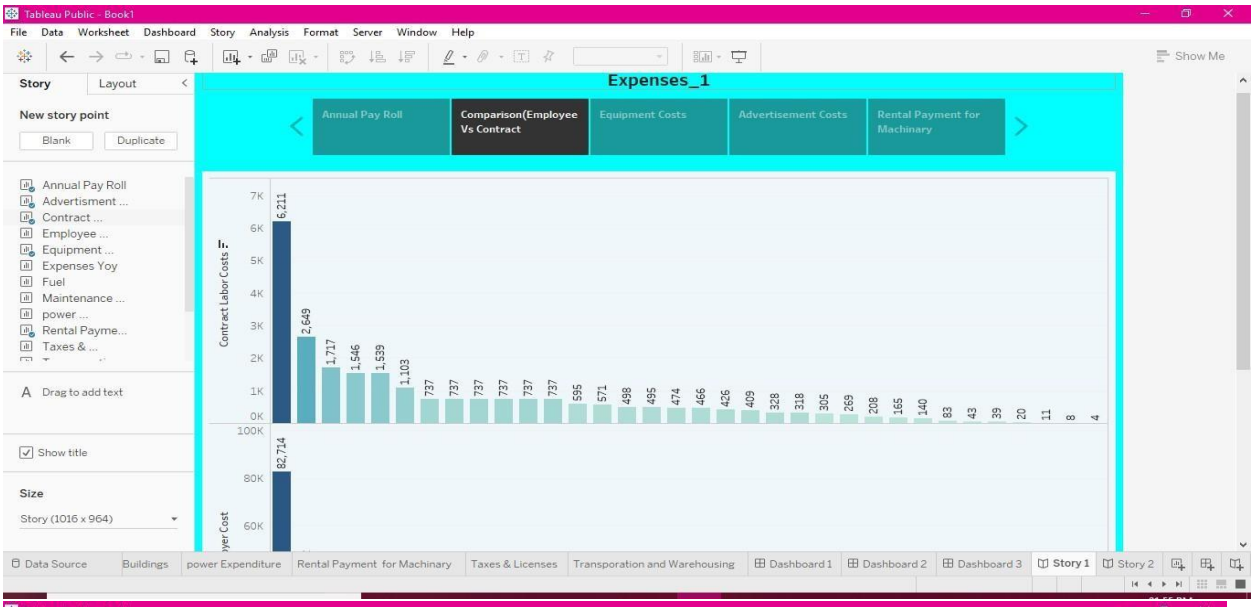
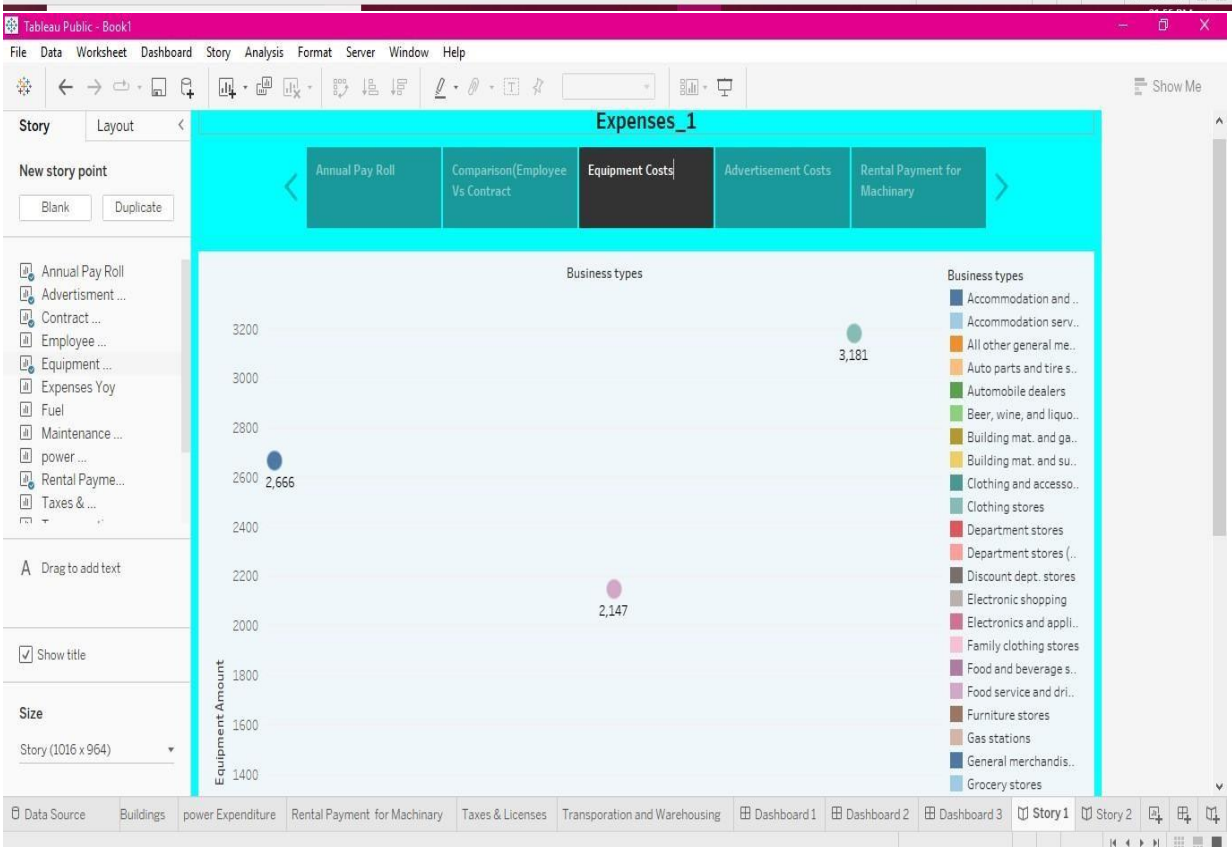


