CHARTING THE COURSE OF INNOVATION: A STARTUP ANALYSIS

Project based experimental learning program

CHARTING THE COURSE OF INNOVATION: A STARTUP ANALYSIS

Milestone 1: Define problem /Problem understanding:

Activity 1: Specify the business problem

Starting a new company can be an exciting and rewarding experience, but it also requires careful planning and analysis to ensure that the business is viable and successful. There are several key areas that you should focus on when conducting a startup company analysis. Conducting a thorough analysis of these areas can help you identify potential challenges and opportunities, and develop strategies to address them. It is also important to regularly review and update your analysis as the business progresses, in order to adapt to changing market conditions.

Activity 2: Business requirements

The business requirements for analyzing the performance and efficiency of startups in India include identifying KPIs, comparing performance across different industries and states, identifying patterns and trends over time, identifying affecting factors, creating interactive dashboards and reports, identifying areas for improvement, making data-driven decisions, comparing to the industry average and creating forecasting models for future performance. The ultimate goal is to gain insights and improve performance through data visualization techniques.

Activity 3: Literature Survey

A literature survey is a method of researching existing literature and studies related to a specific topic. In the context of analyzing the performance and efficiency of startups in India, a literature survey would involve reviewing studies and articles that have been published on the topic of hotel performance and efficiency, as well as studies specific to startups approved by the Indian government. The literature survey would include sources such as academic journals, industry reports, and online articles. It would aim to identify key performance indicators (KPIs) and

metrics that are commonly used to measure startup culture and its trend, as well as any best practices or strategies that have been identified for improving performance. The literature survey would also explore any existing research on startups in India of different domains specifically and would aim to identify any unique challenges or opportunities that the hotel chain faces in terms of performance and efficiency.

The Survey Articles:

INTRODUCTION

Startups can be seen as small organizations, which have bold and replicable business models, in the launching process or even with a short time of operation, where they have a high potential in terms of scalability and with a focus turned to the activities of research and development of innovative ideas (Crowne, 2002; Cohen; Feld, 2010; Cooper; Vlaskovits, 2010; Ries, 2012; Nager; Nelsen; Nourigat, 2013; Kollmann, Stöckmann, Hensellek, Kensbock, 2016; Spender ,Corvello,Grimaldi, Rippa, 2017; Rompho, 2018). The main contribution of the work is to Investigate through a systematic literature review potential theoretical gaps, based on publications in scientific journals contained in the Web of Science (WoS) and Scopus databases on the theme “startup”, describing some characteristics (typology) from the textual corpus evaluated. The originality of this research lies in the fact that empirical evidence containing typologies was not found in systematic literature review articles on this topic, plus suggestions for future research in the aforementioned journal bases. In this sense, the work is justified, because when finding typologies in this regard, it can help managers and researchers to better direct their research and, consequently, find better answers to research questions.

When considering the importance of startups in emerging economies, the general objective of this research is to establish a systematic literature review for startups, based on the following research problem: “What is the state of the art of research on startups? From the previous research question, it unfolds in the following secondary question: What are the directions of future research on the investigated Startups? The Systematic Literature Review is important to point out theoretical gaps and, thus, to be able to suggest future research for the development of the theme about startups. The article is structured in five sections that can be summarized as follows: the first deals with the introductory part; the second concerns the theoretical framework talking about startups and their characteristics; the third brings the methodological procedures;

the fourth refers to the presentation and analysis of results and the fifth concerns future research considerations and directions.

LITERATURE REVIEW – CONCEPT AND CHARACTERISTICS OF *STARTUPS*

Startups refer to organizations that arise with high maneuverability in terms of adapting to changes in the market, as well as flexibility and dynamism supported by technological tools that have revolutionized business forms, product concepts and, mainly in the provision of these services (Kim, 2005; Spender *et al.*, 2017).

Startups are not just technology companies; but any companies in the process of being set up; (Hermanson, 2011; Longhi, 2011; Blank and Dorf, 2012; Perin 2016; Kohler, 2016). This type of entrepreneurship happens more in the area of technology because the costs are lower to create a software company than an industry. It is worth noting that there is a distinction between a small joint venture and a Startup for the authors Blank and Dorf (2012). They are not smaller versions of large companies. For these authors, a start-up company, which is not focused on product or service innovation and, therefore, dispensed with the risks of uncertainties, is not a startup.For Padrao and Andreassi (2013), startups aim at the growth in sales to have the return on investment applied in the product development phase, as it is the way these companies try to survive in their initial stages. The acceleration of technological change in adynamic organizational context emphasizes the need to develop innovative capacities. From the first to the fourth Industrial Revolution what is observed is that competitiveness depends less on the adoption of new technologies and more on the development and effective use of technology to create value (Schwab, 2017). Based on the concepts presented, it is possible to understand this type of enterprise as those with a short time in the market, present a business model of the rapid application, economic growth in a short period, development of products generated from the practice of innovation and, finally, investment targeting for Research, Development, and Innovation (RD&I). Finally, uncertainty and innovation are also characteristics inherent to the development of the smart industry, which draws attention to the proxLuciana Santos Costa Vieira da Silva • Fabíola Kaczam • Anderson de Barros Dantas • Josenilde Mario Janguia imity that startups have with enabling technologies, asigning them the role of precursors of the technological transition in Brazil, which leads to the concept of smart startups.The development of a Systematic

Literature Review - RSL, in general, is related to the conduct of research, directing new paths to be investigated; therefore, it requires pre-defined steps by the researcher, such as the definition of the research problem; the search strategy, the inclusion and exclusion criteria, in addition to checking the quality of the selected material (Oliveira, 2007; Sampaio; Mancini, 2007; Tranfield *et al.*, 2003).

THE PROCESS OF CONDUCTING SYSTEMATIC LITERATURE REVIEW - RSL

The systematic review seeks to answer the research question defined in the introduction of the work, where the process of developing this type of study requires the realization of a protocol covering three stages: (i) review planning; (ii) conducting the review; and (iii) carrying out the report and disclosing the results. Based on the identification of the terms and keywords previously created in the first stage in the discussions between the researchers, the subsequent steps must be detailed with the sequence used to guarantee replication. The choice of databases is justified, due to a large number of journals, in addition to the fact that several databases are indexed. The Scopus database provides an overview of the world's scientific productions, covering the areas of social, biological, health, and physical sciences, indexing the most varied academic titles, conferences, books, among others (ELSEVIER). The WoS database, on the other hand, is considered interdisciplinary, allows access to abstracts and references in all areas of knowledge, and covers around 12,000 journals (Coordination for the Improvement of Higher Education Personnel - CAPES).

DATA COLLECTION

For this study, the following keyword was defined as the search strategy: "Startup*", as it covers the research problem of this RSL. Regarding the choice of journal bases, two were used: Scopus and Web of Science (WoS) and the time period from 1990 to 2019 was stipulated, since it is from 1990 that the academy started to effectively study the topic of startups. Based on the research question, a comprehensive search string was created for the two Scopus and WoS databases, leading to the textual corpus of this RSL, as shown in Table 1. Due to the volume of articles found in the two bases of journals, a flowchart was created, as shown in Figure 1. This covers the selection criteria of the articles and is based on the recommendations of Almeida and Goulart (2017), supporting the authors this RSL regarding theoretical and

empirical evidence, as well as assisting in the decision-making process in order to minimize selection bias.

THE TEXT MINING ANALYSIS TECHNIQUE

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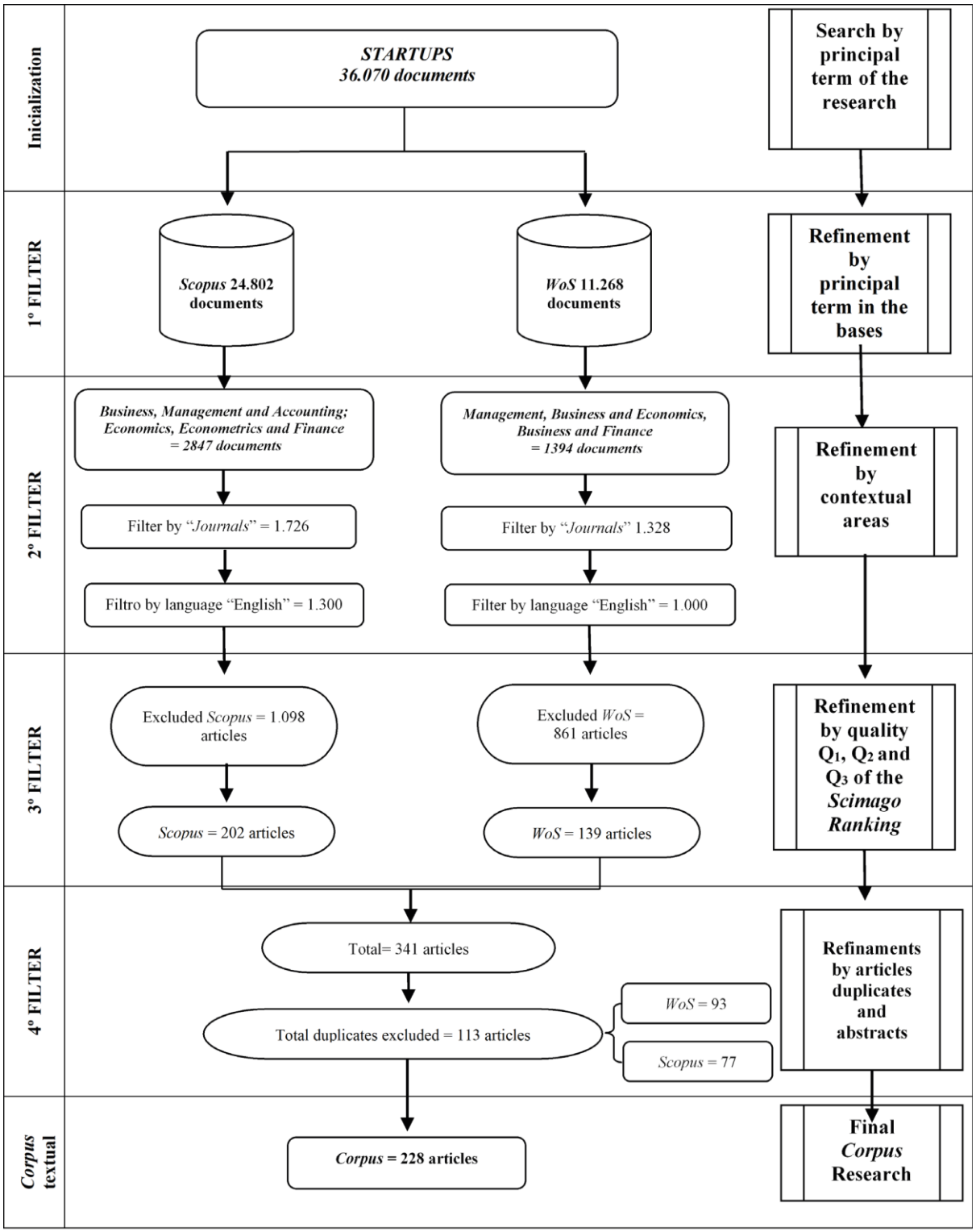


TEMPORAL AND GEOGRAPHIC DISTRIBUTION OF THE CORPUS

The articles in the corpus (228 articles) comprise 78 journals and approximately 496 authors and co-authors identified in the Web of Science and Scopus databases. In the period from 1990 to 2019, an average of 64.21 citations per article occurred over the years, which portrays an average of 0.46 documents per author, and a total of 2.18 authors per document. At the same time that the corpus has an annual growth rate of scientific production estimated at 15.05%. There is a significant increase in terms of the number of documents produced annually, with its peak from 2015, with approximately 48.43% of the production on this theme, which occurred between the years 2015 and 2019. At the same time that the number of citations received over time by articles had a decreasing trend. It was also noticed that approximately 90% of the articles in the corpus obtained at least 10 citations by the year 2009, while in the last decade (2010 to 2019) only 8.8% of the documents were cited, which can be evidenced as something natural if we consider that the time window for citing a scientific paper takes at least two years to occur, as advocated by Leydesdorff (2009) and Campanario (2015).
Regarding the geographical distribution of published articles, 313 authors and co-authors distributed in 45 countries were identified, who declared that they have their institutional ties in more than one country, as can be seen in Figure 2. Based on Figure 1, we can highlight the presence of the United States with 37.38% of the sample, followed by Germany with 8.31%, Italy with 6.71%, United Kingdom with 4.47%, Holland with 3, 51% and South Korea with 3.19%. These six countries have a total of 63.58% of the institutional bonds of authors and co-authors. The remaining thirty-nine countries, which represent 36.42% of the sample, have less than 8 authors and co-authors who represent less than 2.5% of the corpus that research this theme.

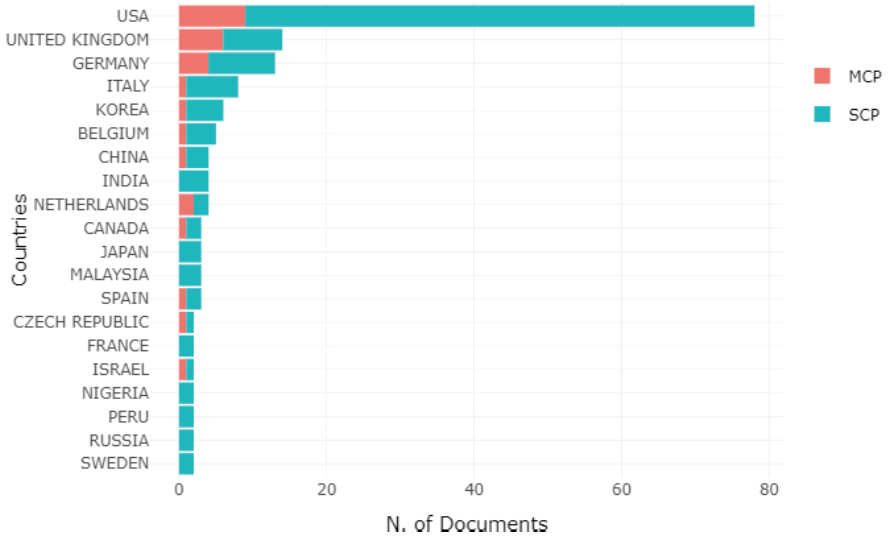
Starting from the perspective that scientifi c progress depends on the interaction or collaboration between scientists, we tried to understand how scientists behave, they report, organize, and how

they transmit information among themselves, (Kretschmer; Liming; Kundra, 2001). In this context, we use scientific collaboration as a proxy for co-authorship, seeking to identify the existing relationships between researchers and countries as an advantage of data from other authors. Figure 3 shows the behaviour of the scientific collaborations of the various researchers and their respective countries, based on the published documents on the theme explored.

Source: The authors (2020). Estimated by the RStudio package.

Th rough Figure 3, it is possible to notice that scientific collaborations were divided into two types: those articles that were published by authors from a single country (independent production) - identified by the acronym SCP (Single Country Publications) in blue; and productions with other countries (joint production) - identified by the acronym MCP (Multiple Country Publications) displayed in red. Note that the countries: United States (45.10%; 29.03%), United Kingdom (7.61%; 19.35%), Germany (7.07%; 12.90%), Italy (4.35%; 3.23%) and South Korea (3.26%) ; 3.23%) are those that, respectively, carry out the highest percentage of independent production and joint production of the entire corpus. Notably, in a group of five countries with low collaboration, they represent 64.05% of the authors of the countries evaluated. Another aspect to be noted refers to the fact that 25 countries do not have any type of scientific collaboration, which we can deduce that there is room for this theme to be further explored in scientific terms, especially if related to other transversal themes.

It is worth noting that the collaborative networks between research institutions are also relevant for the area of startups, given that the position of the authors and co-authors provide information about who they published with and also highlight the thematic proximity between



DIRECTIONS FOR FUTURE RESEARCH ON STARTUPS

Based on the steps proposed to carry out the Systematic Literature Review (RSL), as well as the results of previous analyzes, the content analysis of the primary studies was carried out to decipher some directions of future research, meeting the objective of this article. Figure 9 shows the 345 most frequent terms extracted from the abstracts of the analyzed corpus, categorized according to the objective of the study, the applied methodology and the results found, being constructed based on the word incidence matrix, in which the size of the terms it is proportional to its occurrence. **A –** *objective* **B –** *methodology* **C –** *results*
Figure 9 Most frequent terms extracted from the abstracts of the *corpus*
It can be seen in Figure 9, that when evaluating the objectives of the articles in the corpus, it is possible to show that the research has a focus on business aimed at startups, with 77 occurrences, which is natural because it is the focus of the research. Regarding the methodology, we noticed that the overwhelming majority of the works are quantitative, with a total of 138 occurrences, that is, 61.33% of the total analyzed works, while the qualitative studies correspond to 38.67%. Among the outstanding metrics, we have the analysis of multiple linear regression, binary or multinomial logistics, and structural equation technique, with a total of 98 articles (43.56%) of the published works. Concerning the results found, we noticed that they portray the terms that are in line with the central theme of the article, in addition to reporting some directions for the construction of future works. Although the present work presents a systematic review of the exhaustive literature to this field of research, some directions for the elaboration of future research are proposed based on the articles of the textual corpus: Investigate based on what Szerb and Voros (2019) report, which factors such as confirmation bias or the illusion of control (heuristics) play a role in entrepreneurs' exaggerated growth expectations or change over the business life cycle; Explore the potential of applying business models to promote user entrepreneurship and social entrepreneurship, or specific forms inhibited by limited competencies and entrepreneurial readiness or significantly influenced by relevant contextual factors, based on the perspective of Del Bosco, Chierici and Mazzucchelli (2019); Explore in longitudinal terms how the development

of new ventures can be affected by organizational factors, such as entrepreneurial cognitions and firm behaviors, as recommended by Sunny and Shu (2019); Carry out a longitudinal study, as mentioned by Sampedro, Fernandez-Laviada, and Crespo (2014), aiming to examine which variables can give rise to changes in entrepreneurial intention, in addition to replicating the study in different countries with economic, cultural and legal characteristic distinct which can affect the perception of advantages and disadvantages of entrepreneurship; examine the differences in the repercussions of knowledge about entrepreneurship (spillovers) in different sectors of economic activity, simultaneously investigating gender differences in entrepreneurship in various dimensions, as advocated by Goel and Saunoris (2017).

