V.S.S. GOVERNMENT ARTS COLLEGE

DEPARTMENT OF PHYSICS

PULANKURICHI

SIVAGNAGAI – 630 405

<u>Naan Mudhalvan Scheme</u>

Domain: Data Literacy with Tableau

Project Title: Analysing Housing Prices In
Metropolitan Areas Of India

Submitted by

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PROJECT REPORT TEMPLATE

1 INTRODUCTION

1.1 Overview

Data literacy is one of the most important skills a business or individual can have. Businesses depend on data-literate employees to drive them forward, and businesses need to build a thriving data culture in order to empower their employees. And that's why Tableau has made a commitment to spreading data literacy wherever we can. Below, we cover the basics of data literacy including:

1. What is data literacy?

2. Importance of data literacy

3. Data literacy skills

4. Challenges of data literacy

5. Build data literacy with a framework

6. How to become data literate

7. Data literacy and data culture

8. Getting started with data literacy

What Is data literacy?

So what is data literacy? The definition is: the ability to explore, understand, and communicate with data in a meaningful way. This can be on different levels: technically and advanced, or on a much more basic level.

Importance of data literacy

According to a study we sponsored with Forrester Consulting, 87% of employees rate basic data skills as very important for their day-to-day operations. That same

percentage of business owners expects basic data skills from their employees at all levels. Despite this, only 40% of employees feel they've been properly trained on the data skills they're expected to have. On top of that, according to a study conducted by Accenture, companies lose an average of 43 hours per employee per year due to data-induced procrastination.

Not to mention the amount of data produced and cataloged grows by the day, and utilizing data becomes increasingly important for businesses to stay ahead of their competition. Creating a culture of data literacy at your company can provide many benefits, including:

- Better decision making

- Clearer understanding of ROI and attribution

- Increased employee satisfaction and retention

- Better customer experience and satisfaction

Data literacy skills

When you start saying "data" and "skills" in the same sentence, people can get intimidated. Luckily, there are data literacy skills that anyone can learn and master, regardless of their current knowledge level. We've divided these into technical and non-technical skills.

Non-technical skills

It can see like all the data skills are technical and difficult to learn, but in reality, many are completely non-technical and accessible to anyone who wants to build their skills. This includes things like problem-solving, critical thinking, researching, and more.

Some of the non-technical data literacy skills include:

- **Critical thinking:** Essential for analyzing and understanding data, critical thinking skills are developed through questioning your assumptions, using logic to work through problems, and diversifying where you get your information.

- **Research:** Knowing about the subject matter of your data is critical to understanding it. You can develop this skill by learning how to evaluate sources, narrow your search, and spot implicit or explicit biases.

- **Communication:** A large part of data literacy is being able to communicate to others what your data is telling you. You can sharpen your communication skills by practicing active listening, working on your public speaking, and seeking feedback from trusted peers.

- **Domain knowledge:** And perhaps most important is keeping up with the industry and latest trends. You can work on expanding your data knowledge by reading books, following blogs, or researching trends.

Technical skills

Technical skills are, of course, equally important to developing data literacy. These range from relatively simple skills to learn like data analysis and visualization, to much more complex such as calculus and statistical programming.

Some of the technical data literacy skills include:

- **Analysis:** Data analysis is the statistical and logical technique used to interpret and evaluate data. It includes collecting, formatting, cleaning, and processing data as well as analysis and interpretation.

- **Visualization:** Data visualization is the graphical representation of information in different forms, such as charts, graphs, maps, etc.

- **Management:** Data management is the entire process of collecting, vetting, and storing data. It includes data cleaning, data mining, and data warehousing.

- **Mathematics:** If you want to really understand data on a deep level, you need to know the basis for its analysis. That involves learning about statistics, linear algebra, and calculus. Even a conceptual understanding of each will further your knowledge.

- **Programming languages:** If you want to build dashboards or complex data analysis programs, you need to understand and use programming languages. Some of the best for data work include Python, R, and SQL.

Challenges of data literacy

So what challenges can you expect when pushing for data literacy in your organization? You may encounter such challenges as your employees being resistant to change or new technology, there being a skills gap between your users, issues with data governance, and silos in your organization.

- **User resistance:** You may find people are resistant to new technology or processes, and don't want to embrace change. Ensuring that you get these people onboard with the benefits will help you handle any such resistance and ensure success.

- **Skills gap:** When training your team to handle new procedures or tools, you may find that some of your team already knows how to use it and some struggle to adopt. Ensuring a thorough education of new concepts and tools will help to eliminate this issue.

- **Data governance:** The more data your organization learns to handle, the better your data governance practices need to be. Ensuring you have best practices for every stage of the data governance lifecycle will ensure that your processes run smoothly and your data is accurate.

PROJECT DESCRIPTION:

House price prediction in a metropolitan city in India is a valuable solution for potential home buyers, real estate agents, and investors. By leveraging historical sales data, property details, and location-specific information, a predictive model can accurately estimate house prices. The model's scalability, real-time updates, user-friendly interface, and transparency ensure it meets the needs of stakeholders. Integration capability, data privacy, and cost-effectiveness are also important considerations. By addressing these requirements, the prediction model provides reliable insights, empowering stakeholders to make informed decisions in the fast-paced real estate market.