Tableau Public - Book1
File Data Worksheet Dashboard Story Analysis Format Server Window Help
Show Me
Story Layout
New story point
Blank Duplicate
Annual Pay Roll
Advertisment ...
Contract ...
Employee ...
Equipment ...
Expenses Yoy
Fuel
Maintenance ...
power ...
Rental Payme...
Taxes & ...
Drag to add text
Show title
Size
Story (1016 x 964)
Expenses_1
Annual Pay Roll
Comparison(Employee Vs Contract
Equipment Costs
Advertisement Costs
Rental Payment for Machinary
Contract Labor Costs
7K
6K
5K
4K
3K
2K
1K
0K
6,211
2,649
1,717
1,546
1,539
1,103
737
737
737
737
737
737
595
571
498
495
474
466
426
409
328
318
305
269
208
165
140
83
43
39
20
11
8
4
100K
80K
60K
82,714
Data Source
Buildings
power Expenditure
Rental Payment for Machinary
Taxes & Licenses
Transporation and Warehousing
Dashboard 1
Dashboard 2
Dashboard 3
Story 1
Story 2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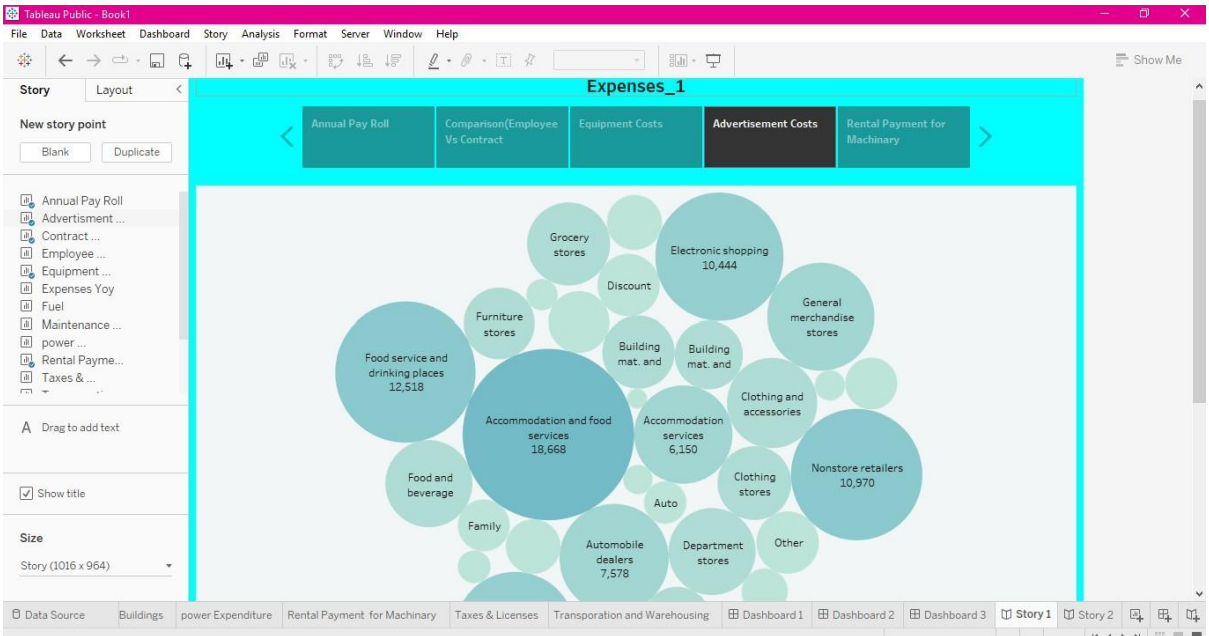
Drag to add text
Show title
Size
Story (1016 x 964)
Expenses_1
Annual Pay Roll
Comparison(Employee Vs Contract
Equipment Costs
Advertisement Costs
Rental Payment for Machinary
Business types
Equipment Amount
3200
3000
2800
2600
2400
2200
2000
1800
1600
1400
2,666
2,147
3,181
Business types
Accommodation and ..
Accommodation serv..
All other general me..
Auto parts and tire s..
Automobile dealers
Beer, wine, and liquo..
Building mat. and ga..
Building mat. and su..
Clothing and accesso..
Clothing stores
Department stores
Department stores (..
Discount dept. stores
Electronic shopping
Electronics and appli..
Family clothing stores
Food and beverage s..
Food service and dri..
Furniture stores
Gas stations
General merchandis..
Grocery stores
Data Source
Buildings
