PROJECT REPORT_SUBSCRIBERS GALORE: EXPLORING WORLD'S TOP YOUTUBE CHANNELS – K.R.LINGESHWARI & S.VINITHA

1. Introduction

YouTube is one of the social media platform for sharing videos about someone or something with some content, in online for the purpose of making others knowledgeable about the society, by helping them to know about what's happening around us, Educate people wherever they are in this world, they can new things every day, they can know about their rights, even how to make delicious foods, etc.

In this project, we have solved many questions about subscribers galore in YouTube, graphically, with the help of Tableau. Let's have a brief overview about our project.

1.1 Overview

YouTube is an online video sharing and social media platform headquartered in San Bruno, California, United States. Accessible worldwide, it was launched on February 14, 2005, by Steve Chen, Chad Hurley, and Jawed Karim. It is owned by Google and is the second most visited website in the world, after Google Search. YouTube has more than 2.5 billion monthly users, who collectively watch more than one billion hours of videos every day.

A YouTube subscriber is someone who has chosen to "follow" your channel and your content so they can stay updated with your latest videos. In essence, a subscriber can become a raving fan who watches, comments and shares your videos with others.

The word Galore means abundance or a great number of amounts or plentiful. Hence simply, subscribers galore, means there are lot of subscribers in YouTube for certained channels, based on their categories such as Education, Entertainment, Cooking, Gaming, Training for jobs, learning, Kids cartoon channels, etc.

Besides, the Subscribers List in Creator Studio will only display the number of subscribers who have made their subscriptions public. For new YouTube users, their list of subscriptions has a default private setting. Users can choose to make this subscription list visible to the public. So your Analytics can only keep track of these subscribers with a publicly-visible subscription list, making the report slightly inaccurate [1].

In this project report we will discuss about the world's top YouTube channels based on subscribers using data analytics and literacy with the help of Tableau software.

1.2 Purpose

The main purpose of this project is to get better understanding knowledge about how we can get exact information of whatever we need from a given dataset, that contains worldwide details by using Data Analytics and Literacy method with the help of some advanced techniques including, Python programming, Artificial Intelligence(AI), Business Intelligence(BI), etc.

We can easily learn this great field with the help of Smart Internz Platform without much more difficulties. There are separate well trained hosts and mentors for us to teach about this field. So we

can easily create our own projects with the help of datasets and Tableau software provided by the platform.

As we have chosen the project titled**, "Subscribers Galore: Exploring World's top YouTube Channels",** we have learn many new information about the advantages and disadvantages of YouTube, a social media platform, where anyone can become most popular based on their category, language, with subscribers count in Millions and Billions, whether the channel is Branded or not.

Also, our team members have asked many questions about the project among ourselves, like,

(i) Which country holds the top most rank in YouTube based on subscribers count, category, language, etc.
(ii) Which YouTube channel holds the top most position among people all over the world?
(iii) What is the average rank of top most YouTube channels based on subscribers galore?
(iv) Which language is mostly used in YouTube channels based on subscribers?
(v) Whether the YouTube channel is brand or not? Etc.

We have achieved exact answers for all these questions in Tableau software with the help of provided Datasets, worksheets, Dashboard, stories, Empathy map using Mural App, Brainstorm ideation, etc in the form of bar graphs, line graphs, bar charts, pie charts, tabular format, symbol map, etc in this project.

Most importantly, we have learned to work in a new platform namely "TABLEAU", within in a short period of time with help of datasets available on the internet. We have planned to create datasets of our own for many topics and work with AI and BI in future.

2. Problem Definition and Design Thinking

Problem Definition

Problem definition is an essential initiating phase of any product development [2]. In this phase we must do the following steps with extreme care.

1. Understand existing problem, associating available data, images, and fundamental principles with it;
2. Generate strategies and methodology;
3. Critically evaluate state-of-the-art technologies, other machines and components available on the market.

Main steps of the problem definition

- Understanding the problem
- Clarification of objectives

Three steps to develop an objective tree

1. Preparation of a list of design objectives, i.e., a list of desired attributes of a design.

2. Sorting the list into higher-, mid- and lower-level objectives.
3. Drawing a tree diagram of objectives, showing hierarchical (vertical) relationships and interconnections (horizontal) between the objectives.

- Establishing of user requirements
- Identification of constraints
- Establishment of the functions
- Formulation of design requirements and design specifications
- Project definition

The final step of problem definition is the project definition. In this phase the project gets final approval; real product development starts, in accordance with the company objectives and strategies, current market trends, available technologies, customer needs and the main constraints of the project.

Here our project, titled, "Subscribers Galore: Exploring world's top YouTube channels', can have many objectives and can be listed as follows:

(i) How to increase subscribers count in YouTube Channel?
(ii) How to increase watch timing of own contents?
(iii) How to make videos interesting among subscribers?
(iv) Which content will lead the channel to become the top most?
(v) How to create entertaining and informative videos? etc.

These are some of the problems defined in our project.

Design Thinking

Design thinking is a non-linear, iterative process that teams use to understand users, challenge assumptions, redefine problems and create innovative solutions to prototype and test. Involving five phases—Empathize, Define, Ideate, Prototype and Test—it is most useful to tackle problems that are ill-defined or unknown [3].

With design thinking, teams have the freedom to generate ground-breaking solutions. Using it, our team can get behind hard-to-access insights and apply a collection of hands-on methods to help find innovative answers.

Design thinking is an iterative and non-linear process that contains five phases: 1. Empathize, 2. Define, 3. Ideate, 4. Prototype and 5. Test.

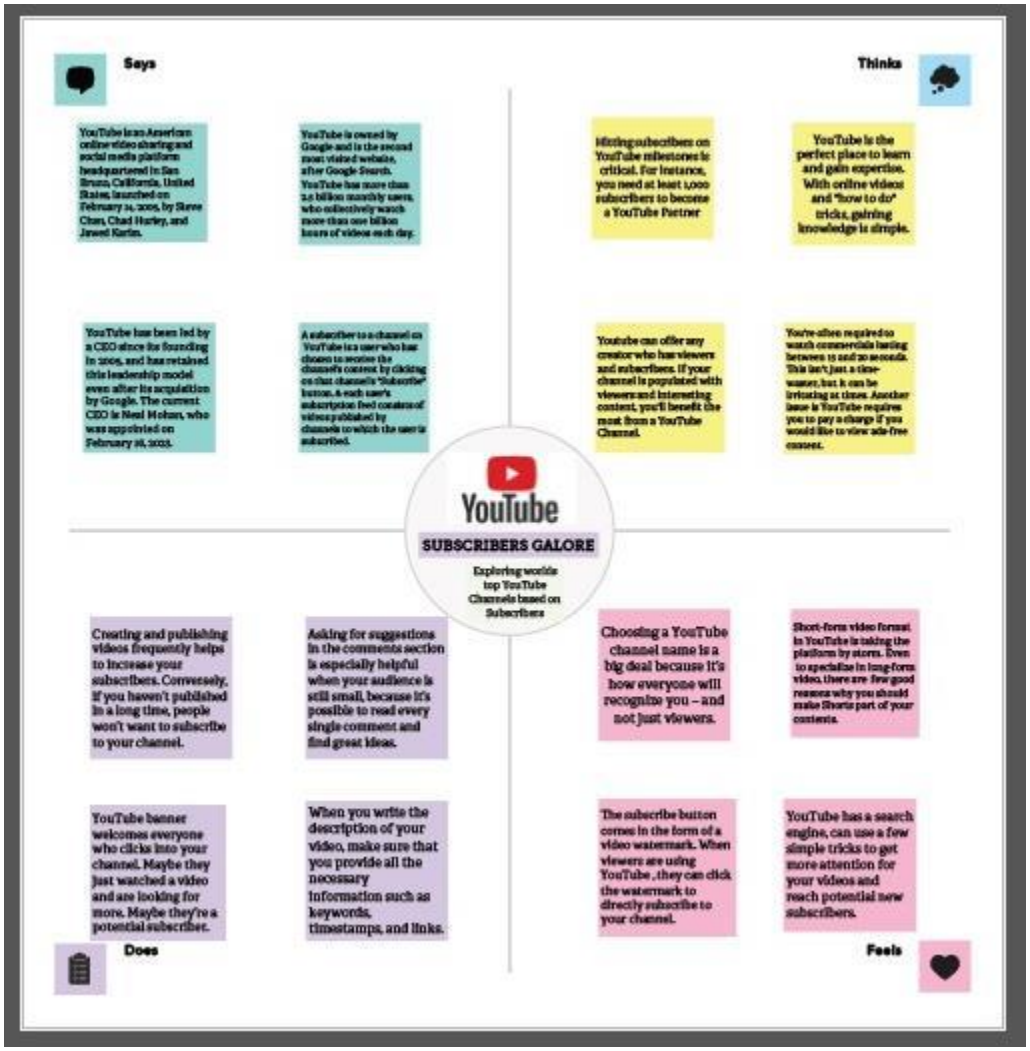
Here we use Empathy map and Brainstorm ideation for solving our problems defined above.

2.1 EMPATHY MAP

An **empathy map** is a collaborative visualization used to articulate what we know about a particular type of user. It externalizes knowledge about users in order to 1) create a shared understanding of user needs, and 2) aid in decision making [4].

Empathy maps are most useful at the beginning of the design process after user research but before requirements and concepting. The mapping process can help synthesize research observations and reveal deeper insights about a user's needs.