2. PURPOSE DEFINITION & DESIGN THINKING

2.1 Empathy map
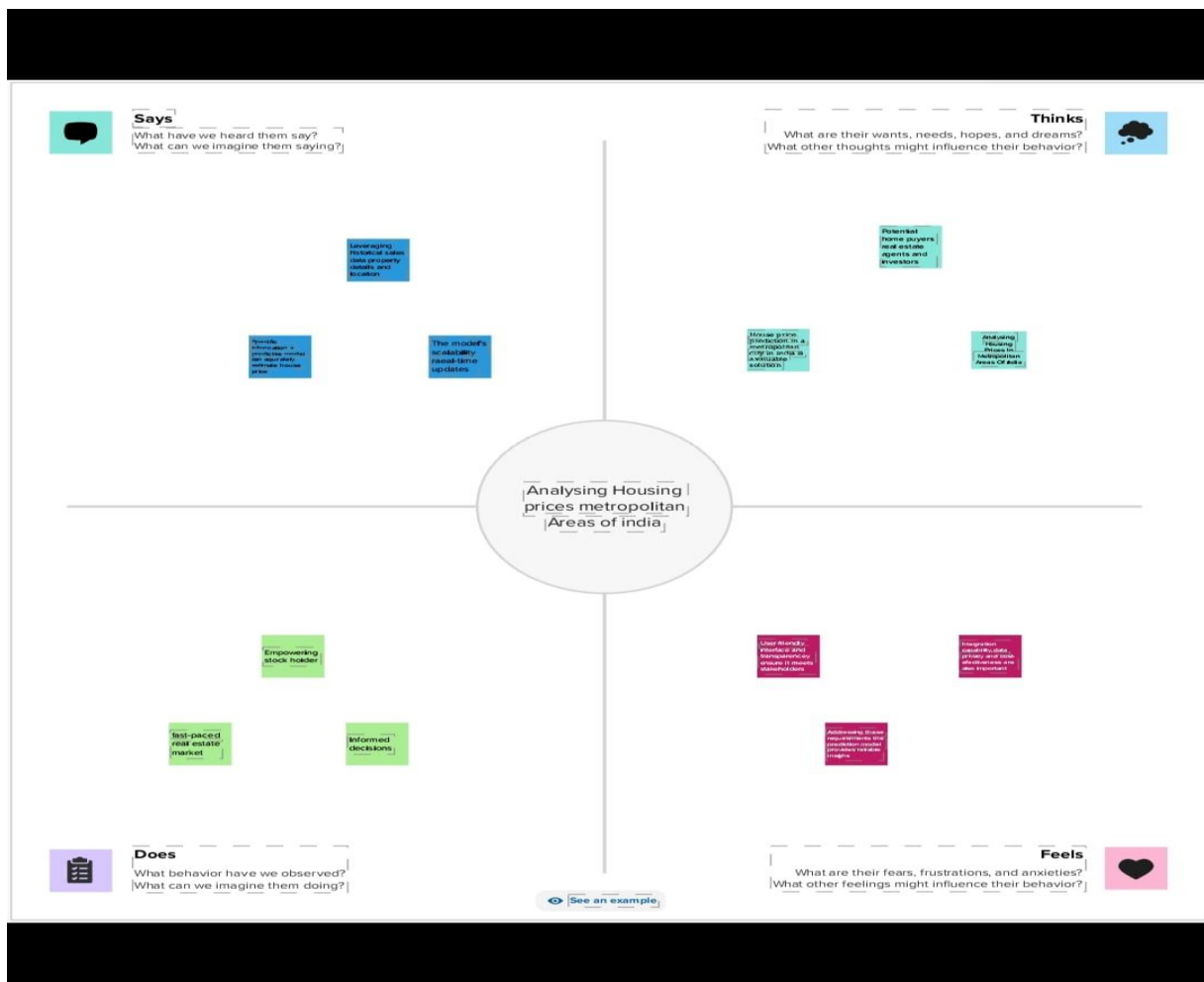
2.2 Ideation & Brainstorming map
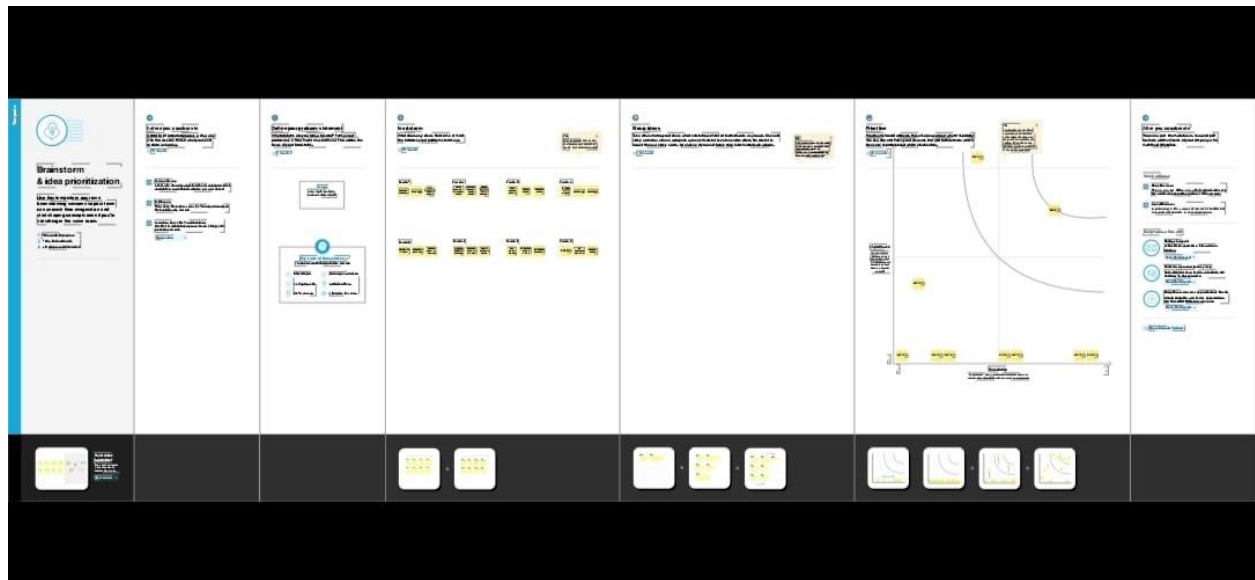
3. RESULTS

3.1Activity & Screenshot

Open the tableau Desktop
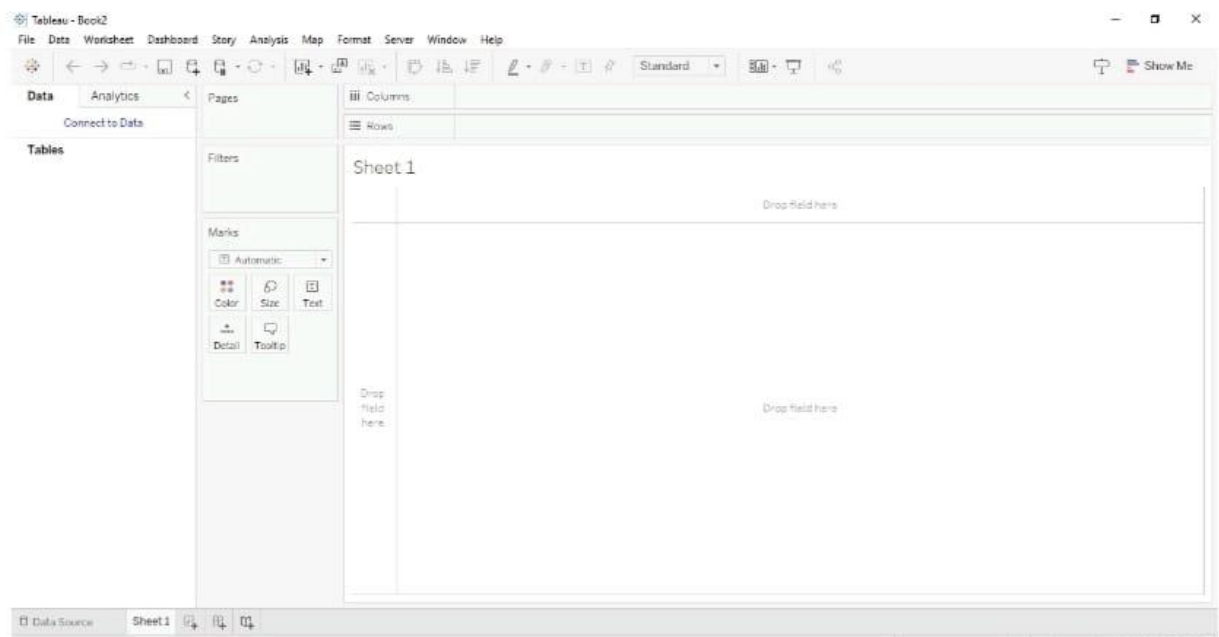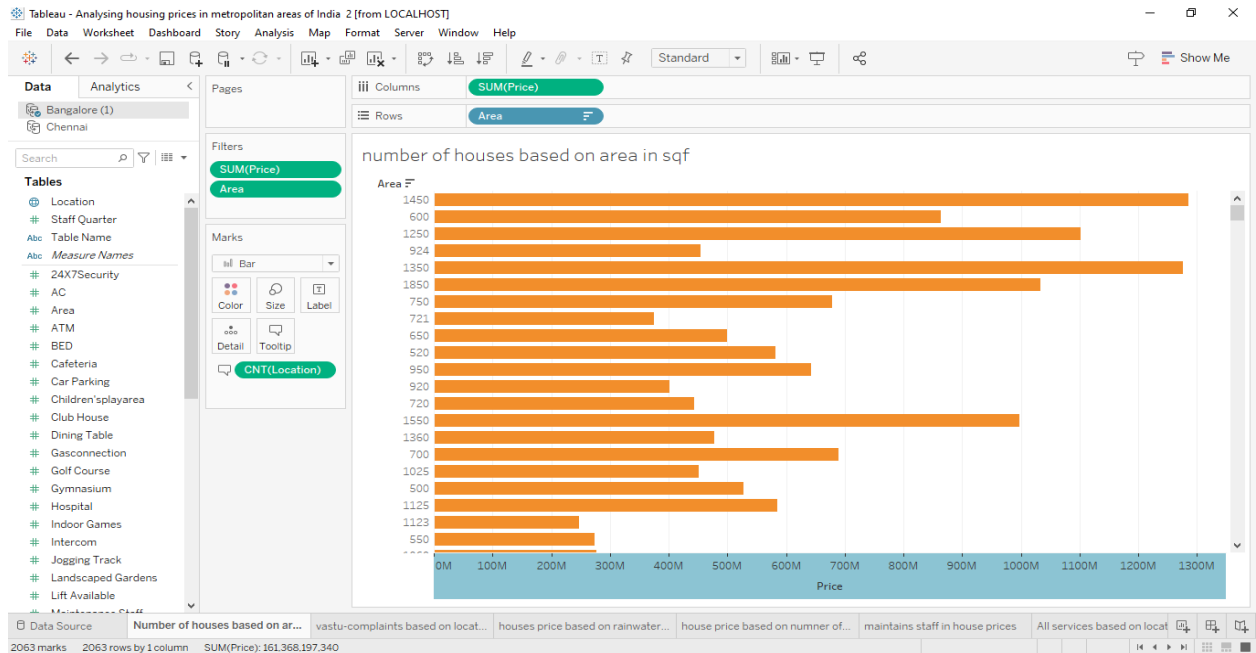
Description:

Open the new sheet and connect the data
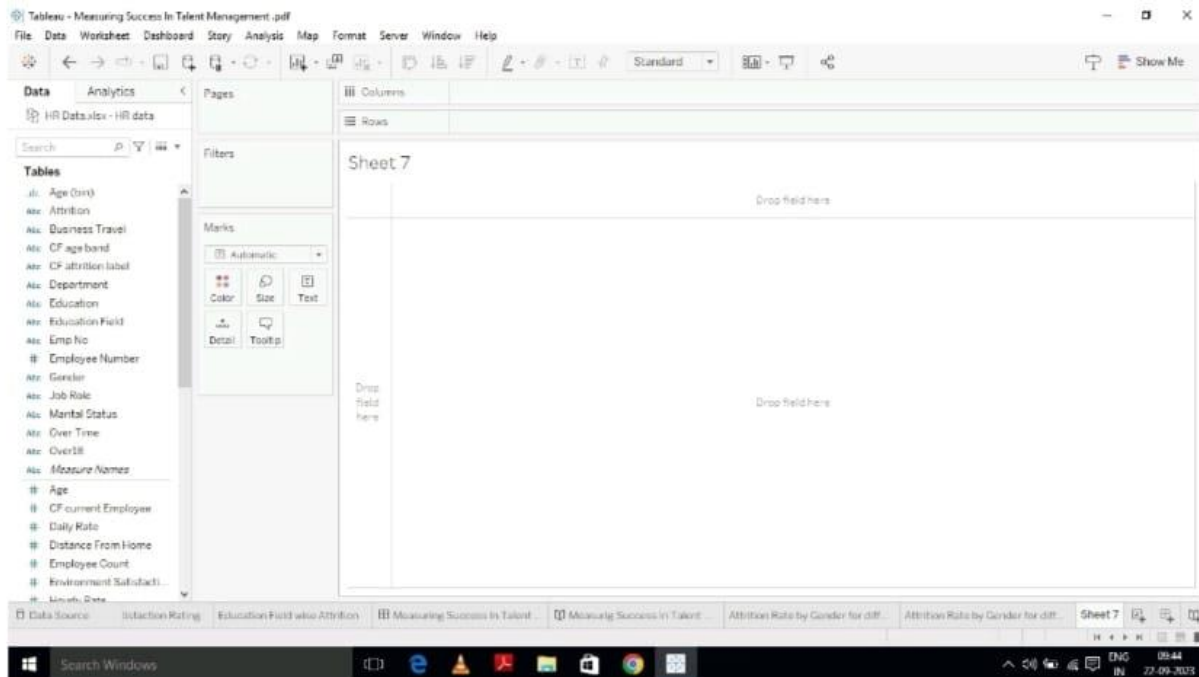
Description:

Data contains all the meta information regarding the columns described in the CSV files. We have provided 1 CSV file. The tableau HR scrorecard: Analysing housing prices in metropolitan areas of india.

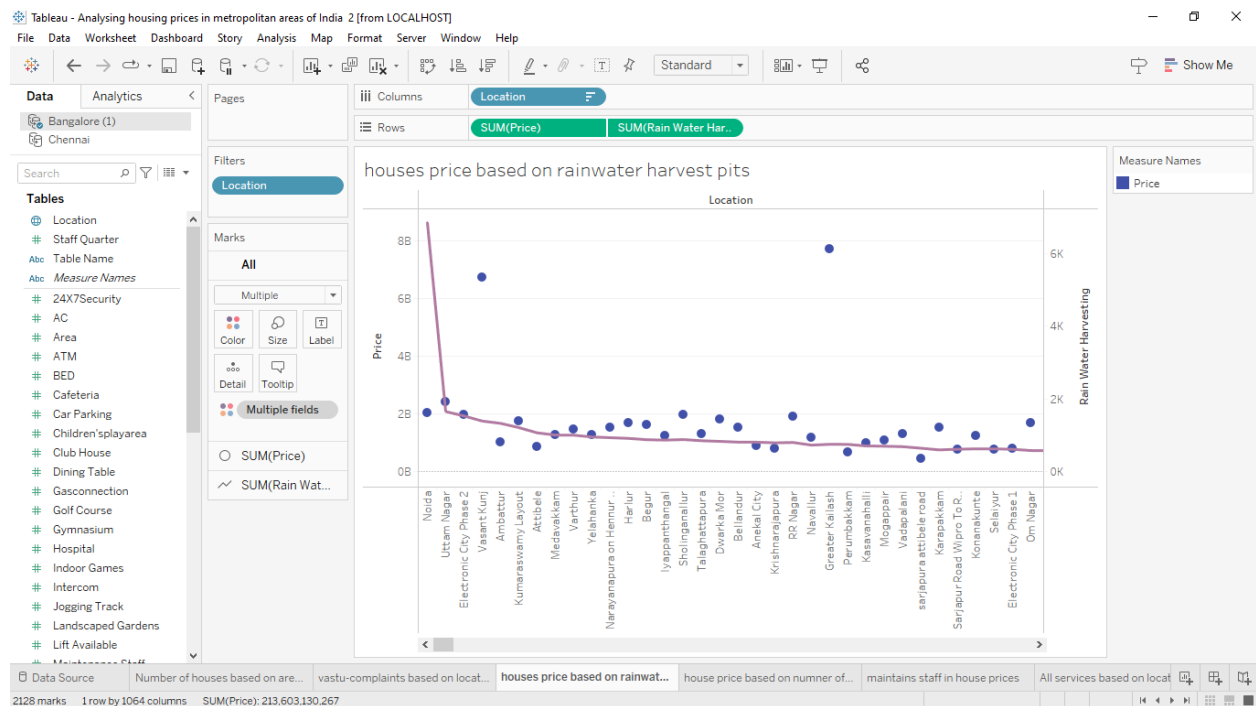NUMBER OF HOUSES BASED ON AREA IN SQF:

Description:

Relation between the house price and there are in square feet you will seen the point graph genetic referent house and the sizes. We can see the increasing and decresing order of the prices in the graph.

HOUSES PRICE BASED ON RAINWATER HARVEST PITS:

Description:

　　　There are tableau that compains location price and rain water harvest pits you will 12 axis graph with scatter plot and they are these graph helps as to visualize relationship between location price and suspected future by rainwater harvest pits.
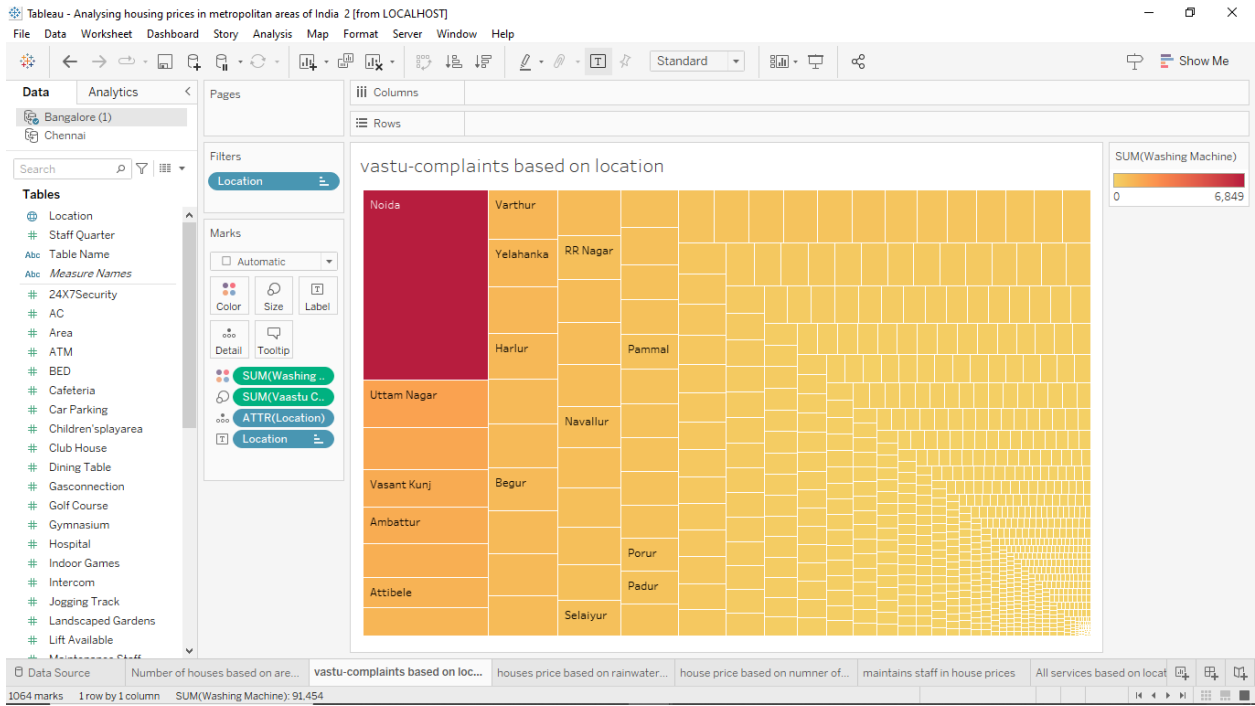
HOUSE PRICE BASED ON NUMBER OF BEDROOMS:
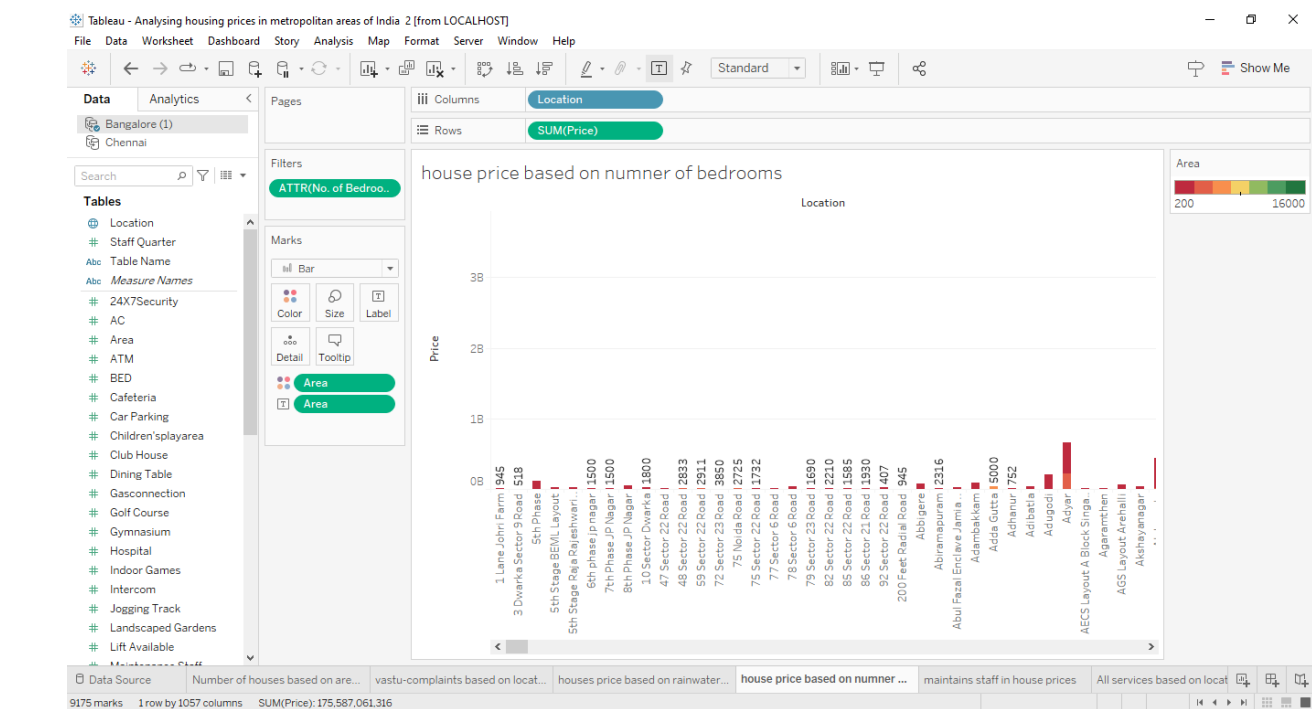
Description:

　　　They are using tableau that combines a location price an the number bedrooms in ther house. They have added the filter that show number of bedrooms in the tableau on the area by the location and sum area added by the number of bedrooms.
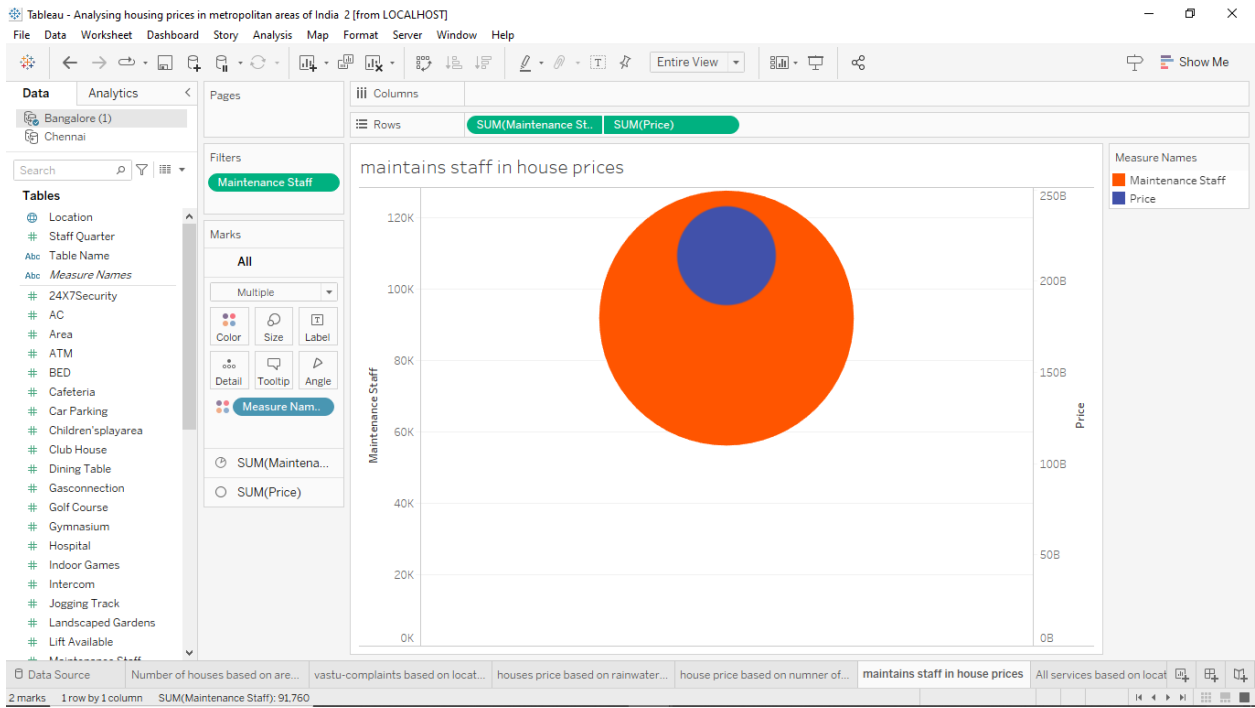
VASTU-COMPLAINTS BASED ON LOCATION:

Description:

They concepts of the vastu-complaints these graph helps us to under stand the infact of the vastu principle of variation location allowing to make information when it comes to choosing harvies of valencing in leaving space.

MAINTANCE STAFF IN HOUSES PRICES:

Description:

They have created from using tableau this all about the price and maintance staff of the dualaxis graph and presence the house price by other number of maintance staff in each property. This is maintance staff filter and increase of decreases we can see changes in the price and the number of staff in house prices.