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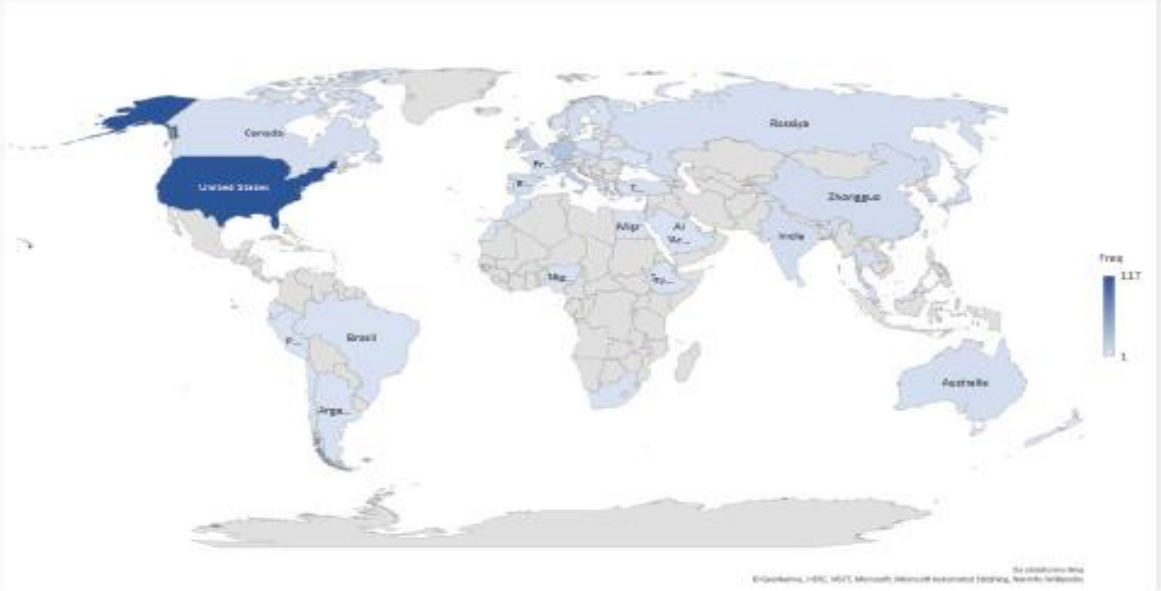
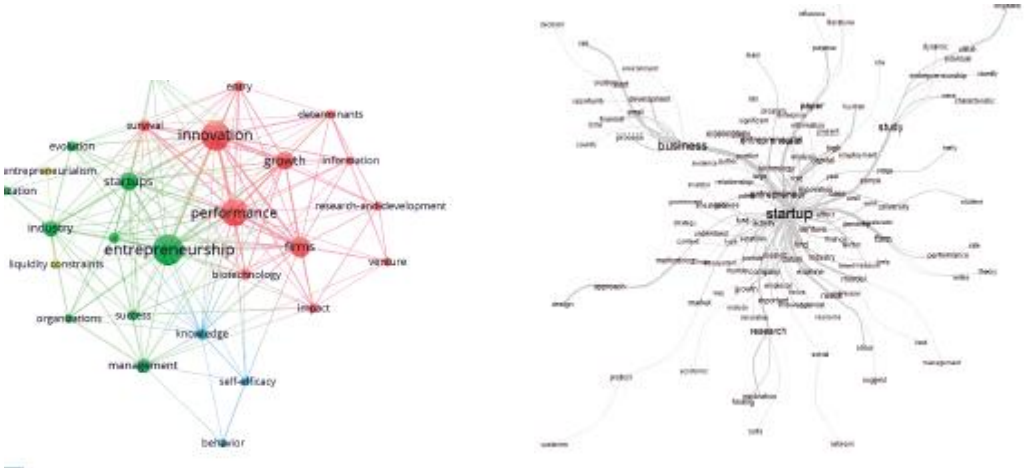
something natural if we consider that the time window for citing a scientific paper takes at least two years to occur, as advocated by Leydesdorff (2009) and Campanario (2015). Regarding the geographical distribution of published articles, 313 authors and co-authors distributed in 45 countries were identified, who declared that they have their institutional ties in more than one country, as can be seen in Figure 2. Based on Figure 1, we can highlight the presence of the United States with 37.38% of the sample, followed by Germany with 8.31%, Italy with 6.71%, United Kingdom with 4.47%, Holland with 3, 51% and South Korea with 3.19%. These six countries have a total of 63.58% of the institutional bonds of authors and co-authors. The remaining thirty-nine countries, which represent 36.42% of the sample, have less than 8 authors and co-authors who represent less than 2.5% of the corpus that research this theme.



ANALYSIS OF THE WORDS OF THE TEXTUAL CORPUS

The word cloud aims to organize in a graph the words that appear most frequently in the abstracts of articles in the corpus. Such words are grouped in a cloud that facilitates the understanding of lexical

content and demonstrates their representativeness in the sample, as mentioned by Ratinaud (2009) and Camargo and Justo (2013). The word cloud was built using the RStudio package, while similarity was estimated using the IRAMUTEQ program (Interface for R pour les Analyzes Multidimensionnelles de Textes et de Questionnaires), which is hosted by the software R (Ratinaud, 2009), as shown in Figure 6. **Figure 6** Word cloud of the textual corpus **Source:** The authors (2020). Estimated by the RStudio package. In Figure 6 we have the main words present in the abstracts of studies on Startups, considering only the active forms and the occurrence for the formation of the cloud. For Camargo and Justo (2013), the more centralized and the larger the size of the word, the greater the evocation by the subjects, in a similar way, the smaller and further away from the center it is, the less it is evoked. A total of 10,088 words were evidenced in the construction of the word cloud, which stands out: Startup with a frequency of 447 words that represent 4.43%, Business with 339 that represents 3.36% of the total words analyzed, Firm with 267 words, makin 2.65% of the total; Study with 216 words, with 2.14% of words, Entrepreneur with 195 words that represent 1.93%, Entrepreneurial with 179 representing about 1.77% of words, Research with 166 that represent 1.65% of words, and Paper with 155 that makes up 1.54% of the words evaluated.



CONCLUSIONS

This work had the objective of elaborating a Systematic Literature Review (RSL), from which the theme „Startup *” was mapped. The analyzes were performed based on the three classic laws of bibliometry

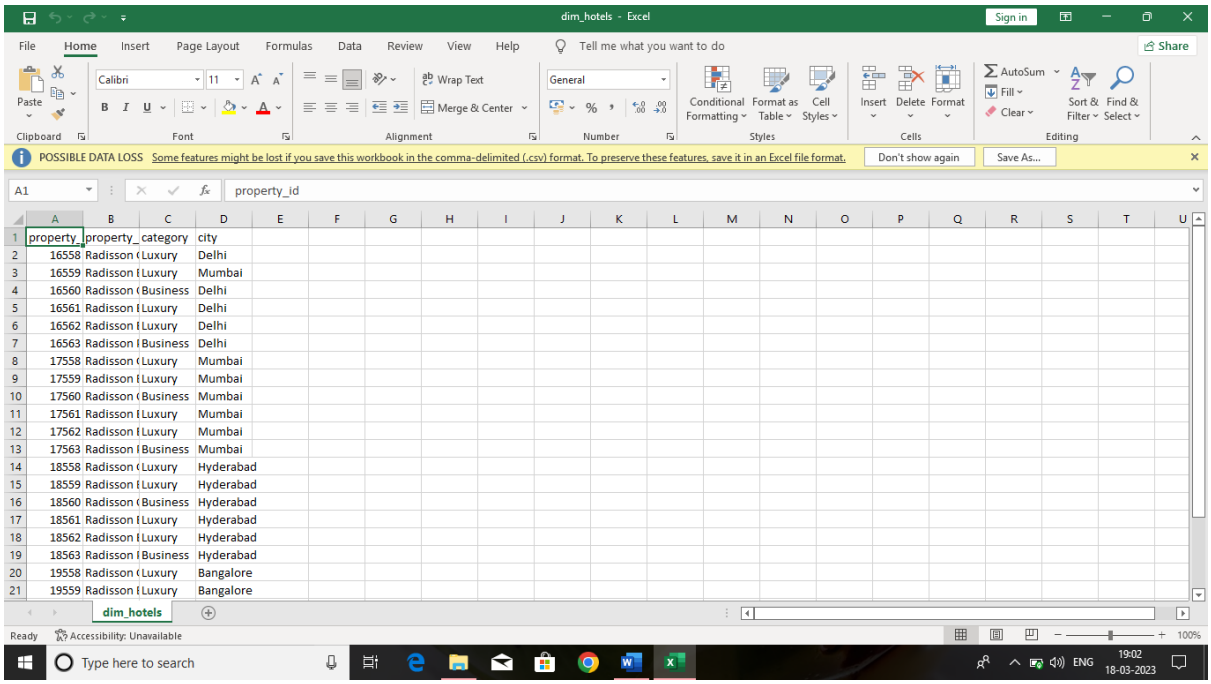
that measure the productivity of authors; it measures the productivity of journals and it measures the frequency of occurrence and co-occurrence of certain words in a text. The descriptive analysis of the research corpus revealed 228 articles, with a total of 313 authors and co-authors that were distributed in 25 countries, with a concentration in the United States (37.28%). The period of distribution of the articles comprises the years from 1990 to 2019, with emphasis on the year 2015, with 48.43% of the articles published. We also realized that the United States once again stands out with the exploration of this theme in terms of scientific collaboration, while 25 countries do not have any type of scientific collaboration, which we can deduce that there is room for this theme to be further explored in scientific terms, especially if we report to other transversal themes. When evaluating the validity of Lotka's authors' productivity law, it was perceived in the light of the collected data that 463 authors representing 93.35% of the total produced a scientific article, while 6.65% of the investigated authors produced more than one work. Regarding the distribution of production among the journals, the results confirm Bradford's Law, given that in the first zone (Z1), 4 highly productive journals were found; in the second zone (Z2) 17 journals were seen and in the third zone (Z3) 54 journals with lower productivity were found. We also noticed that 73.3% of the analyzed articles were located in the first two citation quartiles (Q1 and Q2) according to SJR (2019), which is configured as a representative sample of high qualification. Regarding the grouping of words, translated by the Zipf Law, this type of analysis aimed at mapping possible research themes related to the "startup" theme, which is comprehensive with wide possibilities of approach in the academic sphere. Other words that had a high occurrence were Innovation and Performance.

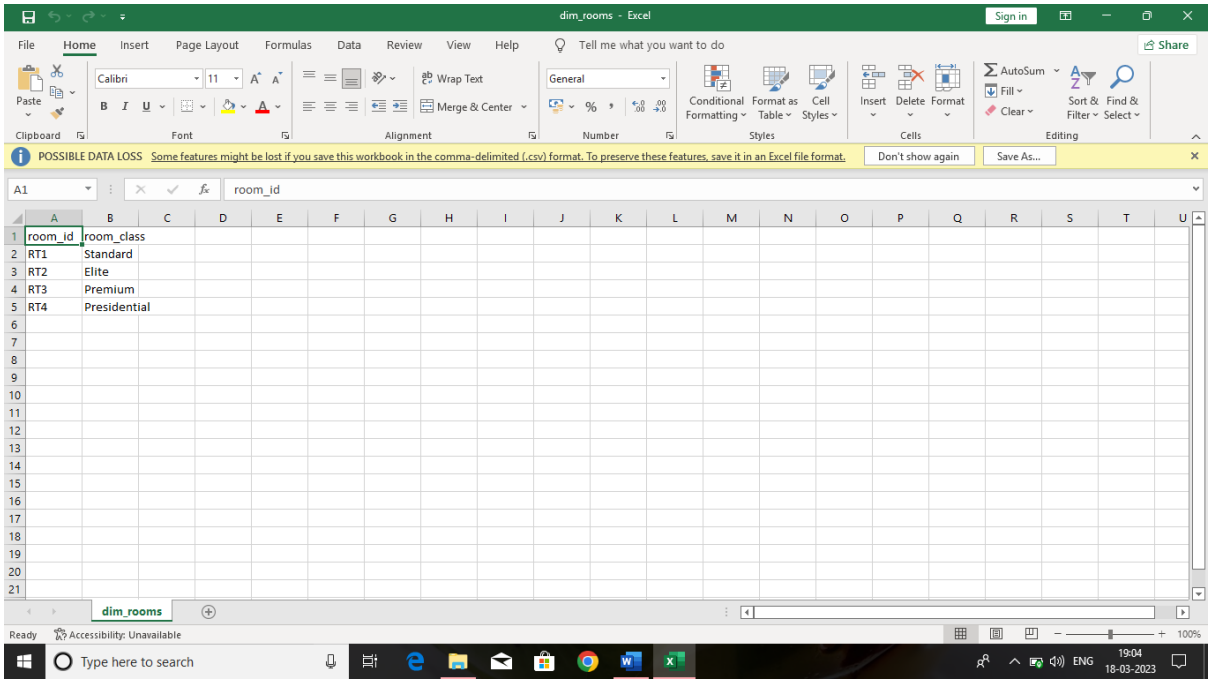
Milestone 2: Data Collection & Extraction from Database

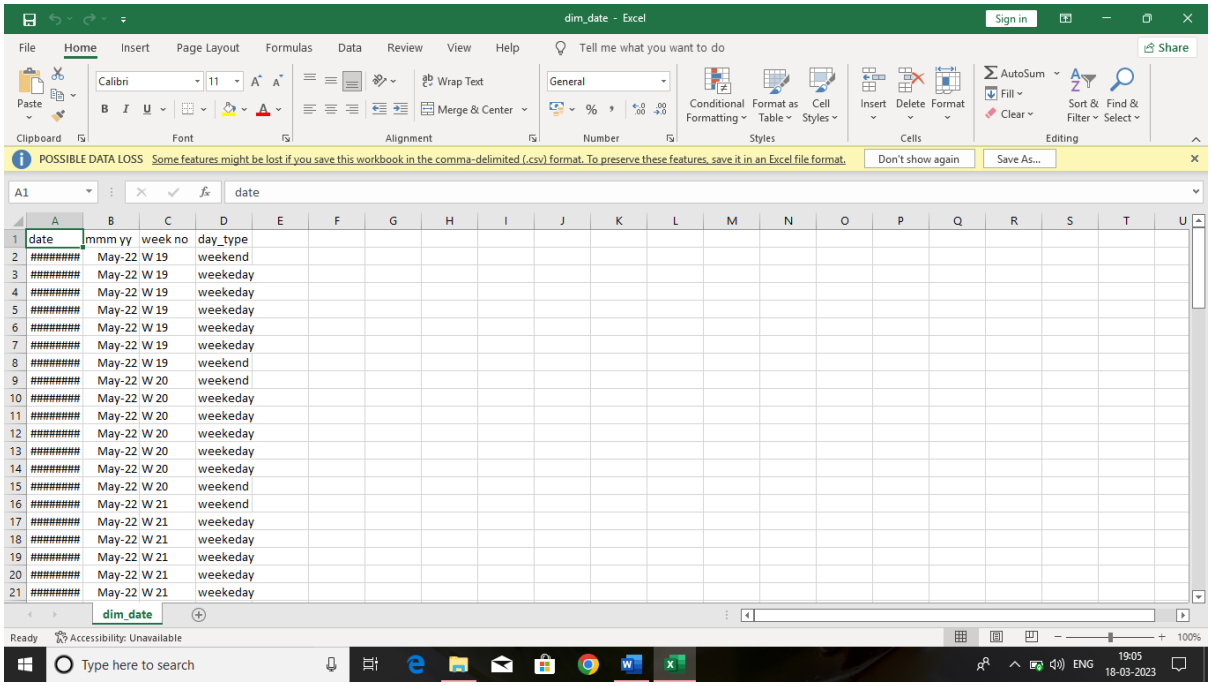
Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, evaluate outcomes and generate insights from the data.

Activity 1: Downloading the dataset

The data is collected from the given datasheet in the project manual.