power Expenditure
Rental Payment for Machinary
Taxes & Licenses
Transporation and Warehousing
Dashboard 1
Dashboard 2
Dashboard 3
Story 1
Story 2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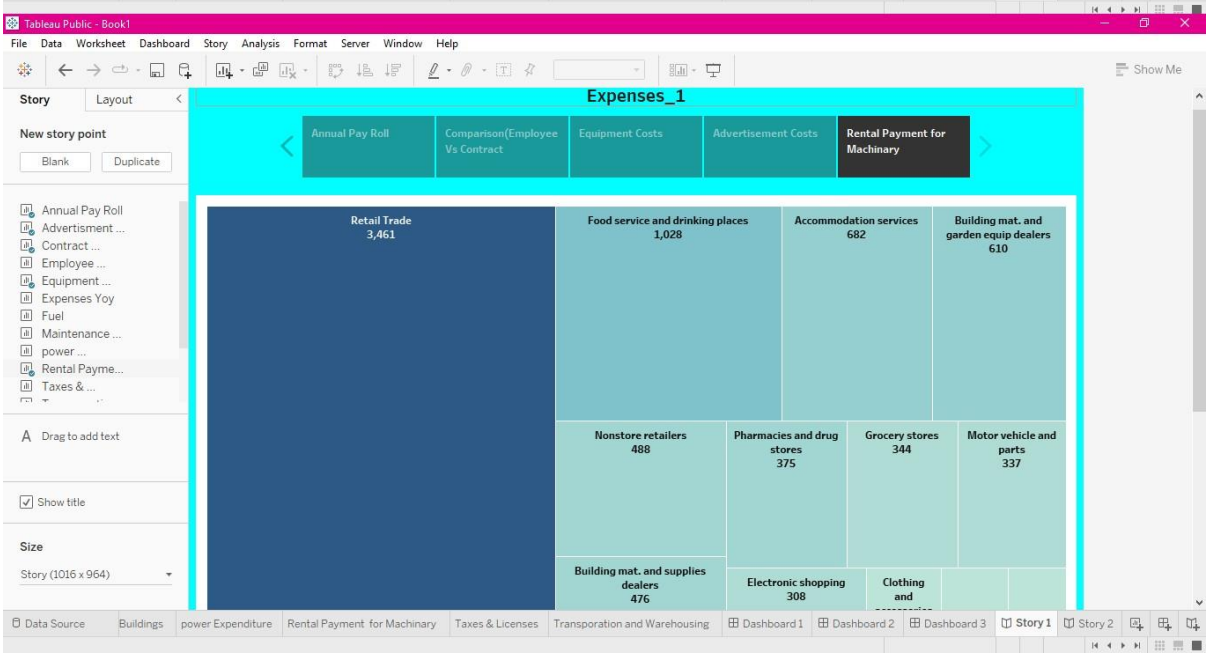
Expenses_1
Annual Pay Roll
Comparison(Employee Vs Contract
Equipment Costs
Advertisement Costs
Rental Payment for Machinary
Grocery stores
Electronic shopping 10,444
Discount
General merchandise stores
Furniture stores
Building mat. and
Building mat. and
Food service and drinking places 12,518
Accommodation and food services 18,668
Accommodation services 6,150
Clothing and accessories
Nonstore retailers 10,970
Food and beverage
Clothing stores
Auto
Family
Automobile dealers 7,578
Department stores
Other
Data Source
Buildings
power Expenditure
Rental Payment for Machinary
Taxes & Licenses
Transporation and Warehousing
Dashboard 1
Dashboard 2
Dashboard 3
Story 1
Story 2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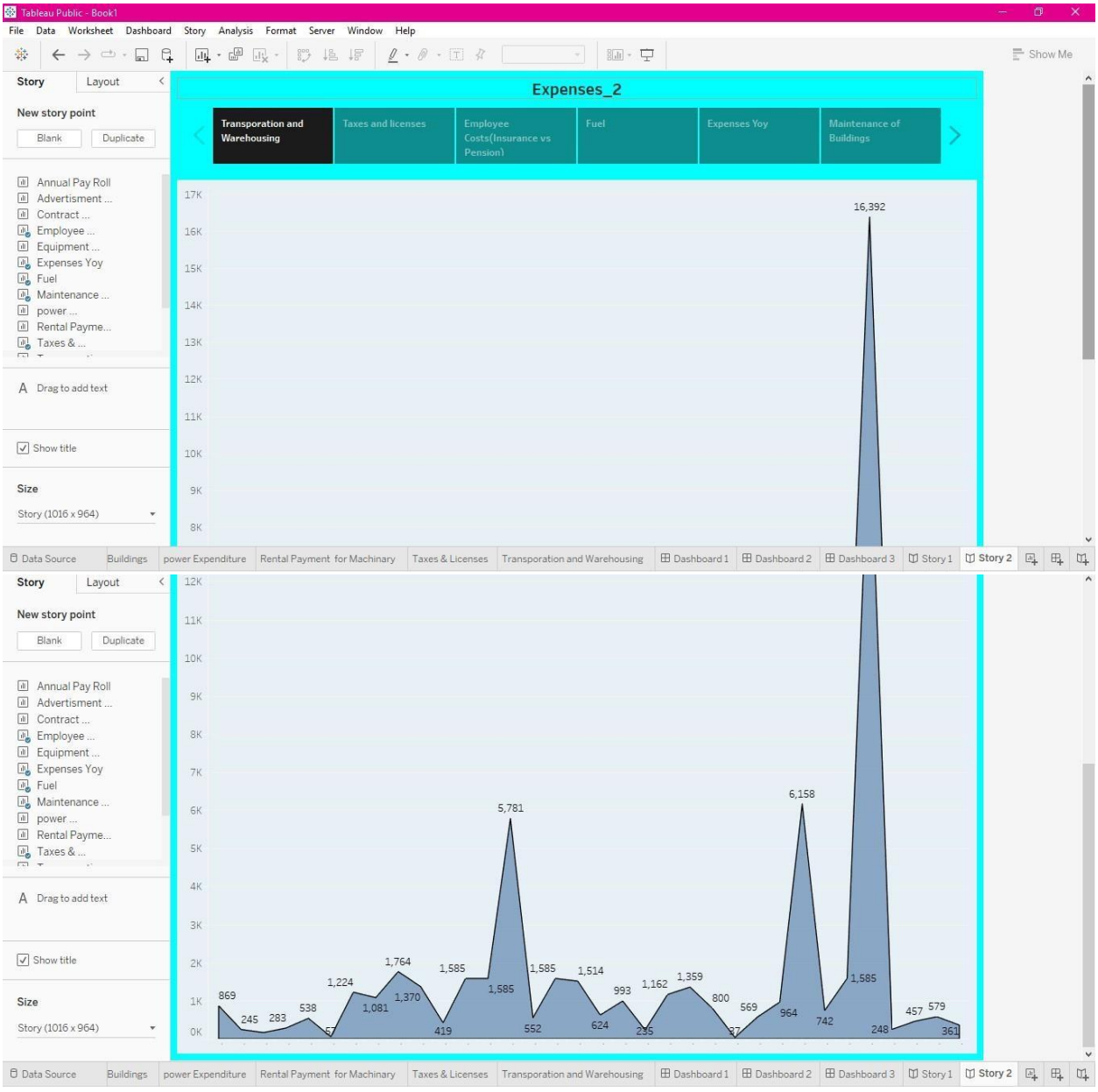
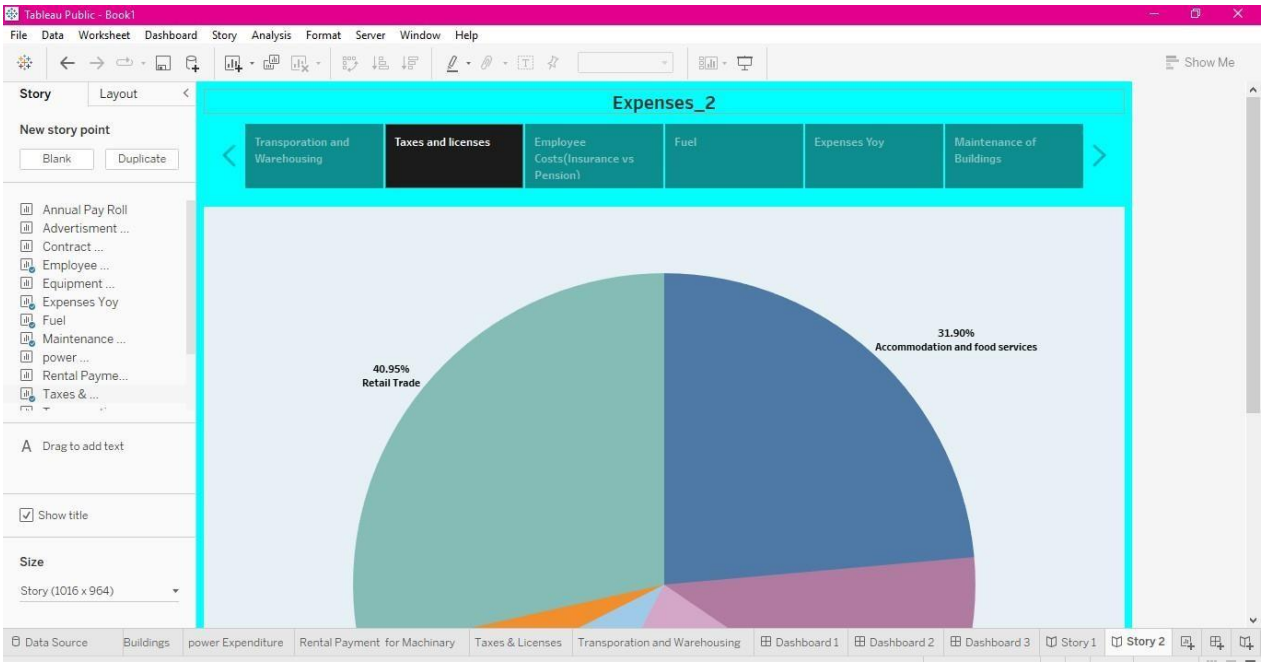
Taxes & ...
Drag to add text
Show title
Size
Story (1016 x 964)
Expenses_1
Annual Pay Roll
Comparison(Employee Vs Contract
Equipment Costs
Advertisement Costs
Rental Payment for Machinary
Retail Trade 3,461
Food service and drinking places 1,028
Accommodation services 682
Building mat. and garden equip dealers 610
Nonstore retailers 488
Pharmacies and drug stores 375
Grocery stores 344
Motor vehicle and parts 337
Building mat. and supplies dealers 476
Electronic shopping 308
Clothing and
Data Source
Buildings
power Expenditure
Rental Payment for Machinary
Taxes & Licenses
Transporation and Warehousing
Dashboard 1
Dashboard 2
Dashboard 3
Story 1
Story 2