ALL SERVICES BASED ON LOCATION:
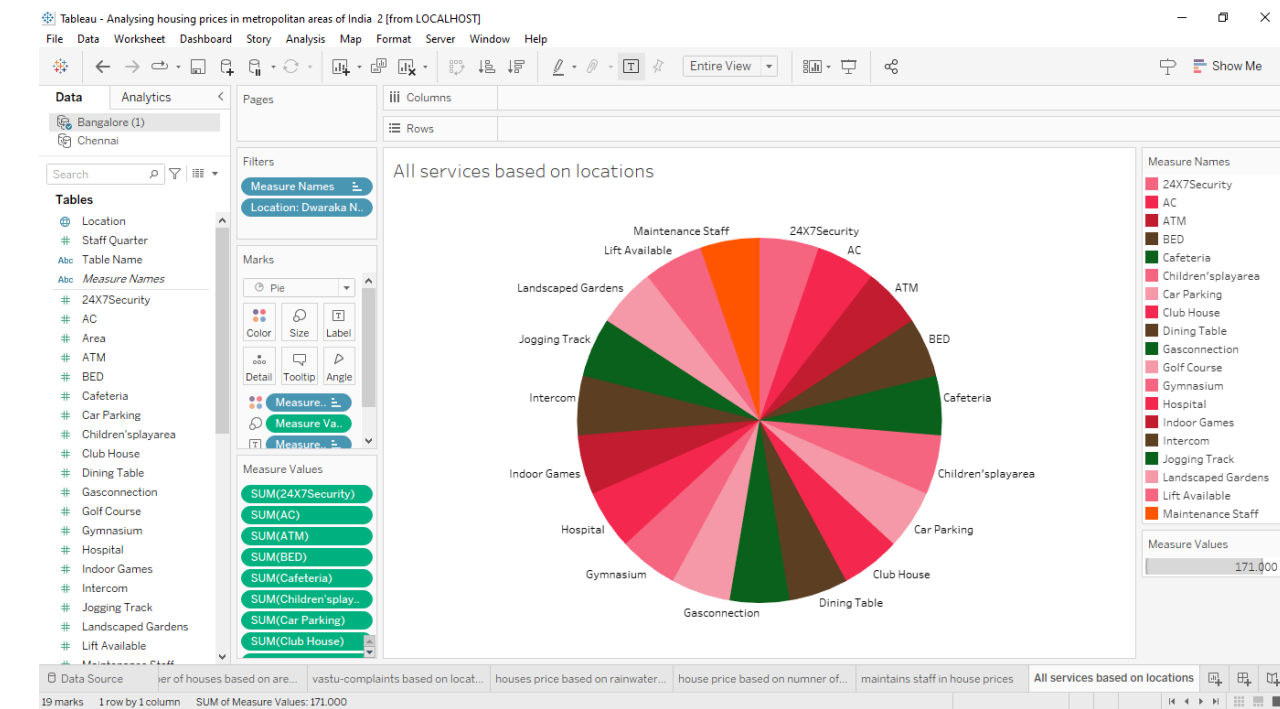
Description:

They have creation in graudivation in tableau and location an availability of various of housing complexes by hospitals indore games maintance staff car parking and beds and

children it helps as to see the multiple future in the location in where houses are ther in the location in changes avalaibility of a necessary things.

Story:

 A data story is a way of presending data and analyses in a narrative format with the goal of making the information more engaging and easier to understand.The data story typically includes a clear introduction that sets the stage and explains the contacts for the data,a body that presence the data and analys in a logical and systematic way and a conclusion summarizes the key finding and highlights implications.data stories can be told using a variety of mediums, such as reports, presentations, interactive visualizations, and vedios.

