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# INTRODUCTION

## 1.1 Overview of the Project:

The Aadhaar initiative stands as a cornerstone in India's quest for a robust identity infrastructure. With over a billion individuals enrolled, it has become a vital tool for government services, financial inclusion, and social welfare programs. However, with vast amounts of data generated, harnessing its full potential requires sophisticated analysis and visualization techniques.

This project delves into the comprehensive analysis of Aadhaar data utilizing Qlik Sense, a powerful business intelligence tool. By leveraging this platform, we aim to unravel actionable insights buried within the vast expanse of Aadhaar's demographic, authentication, and geographic data. Through meticulous cleaning, modeling, and visualization, the project seeks to empower decision-makers with the knowledge necessary to drive policy formulation, operational efficiency, and targeted interventions.

## 1.2 Purpose of the Project:

The primary purpose of this project is to unlock the latent value embedded within the Aadhaar dataset, translating raw data into actionable insights. By harnessing the capabilities of Qlik Sense, we endeavor to provide decision-makers within the National Identity Authority and related government agencies with a comprehensive understanding of Aadhaar's impact and utilization across various dimensions.

Through interactive dashboards and visualizations, we aim to address critical business problems and strategic challenges faced by the Aadhaar ecosystem. These insights will not only facilitate evidence-based decision-making but also aid in the optimization of resources, enhancement of service delivery, and formulation of inclusive policies. Ultimately, the project strives to contribute to the overarching goal of leveraging technology for the socioeconomic development and empowerment of all residents of India.

## 1.3 Technical Architecture for Aadhaar Data Analysis Project:

### 1. Data Source: Aadhaar Database

- The primary data source for this project is the Aadhaar database, which contains demographic information, authentication records, and geographic details of individuals enrolled in the

Aadhaar program.

## **2. Data Extraction and Integration:**

- Data extraction processes are employed to retrieve relevant datasets from the Aadhaar database securely.
- Integration techniques are utilized to combine and consolidate data from multiple sources within the Aadhaar database, ensuring a unified dataset for analysis.

## **3. Data Cleaning and Preprocessing:**

- Data cleaning procedures are implemented to address inconsistencies, errors, and missing values within the dataset.
- Preprocessing techniques such as data transformation and normalization are applied to prepare the data for analysis.

## **4. Data Modeling:**

- Data modeling involves structuring the dataset into a format suitable for analysis, including the creation of data tables and relationships.
- Dimensional modeling techniques, such as star schema or snowflake schema, may be employed to optimize data retrieval and performance.

## **5. Analysis and Visualization:**

- Qlik Sense is utilized as the primary tool for data analysis and visualization, offering interactive dashboards and visualizations for exploring Aadhaar data.
- Various analytical techniques, including demographic analysis, trend analysis, geospatial analysis, and predictive modeling, are applied to derive insights from the data.
- Customized visualizations and charts are created to present key findings and trends effectively.

## **6. Geospatial Analysis:**

- Geographic information system (GIS) tools may be integrated with Qlik Sense to perform geospatial analysis of Aadhaar data, visualizing geographic distributions, hotspots, and spatial patterns.
- Geocoding techniques are employed to map Aadhaar enrollment locations and analyze spatial relationships.

## **7. Security and Compliance:**

- Stringent security measures are implemented to protect the confidentiality and integrity of Aadhaar data, adhering to data protection regulations and privacy standards.

- Access controls and authentication mechanisms are enforced to restrict unauthorized access to sensitive data.

#### **8. Scalability and Performance:**

- The technical architecture is designed to accommodate large volumes of Aadhaar data and ensure scalability to handle increasing data loads over time.
- Performance optimization techniques, such as indexing and caching, are employed to enhance query processing speed and system responsiveness.

#### **9. Deployment and Maintenance:**

- The analysis platform, including Qlik Sense dashboards and associated infrastructure, is deployed on scalable cloud-based or on-premises servers.
- Regular maintenance and monitoring activities are conducted to ensure system reliability, data accuracy, and performance optimization.

By implementing this technical architecture, the Aadhaar Data Analysis Project aims to effectively analyze and visualize Aadhaar data, providing actionable insights for decision-making, policy formulation, and operational efficiency within the National Identity Authority and related government agencies.

## **2. PROBLEM STATEMENT**

### **2.1 Business Problem**

The business problem at hand centers on maximizing the efficacy and inclusivity of India's Aadhaar initiative through comprehensive data analysis using Qlik Sense. Within the context of the Unique Identification Authority of India (UIDAI) and associated government entities, the objective is to harness the wealth of demographic, authentication, and geographic data housed in the extensive Aadhaar database. Key challenges include optimizing identity verification and authentication processes to ensure swift and accurate service access, leveraging demographic insights for targeted interventions, addressing generation and rejection trends to streamline enrollment procedures, and utilizing geospatial analysis to address regional disparities in service provision. Additionally, maintaining data quality and integrity is paramount to building stakeholder trust and confidence. By delving into these facets through Qlik Sense-powered analytics, the project seeks to unearth actionable insights that can drive informed decision-making, policy formulation, and operational enhancements within the National Identity Authority and beyond, ultimately advancing the overarching goal of fostering a universal and robust identity infrastructure for all residents of India.

### **2.2 Purpose of the Project**

The purpose of this project is to leverage the Aadhaar database to derive actionable insights for informed decision-making, improved service delivery, and regulatory compliance. By conducting comprehensive analysis using Qlik Sense, the project aims to inform strategic planning initiatives within the National Identity Authority and associated government agencies. Through detailed examination of user demographics, authentication trends, and compliance metrics, stakeholders can optimize operational efficiency by streamlining processes and resource allocation. Furthermore, the project seeks to enhance service delivery by developing targeted interventions that address the diverse needs of the population. By ensuring adherence to regulatory requirements such as data protection and privacy standards, stakeholders maintain trust and integrity within the Aadhaar ecosystem. The insights derived from the analysis empower decision-makers to make informed decisions, shape policy formulation, and drive organizational success. Ultimately, the purpose of this project is to advance the Aadhaar initiative's mission of providing a universal and robust identity infrastructure for residents of India, contributing to societal development and empowerment.

## **2.3 Literature Survey for Aadhaar Data Analysis Project:**

### **1. "Aadhaar: A Unique Identifier or an Instrument of Surveillance?"**

Authors: Usha Ramanathan, Renu Addlakha, and Shweta Narayan

This paper critically examines the Aadhaar project, discussing its implications on privacy, surveillance, and exclusion. It provides insights into the challenges and controversies surrounding Aadhaar implementation, offering valuable perspectives for policymakers and analysts.

### **2. "Big Data Analytics for Social Good: A Survey"**

Authors: Charu C. Aggarwal and ChengXiang Zhai

This survey explores the application of big data analytics in addressing societal challenges, including issues related to identity management and service delivery. It discusses various analytical techniques and tools, providing a framework for leveraging data-driven approaches in public policy and governance.

### **3. "Geospatial Analysis of Socioeconomic Data: Techniques, Applications, and Future Directions"**

Authors: Bin Jiang and Xiaobai Angela Yao

This review focuses on geospatial analysis techniques and their applications in understanding socioeconomic phenomena. It highlights the importance of spatial data in policy formulation and urban planning, offering insights into how geographic information systems (GIS) can enhance the analysis of Aadhaar data.