Here is the visualization of the Empathy map we have created, for our project work.
It shows what others says about YouTube subscribers, what the user thinks about problems with YouTube subscribers, what the user feels to solve many problems associated with YouTube Subscribers, and what the user has to do to solve those problems.



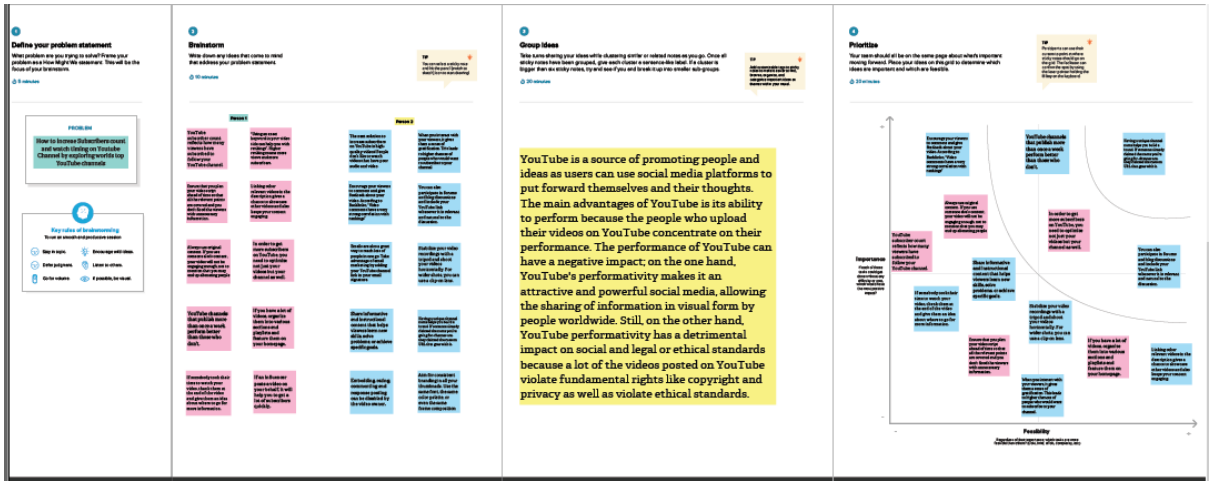
2.2 Ideation and Brainstorming Map

Ideation essentially refers to the whole creative process of coming up with and communicating new ideas. Ideation is innovative thinking, typically aimed at solving a problem or providing a more efficient means of doing or accomplishing something. It encompasses thinking up new ideas, developing existing ideas, and figuring out means or methods for putting new ideas into practice [5].

Ideation is often closely related to the practice of brainstorming, a specific technique that is utilized to generate new ideas. A principal difference between ideation and brainstorming is that ideation is commonly more thought of as being an individual pursuit, while brainstorming is almost always a group activity. Brainstorming is usually conducted by getting a group of people together to come up with either general new ideas or ideas for solving a specific problem or dealing with a specific situation.

Participants in a brainstorming session are encouraged to freely toss out whatever ideas may occur to them. The thinking is that by generating a large number of ideas, the brainstorming group is likely to come up with a suitable solution for whatever issue they are addressing.

The following visualization shows the Brainstorming map created by us for solving the problems associated with YouTube Subscribers.



3. RESULT

The final output of the project along with the screenshots of working in Tableau software are shown as below.

In Tableau, each workbook can contain different types of sheets: views (also known as worksheets), dashboards, and stories [6].

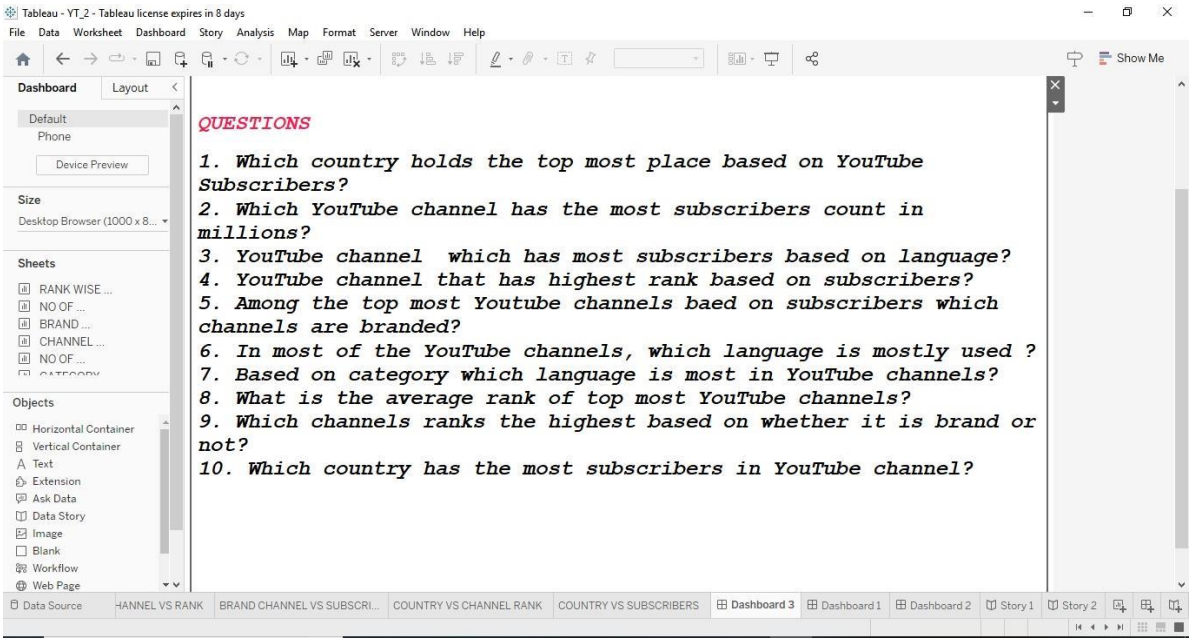
- A worksheet is where you build views of your data by dragging and dropping fields onto shelves.
- A dashboard is a combination of several views that you can arrange for presentation or to monitor.
- A story is a sequence of views or dashboards that work together to convey information.

The sheets display along the bottom of the workbook as tabs.

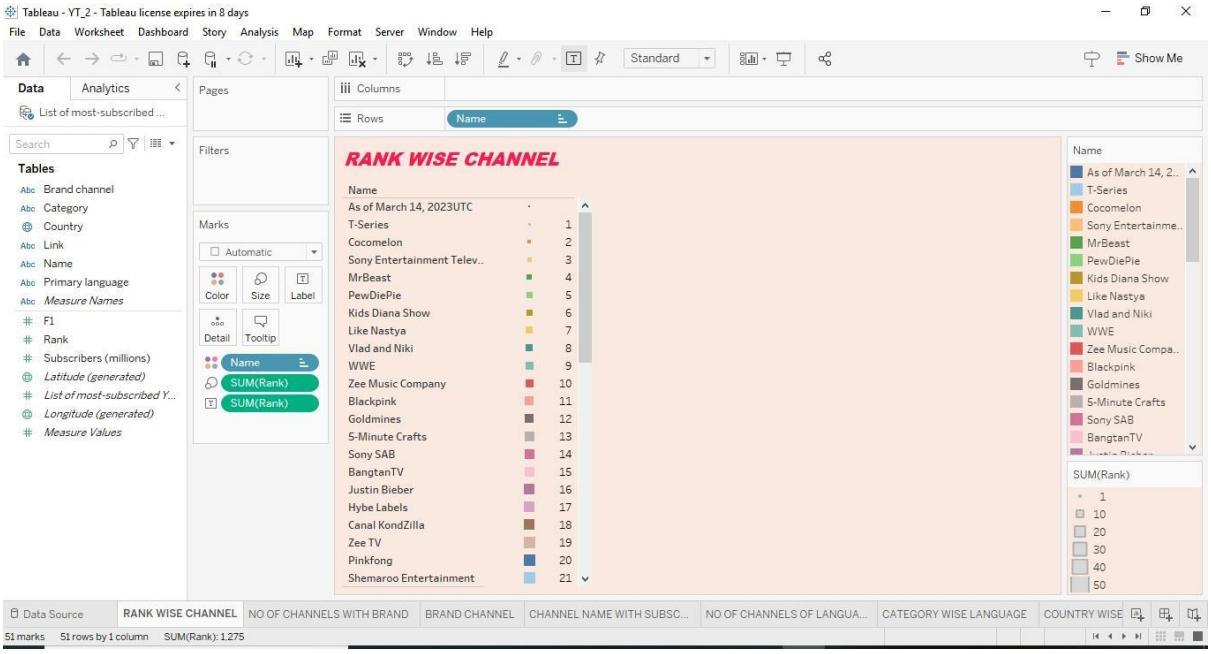
3.1 Framing Questions related project

Let us start with the questions we have framed for our project.

The following visualization shows about some of the questions that can be asked within our team members or others related to our project work. We have to find solution for all those questions graphically as follows.