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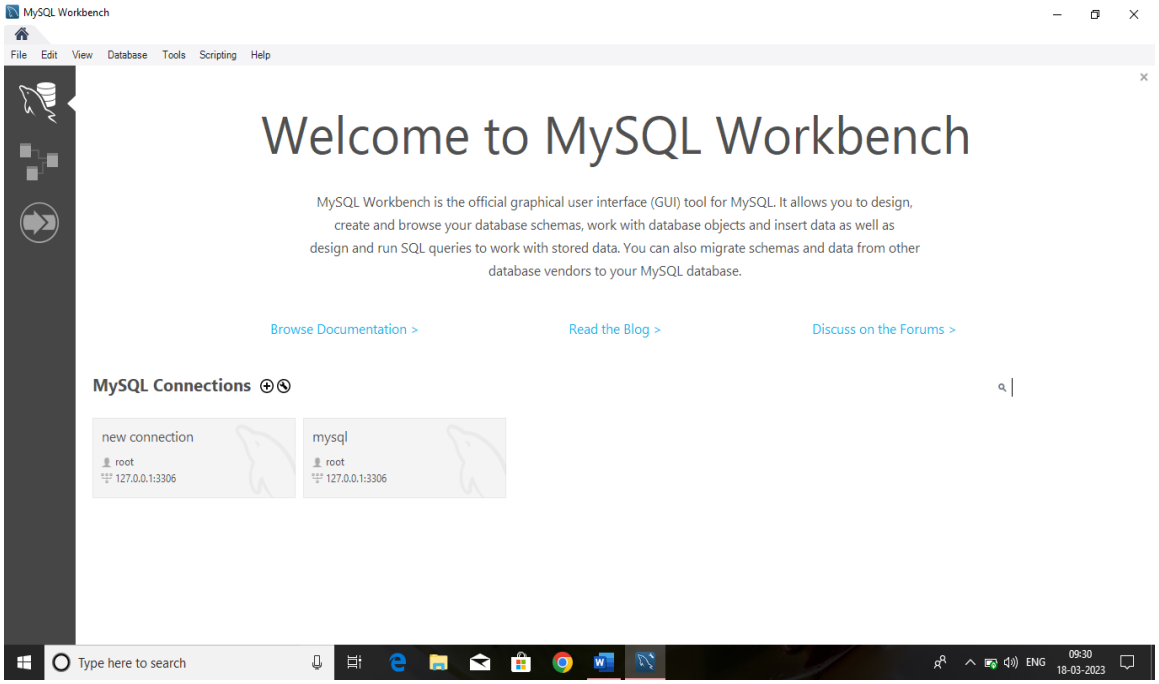
Activity 1.1: Understand the data

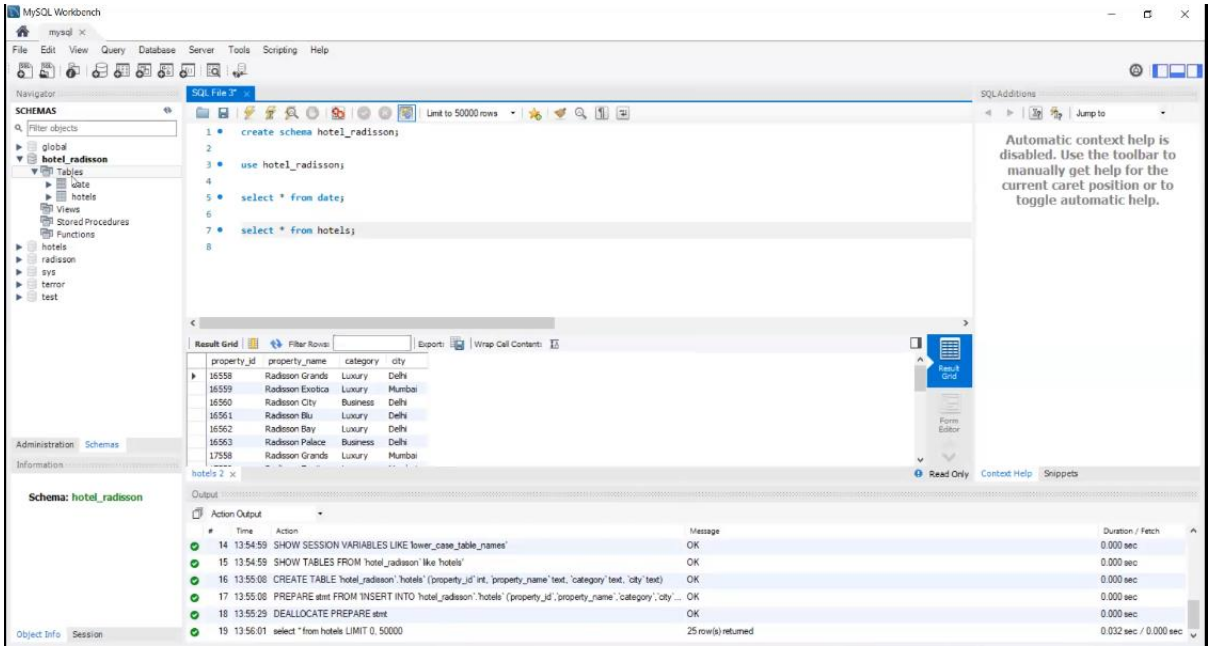
Data contains all the meta information regarding the columns described in the CSV files

Column Description of the Dataset:

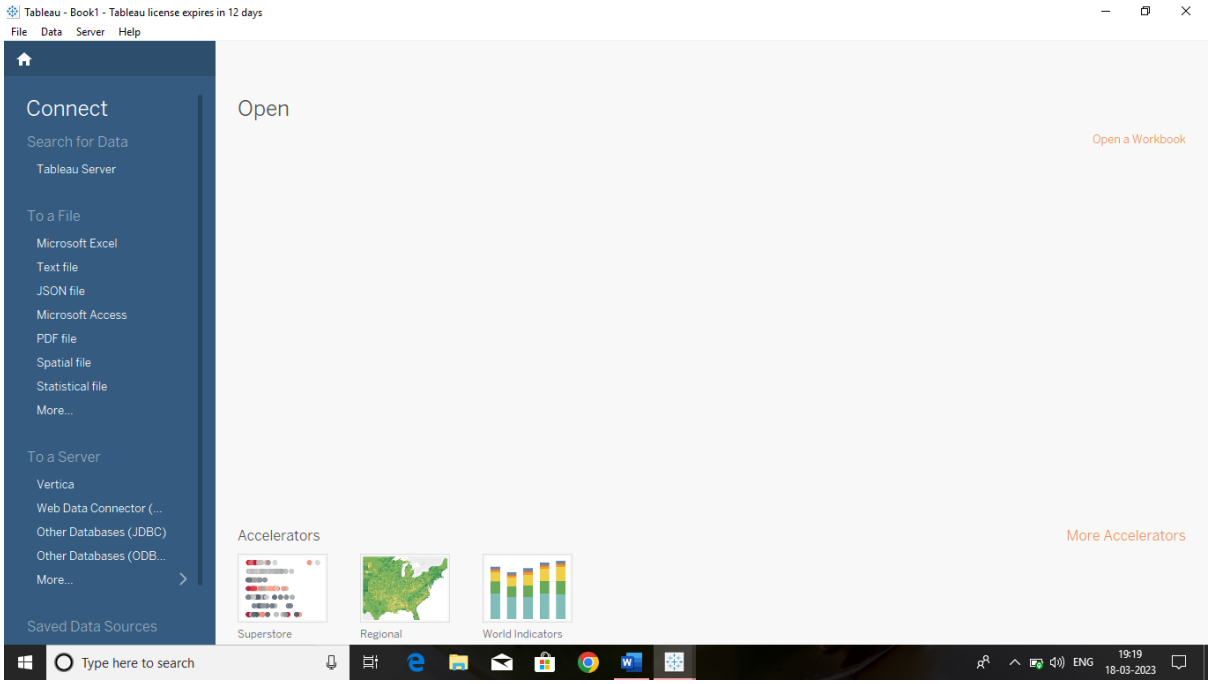
1. date: This column represents the dates present in May, June and July.
2. mmm yy: This column represents the date in the format of mmm yy (month name year).
3. week no: This column represents the unique week number for that particular date.
4. day_type: This column represents whether the given day is a Weekend or a Weekday.

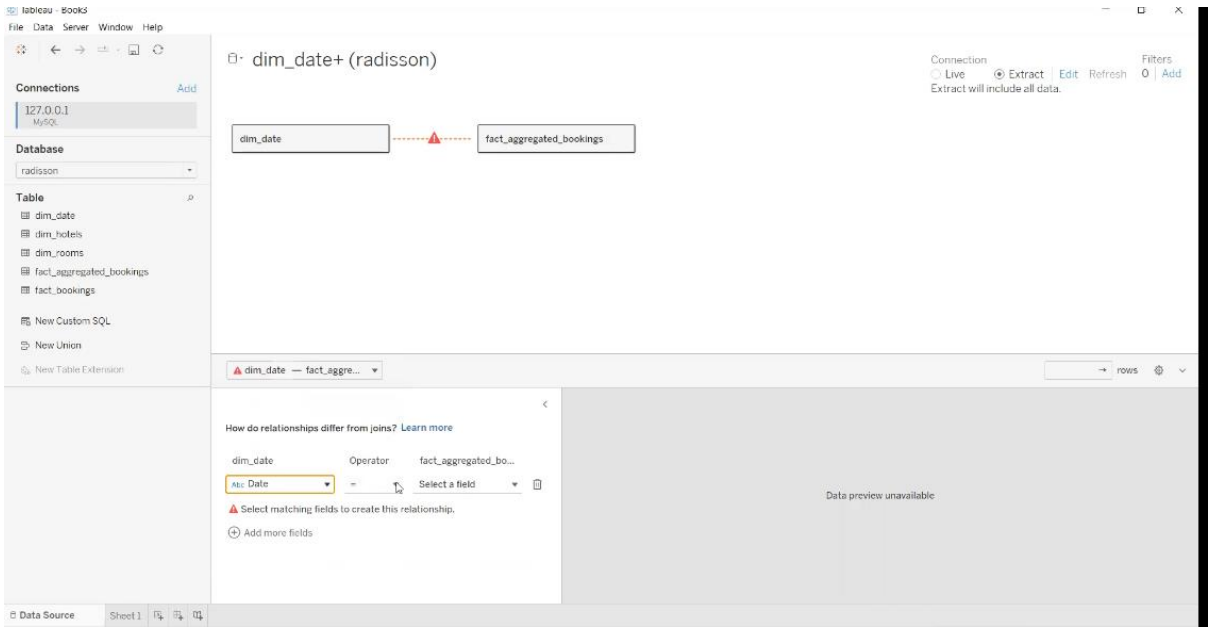
Activity 2: Storing Data in DB & Perform SQL Operations





Activity 3: Connect DB with Tableau





Milestone 3: Data Preparation

Activity 1: Prepare the Data for Visualization

Preparing the data for visualization involves cleaning the data to remove irrelevant or missing data, transforming the data into a format that can be easily visualized, exploring the data to identify patterns and trends,

filtering the data to focus on specific subsets of data, preparing the data for visualization software, and ensuring the data is accurate and complete. This process helps to make the data easily understandable and ready for creating visualizations to gain insights into the performance and efficiency.

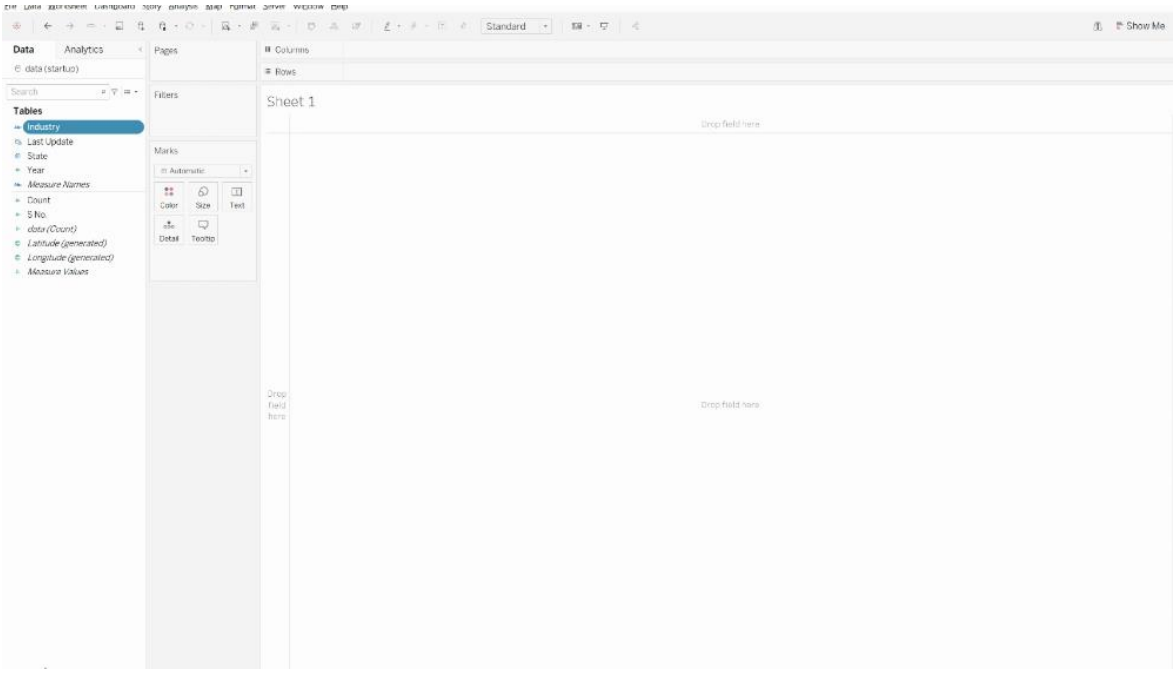
Milestone 4: Data Visualization

Data visualization is the process of creating graphical representations of data to help people understand and explore the information. The goal of data visualization is to make complex data sets more accessible, intuitive, and easier to interpret. By using visual elements such as charts, graphs, and maps, data visualizations can help people quickly identify patterns, trends, and outliers in the data.

Activity 1: No of Unique Visualizations

The number of unique visualizations that can be created with a given dataset. Some common types of visualizations that can be used to analyze the performance and efficiency of Radisson Hotels include bar charts, line charts, heat maps, scatter plots, pie charts,Maps etc. These visualizations can be used to compare performance, track changes breakdown of revenue and customer demographics, workload, resource allocation and location of hotels .