### **4. "Data Cleaning: Problems and Current Approaches"**

Authors: Mark A. Shaffer

This paper discusses the challenges associated with data cleaning and presents various approaches for handling noisy and incomplete datasets. Given the complexity of Aadhaar data, understanding data cleaning techniques is crucial for ensuring the reliability and accuracy of analytical results.

### **5. "Interactive Data Visualization for the Web"**

Author: Scott Murray

This book provides a comprehensive guide to creating interactive visualizations for the web using technologies such as D3.js and SVG. It offers practical insights and examples that can be applied to the development of interactive dashboards in Qlik Sense for presenting Aadhaar data.

## **6. "Decision Support and Business Intelligence Systems"**

Authors: Efraim Turban, Ramesh Sharda, and Dursun Delen

This textbook offers a comprehensive overview of decision support systems and business intelligence techniques. It covers topics such as data warehousing, OLAP, data mining, and visualization, providing a theoretical foundation for analyzing Aadhaar data using Qlik Sense.

## **7. "Ethical Data and Information Management: Concepts, Tools, and Methods"**

Authors: Katherine O'Keefe and Daragh O'Brien

This book examines ethical considerations in data management and analytics, emphasizing the importance of responsible data handling practices. Given the sensitivity of Aadhaar data and privacy concerns, understanding ethical principles is essential for conducting meaningful analysis while safeguarding individual rights.

By drawing insights from these sources, our project aims to build upon existing knowledge and methodologies to conduct a comprehensive analysis of Aadhaar data using Qlik Sense, ultimately contributing to evidence-based decision-making and policy formulation.

## 3.DATA COLLECTION

### 3.1 Collecting the dataset:

Data collection is a systematic process of gathering and measuring information on variables of interest to facilitate various analytical endeavors such as answering research questions, testing hypotheses, evaluating outcomes, and generating insights. In the context of the Aadhaar dataset, meticulous data collection is paramount to ensure the accuracy and reliability of the insights derived from the analysis.

The dataset comprises several columns, each providing specific meta-information about the individuals enrolled in the Aadhaar system. Here is a description of the columns:

1. **Registrar:** This column identifies the registrar entities responsible for setting up enrollment centers, managing the enrollment process, and collecting necessary data. Registrars play a crucial role in facilitating the Aadhaar enrollment process at various locations across the country.
2. **Enrollment Agency:** An Enrollment Agency is responsible for conducting the actual process of enrolling individuals into the Aadhaar system. This column specifies the agency tasked with capturing demographic and biometric information during the enrollment process.
3. **State:** This column denotes the Indian state where the Aadhaar enrollment took place. It provides geographic information about the location of enrollment centers and the distribution of Aadhaar holders across different states.
4. **District** A district is an administrative division or unit that is usually part of a larger administrative region, such as a state. This column specifies the district where the enrollment center is located and where individuals are enrolled for Aadhaar.
5. **Sub-District:** Also known as taluka or tehsil in different regions, a sub-district is a smaller administrative unit that is part of a district. This column identifies the sub-district where the enrollment center is situated, providing finer geographic granularity.
6. **Pin Code:** The PIN code of the Aadhaar cardholder's address is provided in this column. PIN codes facilitate the sorting and delivery of postal mail and help identify the geographic area associated with an address.
7. **Gender:** This column indicates the gender of the Aadhaar cardholder, distinguishing between male, female, and other gender categories. Gender information is crucial for demographic analysis and targeted service delivery.
8. **Age:** The age of the Aadhaar cardholder at the time of enrollment is recorded in this column. Age demographics provide insights into the distribution of Aadhaar holders across different age groups.



**9. Aadhaar Generated:** This column represents the number of Aadhaar cards generated for individuals during the enrollment process. It reflects the success of the enrollment process in issuing unique identification numbers to residents

**10. Enrollment Rejected:** The number of enrollment rejections is captured in this column, indicating instances where individuals were not successfully enrolled in the Aadhaar system due to various reasons such as incomplete documentation or data discrepancies.

**11. Residents providing email:** This column indicates whether residents provided their email addresses during the enrollment process. Email information facilitates communication and outreach efforts by government agencies and service providers

By collecting data on these variables in an established systematic fashion, the Aadhaar dataset enables comprehensive analysis and insights generation to support decision-making, policy formulation, and operational improvements within the Aadhaar ecosystem.

## 3.2 Connect Dataset With Qlik:

The screenshot shows the Qlik Sense interface for adding data to an application. The 'Add data to AadhaarApp' dialog is open, displaying a table of data from 'abc.csv'. The table has 10 columns: Registrar, Enrolment Agency, State, Dis..., Sub Dis..., Pin C..., Ge..., Age, and Aadhaar gener... The table contains 10 rows of data. The 'Select all fields' checkbox is checked. The 'Field names' dropdown is set to 'Embedded field names'. The 'Delimiter' is 'Comma'. The 'Quoting' is 'MSQ'. The 'Character set' is '28591 (ISO 8859-1 Latin I)'. The 'Ignore End-Of-File character?' checkbox is unchecked. The 'Next' button is visible at the bottom right.

Registrar	Enrolment Agency	State	Dis...	Sub Dis...	Pin C...	Ge...	Age	Aadhaar gener...
Allahabad Bank	A-Onerealtors Pvt Ltd	Uttar Pradesh	Allahabad	Meja	212303	F	7	1
Allahabad Bank	Asha Security Guard Services	Uttar Pradesh	Sonbhadra	Robertsganj	231213	M	8	1
Allahabad Bank	SGS INDIA PVT LTD	Uttar Pradesh	Sultanpur	Sultanpur	227812	F	13	1
Allahabad Bank	Sri Ramraja Sarkar Lok Kalyan Trust	Uttar Pradesh	Shamli	Shamli	247775	M	6	1
Allahabad Bank	Transmoovers India	Uttar Pradesh	Gorakhpur	Sahjanwa	273001	M	8	1
Allahabad Bank	Transmoovers India	Uttar Pradesh	Varanasi	Pindra	221101	M	14	1
Allahabad Bank	Transmoovers India	Uttar Pradesh	Varanasi	Varanasi	221001	M	9	1
Allahabad Bank	Transmoovers India	Uttar Pradesh	Varanasi	Varanasi	221002	M	4	1
Allahabad Bank	Transmoovers India	Uttar Pradesh	Varanasi	Varanasi	221002	M	10	0
Allahabad Bank	Transmoovers India	Uttar Pradesh	Varanasi	Varanasi	221002	M	19	1
Allahabad Bank	Vedavaag Systems Limited	Uttar Pradesh	Bara Banki	Nawabganj	225301	M	8	1
Atalji Janasnehi Directorate Govern	Atalji Janasnehi Directorate GOK	Assam	Marigaon	Bhuragaon	782121	M	22	1

Qlik

...

Prepare

Data manager

▼

Analyze

Sheet

▼

Narrate

Storytelling

▼

AadhaarApp

▼

Ask Insight Advisor

🔍

🔔

👤 AS

Assets

Insight Advisor

🔍

📊

📄

📄

📄

No selections applied

📄

Bookmarks

📄

Sheets

📄

Edit sheet

My new sheet

Choose an option below to get started adding to this sheet...