Activity1.2:Story2

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Contract ...
Employee ...
Equipment ...
Expenses Yoy
Fuel
Maintenance ...
power ...
Rental Payme...
Taxes & ...
Drag to add text
Show title
Size
Story (1016 x 964)
Expenses_2
Transporation and Warehousing
Taxes and licenses
Employee Costs(Insurance vs Pension)
Fuel
Expenses Yoy
Maintenance of Buildings
40.95%
Retail Trade
31.90%
Accommodation and food services
Data Source
Buildings
power Expenditure
Rental Payment for Machinary
Taxes & Licenses
Transporation and Warehousing
Dashboard 1
Dashboard 2
Dashboard 3
Story 1
Story 2

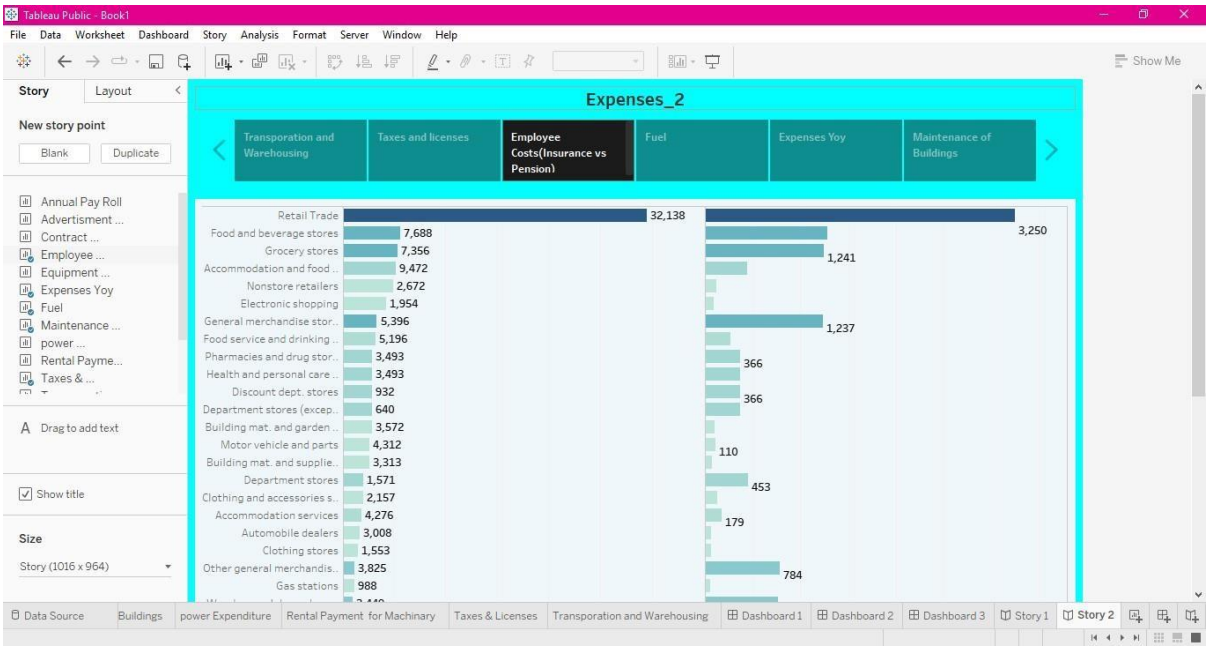


Tableau Public - Book1
File Data Worksheet Dashboard Story Analysis Format Server Window Help
Show Me
Story Layout
New story point
Blank Duplicate
Annual Pay Roll
Advertisment ...
Contract ...
Employee ...
Equipment ...
Expenses Yoy
Fuel
Maintenance ...
power ...
Rental Payme...
Taxes & ...
Drag to add text
Show title
Size
Story (1016 x 964)
Expenses_2
Transporation and Warehousing
Taxes and licenses
Employee Costs(Insurance vs Pension)
Fuel
Expenses Yoy
Maintenance of Buildings
Retail Trade 32,138
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
Food service and drinking .. 5,196
Pharmacies and drug stor.. 3,493
Health and personal care .. 3,493
Discount dept. stores 932
Department stores (excep.. 640
Building mat. and garden .. 3,572
Motor vehicle and parts 4,312
Building mat. and supplie.. 3,313
Department stores 1,571
Clothing and accessories s.. 2,157
Accommodation services 4,276
Automobile dealers 3,008
Clothing stores 1,553
Other general merchandis.. 3,825
Gas stations 988
3,250
1,241
1,237
366
366
110
453
179
784
Data Source
Buildings
power Expenditure
Rental Payment for Machinary
Taxes & Licenses
Transporation and Warehousing
Dashboard 1
Dashboard 2
Dashboard 3
Story 1
Story 2

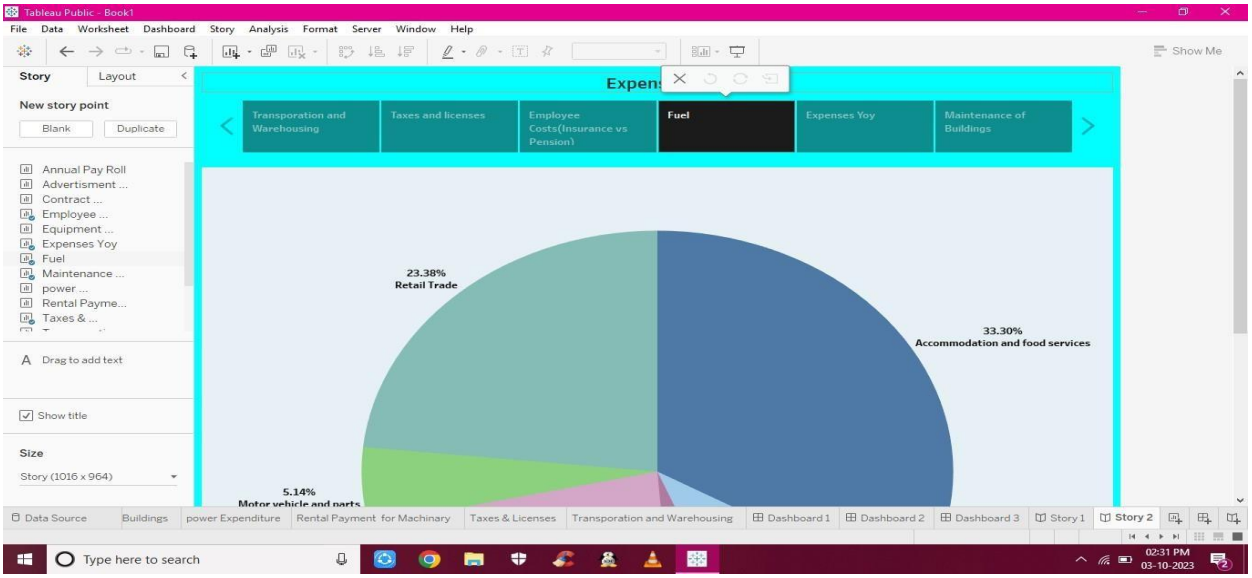


Tableau Public - Book1
File Data Worksheet Dashboard Story Analysis Format Server Window Help
Story Layout
New story point
Blank Duplicate
Annual Pay Roll
Advertisment ...
Contract ...
Employee ...
Equipment ...
Expenses Yoy
Fuel
Maintenance ...
power ...
Rental Payme...
Taxes & ...
Drag to add text
Show title
Size
Story (1016 x 964)
Expens
Transporation and Warehousing
Taxes and licenses
Employee Costs(Insurance vs Pension)
Fuel
Expenses Yoy
Maintenance of Buildings
23.38%
Retail Trade
33.30%
Accommodation and food services
5.14%
Motor vehicle and parts
Data Source
Buildings
power Expenditure
Rental Payment for Machinary
Taxes & Licenses
Transporation and Warehousing
Dashboard 1
Dashboard 2
Dashboard 3
Story 1
Story 2
Type here to search
02:31 PM
03-10-2023