Activity 1.1: Number of Startups by Year



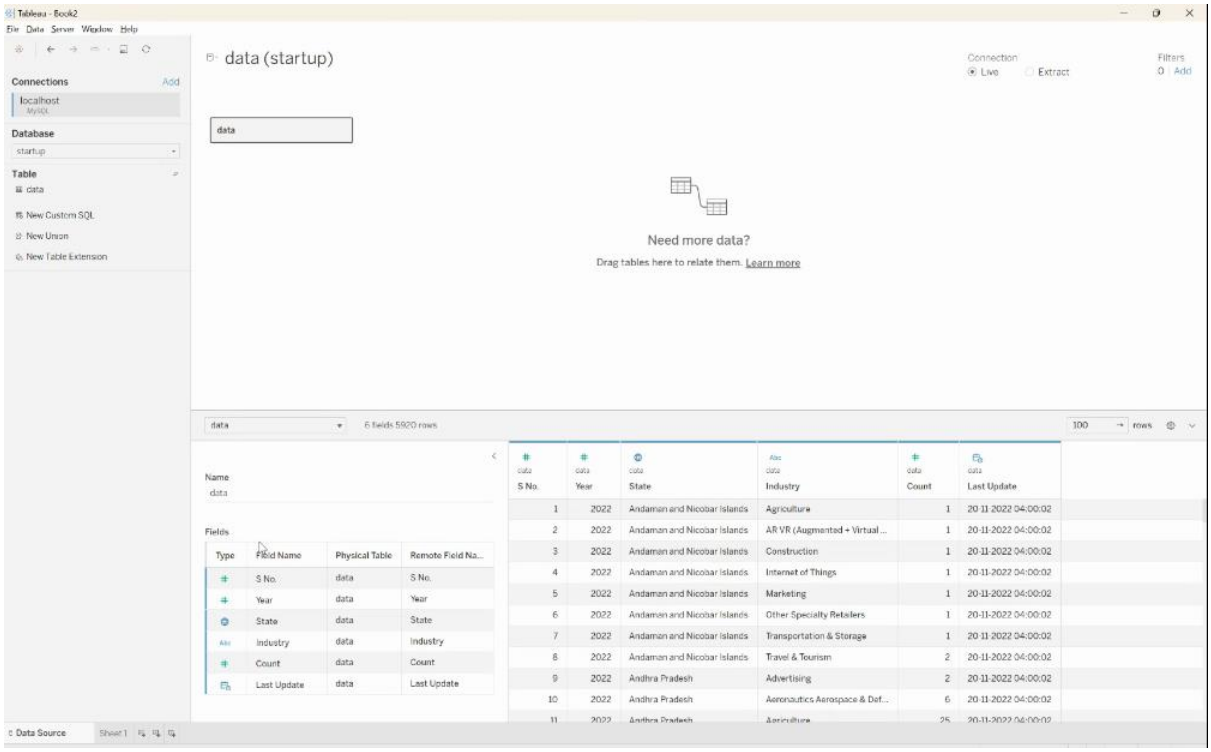


Tableau - Book2
File Data Server Window Help
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3 2022 Andaman and Nicobar Islands Construction 1 20-11-2022 04:00:02
4 2022 Andaman and Nicobar Islands Internet of Things 1 20-11-2022 04:00:02
5 2022 Andaman and Nicobar Islands Marketing 1 20-11-2022 04:00:02
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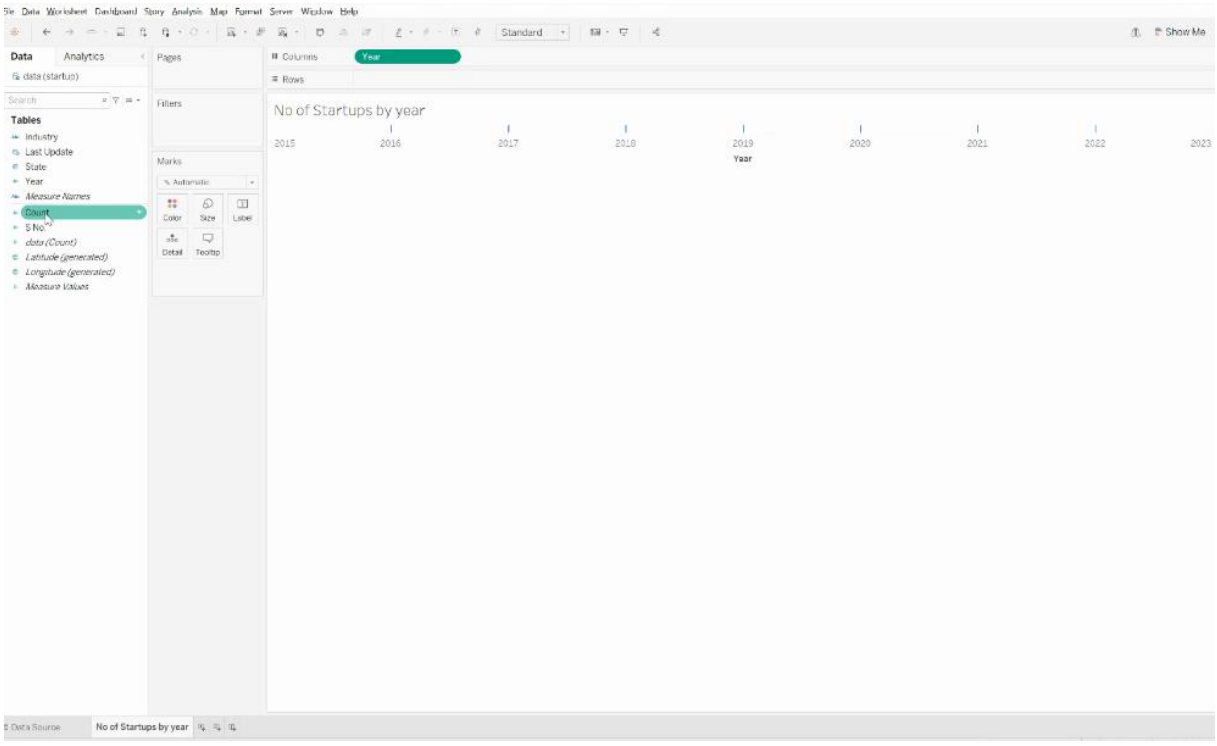
Data Source
Sheet 1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No of Startups by year
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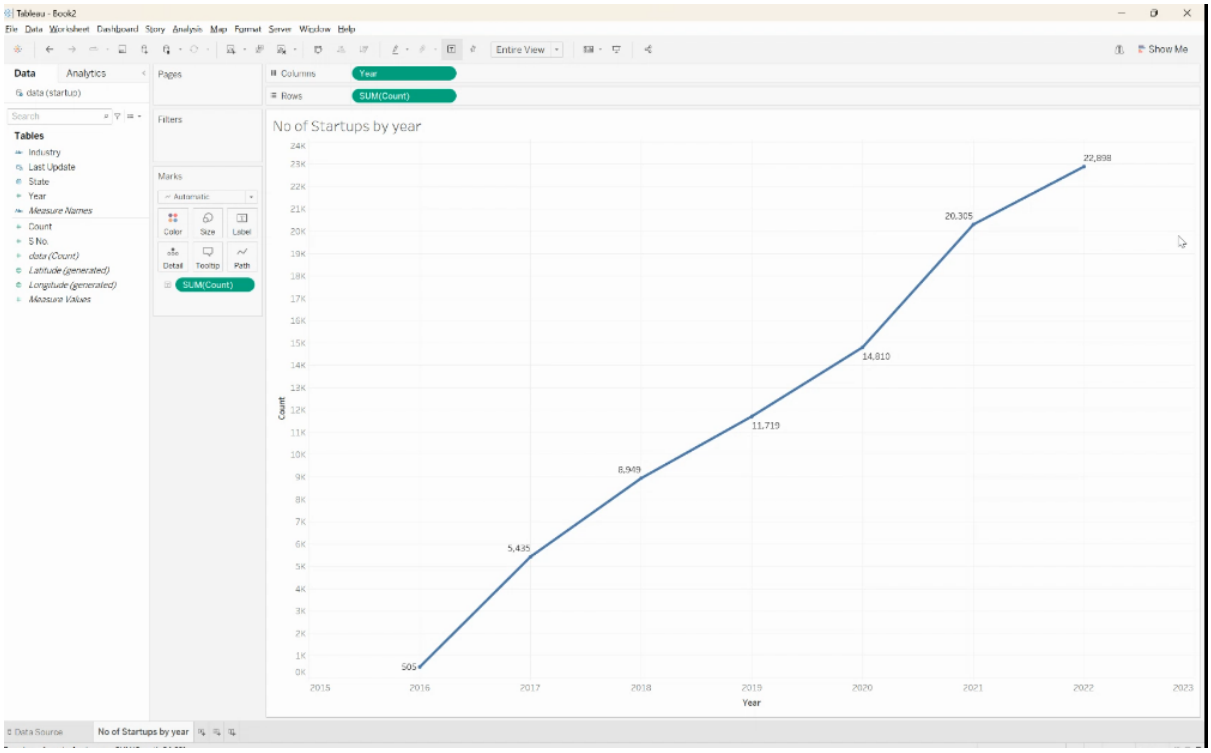
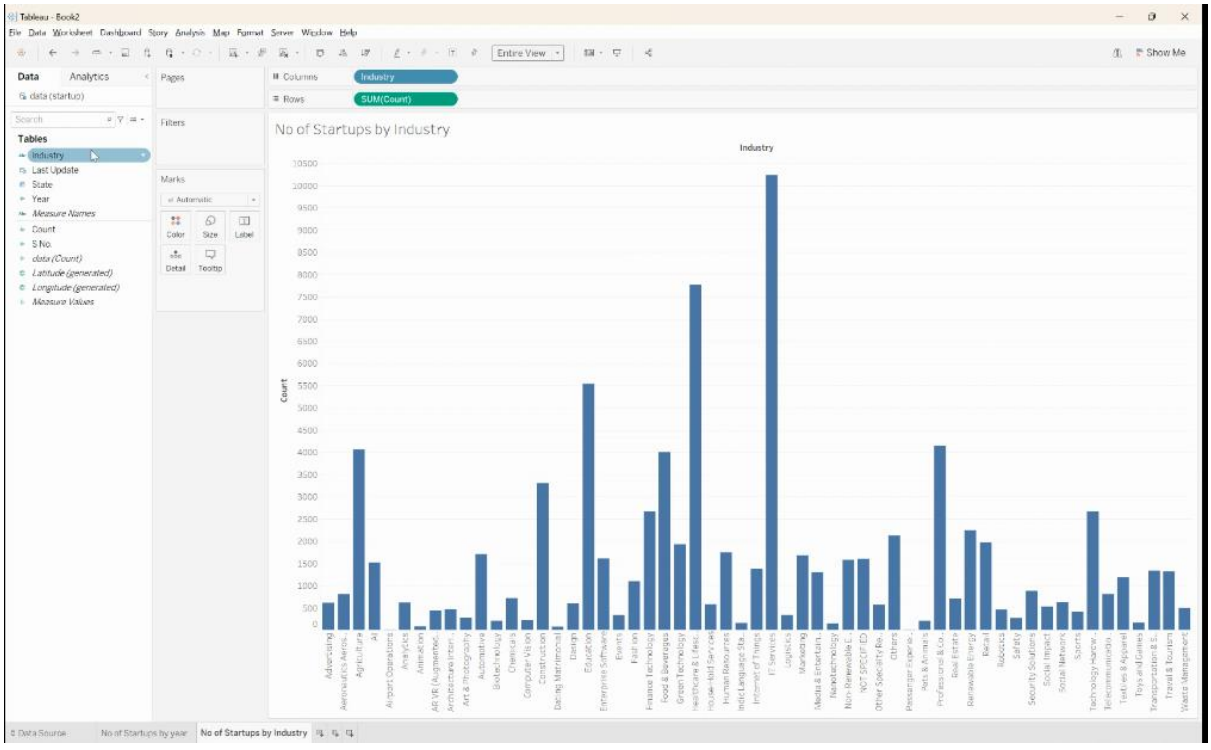
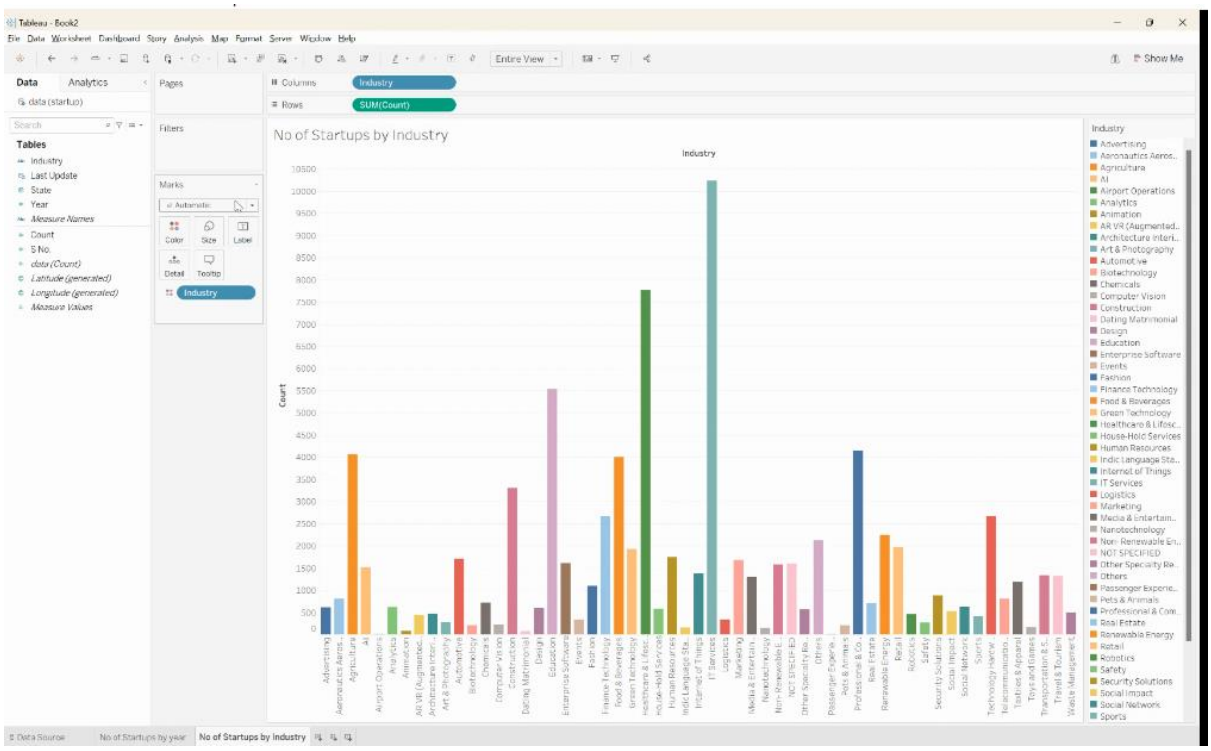
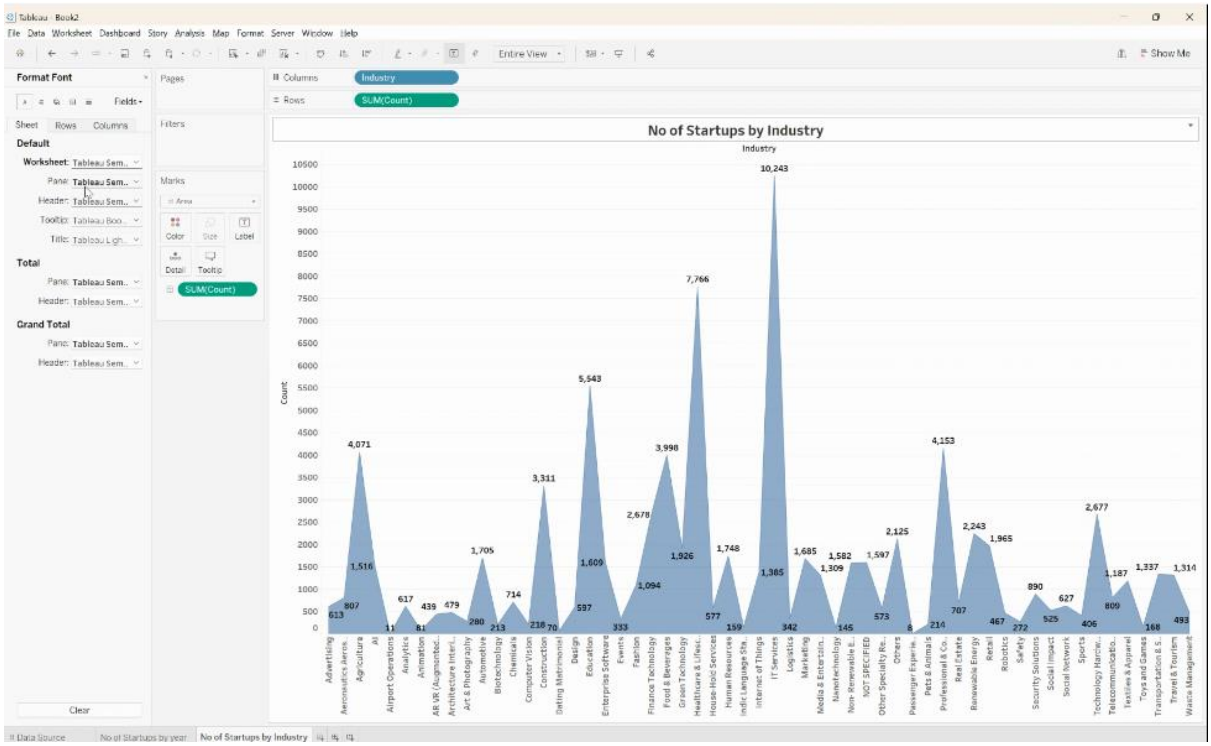
Data Source
No of Startups by year



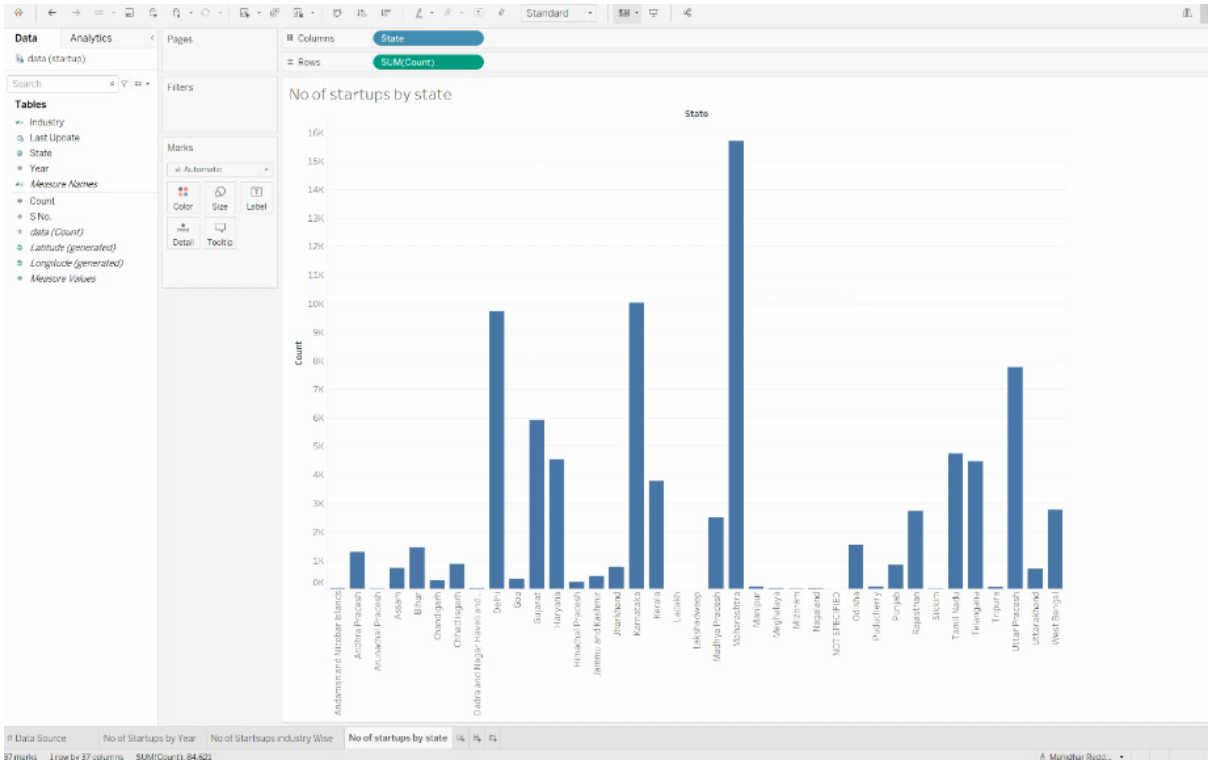
Activity 1.2: Number of Startups Industry Wise