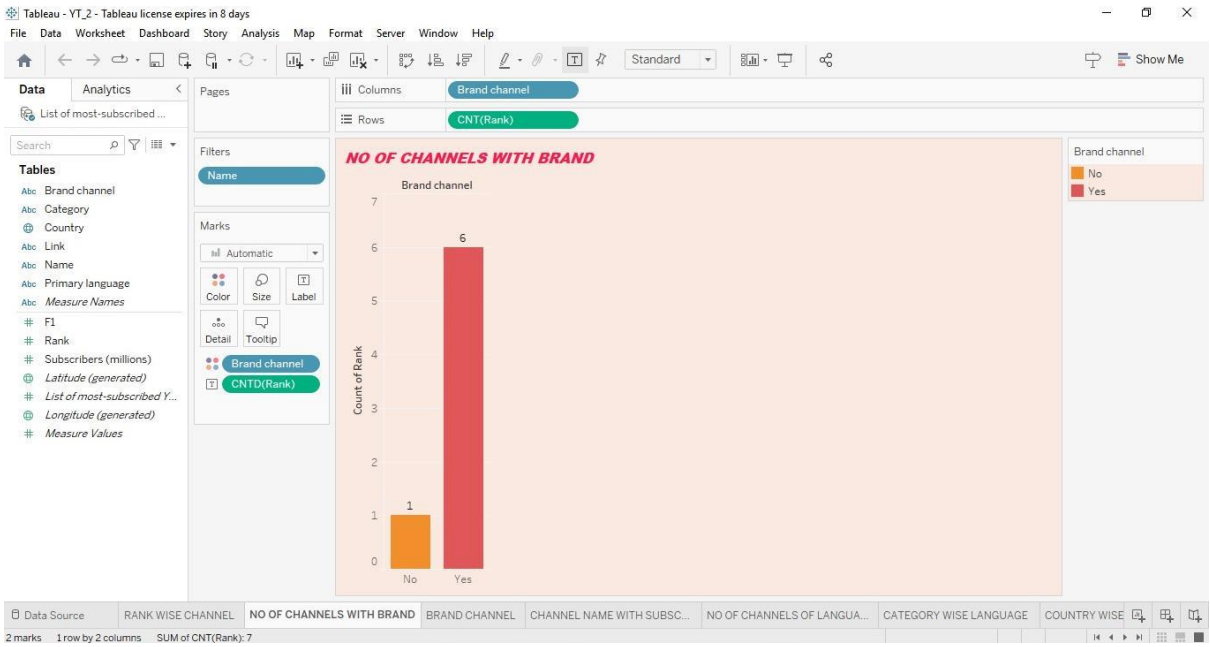


3.2 Worksheet_1_ Rank Wise YouTube Channels.



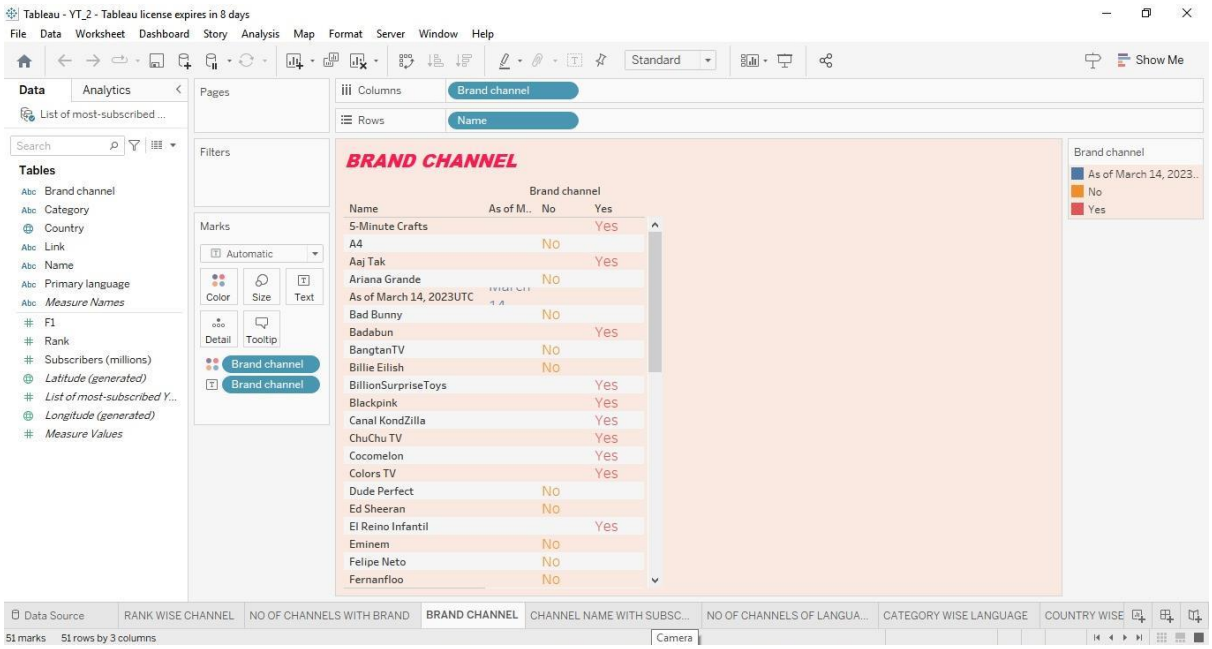
This visualization clearly shows about the rank of top most YouTube channels based on subscribers count in millions with channel name in rows, colours, rank of channel in sum and label.

3.3 Worksheet_2_Number of Top most channels with brand



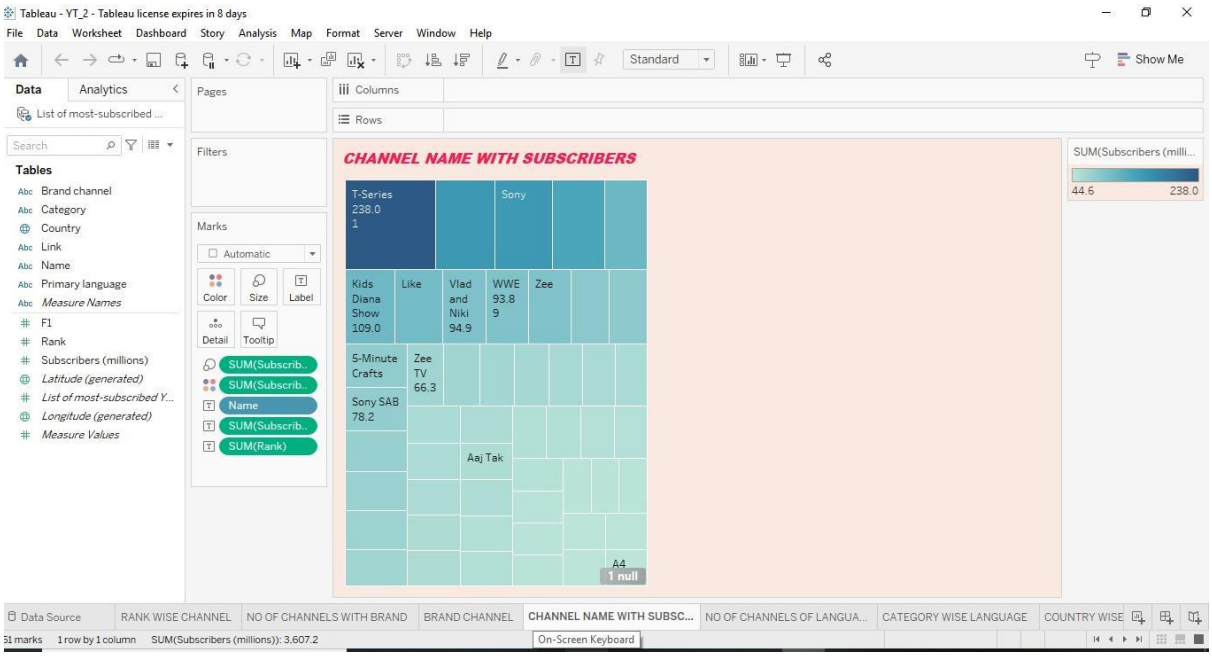
This visualization explains whether the top most channels in YouTube is branded or not based on subscribers count in million in **SIDE-BY-SIDE BARS** format with brand channel in columns, colour, rank of channels in rows and count.

3.4 Worksheet_3_Brand Channel



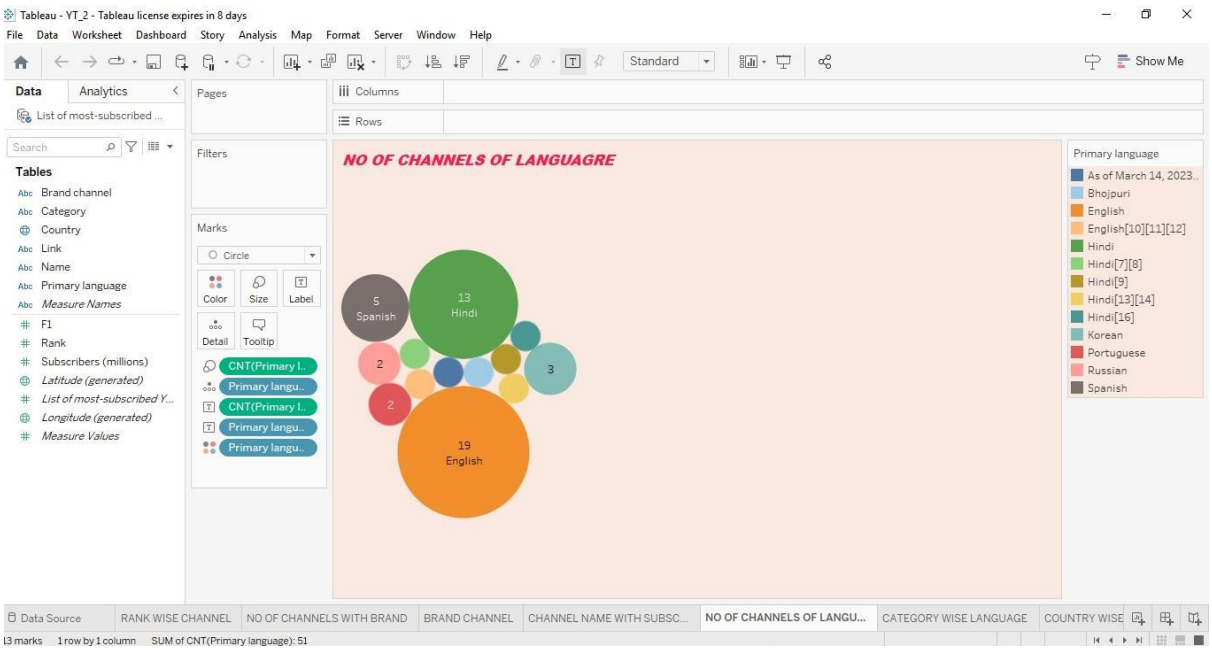
This visualization also explains the channel brand based on its category in text format with brand channel in columns, colours, labels and channel name in rows.