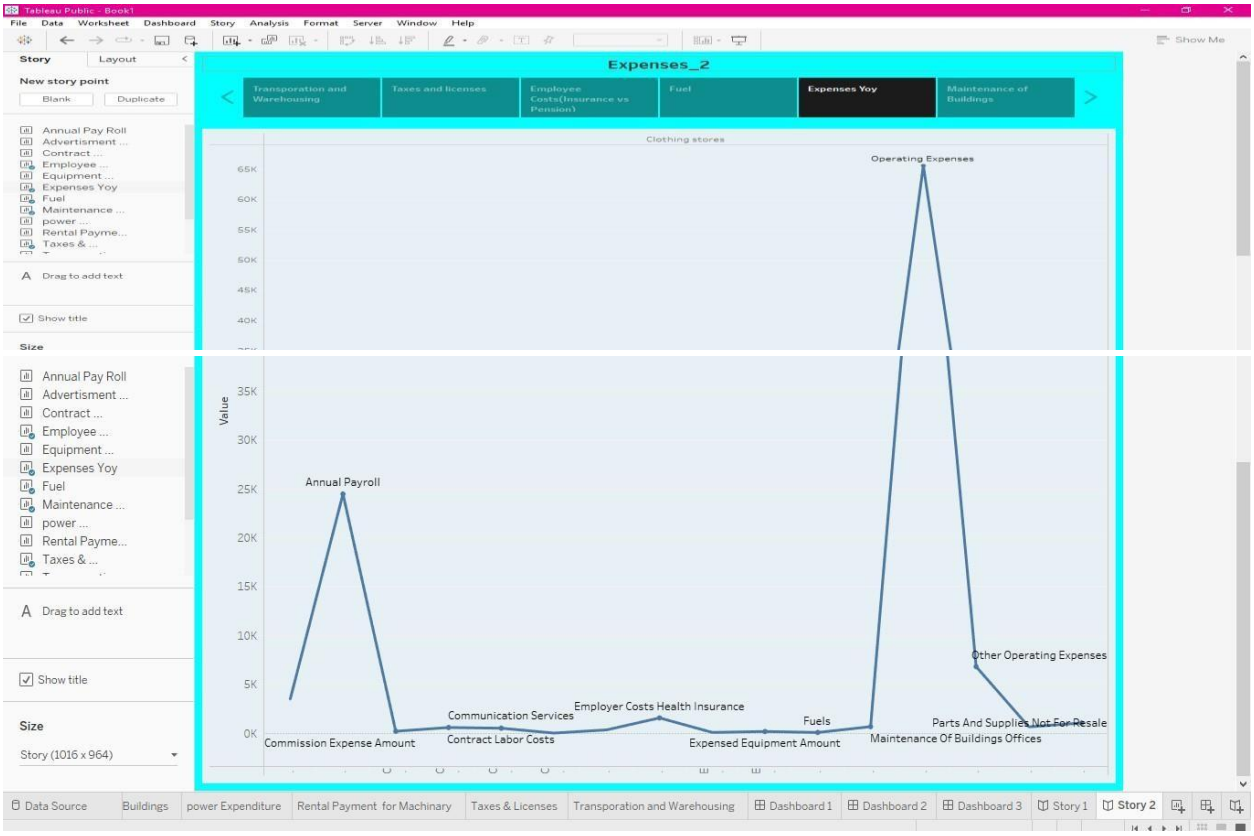
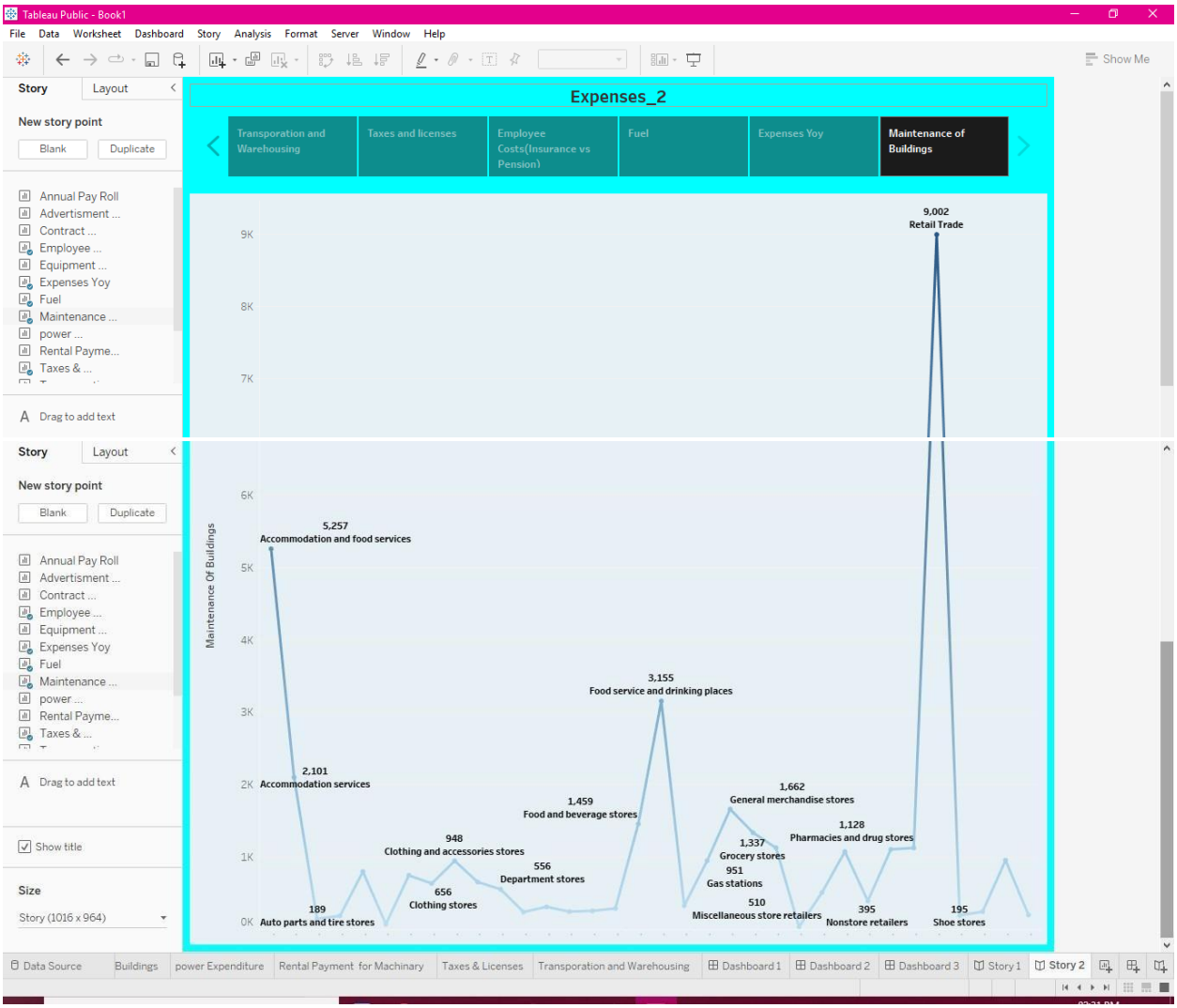
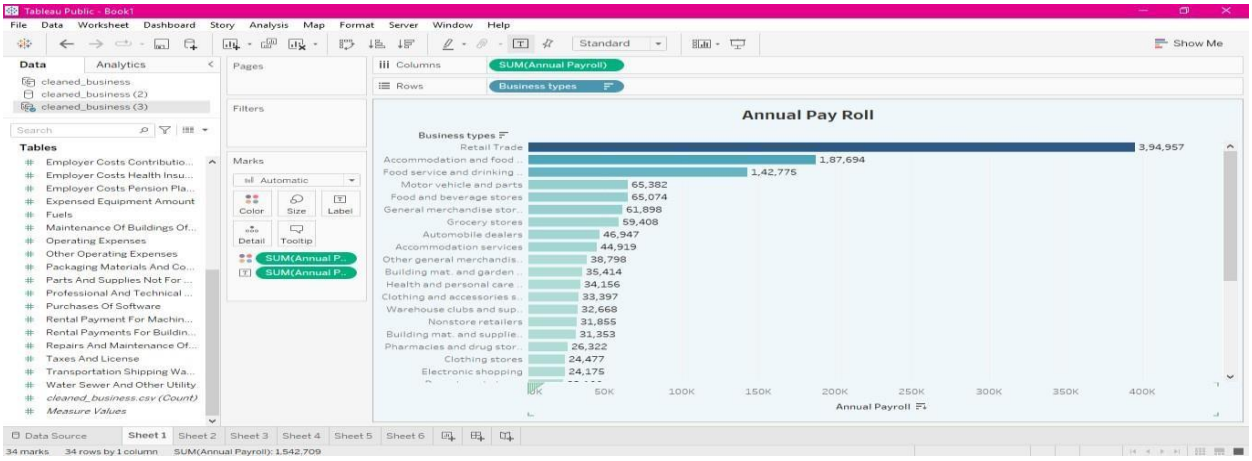