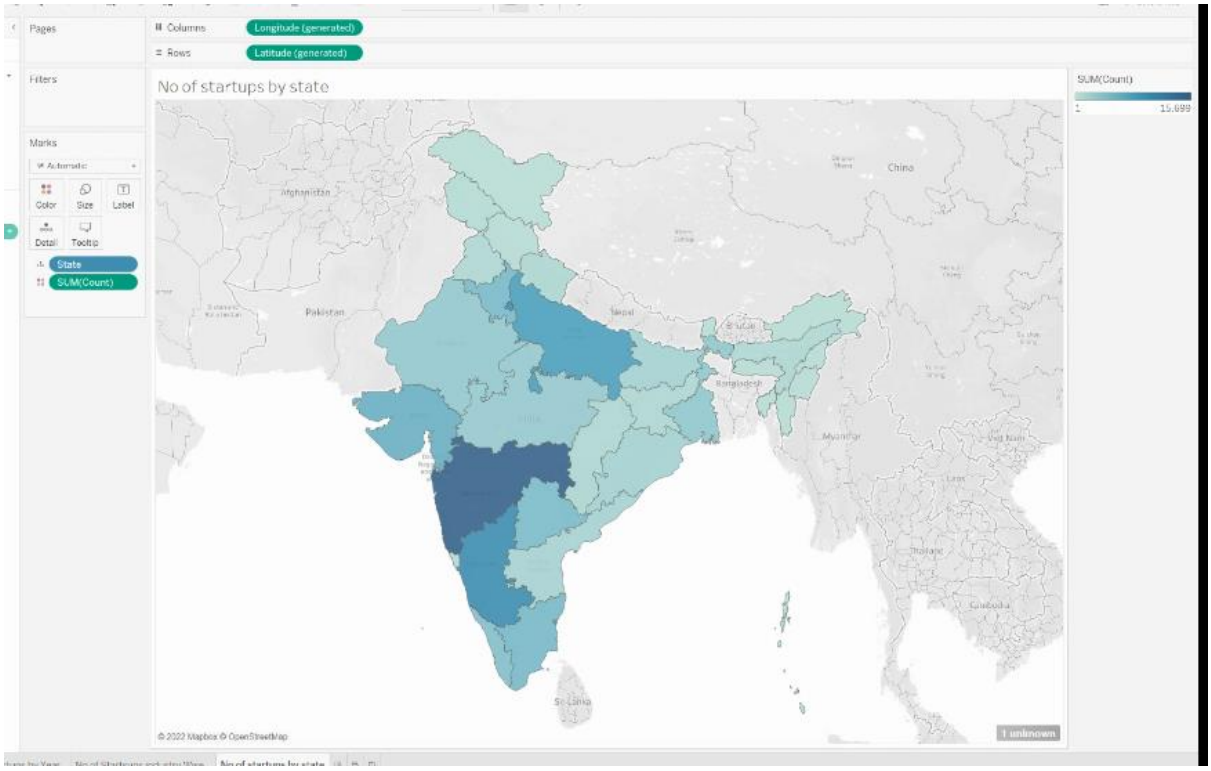


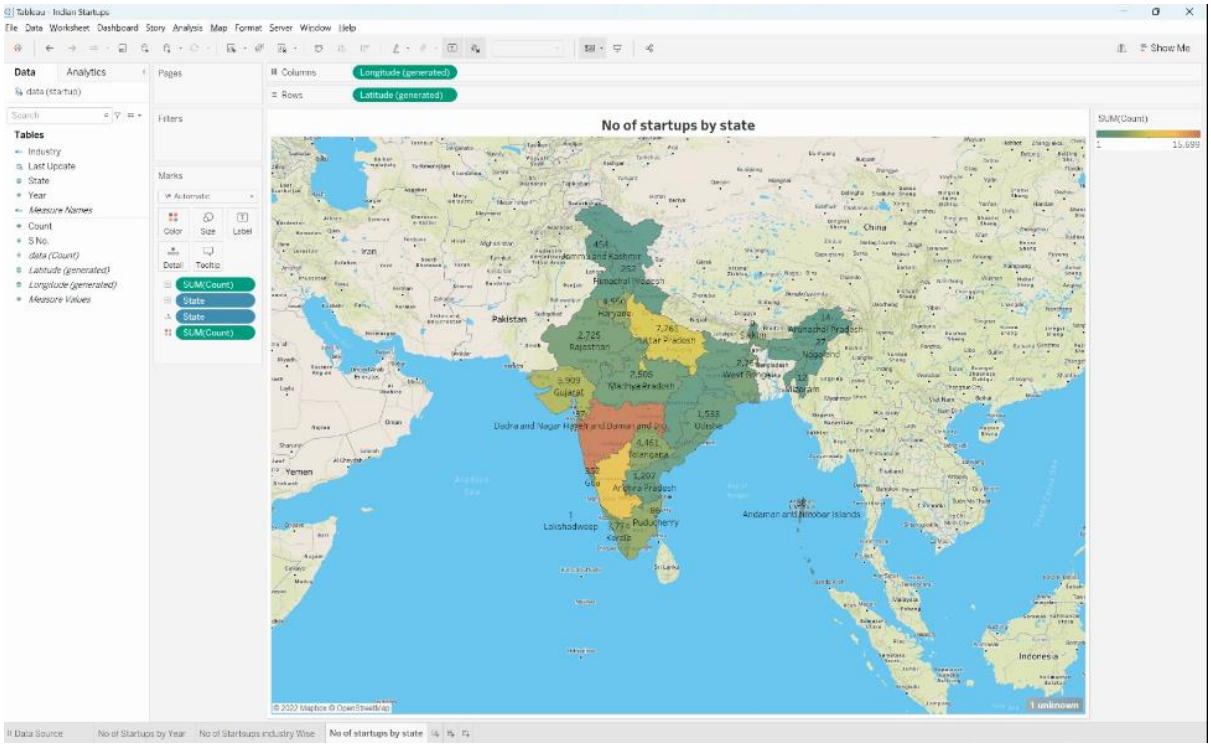




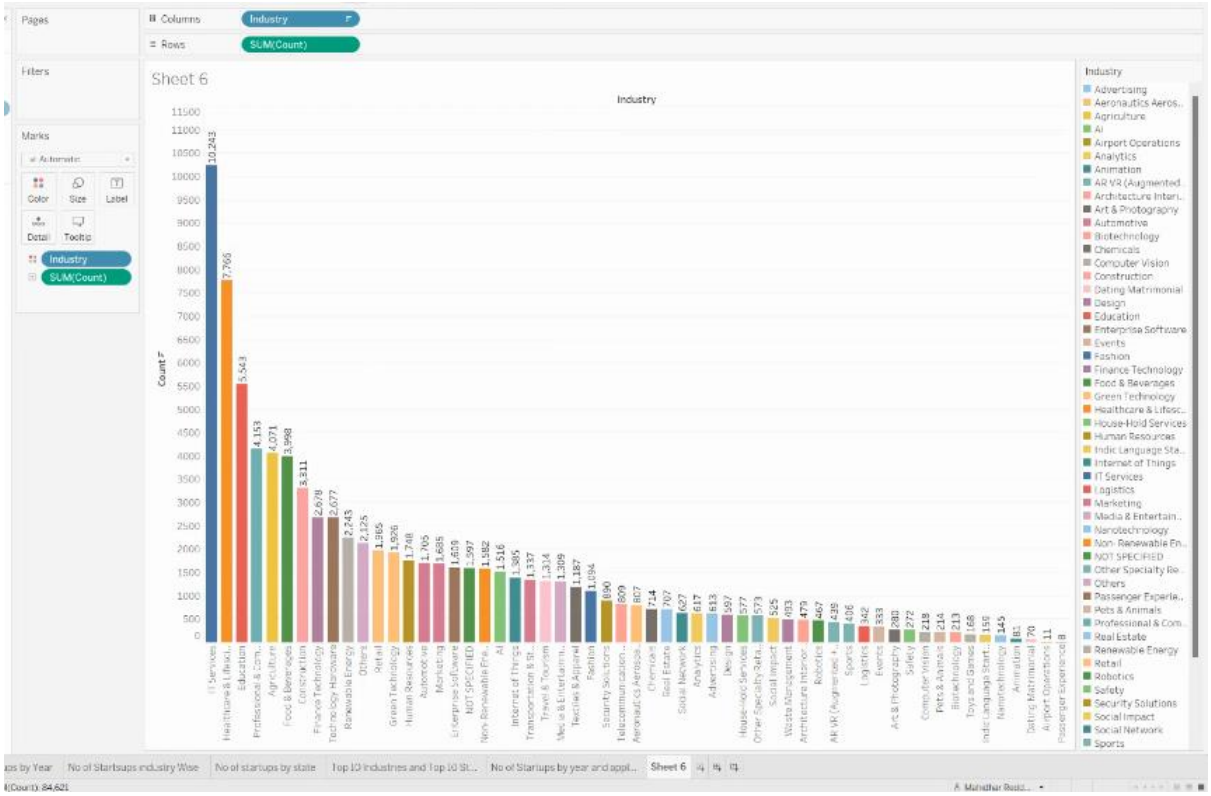
Activity 1.3: Number of startups by state


Data
Analytics
Pages
Filters
Marks
Columns
State
Rows
SUM(Count)
No of startups by state
State
Count
Tables
Industry
Last Update
State
Year
Measure Names
Count
S No.
data (Count)
Latitude (generated)
Longitude (generated)
Measure Values
Andaman and Nicobar Islands
Andhra Pradesh
Arunachal Pradesh
Assam
Bihar
Chandigarh
Chhattisgarh
Dadra and Nagar Haveli and...
Delhi
Goa
Gujarat
Haryana
Himachal Pradesh
Jammu and Kashmir
Jharkhand
Karnataka
Kerala
Ladakh
Lakshadweep
Madhya Pradesh
Maharashtra
Manipur
Meghalaya
Mizoram
Nagaland
NOT SPECIFIED
Odisha
Puducherry
Punjab
Rajasthan
Sikkim
Tamil Nadu
Telangana
Tripura
Uttar Pradesh
Uttarakhand
West Bengal
Data Source
No of Startups by Year
No of Startups industry Wise
No of startups by state


Pages
Filters
Marks
Columns
Longitude (generated)
Rows
Latitude (generated)
No of startups by state
SUM(Count)
1
15,699
State
SUM(Count)
China
Afghanistan
Pakistan
Nepal
Bangladesh
Myanmar
Laos
Thailand
Cambodia
Sri Lanka
1 unknown



Activity 1.4: Top 10 Industries by no of startups



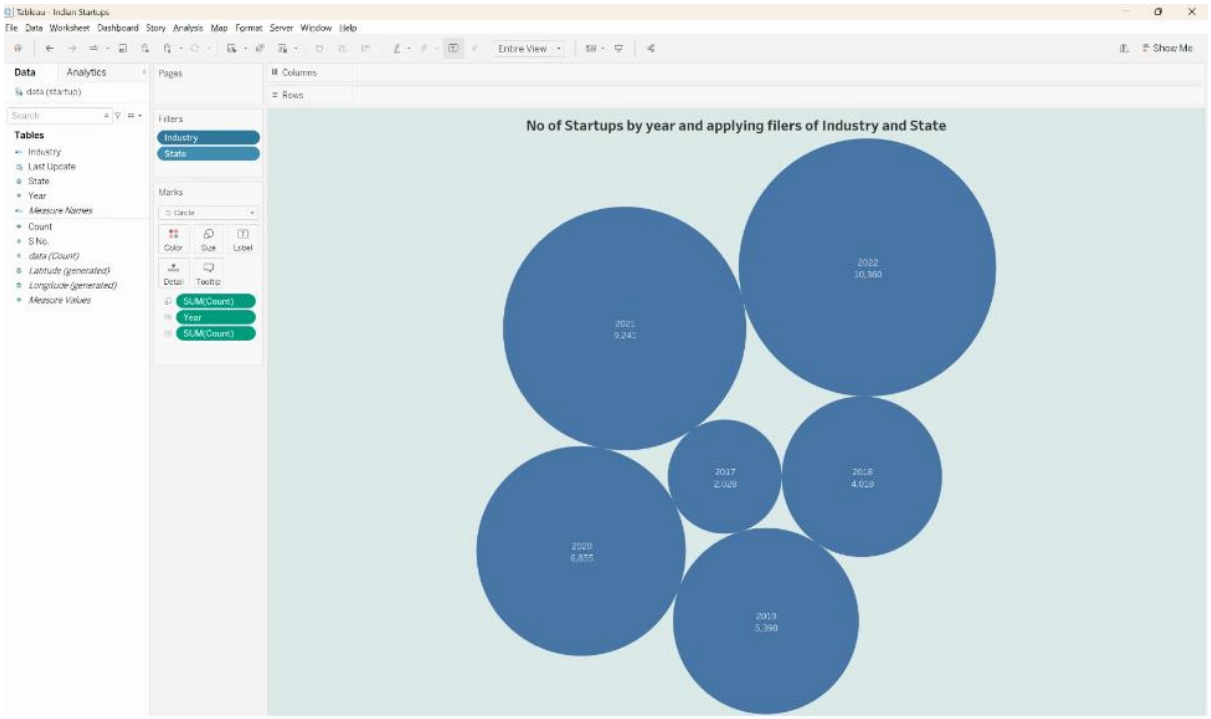
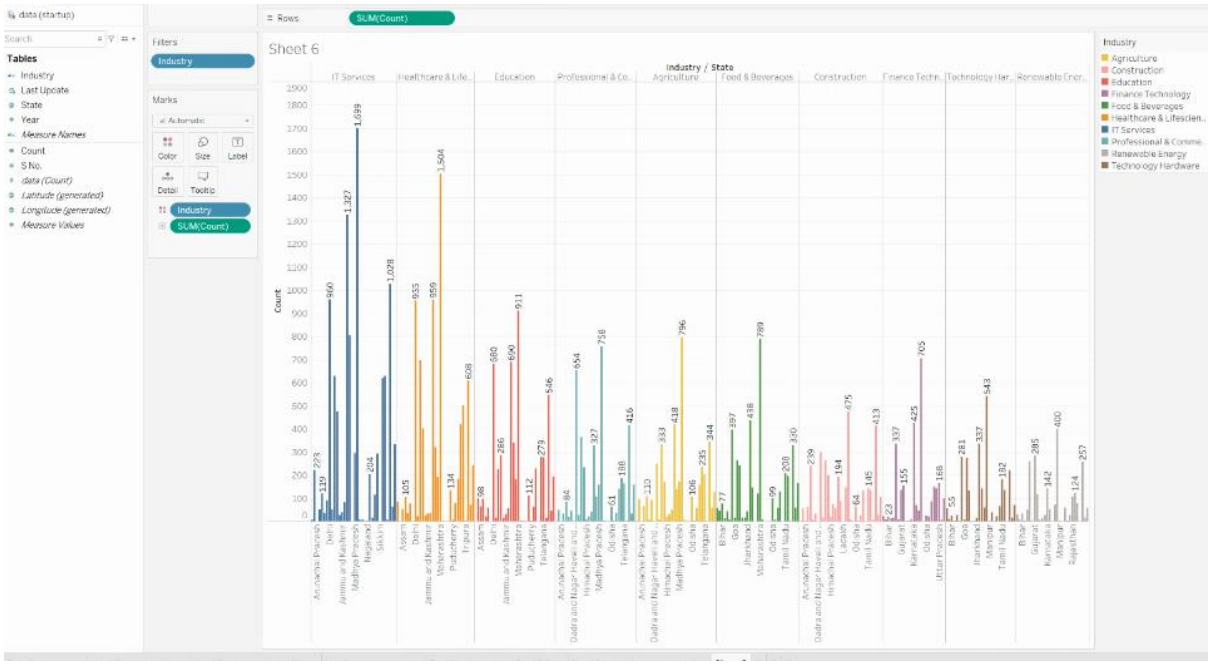
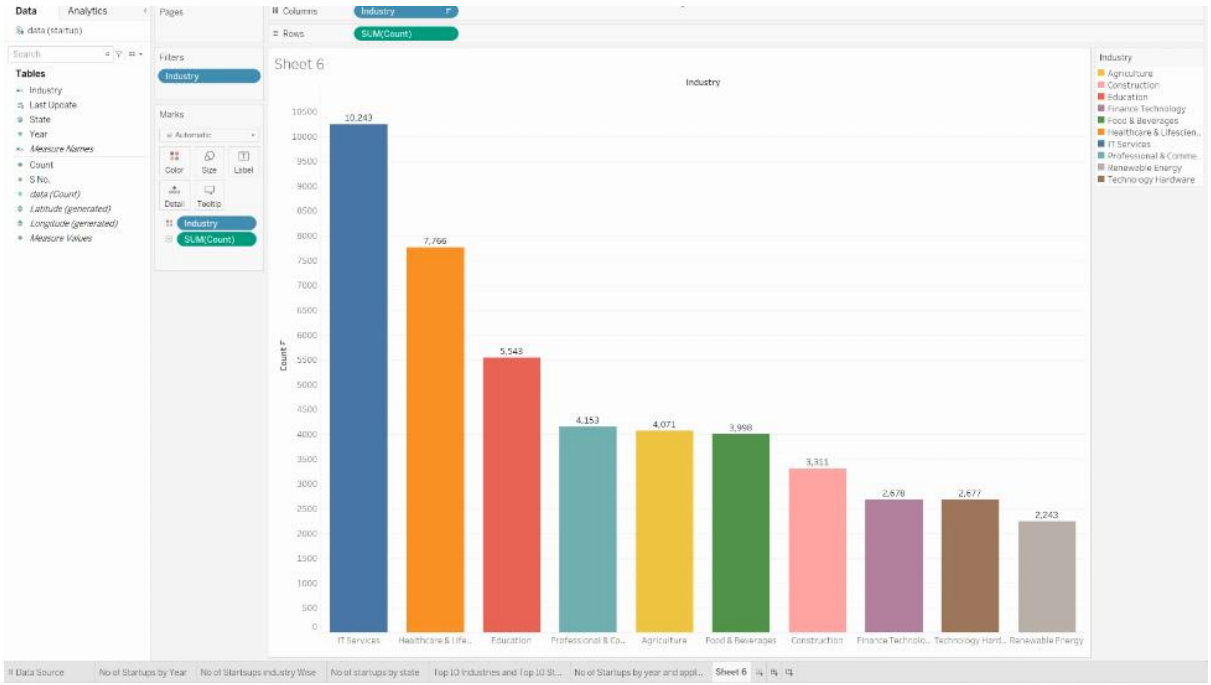
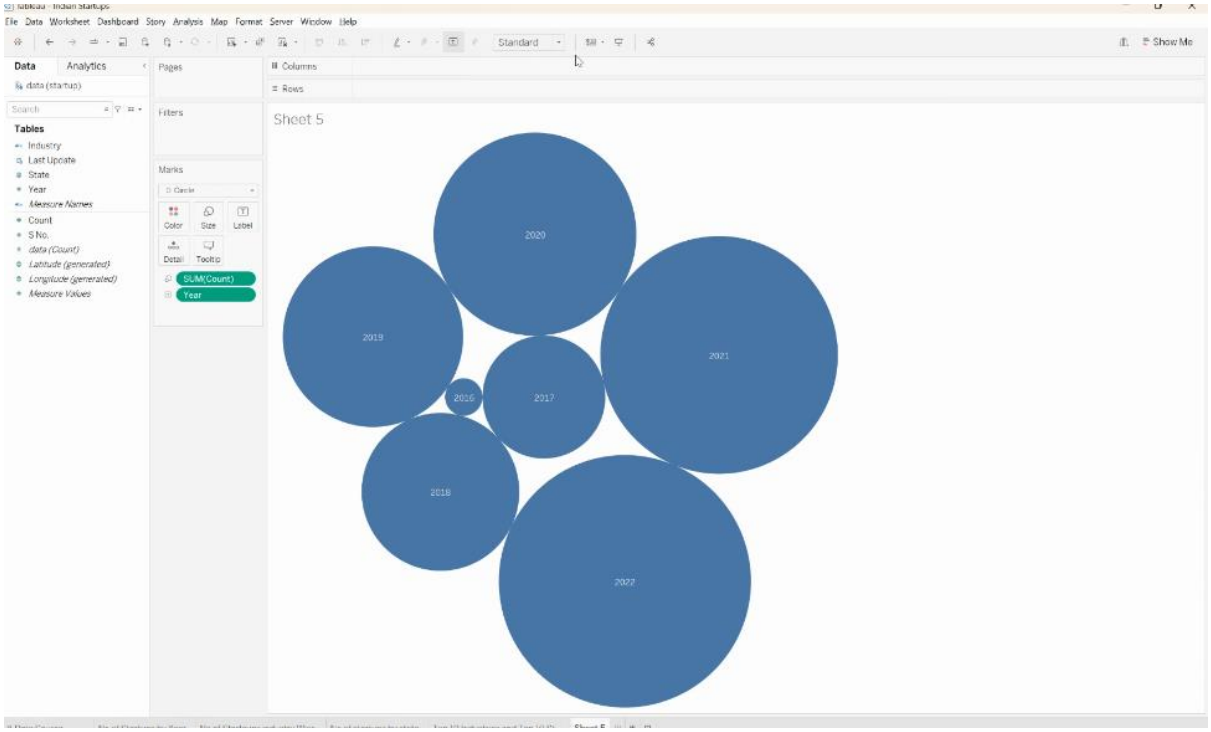