3.5 Worksheet_4_ Channel Name with Subscribers count



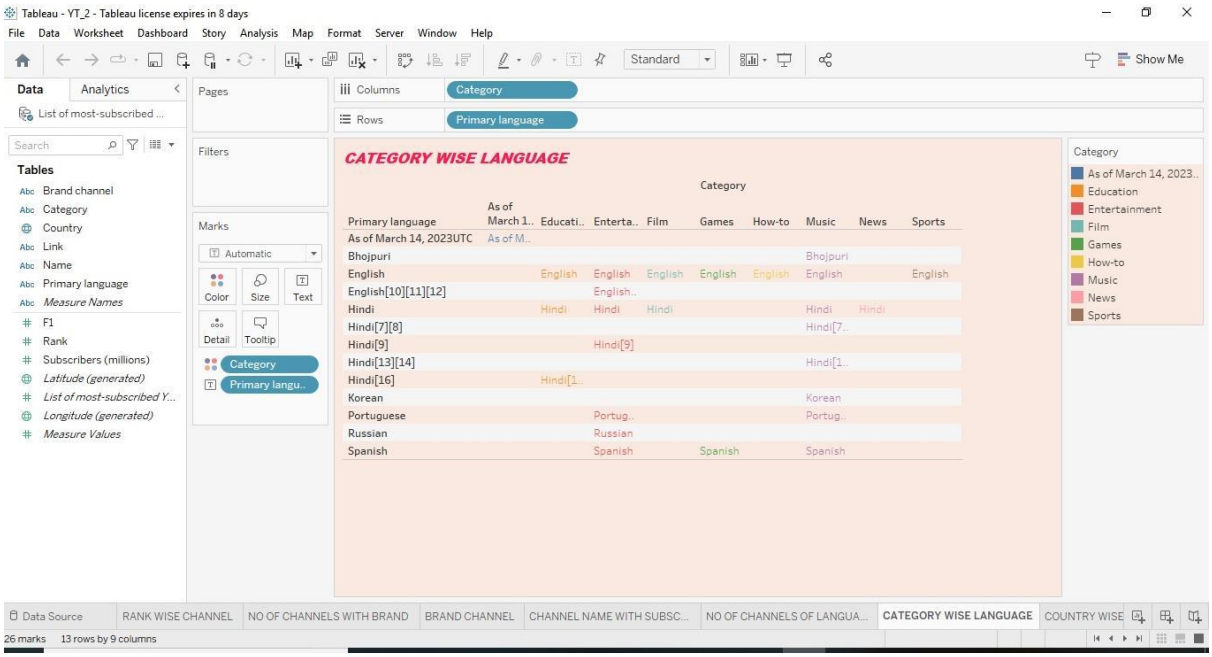
This visualization clearly demonstrate the **TREEMAP** of top most YouTube channel based on subscribers count in millions with empty rows and columns, subscribers count in sum, rank, labels, colours and channel name in label.

3.6 Worksheet_5_ Number of channels of Language



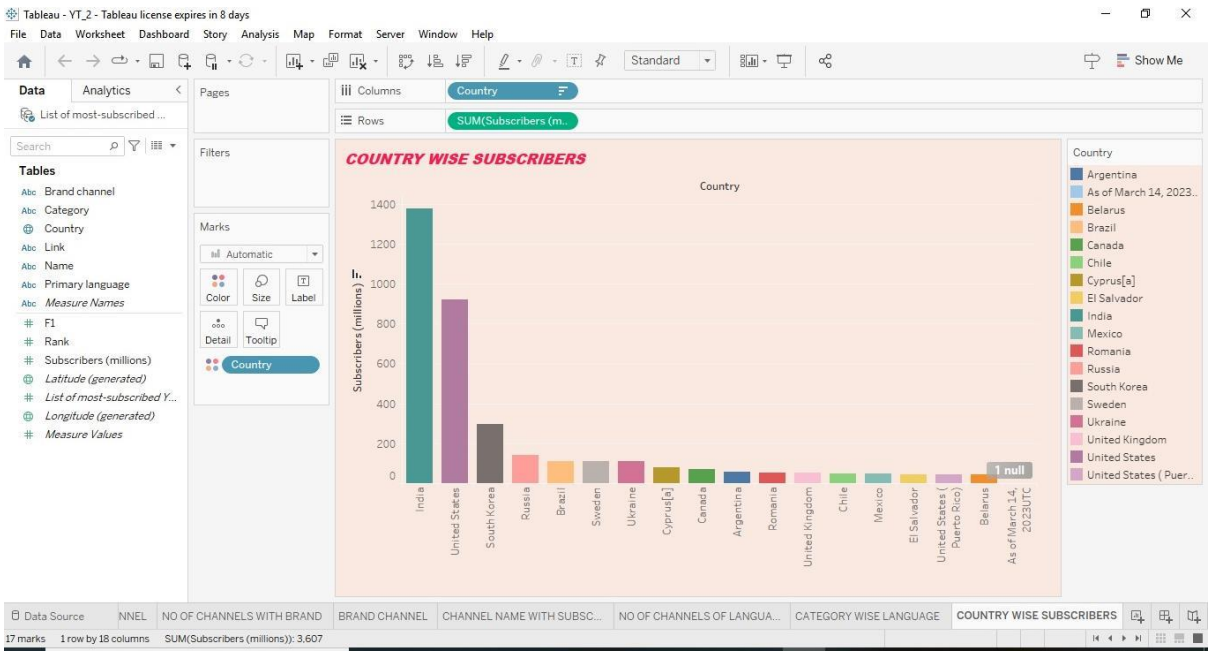
This visualization clearly explains how many number of channels prefers English as common language and other channels with their corresponding language, with primary language in size, detail, count, label and colour in **PACKED BUBBLES.**

3.7 Worksheet_6_Category Wise Language



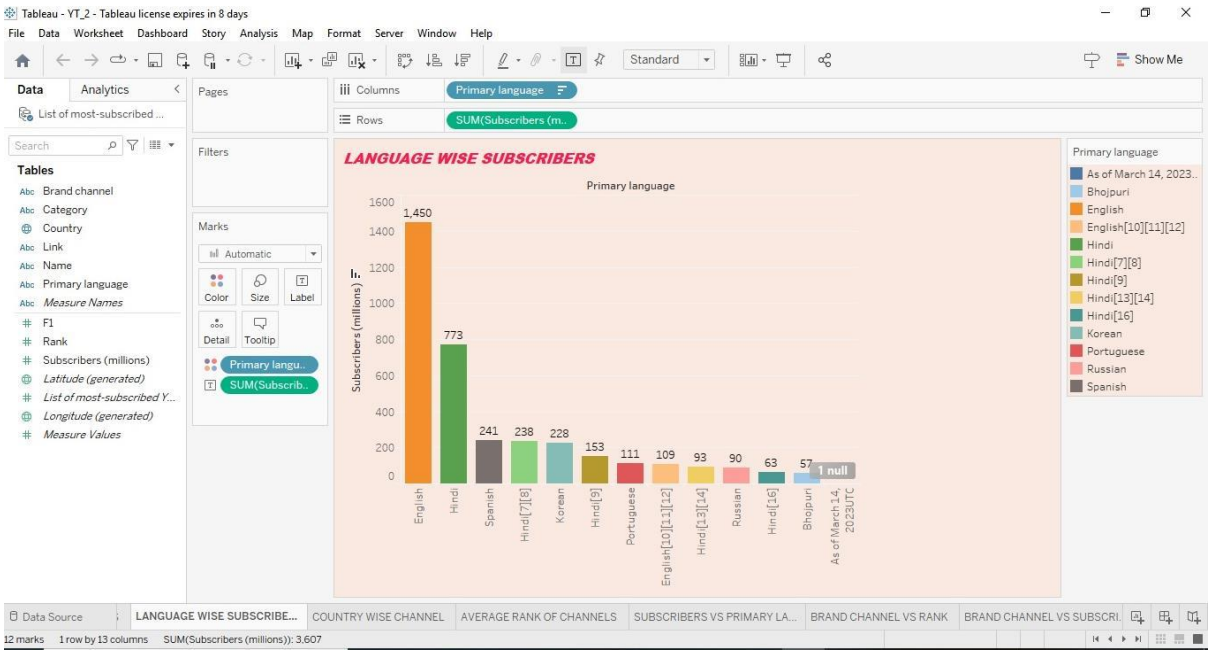
The above visualization shows the top most YouTube channels with their category wise language with category in columns and colour, Primary language in rows and label.