Tableau Public - Book1
File Data Worksheet Dashboard Story Analysis Format Server Window Help
Story Layout
New story point
Blank Duplicate
Annual Pay Roll
Advertisment ...
Contract ...
Employee ...
Equipment ...
Expenses Yoy
Fuel
Maintenance ...
power ...
Rental Payme...
Taxes & ...
Drag to add text
Show title
Size
Story (1016 x 964)
Expenses_2
Transporation and Warehousing
Taxes and licenses
Employee Costs(Insurance vs Pension)
Fuel
Expenses Yoy
Maintenance of Buildings
Clothing stores
Operating Expenses
Value
Annual Payroll
Commission Expense Amount
Communication Services
Contract Labor Costs
Employer Costs Health Insurance
Expensed Equipment Amount
Fuels
Maintenance Of Buildings Offices
Other Operating Expenses
Parts And Supplies Not For Resale
Data Source
Buildings
power Expenditure
Rental Payment for Machinary
Taxes & Licenses
Transporation and Warehousing
Dashboard 1
Dashboard 2
Dashboard 3
Story 1
Story 2



Milestone7:PerformanceTesting

Activity1:AmountofDataRenderedtoTableau



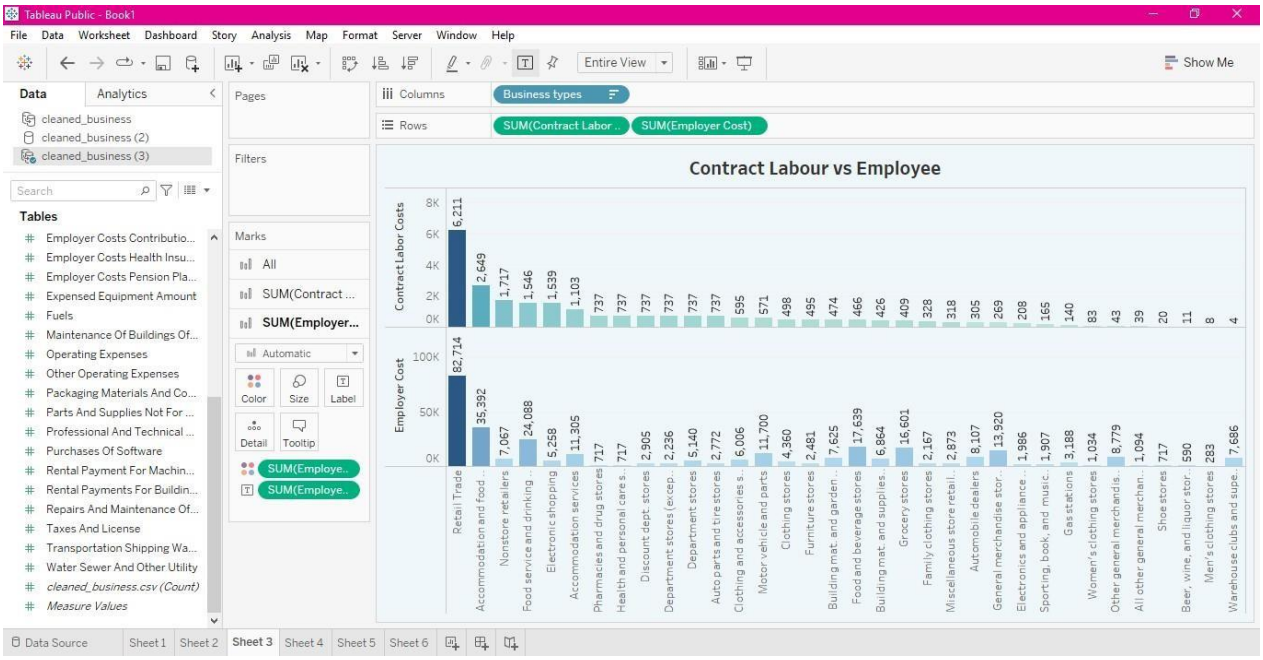


Tableau Public - Book1
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Entire View
Show Me
Data
Analytics
cleaned_business
cleaned_business (2)
cleaned_business (3)
Search
Tables
Employer Costs Contributio...
Employer Costs Health Insu...
Employer Costs Pension Pla...
Expensed Equipment Amount
Fuels
Maintenance Of Buildings Of...
Operating Expenses
Other Operating Expenses
Packaging Materials And Co...
Parts And Supplies Not For ...
Professional And Technical ...
Purchases Of Software
Rental Payment For Machin...
Rental Payments For Buildin...
Repairs And Maintenance Of...
Taxes And License
Transportation Shipping Wa...
Water Sewer And Other Utility
cleaned_business.csv (Count)
Measure Values
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Filters
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SUM(Contract ...
SUM(Employer...
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Color
Size
Label
Detail
Tooltip
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SUM(Employe..
Columns
Business types
Rows
SUM(Contract Labor ..
SUM(Employer Cost)
Contract Labour vs Employee
Contract Labour Costs
Employer Cost
Retail Trade
Accommodation and food ..
Nonstore retailers
Food service and drinking ..
Electronic shopping
Accommodation services
Pharmacies and drug stores
Health and personal care s..
Discount dept. stores
Department stores (excep..
Department stores
Auto parts and tire stores
Clothing and accessories s..
Motor vehicle and parts
Clothing stores
Furniture stores
Building mat. and garden..
Food and beverage stores
Building mat. and supplies..
Grocery stores
Family clothing stores
Miscellaneous store retail..
Automobile dealers
General merchandise stor..
Electronics and appliance..
Sporting, book, and music..
Gas stations
Women's clothing stores
Other general merchandis..
All other general merchan..
Shoe stores
Beer, wine, and liquor stor..
Men's clothing stores
Warehouse clubs and supe..
Data Source
Sheet 1
Sheet 2
Sheet 3
Sheet 4
Sheet 5
Sheet 6