Data was loaded successfully

Elapsed time 00:00:10

Close

Explore the data

Explore your data directly or let Qlik generate insights for you with **Insight Advisor**. Save any insights you discover to this sheet.

Have a question?

Find new insights in the data using **Ask Insight Advisor**. Any found insights can be saved to this sheet.

Create new analytics

Use **Edit sheet** to start creating visualizations and build your new sheet.

## 4. DATA P REPARATION

### 4.1 PREPARE THE DATA FOR VISUALIZATION

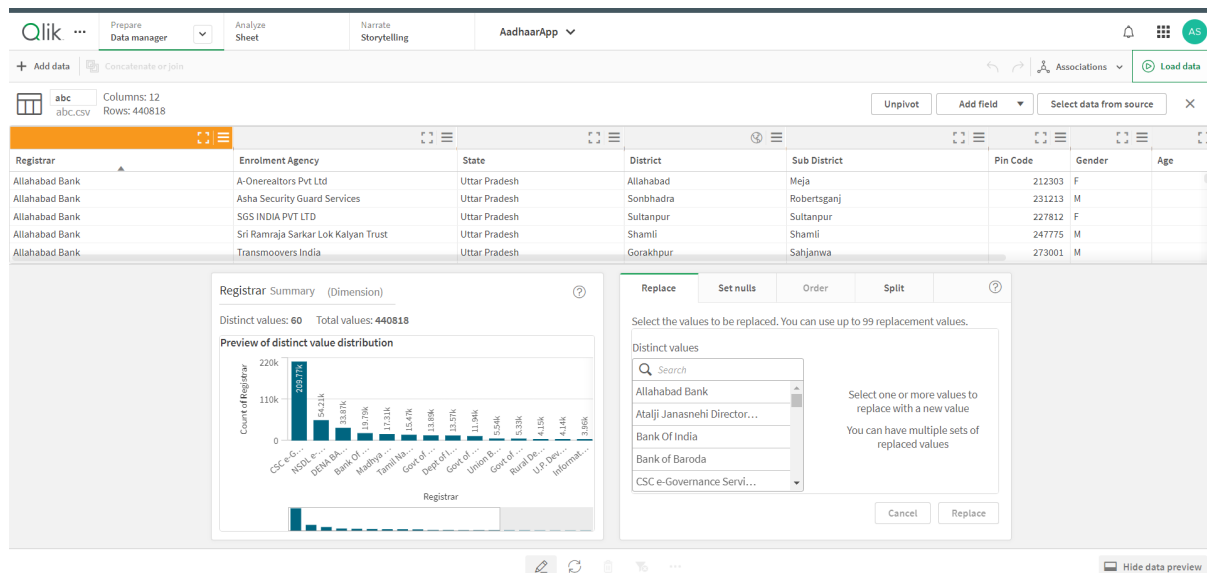
Data preparation is a pivotal stage preceding data visualization, involving a series of critical steps to ensure that the dataset is primed for analysis. While the Aadhaar dataset has already undergone cleaning to eliminate irrelevant or missing data, further refinement is essential to optimize it for visualization purposes.

Firstly, data transformation is imperative. This entails restructuring the dataset into a format conducive to visualization. Such restructuring may involve aggregating data at different levels of granularity, converting data types, or deriving new variables to facilitate analysis.

Additionally, an exploratory data analysis (EDA) is conducted to uncover underlying patterns, trends, and relationships within the dataset. Techniques like summary statistics, data profiling, and preliminary data visualizations aid in extracting meaningful insights.

Filtering and subset selection are subsequent steps, allowing analysts to focus on specific subsets of interest. This involves isolating data based on predetermined criteria, such as time periods, geographic regions, or demographic attributes

Furthermore, the dataset is formatted to align with the requirements of the chosen visualization software, in this case, Qlik Sense. This may involve restructuring the data into a tabular format, ensuring uniformity in variable naming conventions, and addressing any compatibility issues that may arise.



Moreover, data accuracy and completeness are paramount. Rigorous validation procedures are employed to verify the accuracy and integrity of the data. This may include cross-referencing against external sources, resolving discrepancies, and rectifying any data quality issues that could

compromise the reliability of visualizations.

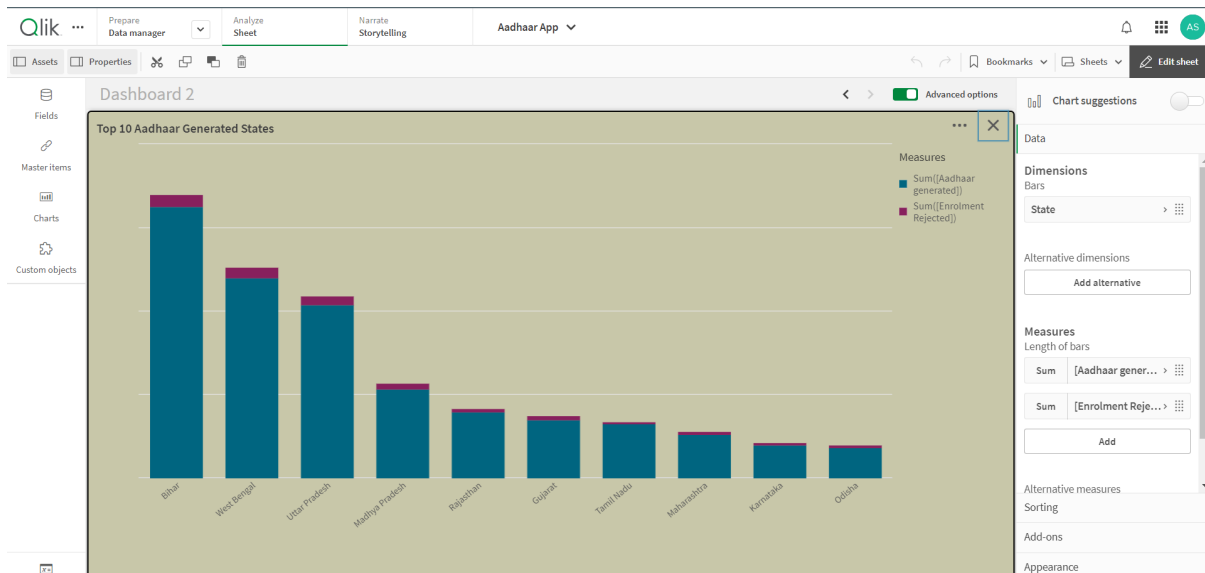
In cases where additional datasets are necessary to enrich the analysis or provide context, data integration is undertaken. This involves merging or joining multiple datasets based on common identifiers or keys to create a unified dataset conducive to visualization.

Finally, data aggregation and summarization may be performed to condense the dataset while retaining essential information. This can aid in simplifying complex datasets and highlighting key insights during the visualization process. Overall, meticulous data preparation is indispensable for ensuring that the dataset is comprehensible, accurate, and ready for visualization, facilitating the extraction of actionable insights and informed decision-making.