3.8 Worksheet_7_Country wise subscribers



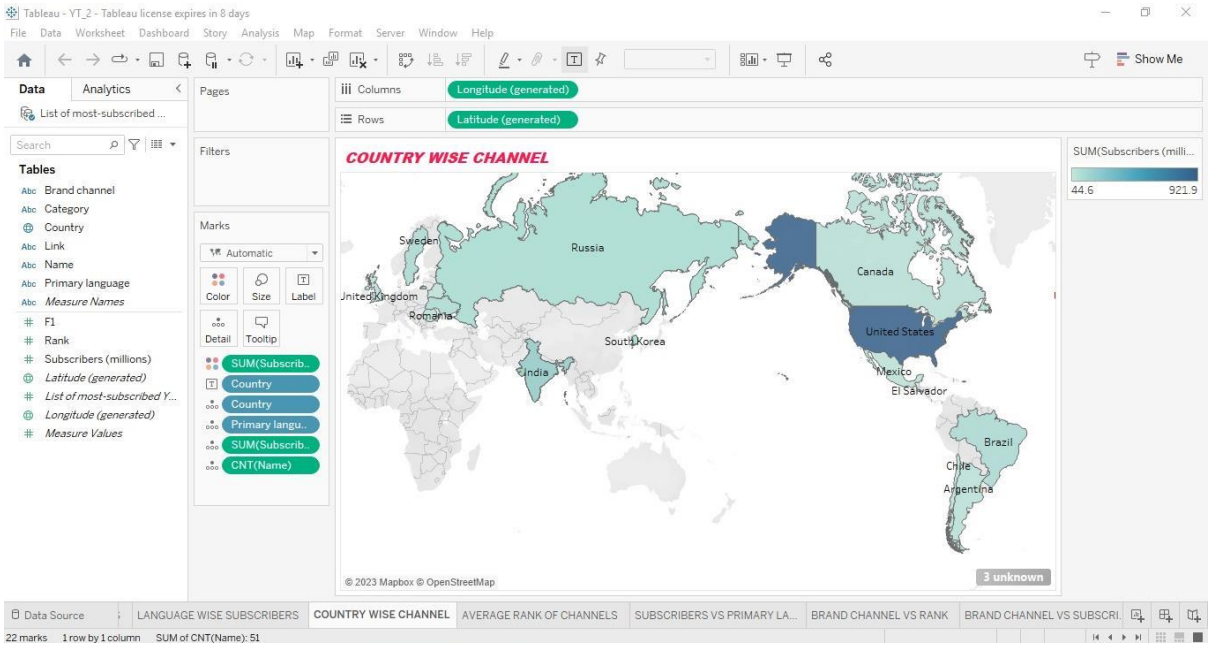
This visualization shows the **STACKED BARS** of subscribers count based on country with country in columns and colour and subscribers count in rows.

3.9 Worksheet_8_Language wise subscribers



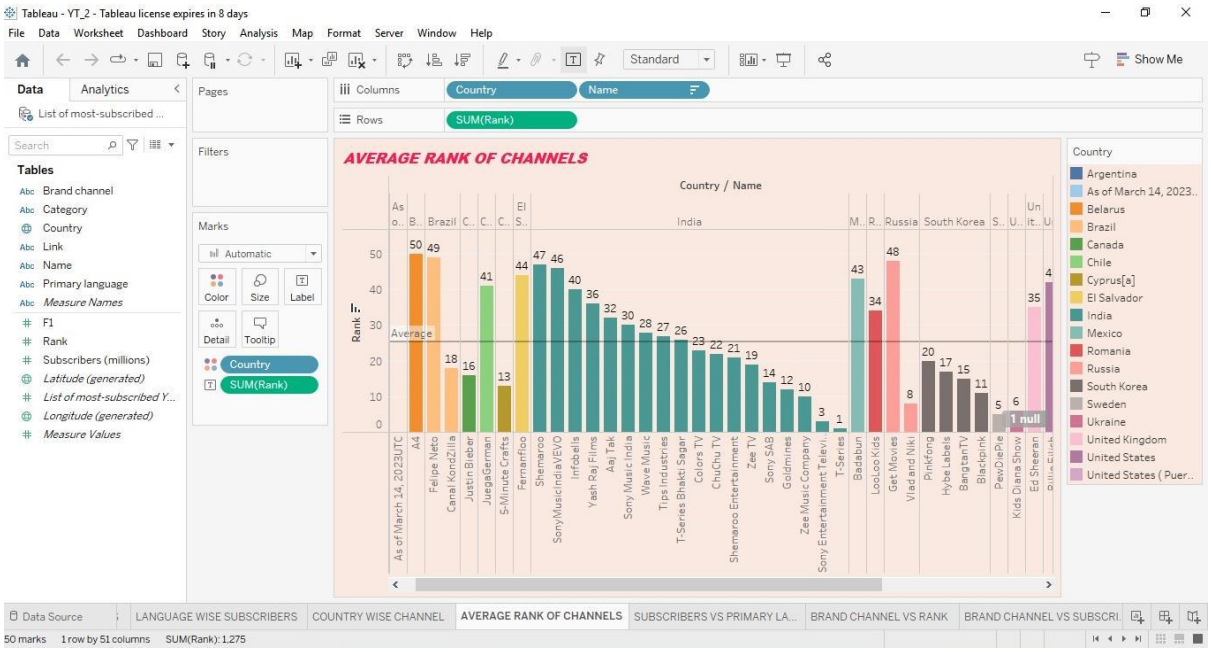
The above visualization clearly shows the subscribers count based on language with primary language in columns and colour and subscribers count in rows and label.

3.10 Worksheet_9_Country wise channel



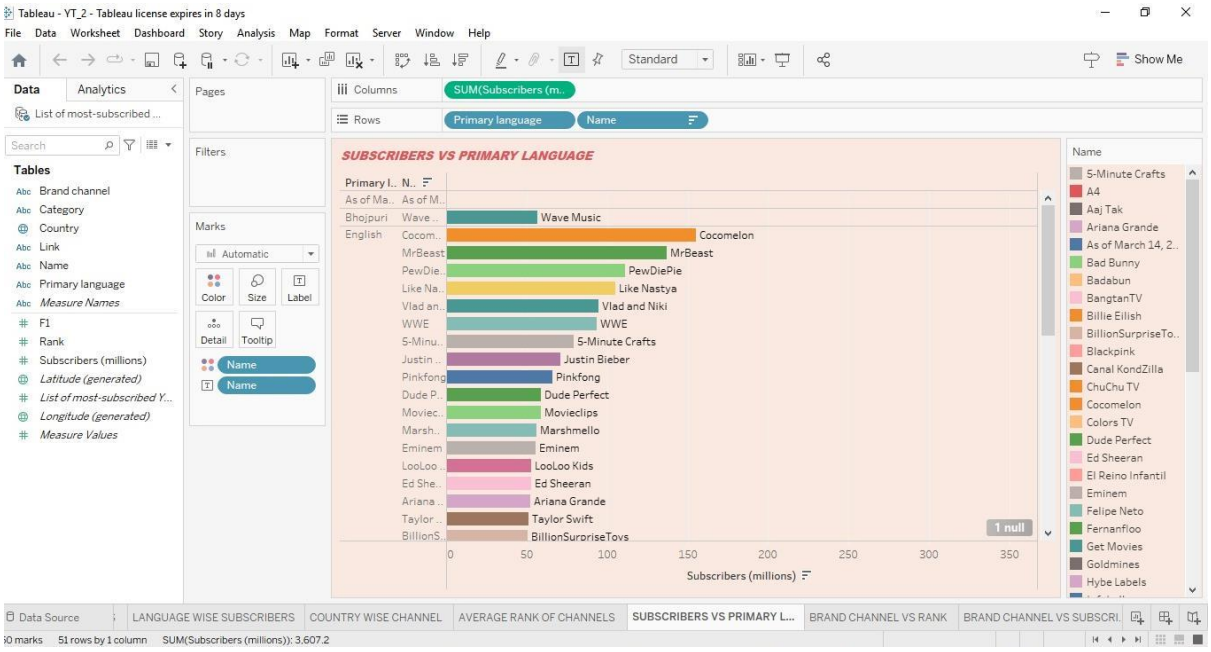
This visualization demonstrates map of the top most countries with top most channels with simply longitude and latitude in column and rows and, subscribers count in colours and details, country in label and detail, primary language in detail with channel name.