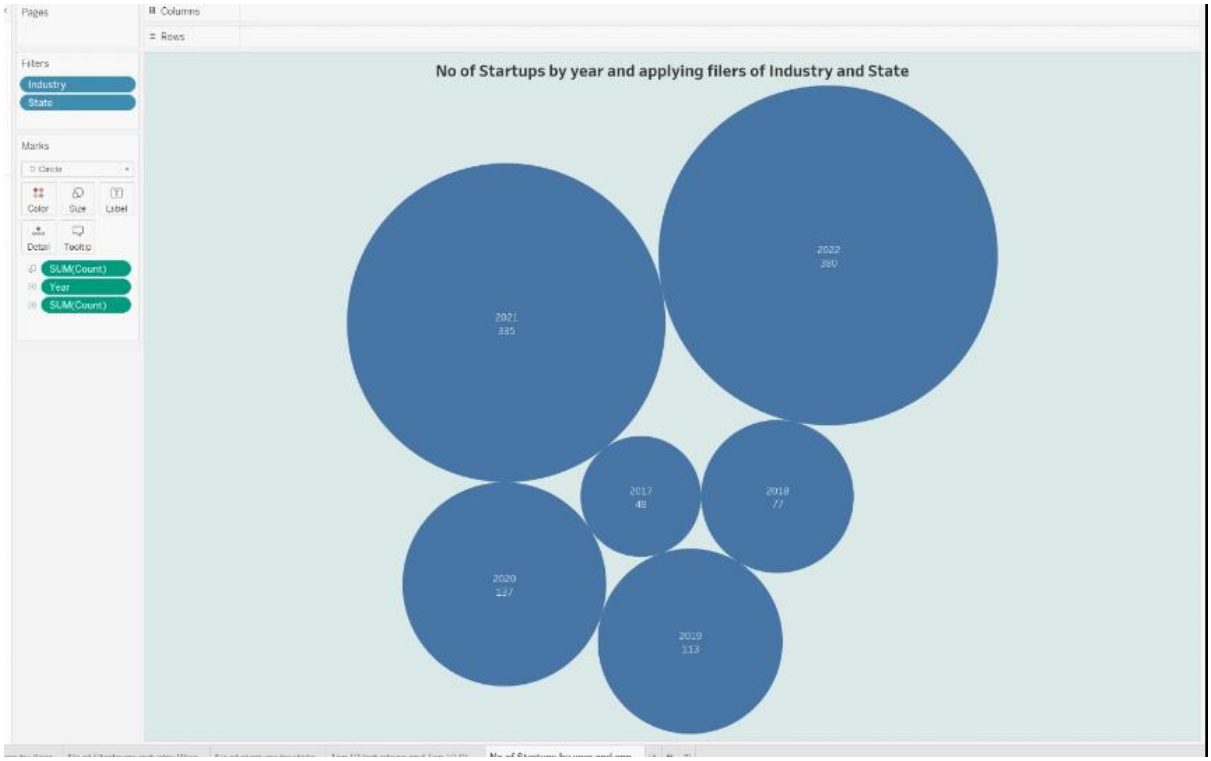
Tableau - Indian Startups
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Entire View
Show Me
Data
Analytics
data (startup)
Tables
Industry
Last Update
State
Year
Measure Names
Count
S No.
data (Count)
Latitude (generated)
Longitude (generated)
Measure Values
Pages
Filters
Industry
State
Marks
Circle
Color
Size
Label
Detail
Tooltip
SUM(Count)
Year
SUM(Count)
Columns
Rows
No of Startups by year and applying filers of Industry and State
2022
10,360
2021
9,241
2017
2,028
2018
4,028
2020
6,855
2019
5,390


data (startup)
Tables
Industry
Last Update
State
Year
Measure Names
Count
S No.
data (Count)
Latitude (generated)
Longitude (generated)
Measure Values
Filters
Industry
Marks
Automatic
Color
Size
Label
Detail
Tooltip
Industry
SUM(Count)
Rows
SUM(Count)
Sheet 6
Industry / State
IT Services
Healthcare & Life...
Education
Professional & Co...
Agriculture
Food & Beverages
Construction
Finance Techn...
Technology Har...
Renewable Ener...
Count
Industry
Agriculture
Construction
Education
Finance Technology
Food & Beverages
Healthcare & Lifesciен...
IT Services
Professional & Comme...
Renewable Energy
Technology Hardware

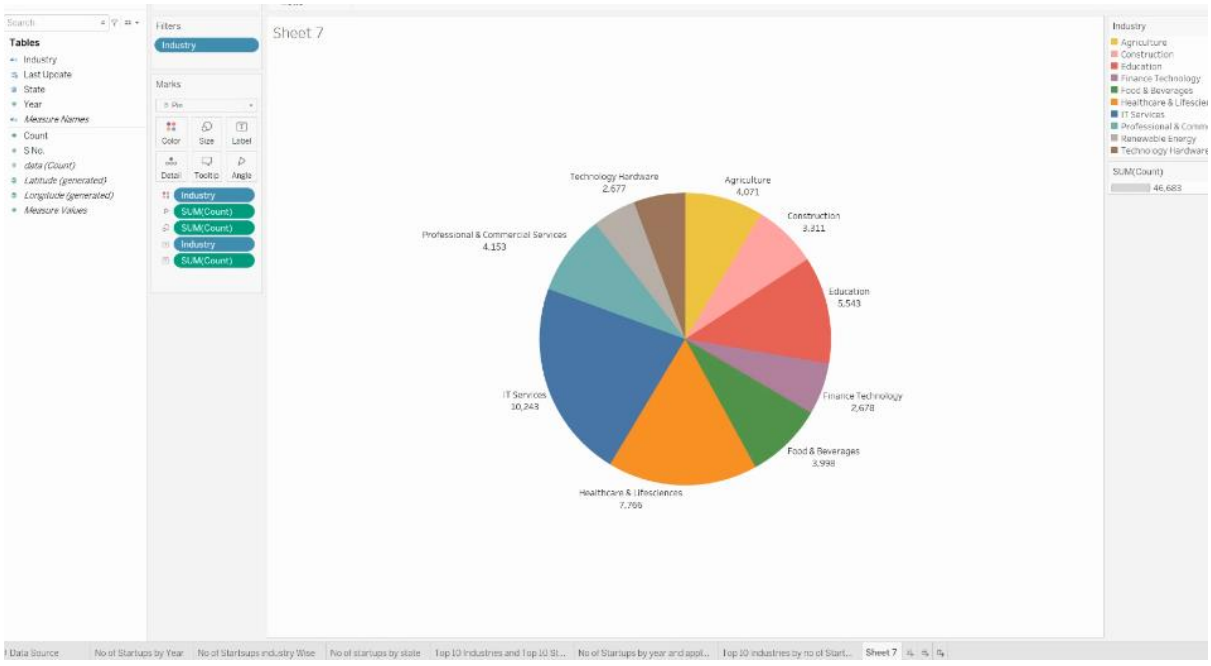


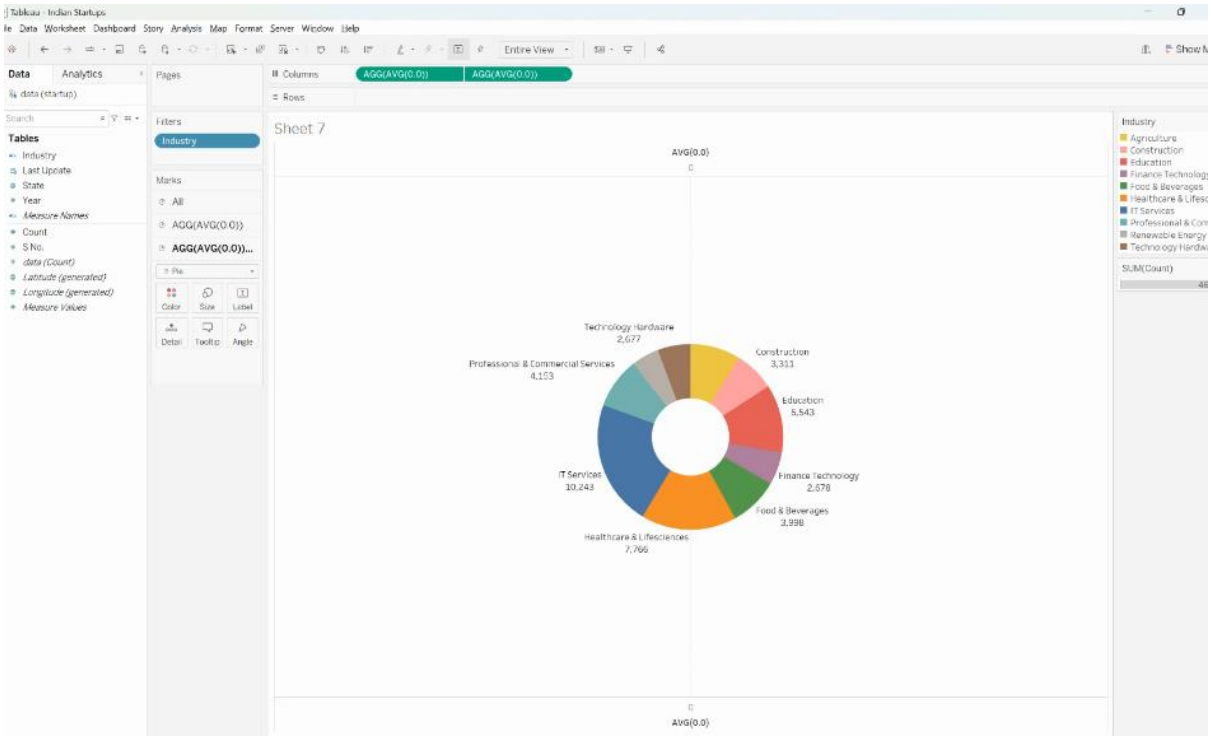
Activity 1.5: Number of Startups by year and applying filers of Industry and State

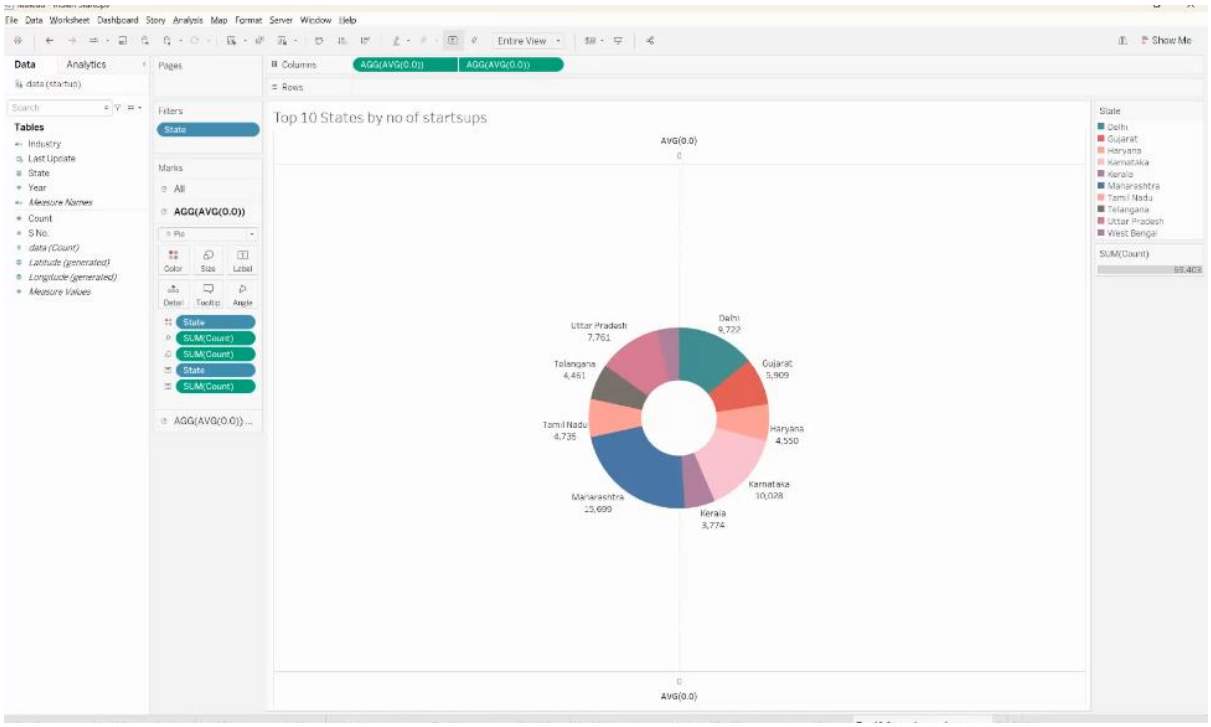




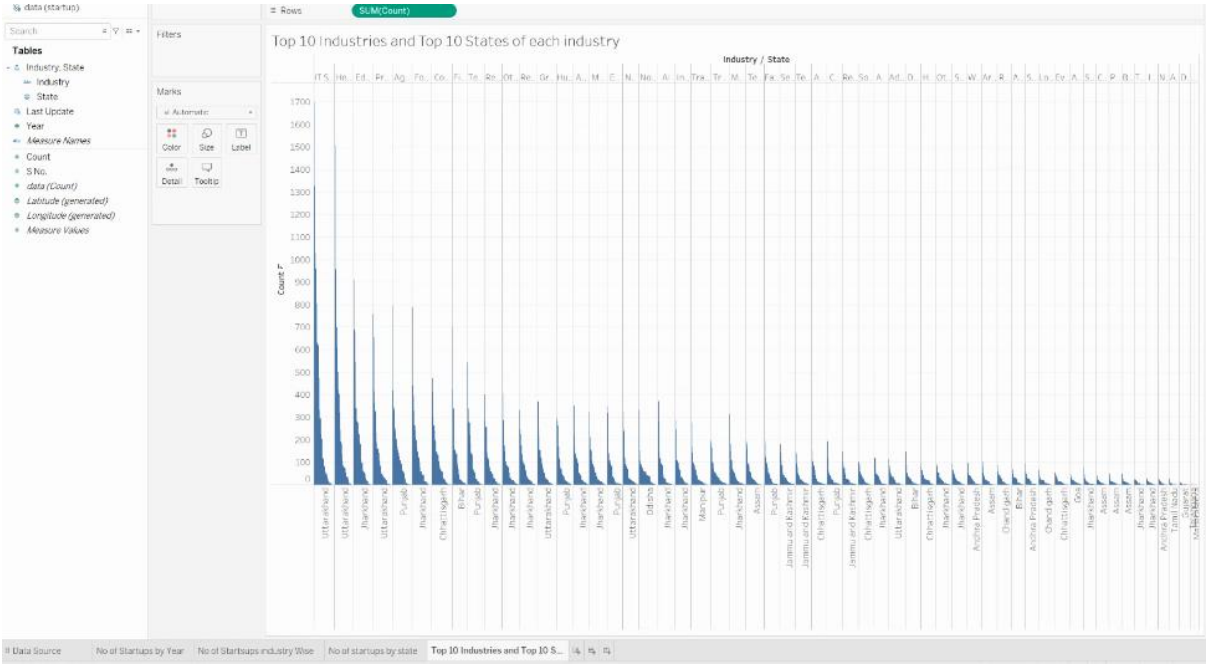
Activity 1.6: Top 10 Industries by no of Startups