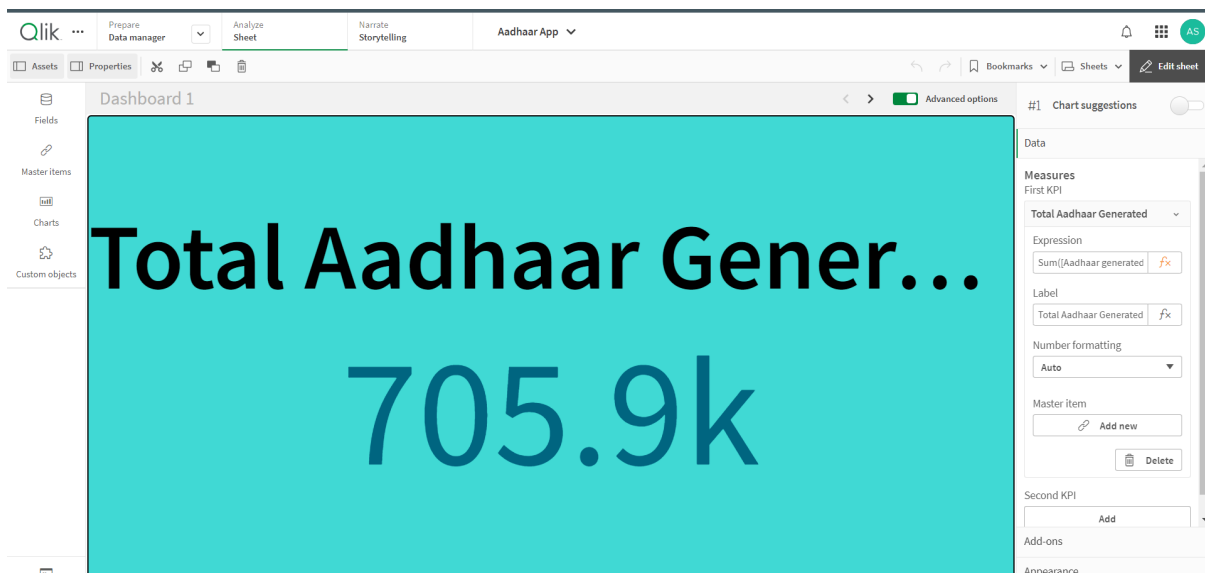
## 5. DATA VISUALIZATION

Visualization is a powerful tool for extracting insights and understanding complex datasets. With a given dataset, the number of unique visualizations that can be created is virtually limitless, limited only by the creativity and analytical goals of the data analyst. In the context of analyzing the performance and efficiency of banks, various types of visualizations can be employed to illuminate different aspects of their operations.

**1. Bar Charts:** Bar charts are effective for comparing categorical data, such as comparing the performance metrics of different banks or branches. They can be used to visualize metrics like revenue, profit, customer satisfaction scores, or loan approval rates across different entities.



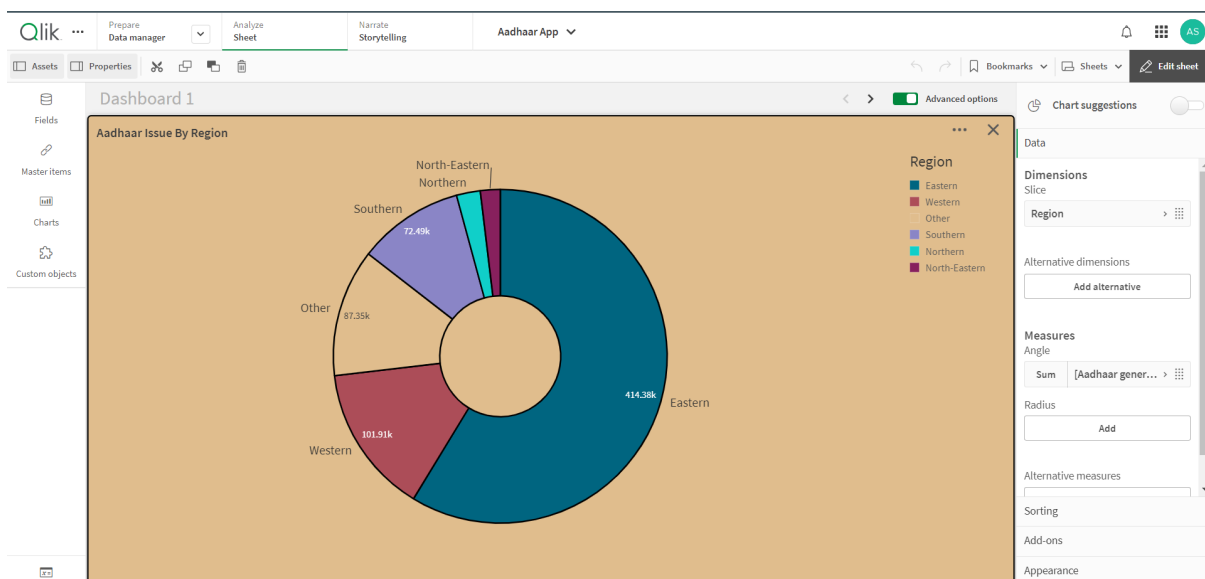
**2. Line Charts:** Line charts are ideal for showing trends and changes over time. They can be utilized to track key performance indicators (KPIs) of banks, such as loan approval rates, customer acquisition trends, or changes in market share, over different time periods.



**3. Heat Maps:** Heat maps provide a visual representation of data density or intensity on a geographic map. They can be used to visualize the distribution of banks, customer demographics, or transaction volumes across different regions, highlighting areas of high or low activity.

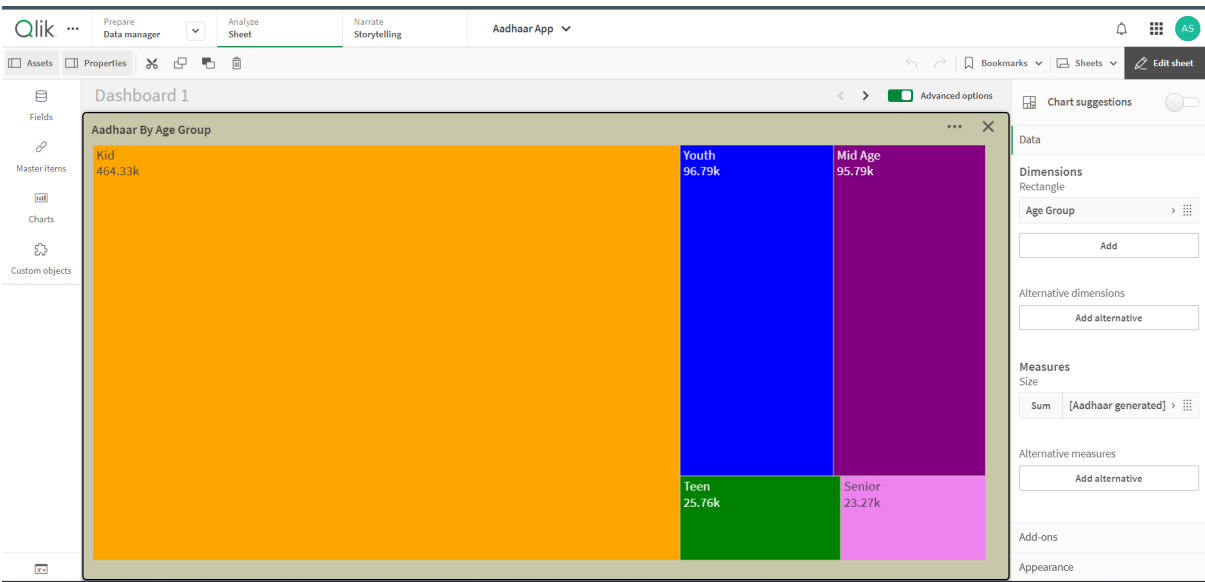
**4. Scatter Plots:** Scatter plots are useful for exploring relationships between two variables. They can be employed to analyze the correlation between factors such as bank profitability and customer satisfaction, or loan approval rates and economic indicators like GDP growth.