3.11 Worksheet_10_ Average rank of channels



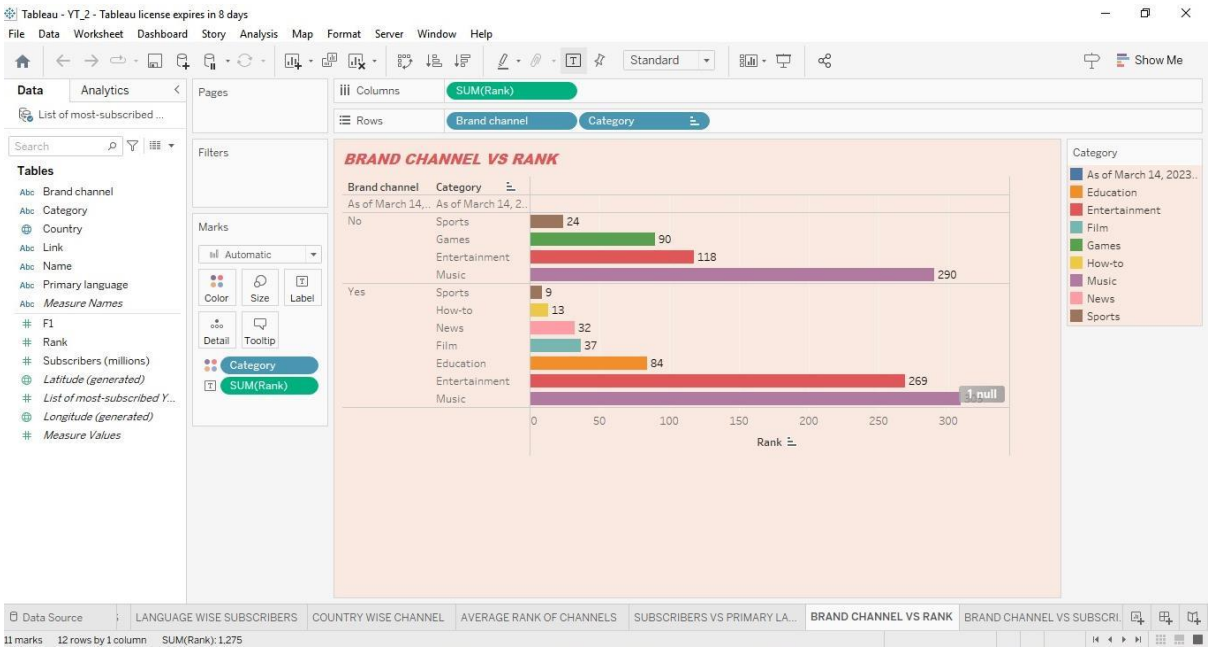
This visualization shows the average rank of top most YouTube channels with its country in columns and colours, name also in column, rank of channels in rows and label.

3.12 Worksheet_11_Subscribers vs Primary language



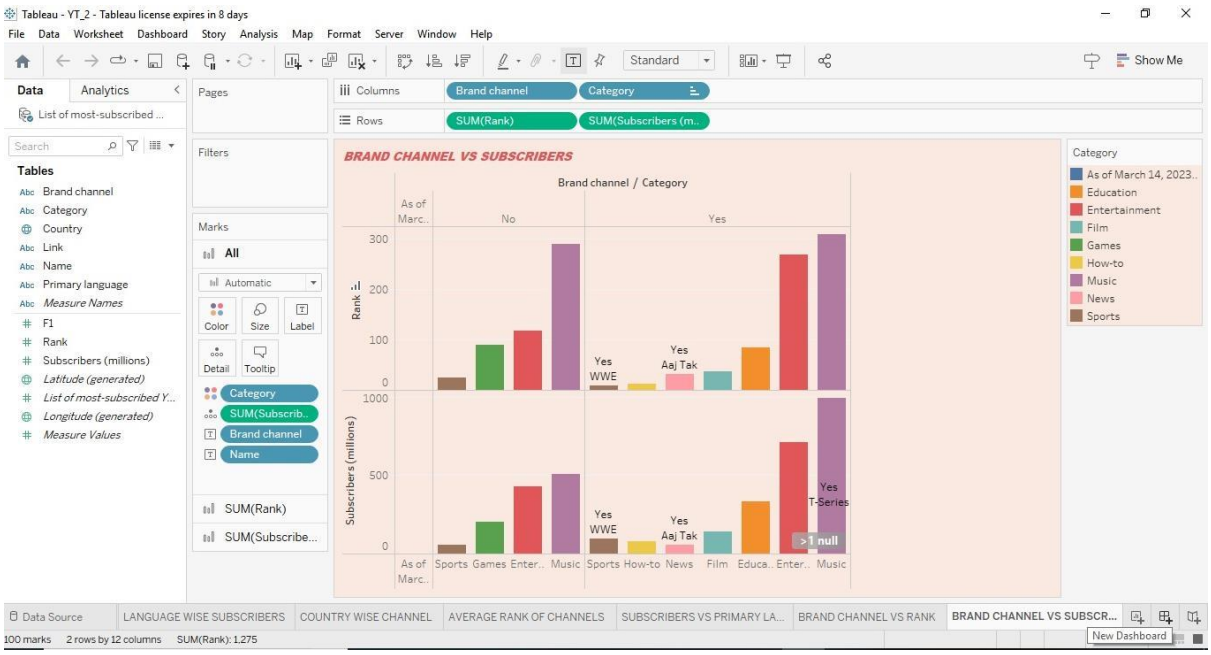
This visualization shows the Horizontal Bars of top most YouTube channels with subscribers vs primary language having, subscribers count in columns, name of channel in rows, colours, label with primary language in rows.

3.13 Worksheet_12_Brand channel vs rank



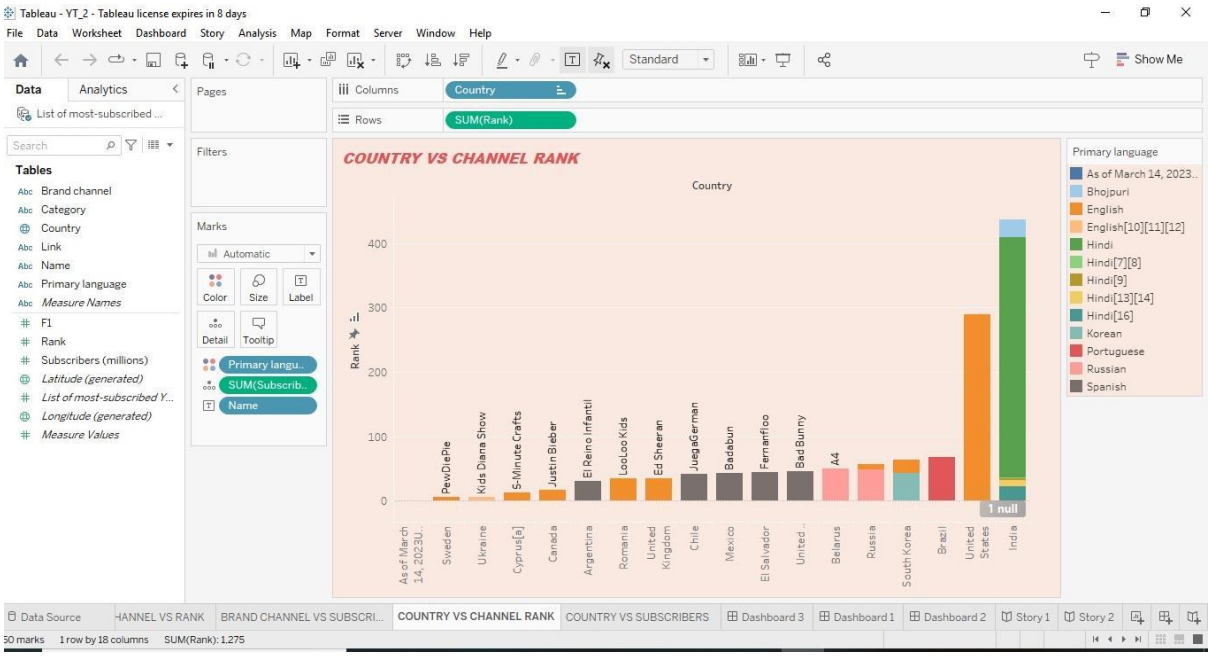
The above visualization shows the top most subscribed YouTube channels with its brand and rank, along with rank in columns and label, brand channel in rows, and category in rows and colours.

3.14 Worksheet_13_Brand channel vs Subscribers



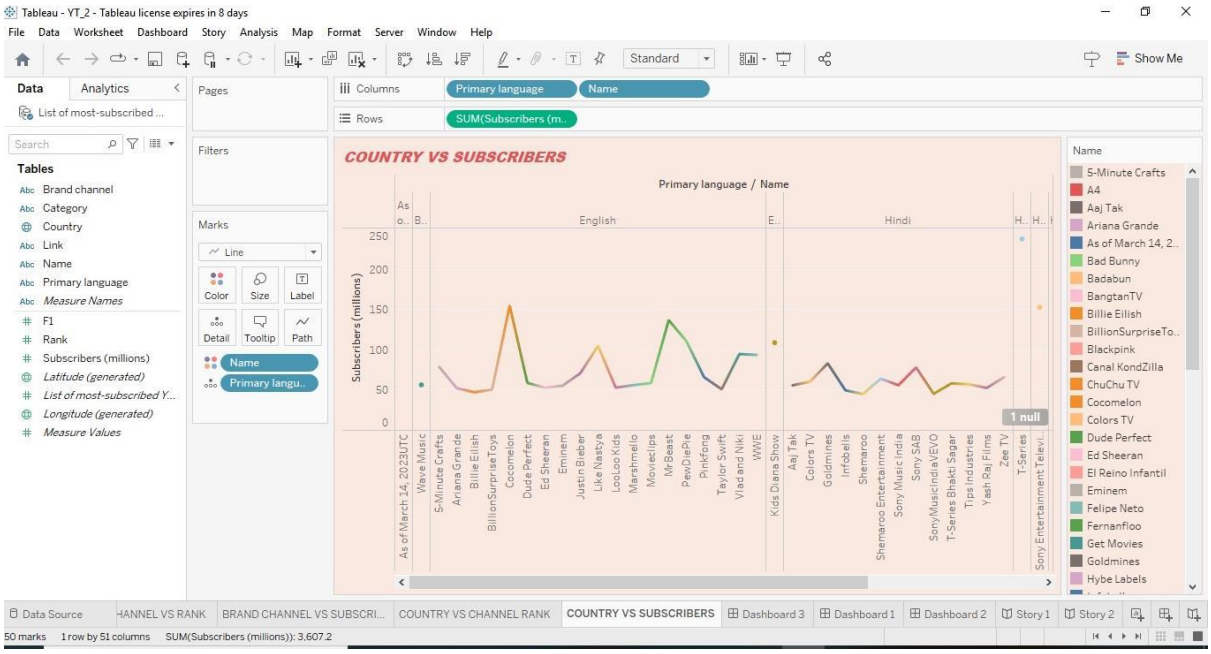
The above shown visualization clearly explains about the subscribers and rank of top most YouTube channels, along with its brand and category, with brand channel in columns and label, again category in columns and colours, rank of channel and subscribers in rows and details, channel name in label.