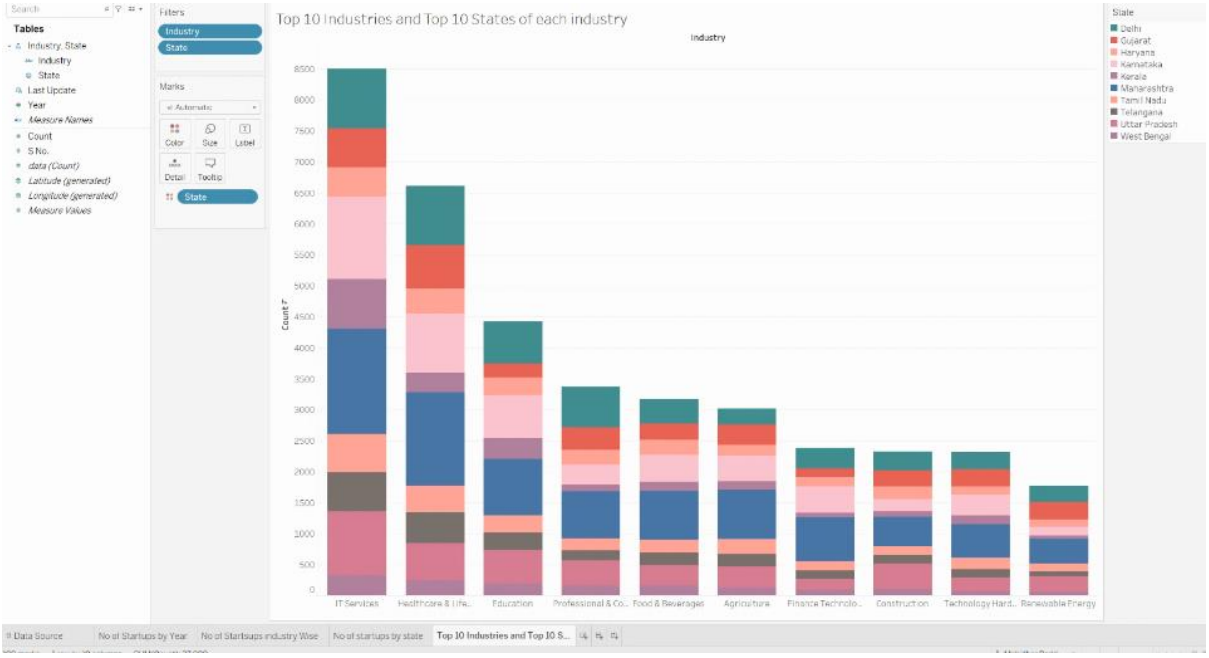


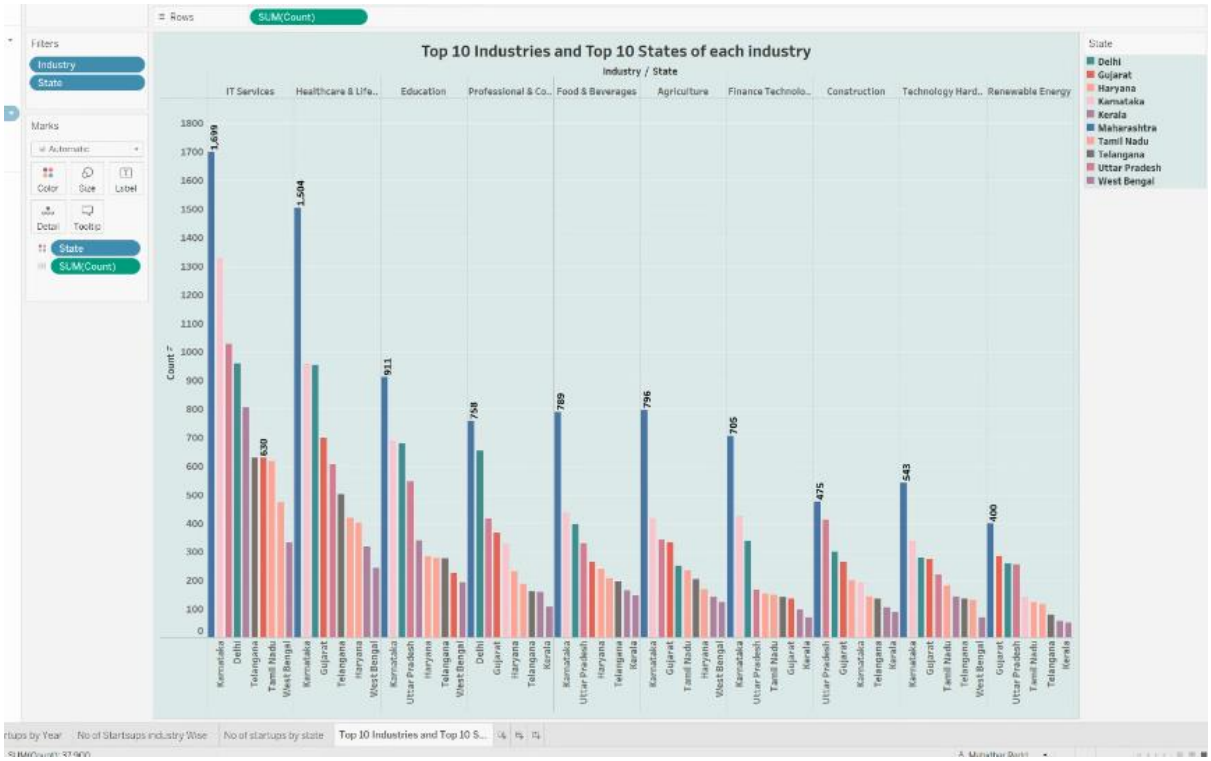


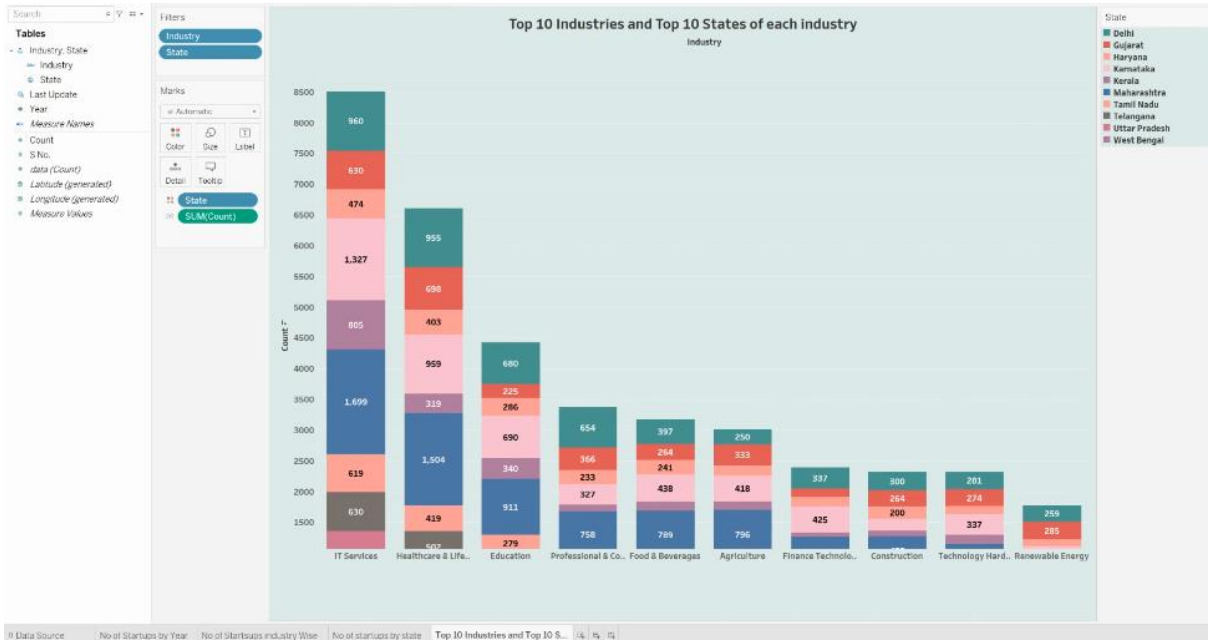


Activity 1.7: Top 10 Industries and Top 10 States of each industry


Top 10 Industries and Top 10 States of each industry
Industry / State
Count
Rows
SUM(Count)
Filters
Marks
Tables
Industry, State
Industry
State
Last Update
Year
Measure Names
Count
S No.
data (Count)
Latitude (generated)
Longitude (generated)
Measure Values
Data Source
No of Startups by Year
No of Startsups industry Wise
No of startups by state
Top 10 Industries and Top 10 S...


Top 10 Industries and Top 10 States of each industry
Industry
Count
Filters
Industry
State
Marks
Tables
IT Services
Healthcare & Life...
Education
Professional & Co...
Food & Beverages
Agriculture
Finance Technolo...
Construction
Technology Hard...
Renewable Energy
Delhi
Gujarat
Haryana
Karnataka
Kerala
Maharashtra
Tamil Nadu
Telangana
Uttar Pradesh
West Bengal
Data Source
No of Startups by Year
No of Startsups industry Wise
No of startups by state
Top 10 Industries and Top 10 S...





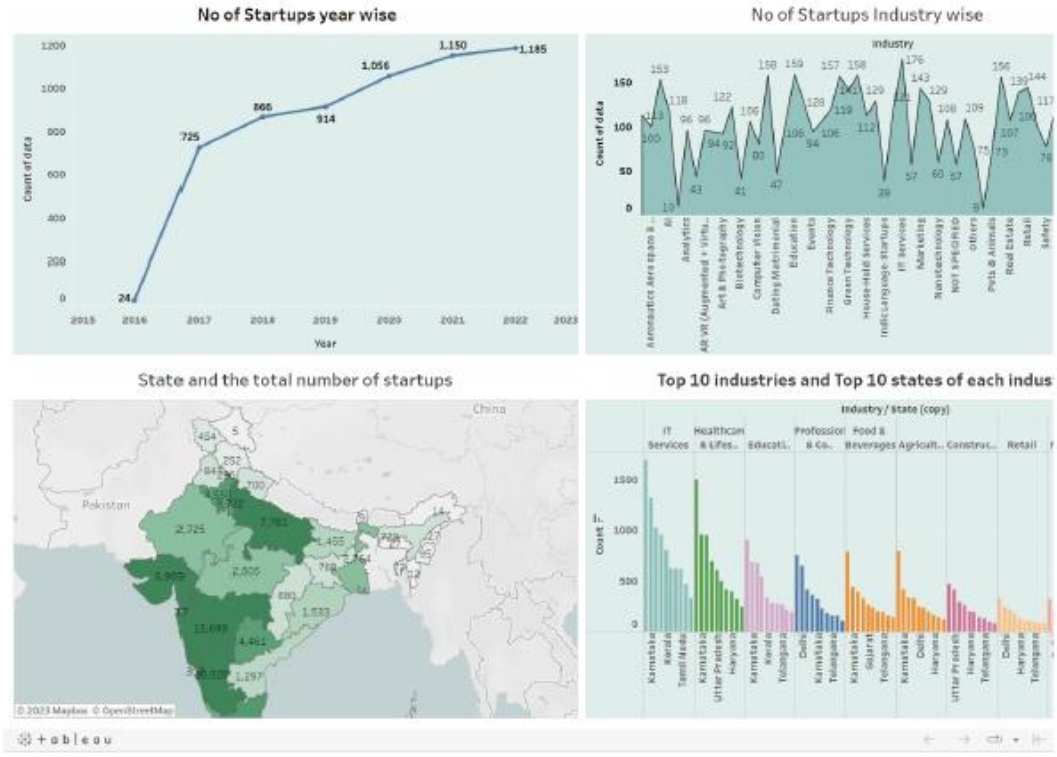
Milestone 5: Dashboard

A dashboard is a graphical user interface (GUI) that displays information and data in an organized, easy-to-read format. Dashboards are often used to provide real-time monitoring and analysis of data and are typically designed for a specific purpose or use case. Dashboards can be used in a variety of settings, such as business, finance,

manufacturing, healthcare, and many other industries. They can be used to track key performance indicators (KPIs), monitor performance metrics, and display data in the form of charts, graphs, and tables.

Activity 1- Responsive and Design of Dashboard

Once you have created views on different sheets in Tableau, you can pull them into a dashboard.



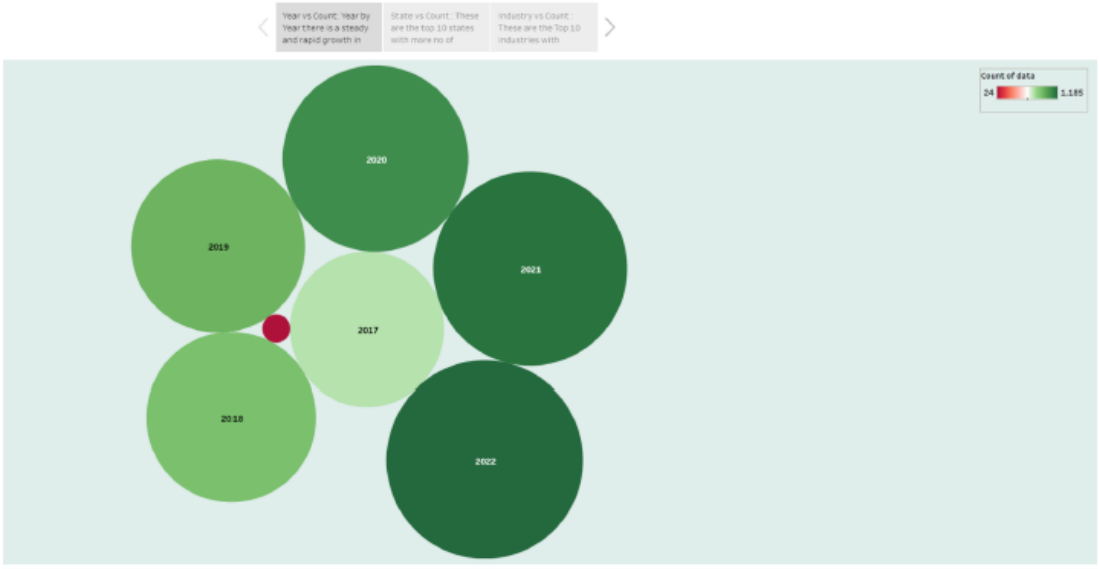
Milestone 6: Story

A data story is a way of presenting data and analysis in a narrative format, intending to make the information more engaging and easier to understand. A data story typically includes a clear introduction that sets the stage and explains the context for the data, a body that presents the data and analysis logically and systematically, and a conclusion that summarizes the key findings and highlights their implications. Data stories can be told using a variety of mediums, such as reports, presentations, interactive visualizations, and videos.

Activity 1- No of Scenes of Story

The number of scenes in a storyboard for a data visualization analysis of the performance and efficiency of Radisson Hotels will depend on the

complexity of the analysis and the specific insights 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.