**5. Pie Charts:** Pie charts are effective for illustrating the composition of a whole. They can be utilized to depict the breakdown of revenue sources, customer demographics (such as age or gender distribution), or the distribution of loan types offered by a bank.



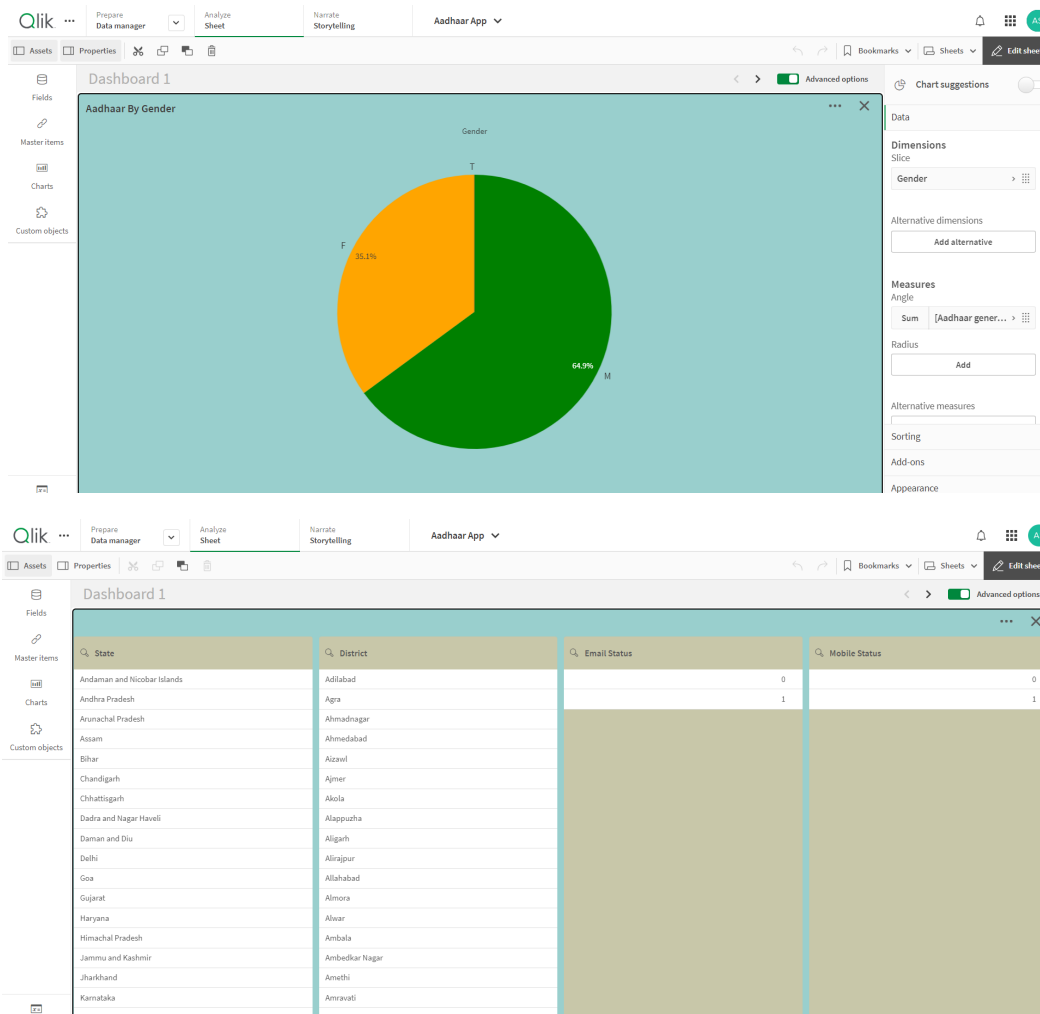
**6. Maps:** Maps can be used to visualize the location of banks, branches, or ATMs, providing insights into their geographical distribution and accessibility. They can also be overlaid with

other data layers, such as population density or income levels, to identify potential areas for expansion or targeting specific customer segments.



**Table 1: Aadhaar Generated/Rejected By Region**

Region	Sum([Aadhaar generated])	Sum([Enrolment Rejected])
Eastern	414375	20942
North-Eastern	13458	589
Northern	16350	1289
Other	87352	5811
Southern	72493	3460
Western	101911	6485
<b>Totals</b>	<b>705939</b>	<b>38576</b>



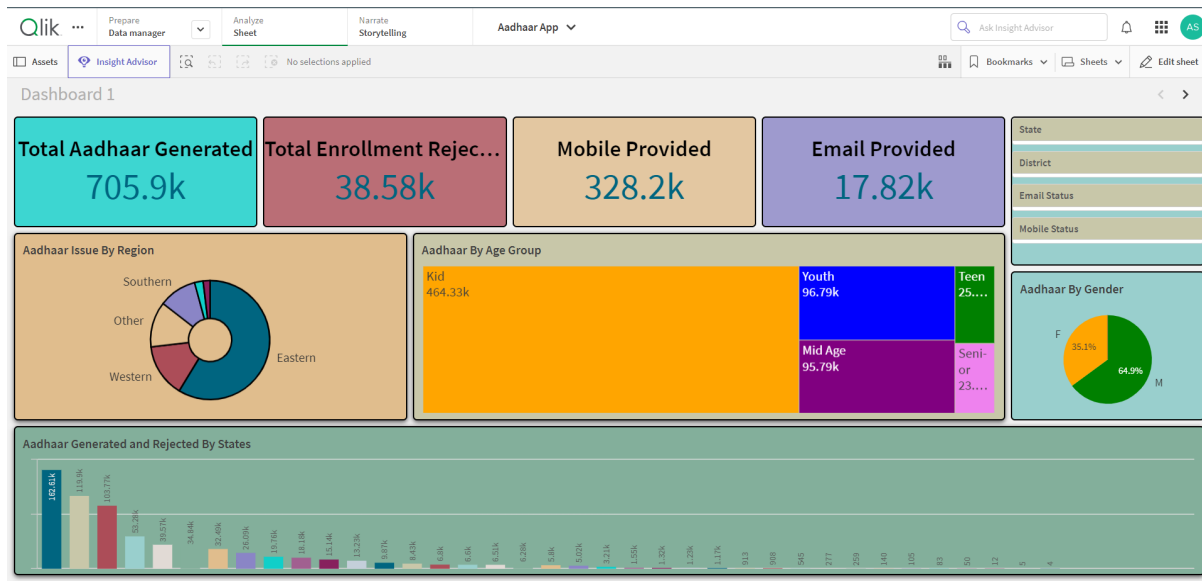
These visualizations enable analysts to compare performance, track changes over time, show distribution and relationships between variables, breakdown revenue and customer demographics, assess workload and resource allocation, and understand the geographical footprint of banks. By leveraging a combination of these visualization techniques, analysts can gain a comprehensive understanding of the performance and efficiency of banks, identify areas for improvement, and make data-driven decisions to drive organizational success.