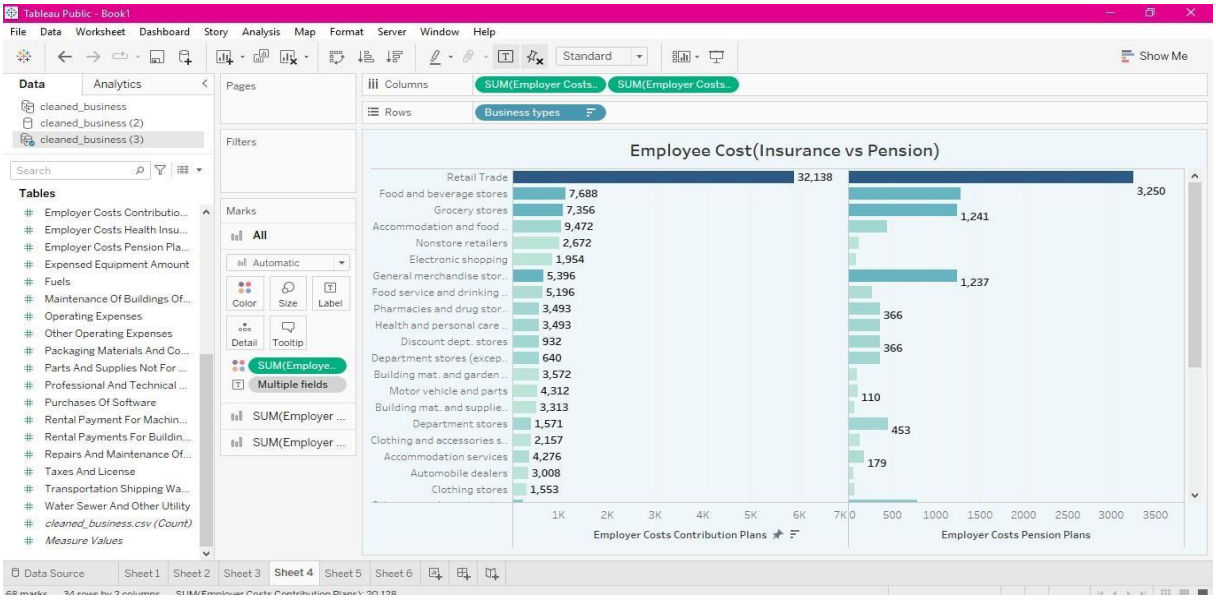
Tableau Public - Book1
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Standard
Show Me
Data
Analytics
cleaned_business
cleaned_business (2)
cleaned_business (3)
Search
Tables
Employer Costs Contributio...
Employer Costs Health Insu...
Employer Costs Pension Pla...
Expensed Equipment Amount
Fuels
Maintenance Of Buildings Of...
Operating Expenses
Other Operating Expenses
Packaging Materials And Co...
Parts And Supplies Not For ...
Professional And Technical ...
Purchases Of Software
Rental Payment For Machin...
Rental Payments For Buildin...
Repairs And Maintenance Of...
Taxes And License
Transportation Shipping Wa...
Water Sewer And Other Utility
cleaned_business.csv (Count)
Measure Values
Pages
Filters
Marks
All
Automatic
Color
Size
Label
Detail
Tooltip
SUM(Employe..
Multiple fields
SUM(Employer ...
SUM(Employer ...
Columns
SUM(Employer Costs..
SUM(Employer Costs..
Rows
Business types
Employee Cost(Insurance vs Pension)
Retail Trade 32,138
Food and beverage stores 7,688
Grocery stores 7,356
Accommodation and food .. 9,472
Nonstore retailers 2,672
Electronic shopping 1,954
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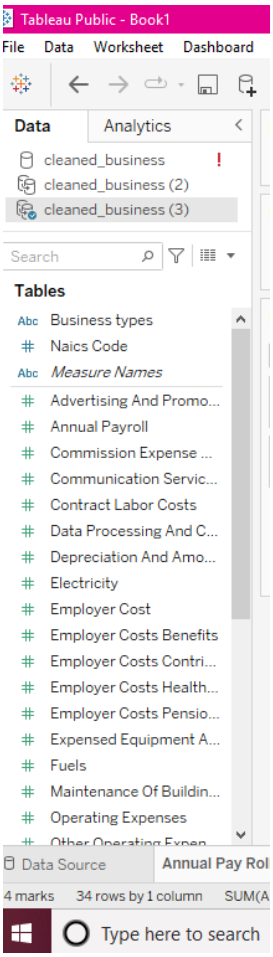
3,250
1,241
1,237
366
366
110
453
179
1K 2K 3K 4K 5K 6K 7K
0 500 1000 1500 2000 2500 3000 3500
Employer Costs Contribution Plans
Employer Costs Pension Plans
Data Source
Sheet 1
Sheet 2
Sheet 3
Sheet 4
Sheet 5
Sheet 6

Activity2:Numberofcalculationfields



Activity3:Numberofvisualizations

1. AnnualPayRoll
2. AdvertisementCost
3. ContractLaborvsEmployee
4. Employee(Insurancevspension)
5. EquipmentCosts
6. ExpensesYoY
7. Fuel
8. MaintenanceofBuildings

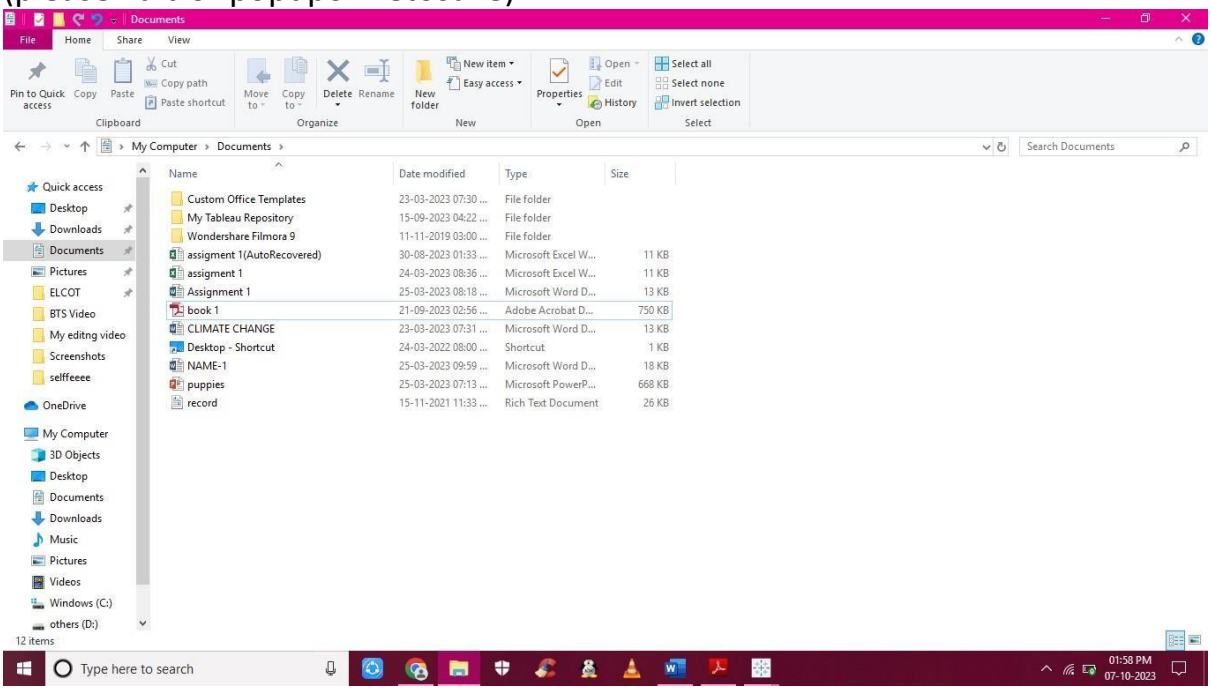
9. PowerExpenditure
10. RentalPaymentMachinery
11. Taxes&Licenses
12. Transportation