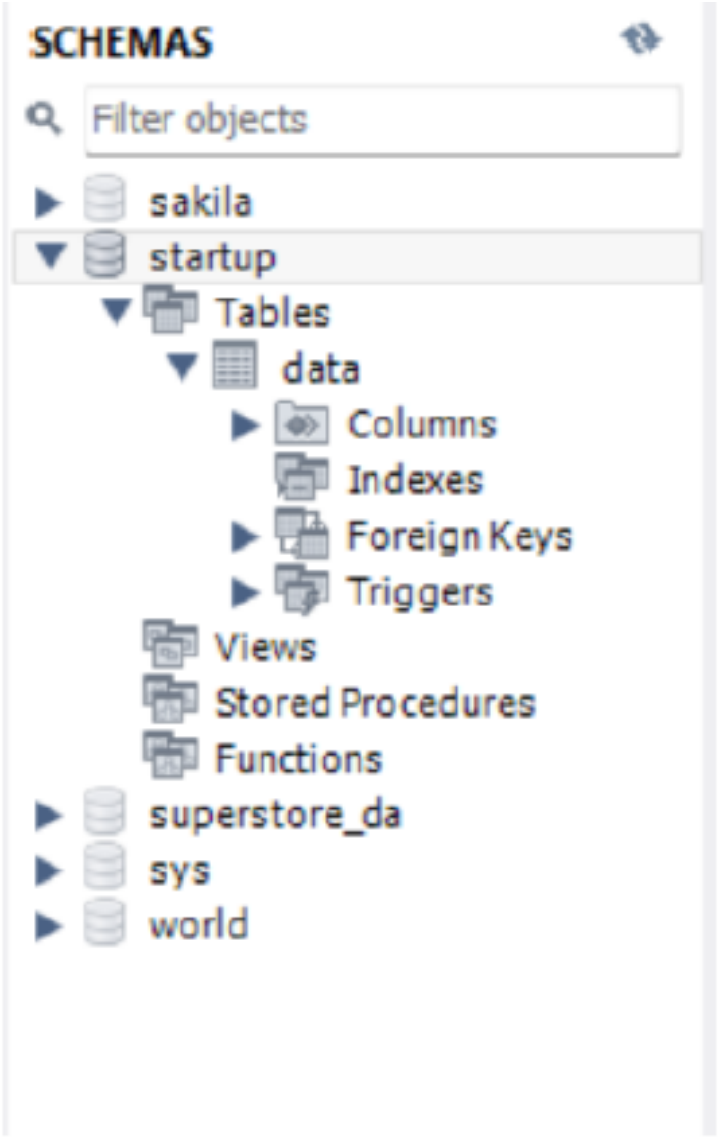


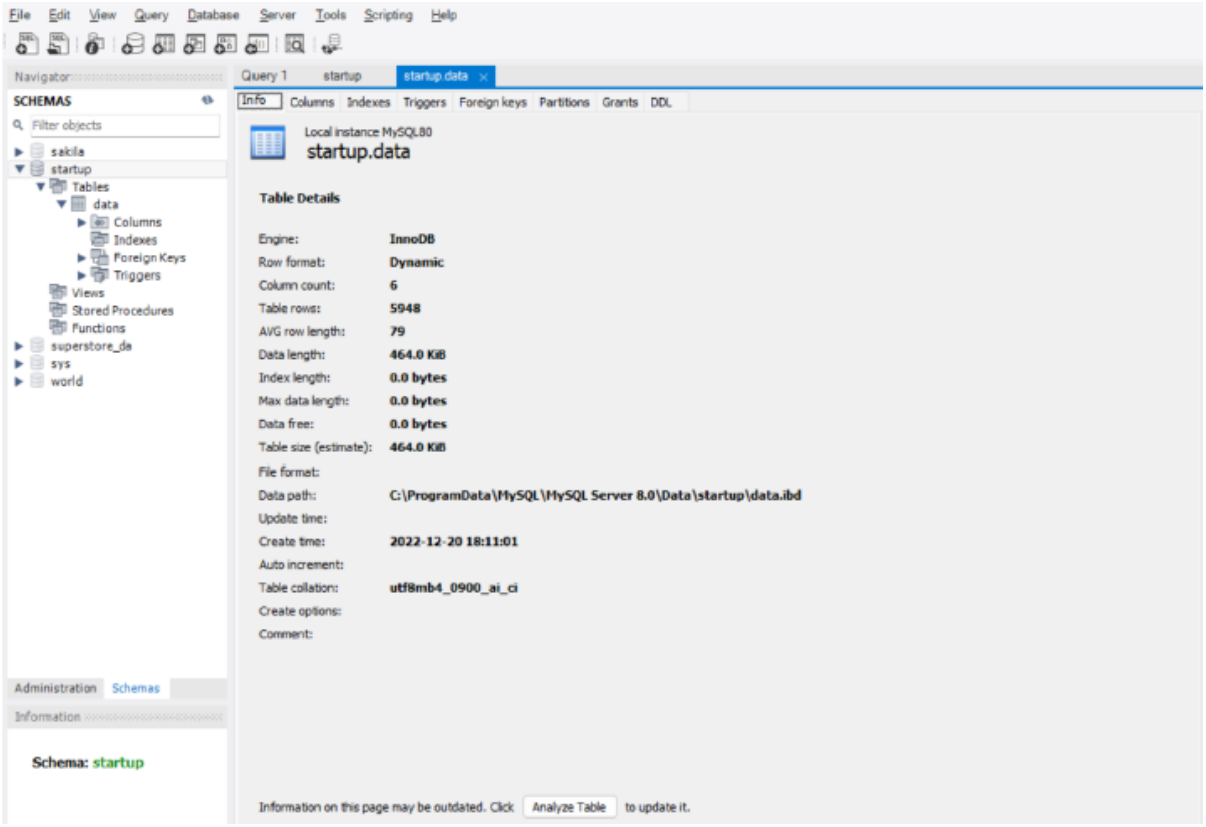
Milestone 7: Performance Testing

Activity 1: Amount of Data Rendered to DB

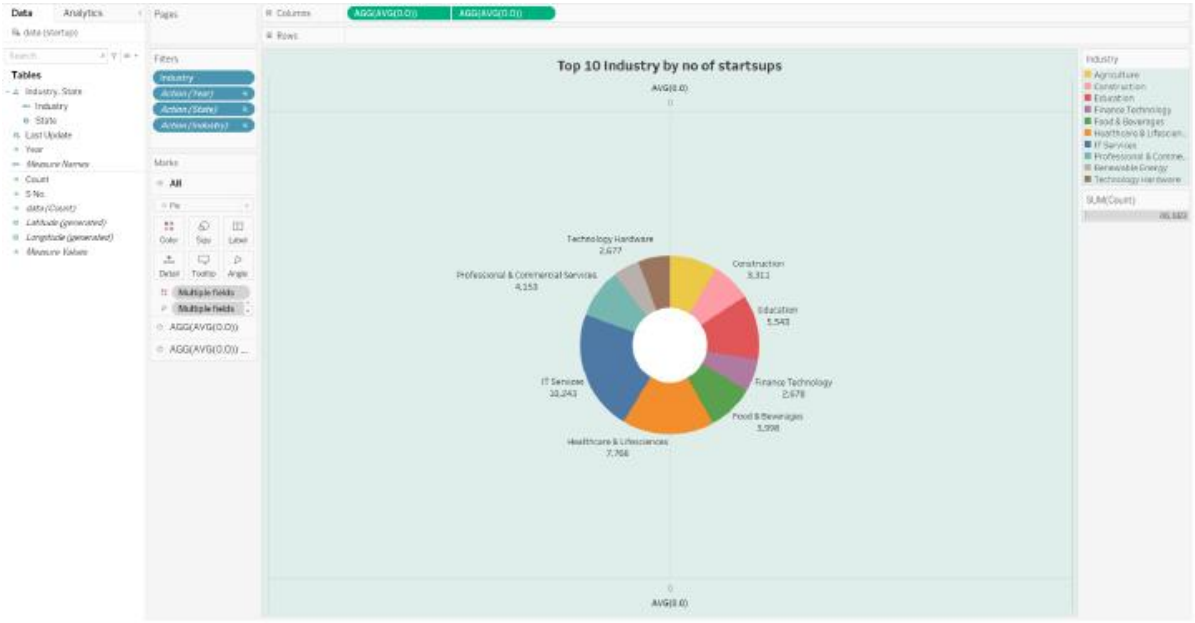
● The amount of data that is rendered to a database depends on the size of the dataset and the capacity of the database to store and retrieve data

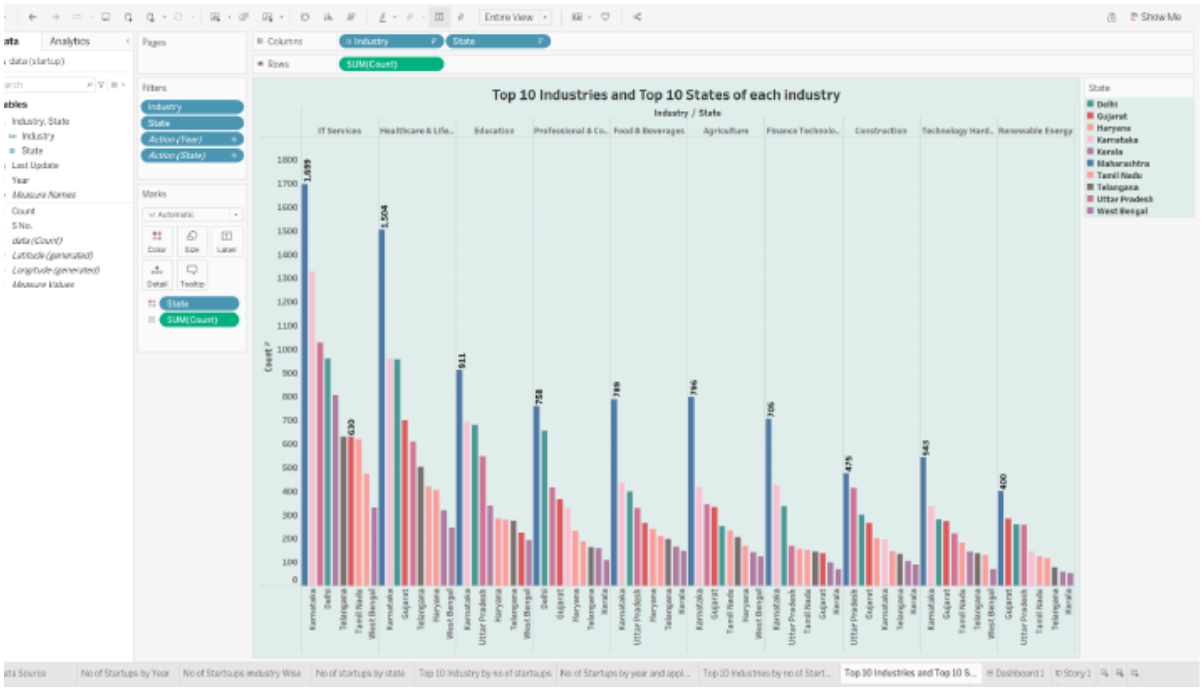
.● Open the MySQL Workbench, go to the database then click to expand the tables ,select the table and click on (i) button to get the information related to table such as column count,table rows etc.


SCHEMAS
Filter objects
sakila
startup
Tables
data
Columns
Indexes
Foreign Keys
Triggers
Views
Stored Procedures
Functions
superstore_da
sys
world



Activity 2: Utilization of Data Filters





Activity 3: No of Calculation Fields

Tables

- Industry, State
  - Abc Industry
  - State
- Last Update
- # Year
- Abc *Measure Names*
- # Count
- # S No.
- # *data (Count)*
- *Latitude (generated)*
- *Longitude (generated)*
- # *Measure Values*

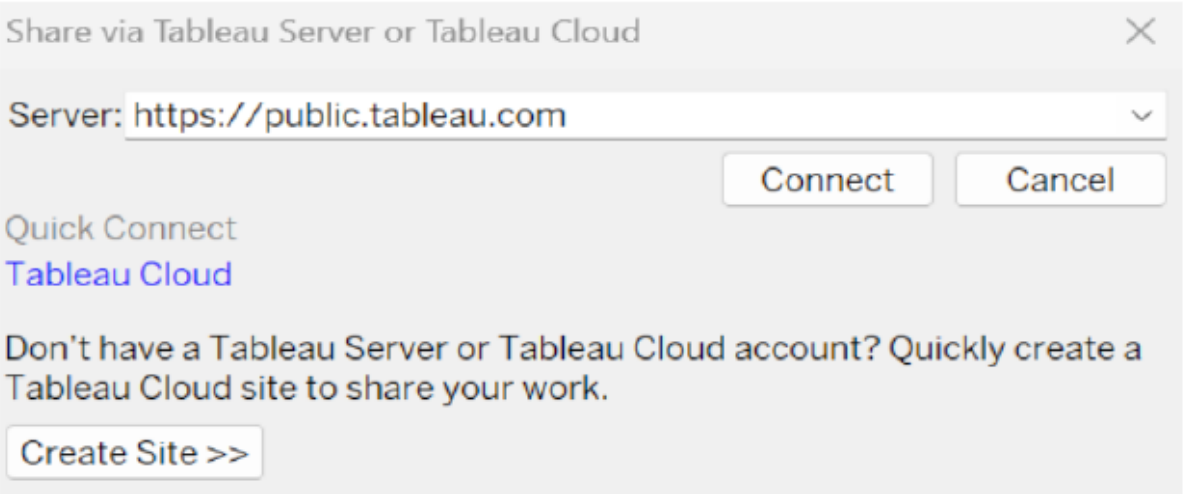
Activity 4: No of Visualizations/ Graphs

1. Number of Startups by Year
2. Number of Startups industry Wise.
3. Number of startups by state.
4. Top 10 Industry by no of startups.
5. Number of Startups by year and applying filers of Industry and State.
6. Top 10 Industries by no of Startups
7. Top 10 Industries and Top 10 States of each industry

Milestone 8: Web integration

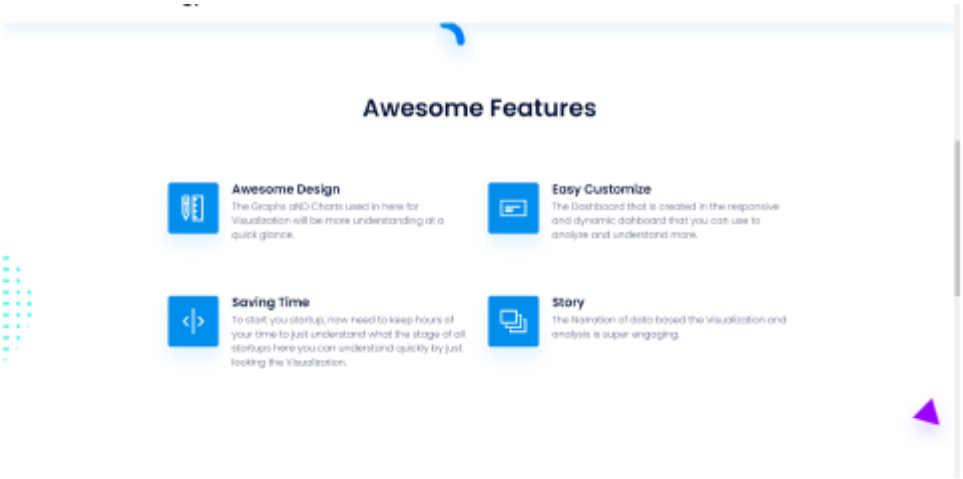
Publishing helps us to track and monitor key performance metrics and to communicate results and progress. help a publisher stay informed, make better decisions, and communicate their performance to others.

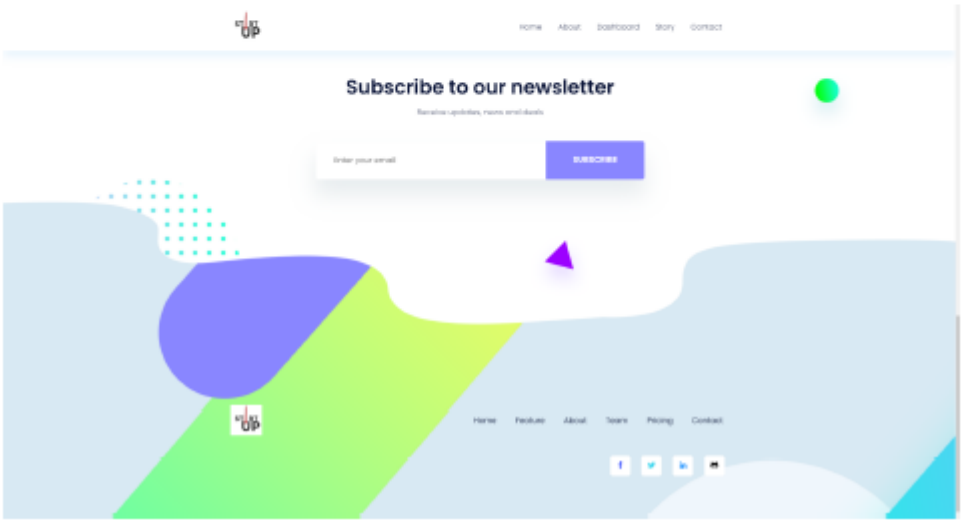
Step 1:

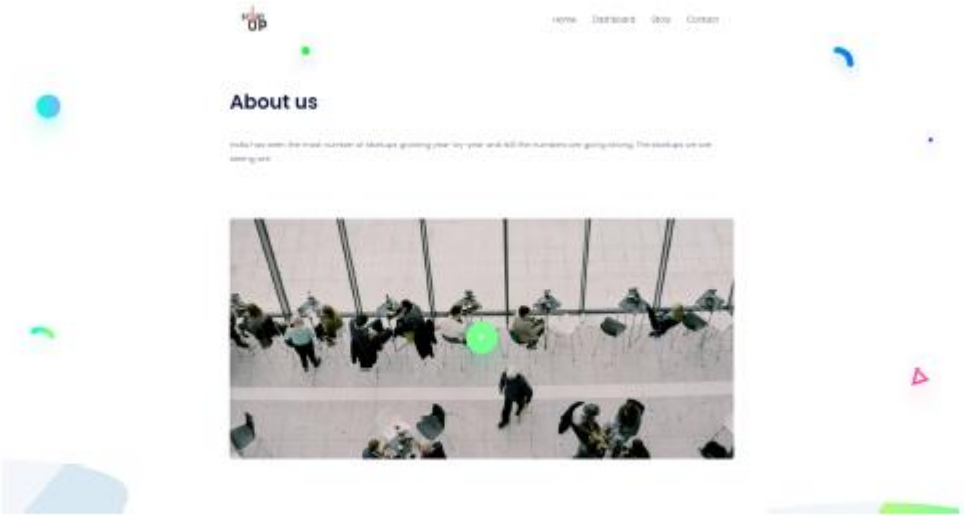


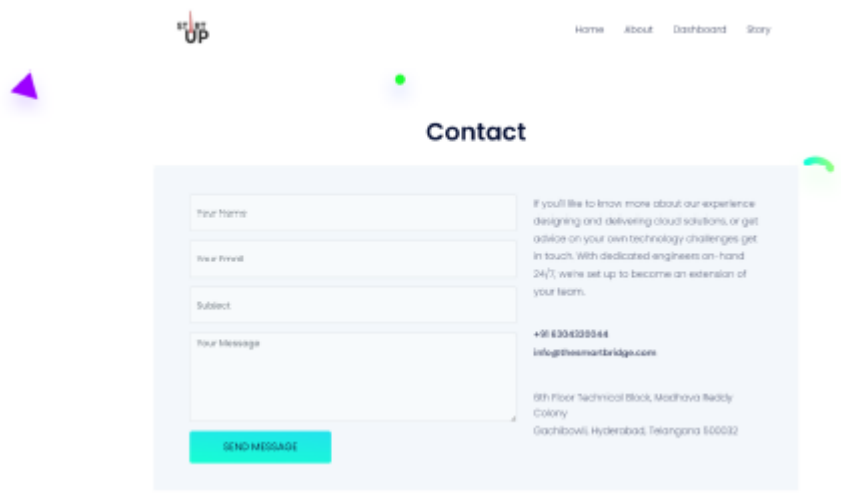
Step 2:

Activity 1: Embed Dashboard & Story with Web Bootstrap


Awesome Features
Awesome Design
The Graphs and Charts used in here for Visualization will be more understanding at a quick glance.
Easy Customize
The Dashboard that is created in the responsive and dynamic dahboard that you can use to analyze and understand more.
Saving Time
To start you startup, now need to keep hours of your time to just understand what the stage of all startups here you can understand quickly by just looking the Visualization.
Story
The Narration of data based the Visualization and analysis is super engaging.


Home
About
Dashboard
Story
Contact
Subscribe to our newsletter
SUBSCRIBE
Home
Features
About
Teams
Pricing
Contact


Home
Dashboard
Story
Contact
About us



Milestone 9: Project Demonstration & Documentation

Below mentioned deliverables to be submitted along with other deliverables

Activity 1:- Record explanation Video for the project's end-to-end solution

Activity 2:- Project Documentation-Step by step project development procedure