## 6. DASHBOARD

### 6.1 Responsive and Design of Dashboard

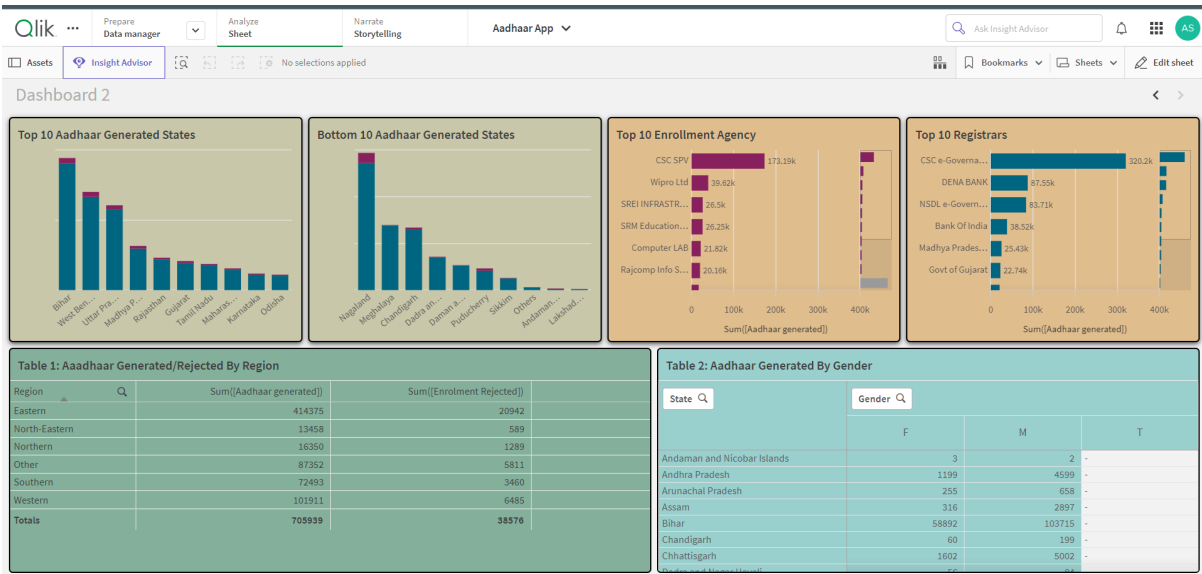
The design of a dashboard is critical in ensuring that users can effectively interact with and extract insights from the presented data. In today's digital landscape, where users access information across various devices with different screen sizes, responsiveness is fundamental for providing a seamless user experience. Responsive design, therefore, revolves around the adaptability of a dashboard to display optimally across diverse devices, including desktops, laptops, tablets, and smartphones. The goal is to maintain consistency and intuitiveness in user experience regardless of the device in use. To achieve this, flexible layouts are implemented, capable of dynamically adjusting based on screen size and orientation. This involves utilizing fluid grids, flexible images, and media queries to accommodate varying screen resolutions and ensure that the content remains accessible and readable across all devices.



Furthermore, responsive design prioritizes content based on its importance and relevance, especially on smaller screens where space is limited. This ensures that essential information is prominently displayed and easily accessible to users. Touch-friendly interactions are also incorporated for mobile devices, with larger buttons and swipe gestures enhancing usability and accessibility. Additionally, dashboard performance is optimized to ensure fast loading times and smooth navigation, particularly on mobile devices with constrained processing power and internet connectivity. Consistency in design elements, navigation patterns, and interaction behaviors across different devices is maintained to provide a cohesive user experience.

In parallel, the design of a dashboard encompasses aspects such as visual aesthetics, information hierarchy, usability, and interactivity. A well-designed dashboard should be visually appealing, intuitive to navigate, and conducive to data exploration and analysis. Clear information hierarchy is established to organize information logically and guide users' attention. Visual consistency is maintained through consistent use of colors, fonts, icons, and imagery, reinforcing brand identity

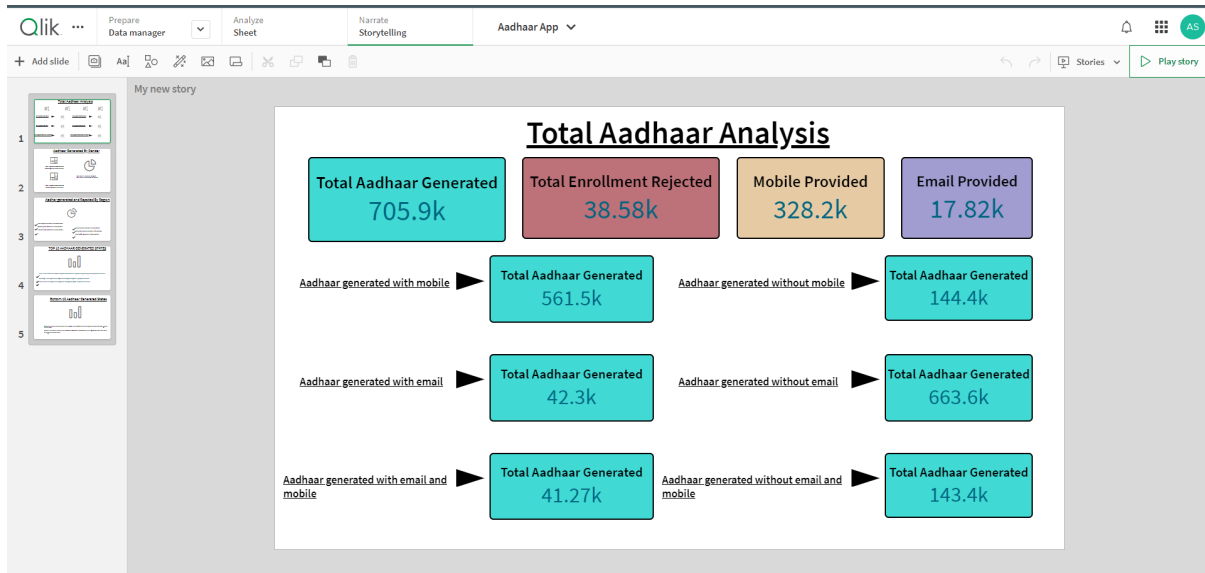
and enhancing readability. Effective data visualization techniques, such as charts, graphs, and maps, are selected to communicate insights and trends succinctly. Interactive elements like filters, drill-downs, and tooltips empower users to explore and interact with the data dynamically, facilitating deeper analysis. Accessibility and inclusivity considerations ensure that the dashboard is accessible to users with disabilities, adhering to accessibility standards and guidelines.