3.15 Worksheet_14_Country vs Channel Rank



This visualization shows the of top most subscribed YouTube channel rank based on country with country in columns, rank of channels in rows and label, subscribers count in details, channel name in label, primary language in colours.

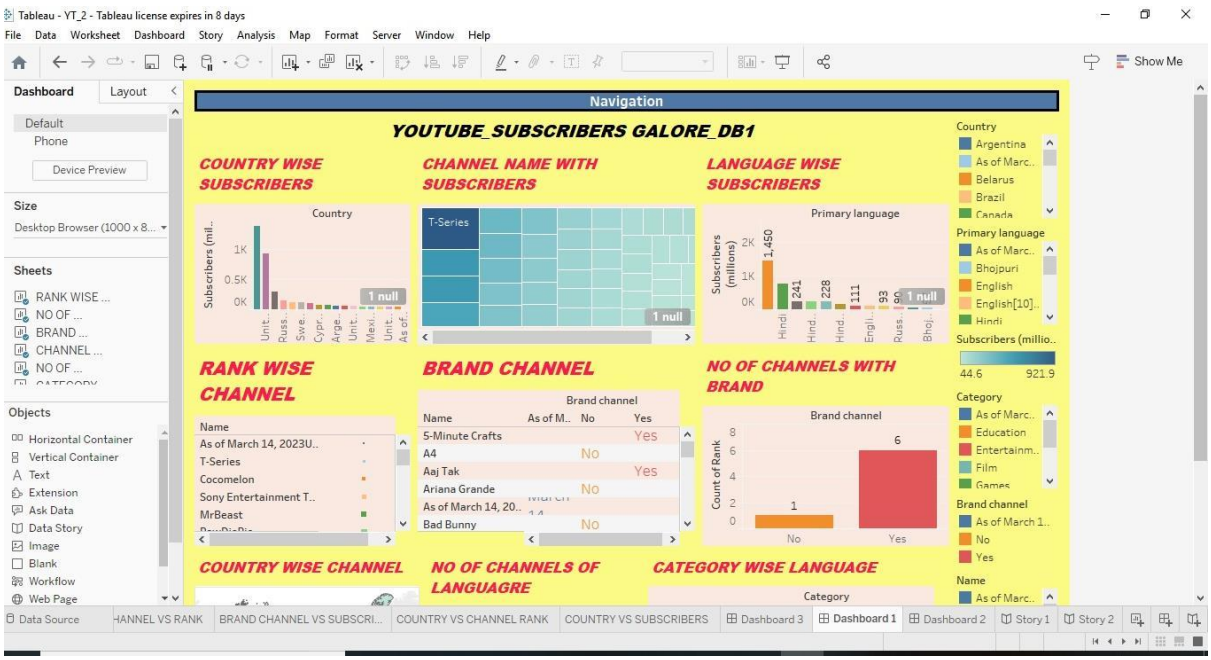
3.16 Worksheet_15_Country vs Subscribers



The above visualization demonstrates the subscribers count and country, with primary language in columns and detail, Channel name in columns and colour, subscribers count in rows.

3.17 Dashboard_1

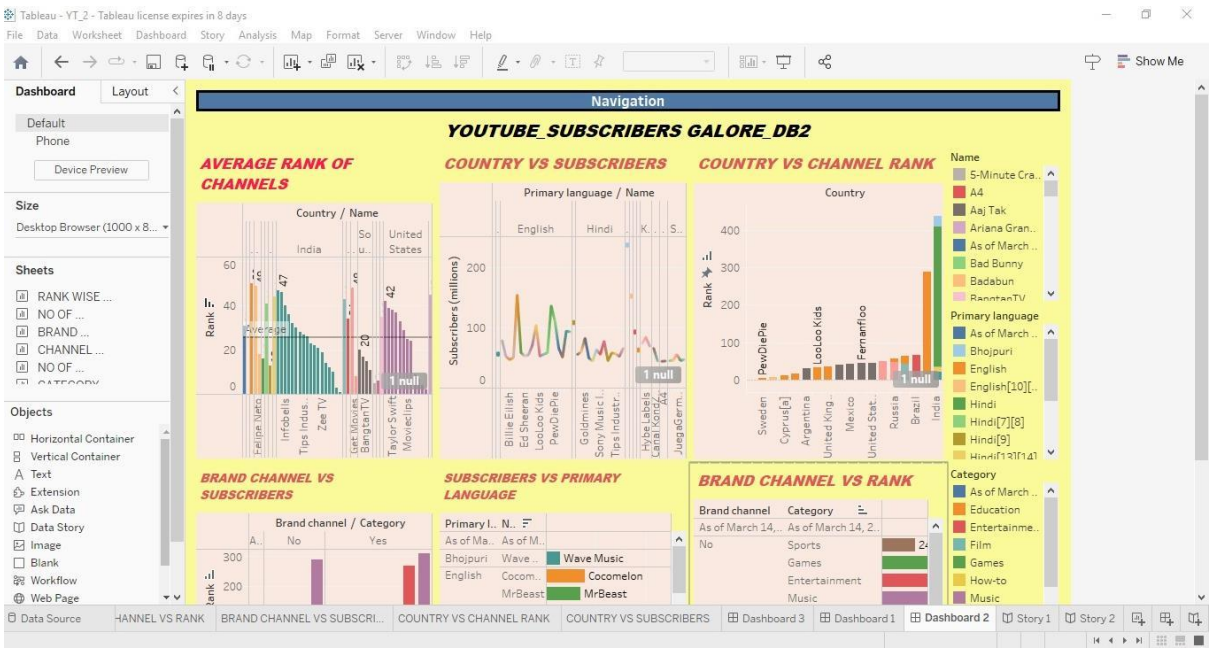
A dashboard is a collection of several views, letting us compare a variety of data simultaneously. For example, if we have a set of views that you review every day, we can create a dashboard that displays all the views at once, rather than navigate to separate worksheets [7].



The above figure explains about some of the worksheets we have done above in single view, namely Dashboard 1.

3.18 Dashboard_2

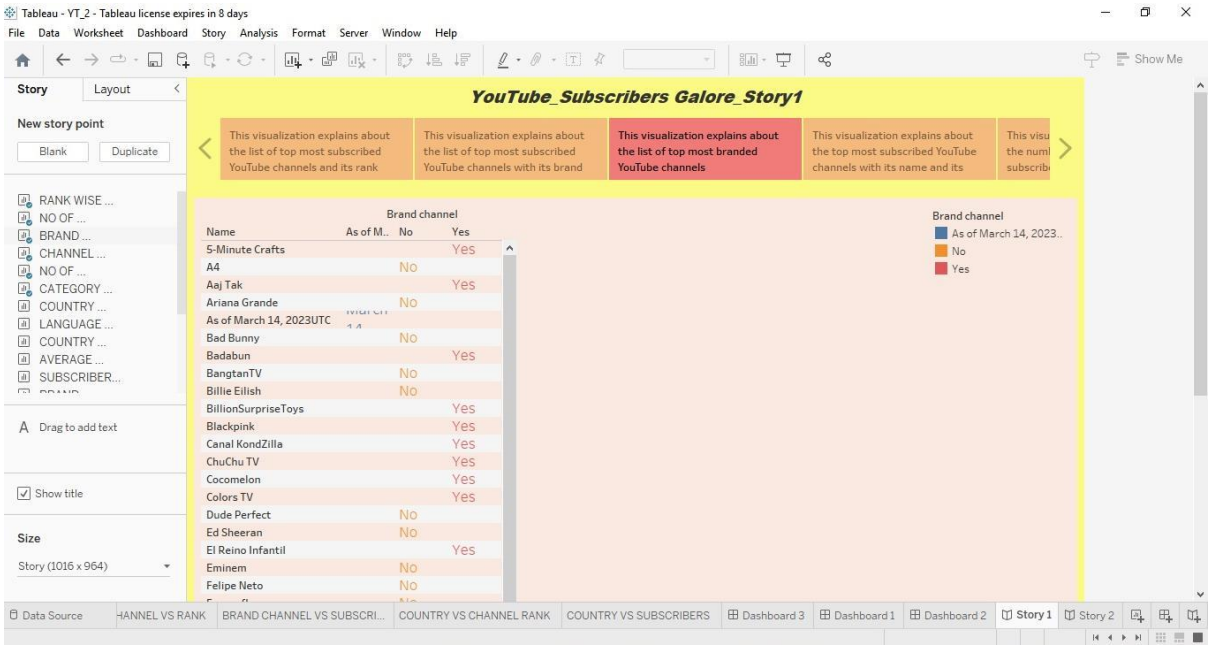
The following figure is another dashboard of the combined view of several remaining worksheets done before.