## Activity 1: no of scenes of story:

 The number of scenes in a storyboard for a data visualization analysis vehicle collisions will depend on the complexity of a analysis and the specific insighs that are trying to be conveyed. A storyboard is a visual representation of the data analysis process and it breaks down the analysis into a series of steps or scenes.
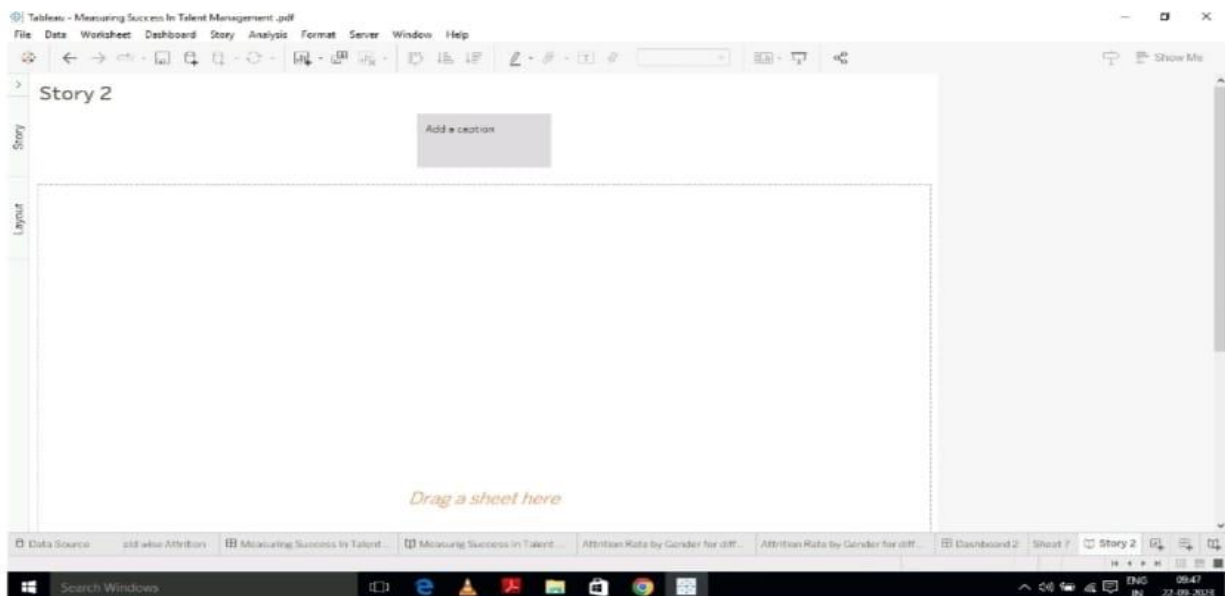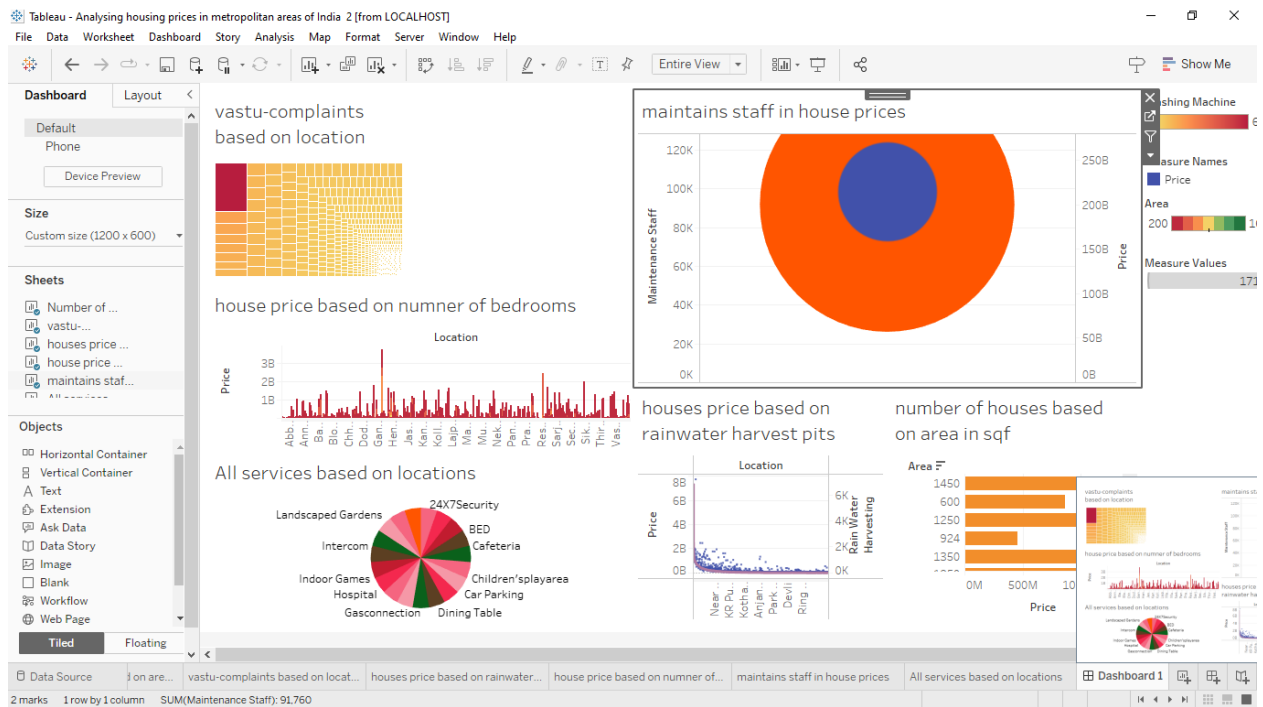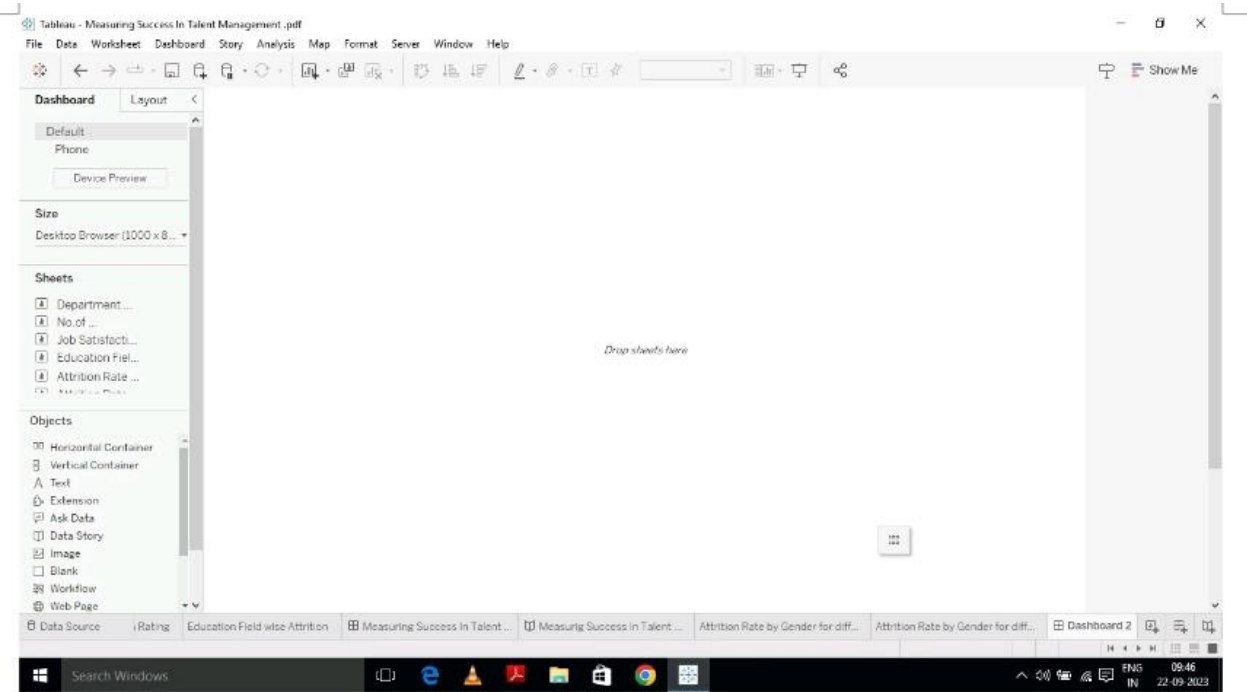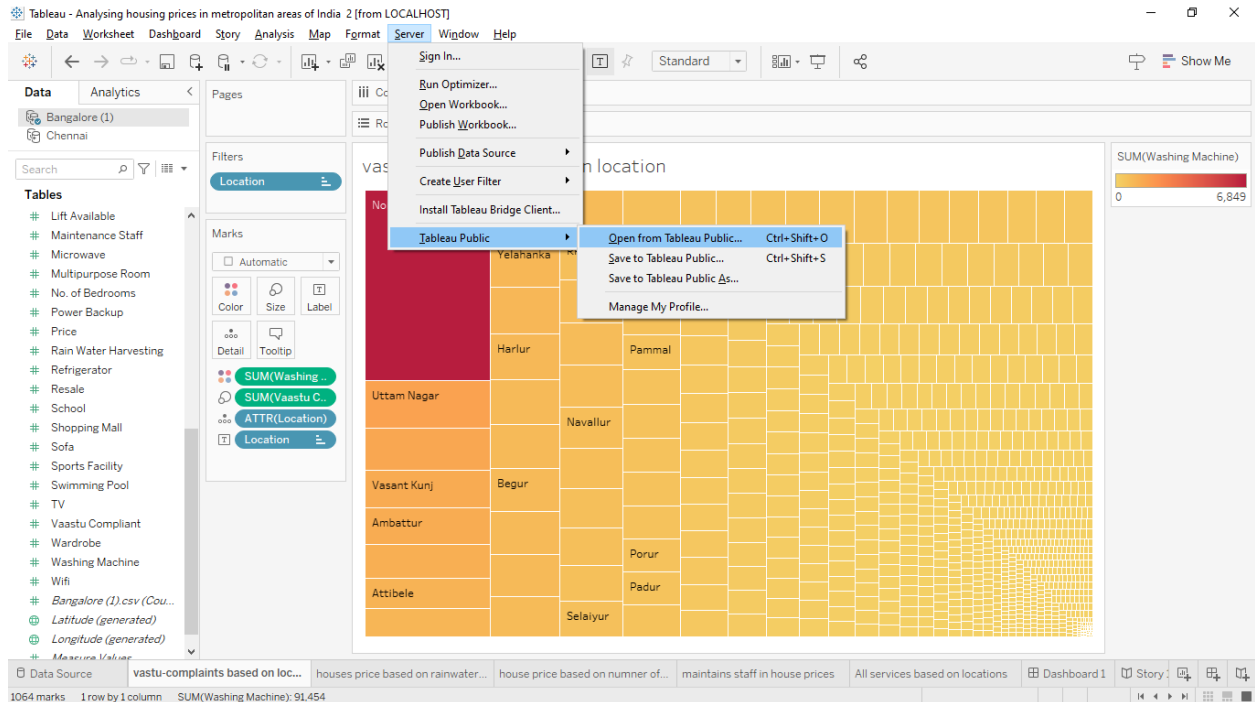
Drag the individual chart in the story:
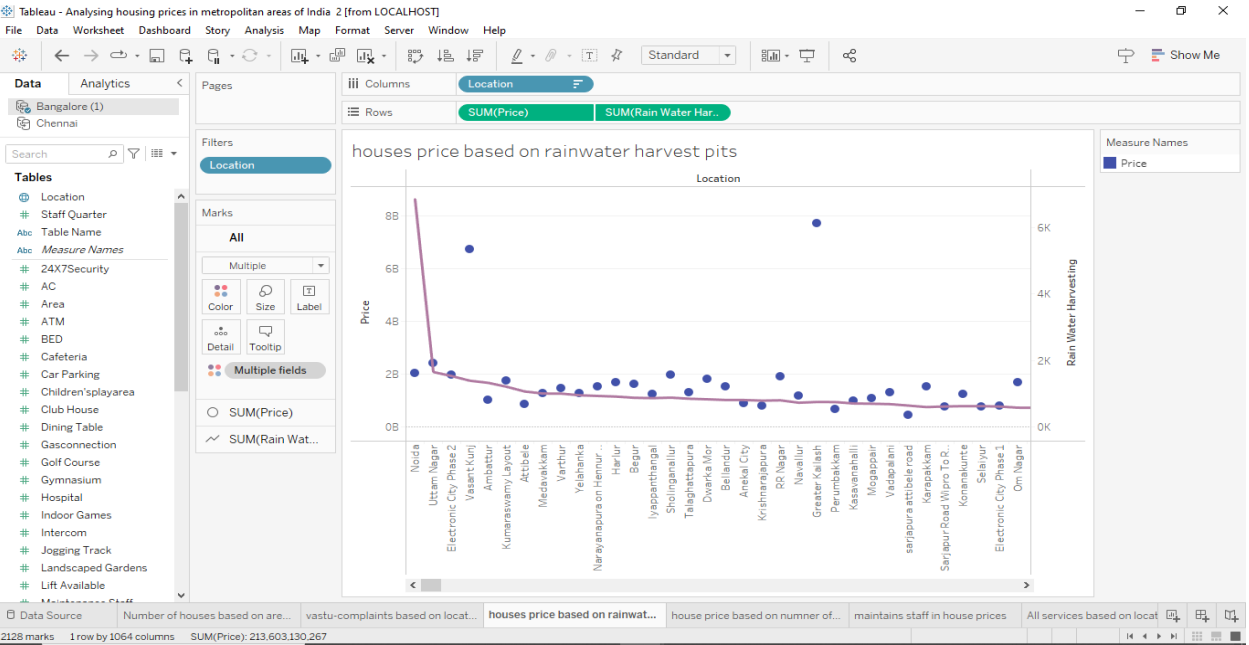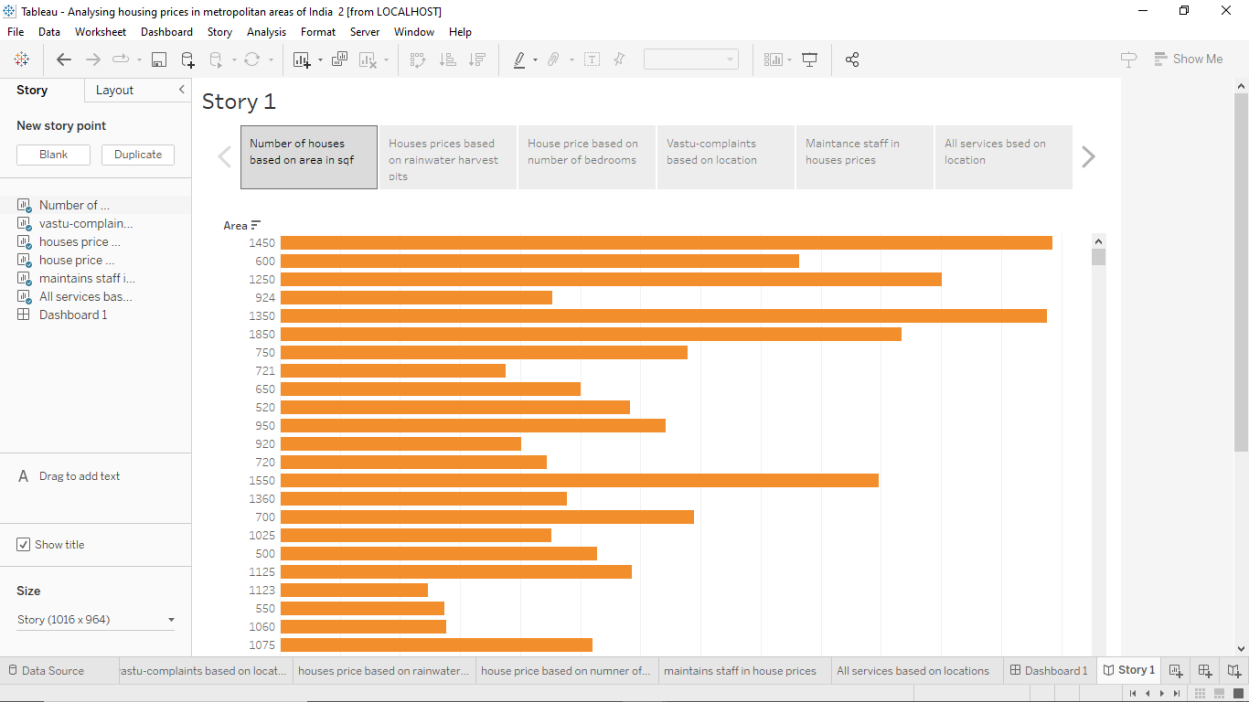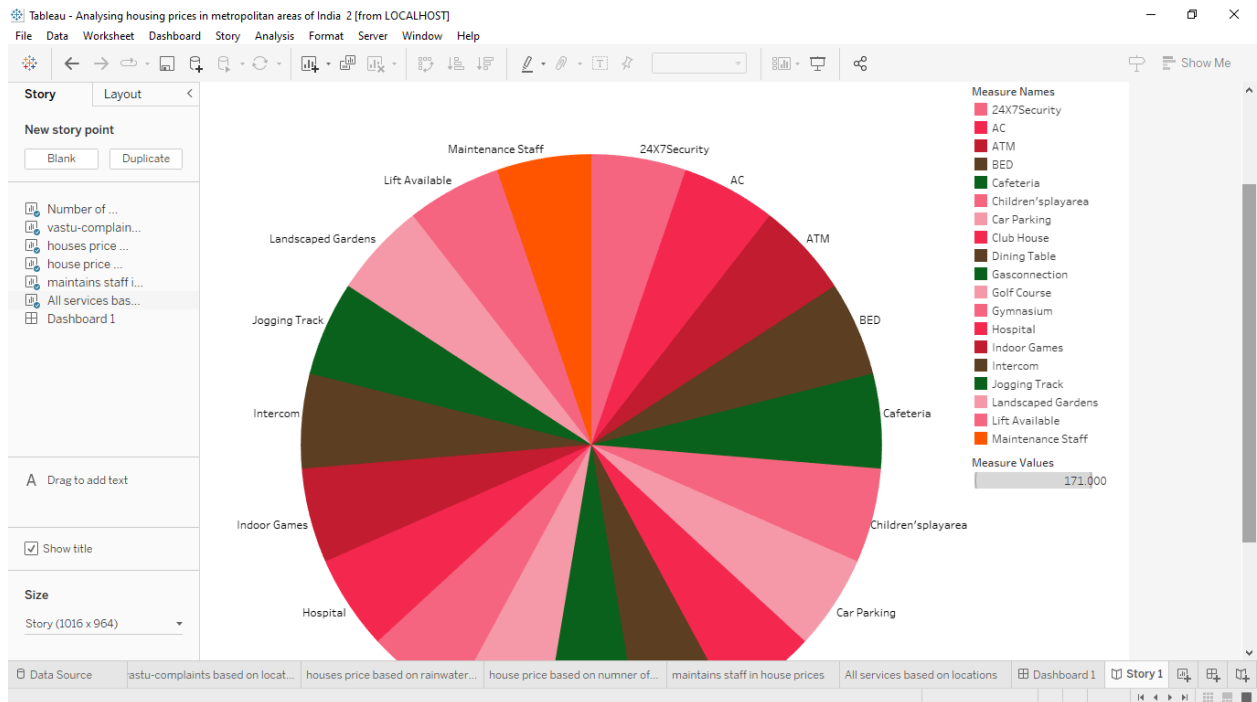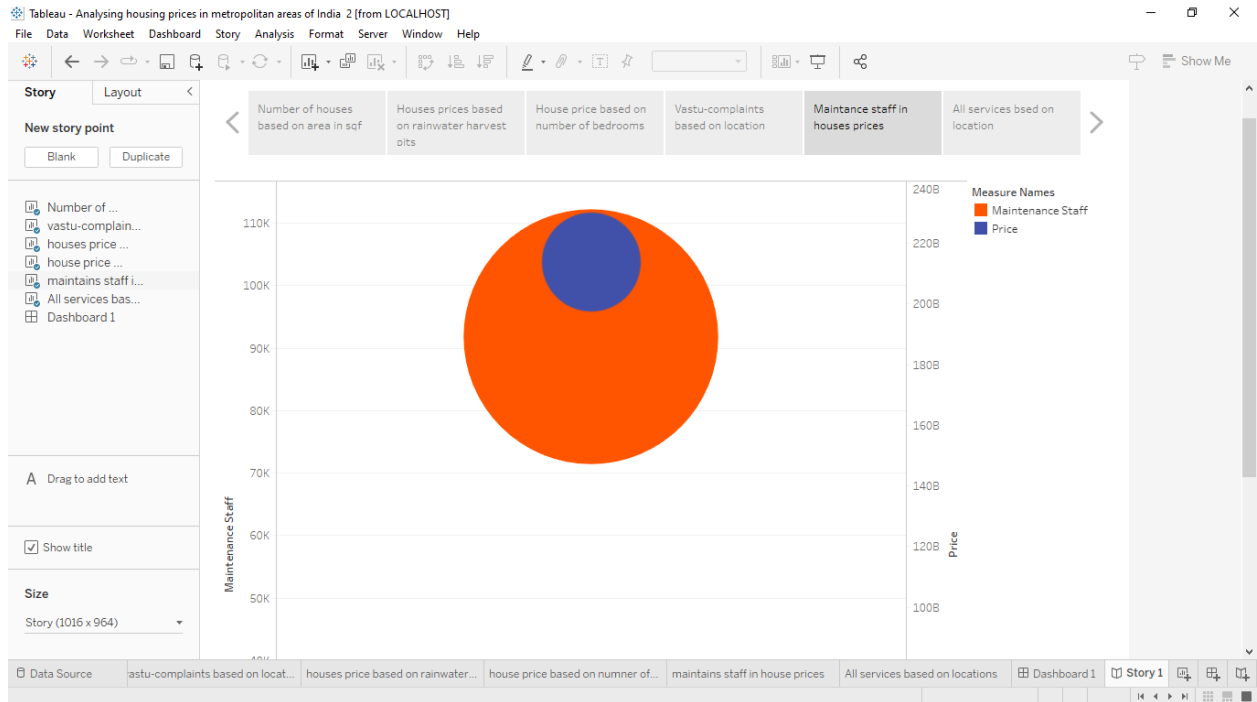
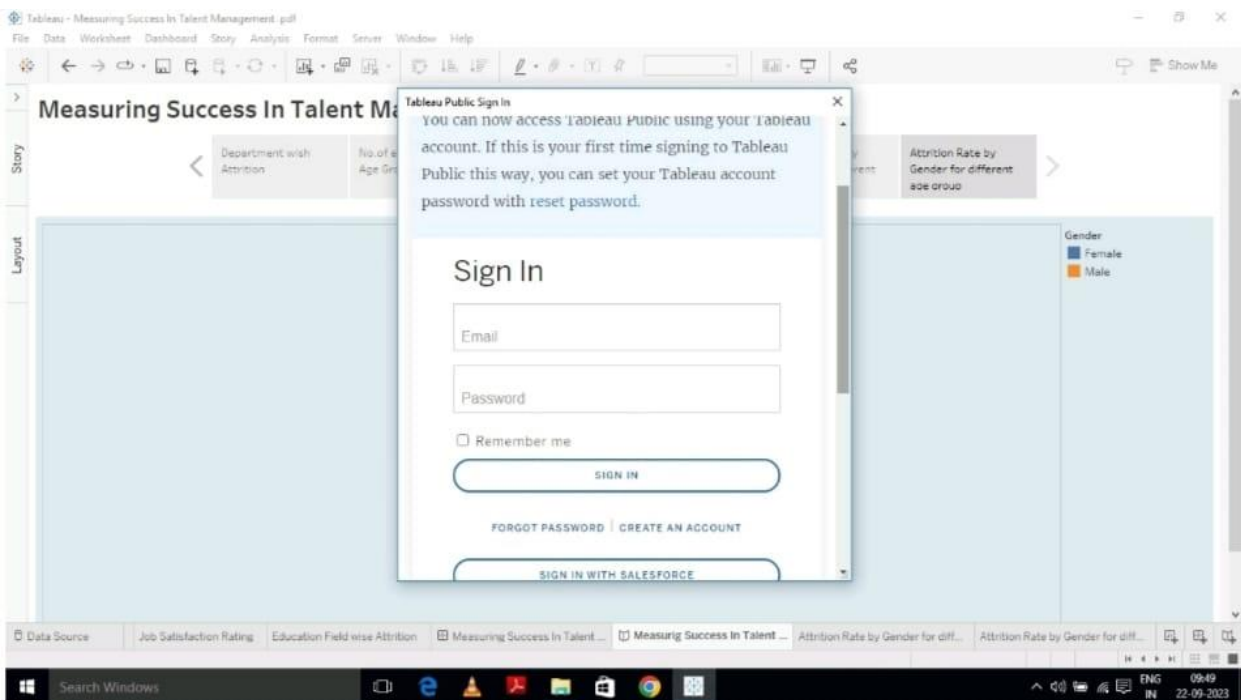Open the Dashboard and drag the all chart sheet:

All chart is drag the dashboard get the dashboard completed.

Publishing the dashboard:

Go to server option tableau public is save to tableau public As… option , go to the tableau website.

Description:

Sign in the gmail in to the website and save to the data sheet . publishing the dashboard and

download the all chart is convert to the pdf.

 TABLEAU PUBLIC URL

 TEAMLEAD: -
https://public.tableau.com/views/AnalysinghousingpricesinmetropolitanareasofIndia/Dashboard1?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link

STORYLINK-

https://public.tableau.com/shared/R9PCDJN63?:display_count=n&:origin=viz_share_link

 TeamMember1:-
https://public.tableau.com/views/AnalysinghousingpricesinmetropolitanareasofIndia/Dashboard1?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link

Teammember2:-

https://public.tableau.com/views/AnalysinghousingpricesinmetropolitanareasofIndia/Dashboard1?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link

4 ADVANTAGES & DISADVANTAGES

ADVANTAGES:
   A data-literate workforce supports a data-driven company, which can be more efficient and productive. But more than that, data is one of the biggest drivers of innovation. The benefits of data literacy translate into competitive advantage for your business:

- Cut costs and raise revenues with better, faster decisions
- Increase innovation with data
- Create better customer experiences with customer data
- Improve employee and applicant experience

Advantages like these translate into tangible business value. According to Dataversity, "organizations with the top tier of data literacy had a greater enterprise value of three to five percent. This translated to hundreds of millions of dollars of value and better return on equity."

DISADVANTAGES:

Rest assured, data literacy training is always an advantage. A lack of resources could force an organization to deprioritize data literacy, but that doesn't make data literacy a disadvantage. If someone sees a data literacy program as a waste of resources, they've failed to recognize the overwhelming benefits of a data-literate workforce.

In the wake of the Great Resignation (or Great Reshuffle), many employers are wary about turnover. Some leaders may wonder if investment in data literacy has disadvantages. Is upskilling employees going to encourage them to leave?

This isn't a question that should keep HR managers up at night, because data literacy is without doubt an advantage for businesses. Employee training is a recognized retention strategy, especially when it's framed as a career-long employee development program. In particular, data literacy can increase job satisfaction and retention. So make data literacy

training part of your employer brand. If data-literate employees do move on to other employment, they'll only improve your reputation as a great employer.

1. Encourage employees to present informal peer training sessions, such as data literacy Lunch and Learns like "What is an algorithm, anyway?" or "Data science basics for aspiring business leaders."
2. Establish professional reading circles as a space for employees to apply their data literacy skills by discussing data in the context of industry news and white papers.

5. APPLICATIONS

Customers have successfully established community-led support by using champion-created content, and escalating to the analytics or IT team for system-level issues, such as server and database access. Log and categorize these requests to analyze the support data and identify opportunity areas for new content on the enablement intranet, user group

topics, and educational needs. An example of an **internal** support escalation path is:

- Department or team champion
- Channel-based communication or chat
- Data doctor office hours
- Analytics support ticket

6.CONCULSION

There are endless advantages to growing your data literacy skills — and there is no disadvantage to investing in data literacy skills training.

But data literacy isn't a single skill set that can be learned at once. From students to professionals to managers, everyone should plan to continue developing data literacy skills throughout their career. If you're a student, a parent, or an educator, learn more in our article about the benefits of data literacy in education.

Companies have an opportunity to lean into data literacy skills to improve job satisfaction and return business value. Read more about developing and applying data literacy in businesses.

If you intend to prioritize data literacy at your organization, you'll need to give decision-makers and business users access to enterprise data and data analytics tools. That means investing in modern data management.

7.FUTURE SCOPE

- Real-time data visualization
- Accessing, analyzing, exploring and visualizing live operational data
- Linking different data sources to provide for continuous intelligence on a real-time basis
- Data volumes will continue to increase and migrate to the cloud
- Data analytics will have a huge role to play for the market in the coming years. They will be recognized as the data protectors. They will preserve the privacy of data, detect intrusions, etc.
- The IoT which is an abbreviation of the Internet of Things will see tremendous growth.
- The coming days will be the golden time for tremendous growth in cognitive analysis.