Milestone8:Publishing

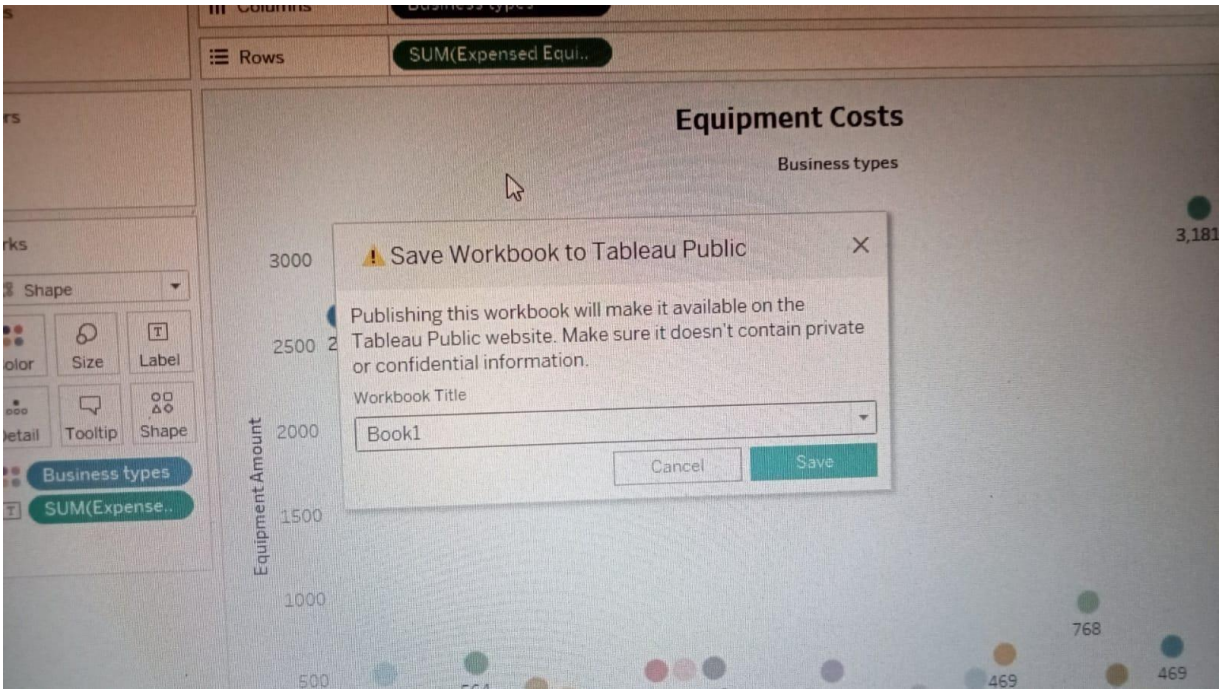
Publishing dashboardandreportstotableaupublic

Step1: GotodataSourceandSelectExtractsothathyperextensionfilesarecreatedand saveitatyourdesktop.

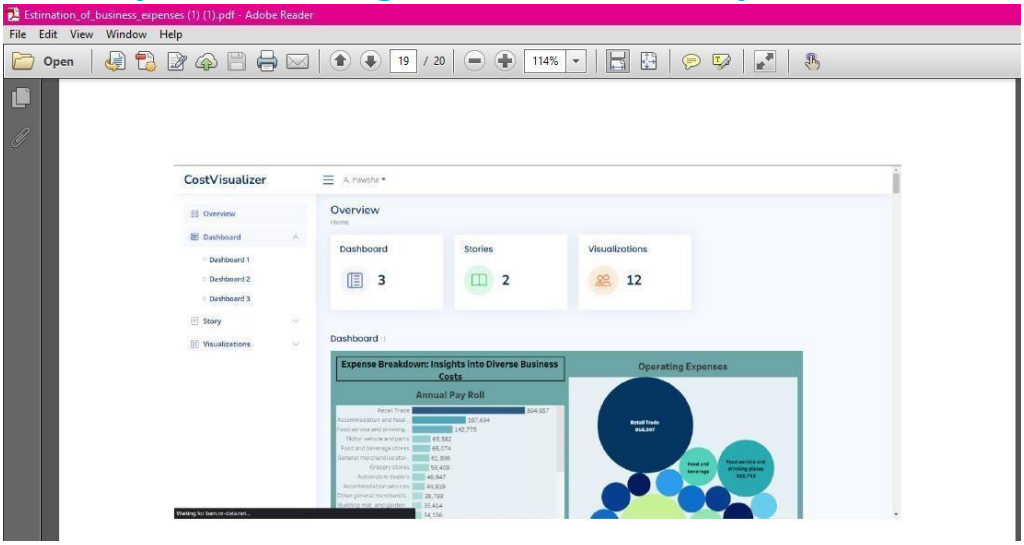
(pleasewaitfor popupoffiletosave)

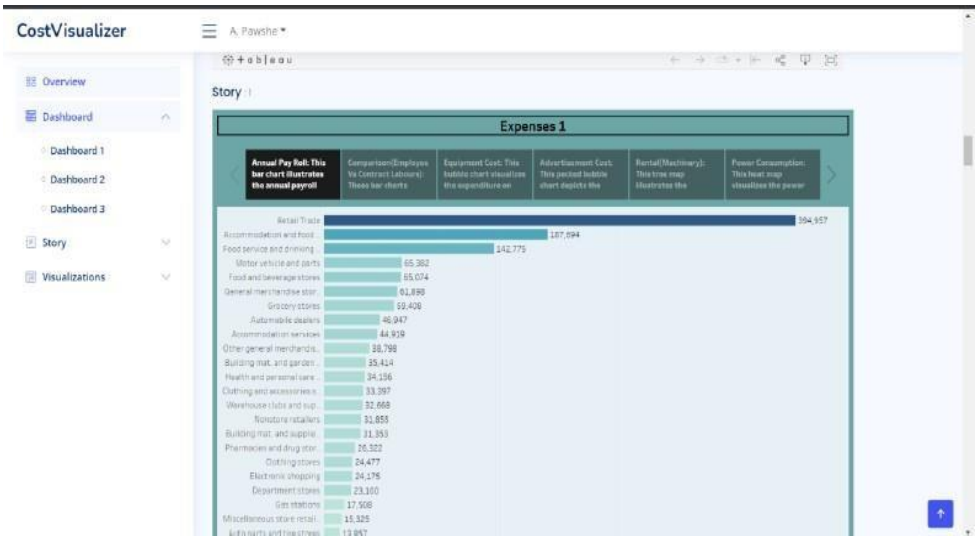


Step2: GotoDashboard/story,clickonsharebuttononthetopribbon



Activity1:Publishingdashboard andreportstotableaupublic





Advantages:

FLEXIBLEAREASOFCALCULATION

Costestimationmodelsinterpretcosts.
Someuseanarrayofalgorithmicmodelstoassignvaluestocertainfactorsinorderto computecosts.
Othermodelsincludeanexpertjudgmentmodelandananalogyestimation.

EFFICIENCYANDCOSTCONTROL

Efficiency refers to the ability to do a task quickly and accurately, saving thebusiness both time and money. When the right type of model is chosen, thebusiness can realize gains from efficiency by using cost estimation to quicklycalculateexpensesandmakechoicesonfundingprojects,choosingsuppliersand otheractivities.

SUBJECTIVITY

On the downside, cost estimation is somewhat subjective. Even withalgorithmic models, it is usually up to the business to weight certain valuesover others and assign the correct values to factors. The other model optionsare even more subjective. This means that sometimes a manager can makemistakesjustaseasilywhenusingacostestimationmodelthanwhenworking withoutone.

VARIABLEFACTORS

In a perfect world, factors remain steady and cost estimation models alwaysproduce accurate results. Unfortunately, markets are in constant flux, priceschangeandtechnologyisalwaysmovingonward.Thisleadstoconstantchangesi nprice,whichmeansthatcostshavetobefrequentlyupdatedandvalues

changedto match.Thiscanbea drainontime,especiallyinhighlycomplexmodels.

Disadvantages:

- **Itiscostlytouseasit involvesexperts.**
- **Itisnoteffectiveforcontrolling manytypesofoverheadcosts.**
- **Itis noteasytoapplyinnon-manufacturingactivitiessincerelationshipbetweencostandoutputcannot bedetermined.**
- **Theestimatecannotcommunicatebetweenlaborandsupervisor.**
- **Changingthemethodofestimationdoesnotmaintainthequalityofthemate rial.**

Futurescope:

Cost estimation in project management is the process of forecasting thefinancialandotherresourcesneededtocompleteaprojectwithinadefinedscope .

Cost estimation accounts for each element required for the project frommaterialstolaborandcalculatesatotalamountthatdeterminesaprojectsbu dget.