3.19 Story_1

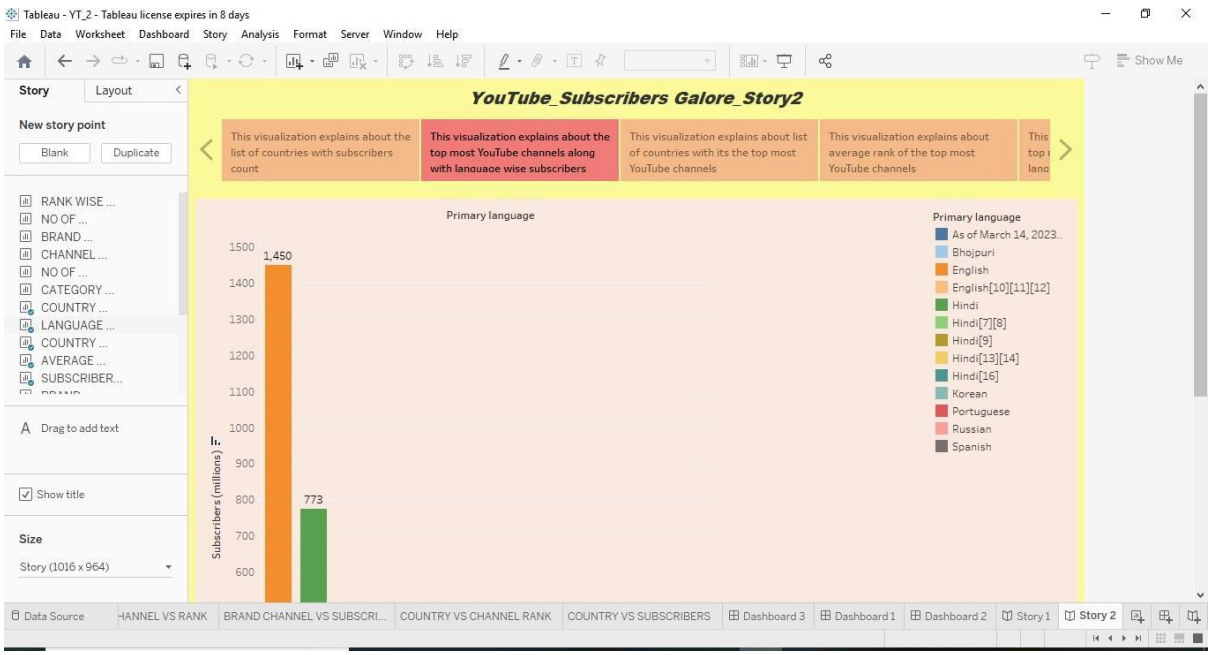
The Story menu used in Tableau Desktop to format the story or copy or export the current story point as an image. we can also clear the entire story here or show or hide the navigator and story title [8].

The following figure depicts the story of some of the worksheets.



3.20 Story_2

The following figure explains about the stories created with remaining worksheets.



4. ADVANTAGES AND DISADVANTAGES

For every project, we have gone through have several advantages and disadvantages. Here we have worked with Subscribers Galore: Exploring world's top YouTube Channels, based on subscribers count and find solution to several problems raised with YouTube media.

Here are some of the advantages and disadvantages of the proposed solution.

4.1 Advantages

The advantages of the proposed solution in solving the problems related to our project work are as follows:

(i) From the above solutions it is clear that YouTube is the most common easily accessible social media platform to gain more knowledge based on different categories.

(ii) Even though there are several languages used around the world, there are enough YouTube channels based on our language and we can easily understood the information.

(iii) From the bar charts and graphs we know whether the particular YouTube channel is Branded or not.

(iv) From the visualizations, we can get clear ideas about, which category holds the top most subscribers, so that we can also create our own content videos and publish on YouTube platform.

(v) Also we know that the primary languages in most of the YouTube channels is English with the help of the graphs and the average rank of top most channels in many countries.

4.2 Disadvantages

The advantages of the proposed solution in solving the problems related to our project work are as follows:

(i) Even though there are several data regarding top most YouTube channels in the world, based on subscribers, we are unable to know about the copyright issue, which is the most important thing to work with YouTube.

(ii) We know that, YouTube account can be disabled at any time for any reasons and we are unable to work with those kinds of worksheets as the details were not in datasets.

(iii) The main drawback of YouTube is unnecessary advertisements, which cause irritation to users; we can also work with type of data if available.

(iv) The proposed solutions may vary from user to user, if they change the dimensions and measures entered in columns and rows of worksheets.

5. APPLICATIONS

The solutions we have find for problems in YouTube can be used in many ways as follows.

(i) How to increase subscribers count based on the languages we used in YouTube channel.

(ii) How to improve the quality of YouTube content, so as to increase subscribers count.

(iii) How to increase subscribers count based on the category of videos, we used in YouTube channel.

(iv) How to increase the rank of our channel by giving useful content to people.

(v) As category plays important role in deciding the YouTube subscribers count, we have to carefully choose the category for our video before publishing it in social media platform.

(vi) YouTube channels can be branded and used for promotion of other products based on the category of content that channels used for increasing their subscribers count and watch timing.

(vii) We can view the average rank of any channel easily with the help of Tableau software.

(viii) We can easily rate the top most country in the world, based on subscribers count in YouTube channel, primary language preferred by the subscribers.

(ix) We have to choose the channel name wisely, differ from others to make our videos reach most of the people to increase subscribers count

(x) We can share videos online and make it to reach many countries from anywhere in this great world, with the help of YouTube platform.

6. CONCLUSION

Finally, here we have come to the conclusion session of our project. Now its time for summarising all our work.

We have chosen the project work titled, **"Subscribers Galore: Exploring world's top YouTube Channels".**

To complete this project work, we have completed all the activities listed below with the help of Empathy Map using Mural App, Brainstorm Ideation, and Tableau software provided by the Smart Internz platform.

- We have understood the problems related to our project and Define the Problem.
  - First of all, we specify the problems facing by YouTube content creators using Empathy map with the help of Mural App.
  - Then, we identify the business requirements to solve those problems by creating Brainstorm ideation.
  - Then, we have done complete Literature Survey regarding YouTube Subscribers.

● Now we have to collect Data related to our project work & Extract it.

- We have collected the datasets for our project work from the link provided by the Smart Internz platform.
- Then, we connect our collected datasets with Tableau software.
- Now, we have to prepare our Data for further processing in Tableau.
- We create Visualizations with the collected datasets, by working on Tableau worksheets for easily understanding the problem.
- We can create many more number of Unique Visualizations as we want to get better understanding of the specified problem with Tableau software.

● After working with Worksheets separately, we have to combine all the worksheets and form a Dashboard.

- We have designed 2 Dashboard for the entire view of our project work.

● Then, we can have create a Story based on the visualizations we have create, by making each worksheet as a scene in the story.

- We have created 2 stories describing our project work with multiple scenes.

● Then we have Perform Testing our project, utilization of Data Filters and the number of graphs used in Tableau.

● Finally, we have to Publish our Dashboard & Story for YouTube Project work, to Tableau Public.

7. FUTURE SCOPE

With the provided datasets for our project work, titled, "Subscribers Galore: Exploring world's top YouTube channels", and short period of time, we have worked with Tableau and get more ideas about many projects.

In future, we will collect datasets our own, and work with Tableau, Artificial Intelligence(AI), Business Intelligence(BI), and other technical software and will find the solutions to many problems. In future, we will work with Tableau software after getting one year licence, and will be able to get mastered in solving problems graphically.

8. Appendix

Here are the links to connect with our Tableau Public account for our Dashboard and Stories.

1. **Dashboard_1**
   https://public.tableau.com/views/YouTube_Subscribers_DB1/Dashboard1?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link

2. **Dashboard_2**
   https://public.tableau.com/views/YouTube_Subscribers_DB2/Dashboard2?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link

3. **Story_1**
   https://public.tableau.com/views/YouTube_Subscribers_Story1/Story1?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link

4. **Story_2**
   https://public.tableau.com/views/YouTube_Subscribers_Story2/Story2?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link

References

1. **https://en.wikipedia.org/wiki/YouTube**
2. **https://www.mcgill.ca/engineeringdesign/step-step-design-process/design-phases-mechanical-engineering/problem-definition**
3. **https://www.interaction-design.org/literature/topics/design-thinking#:~:text=Design%20thinking%20is%20a%20methodology,ways%2C%20create%20numerous%20ideas%20in**
4. **https://www.nngroup.com/articles/empathy-mapping/**
5. **https://corporatefinanceinstitute.com/resources/management/ideation/**
6. **https://help.tableau.com/current/pro/desktop/en-us/environ_workbooksandsheets.htm#:~:text=A%20worksheet%20is%20where%20you,work%20together%20to%20convey%20information.**
7. **https://help.tableau.com/current/pro/desktop/en-us/dashboards.htm#:~:text=A%20dashboard%20is%20a%20collection,than%20navigate%20to%20separate%20worksheets.**
8. **https://help.tableau.com/current/pro/desktop/en-us/story_workspace.htm#:~:text=The%20Story%20menu%3A%20Use%20this,mouse%2Dover%20the%20navigator%20area.**

PROJECT WORK DONE BY

1. K.R.LINGESHWARI - 1FDC48667AB468299244E2C827A053

2. S.VINITHA - 2AA789B03345ED4907D4F9F77CA1A8DD

Department of Physics,

P.K.N. Arts and Science College,

Tirumangalam.