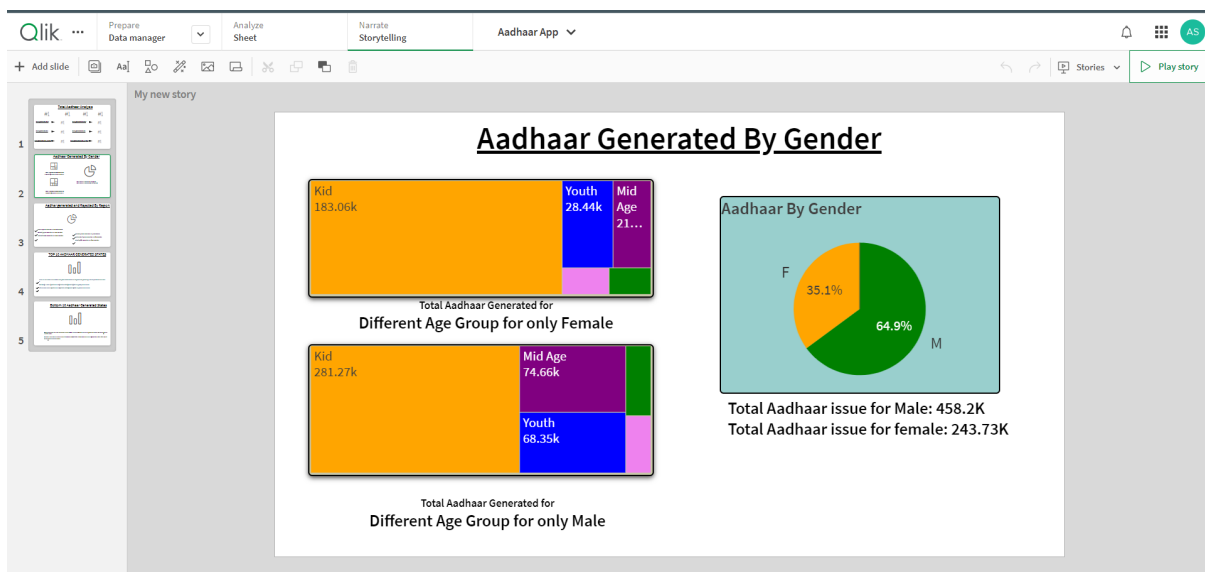
By integrating responsive design principles with thoughtful dashboard design, organizations can create dashboards that are accessible, engaging, and impactful, empowering users to make informed decisions and derive actionable insights from their data regardless of the device they are using. This cohesive approach enhances user experience, fosters data-driven decision-making, and ultimately drives organizational success.

## 7. STORY

A data story is a compelling narrative that presents data and analysis in a structured format, aiming to engage audiences and enhance comprehension. It serves as a bridge between raw data and actionable insights, weaving together information in a cohesive and digestible manner. Typically, a data story comprises three main components: an introduction, body, and conclusion.

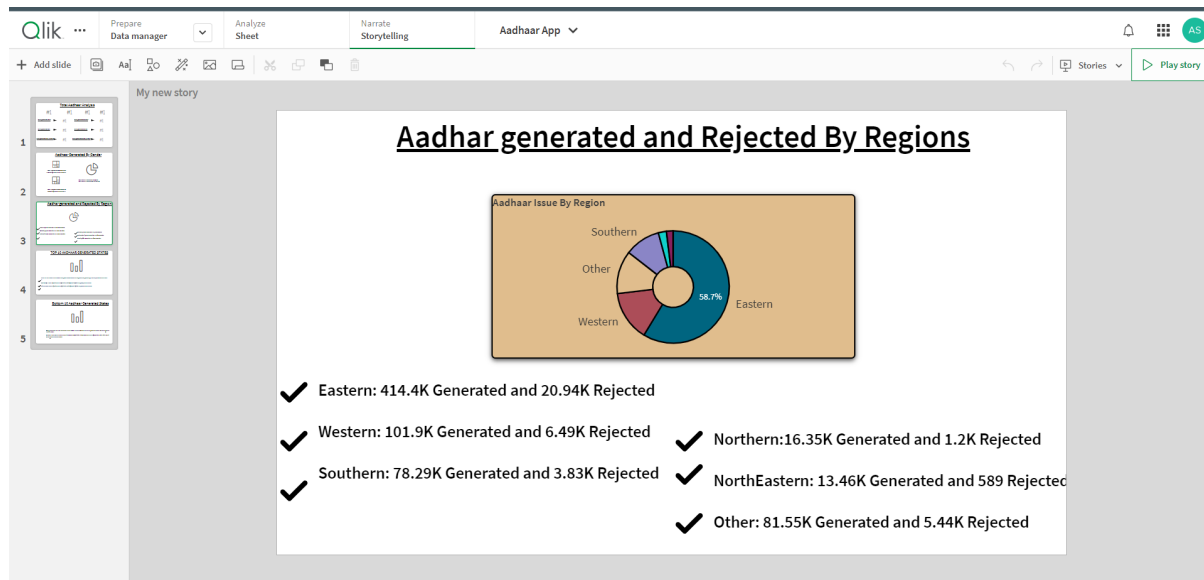


The introduction serves as the foundation of the data story, providing context and setting the stage for what follows. It outlines the purpose of the analysis, defines the scope of the data being examined, and introduces any relevant background information. By establishing a clear context, the introduction helps orient the audience and primes them for the insights to come.

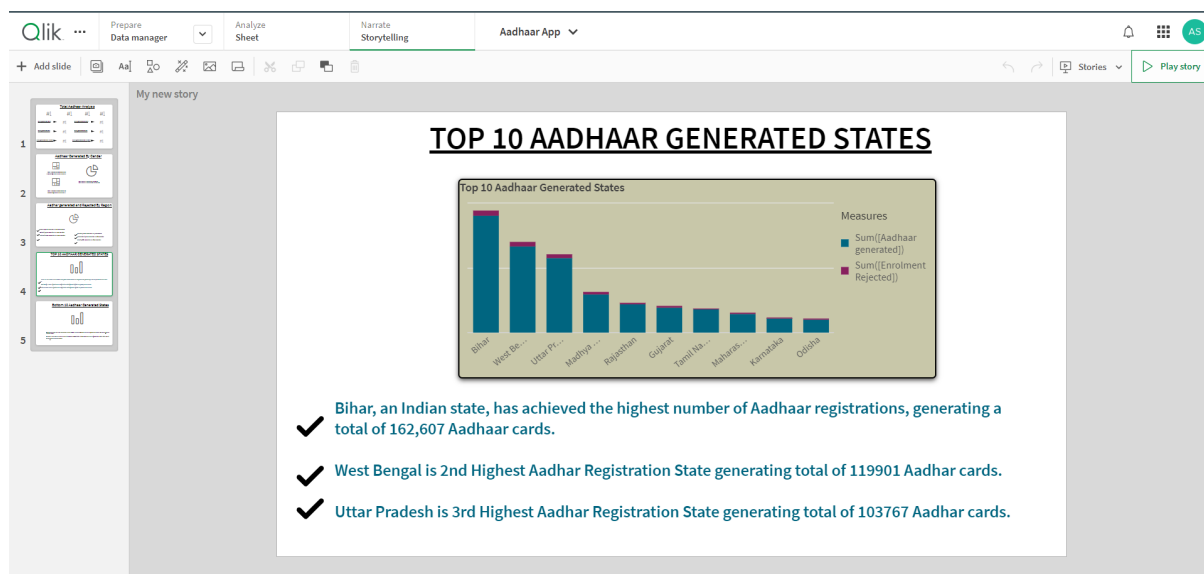


In the body of the data story, the focus shifts to presenting the data and analysis in a logical and systematic manner. This section may include visualizations, charts, tables, and textual

explanations to convey key findings and trends. Data is organized and structured to support the narrative, with explanations provided to elucidate complex concepts or relationships. The body of the data story guides the audience through the analytical journey, enabling them to follow along and gain deeper insights into the underlying data.



Finally, the conclusion of the data story summarizes the main findings and draws implications from the analysis. It highlights the significance of the insights uncovered, identifies any actionable recommendations or next steps, and reinforces the key messages conveyed throughout the narrative. The conclusion serves as a synthesis of the analysis, distilling complex information into clear takeaways that resonate with the audience.



Data stories can be communicated through various mediums, including reports, presentations, interactive visualizations, and videos. The choice of medium depends on factors such as

audience preferences, the complexity of the data, and the desired level of interactivity. Regardless of the medium, the goal remains the same: to transform data into a compelling narrative that informs, inspires, and empowers decision-making. By leveraging the power of storytelling, data stories have the potential to drive meaningful change and unlock new insights from the vast sea of information available.

## **8. PERFORMANCE TESTING**

### **8.1 AMOUNT OF DATA RENDERED:**

"Amount of Data Loaded" is a metric used to quantify the volume or quantity of data that has been imported, retrieved, or loaded into a particular system, software application, database, or any other data storage or processing environment. This metric provides insights into the scale and scope of data that has been successfully processed and made available for analysis, manipulation, or utilization within the system.

In essence, the "Amount of Data Loaded" metric tracks the total size of data that has been ingested or transferred into the system from external sources or data pipelines. This could include data from various sources such as files, databases, APIs, streaming platforms, or other data repositories. The measurement typically accounts for the total amount of data in bytes, kilobytes, megabytes, gigabytes, or terabytes, depending on the scale of the data being processed.

Monitoring the "Amount of Data Loaded" is essential for several reasons. Firstly, it provides visibility into the efficiency and effectiveness of data ingestion processes, helping organizations assess their data pipeline performance and identify potential bottlenecks or issues that may impact data availability or timeliness. Secondly, it enables capacity planning and resource allocation, allowing organizations to anticipate and accommodate changes in data volume over time. Lastly, it serves as a key performance indicator (KPI) for data-driven initiatives, reflecting the extent to which data is being leveraged for analytics, reporting, decision-making, and other business activities.

Overall, the "Amount of Data Loaded" metric is a critical measure of data processing and availability within a system, providing valuable insights into data pipeline performance and the readiness of data for downstream use and analysis. By tracking and monitoring this metric, organizations can ensure the smooth and efficient flow of data throughout their data ecosystem, enabling them to derive maximum value from their data assets.



### 8.3 No. of Calculation fields:

"Calculation fields" denote variables in a dataset generated through mathematical operations, functions, or formulas, rather than directly sourced data. These fields are derived by applying calculations to existing dataset values, enhancing analytical capabilities by creating new insights or metrics not present in raw data.

Prepare

Analyze

Narrate

Edit expression

1

2

3

4

```
if([Age Group] = 'Kid', 'Orange',  
  if([Age Group] = 'Youth', 'Blue',  
    if([Age Group] = 'Senior', 'Violet',  
      if([Age Group] = 'Mid Age', 'Purple', 'Green'))))
```

Update calculated field

Name

Region

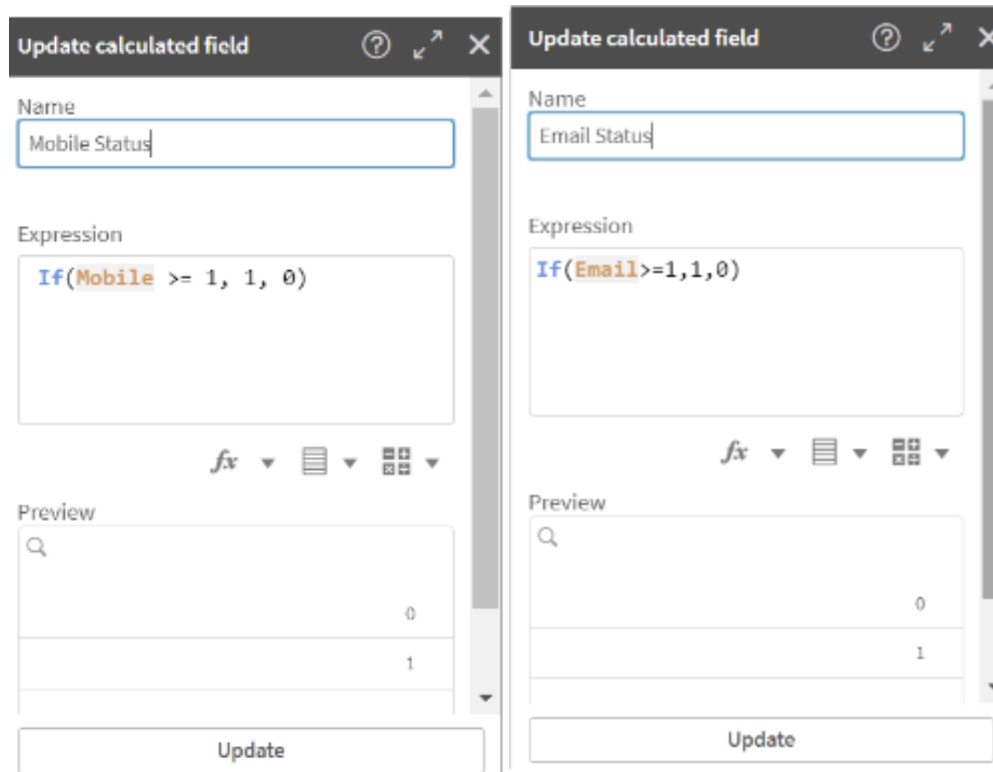
Expression

```
if(Match(State, 'Maharashtra', 'Gujarat', 'Rajasthan', 'Goa', 'Daman and Diu', 'Dadra and Nagar Haveli'), 'Western',  
  if(Match(State, 'Uttar Pradesh', 'Bihar', 'Jharkhand', 'Odisha', 'West Bengal', 'Sikkim'), 'Eastern',  
    if(Match(State, 'Karnataka', 'Andhra Pradesh', 'Telangana', 'Tamil Nadu', 'Kerala', 'Puducherry'), 'Southern',  
      if(Match(State, 'Punjab', 'Haryana', 'Himachal Pradesh', 'Jammu and Kashmir', 'Chandigarh'), 'Northern',  
        if(Match(State, 'Assam', 'Arunachal Pradesh', 'Nagaland', 'Manipur', 'Mizoram', 'Tripura', 'Meghalaya', 'Sikkim'), 'North-Eastern',  
          'Other')))))
```

Preview

fx





## 8.4 No. Of Visualization Graphs

1. **Aadhaar Issued by Age Group:** A **bar chart or pie chart displaying the distribution of Aadhaar** issued across different age groups. This visualization helps understand the demographic spread of Aadhaar holders and identify age-related trends.
2. **Top 10 Aadhaar Generated States:** A bar chart or horizontal bar chart ranking the top 10 states based on the number of Aadhaar cards generated. This visualization provides insights into the geographical distribution of Aadhaar issuance.
3. **Aadhaar Generated by Region:** A geographical map or stacked bar chart showing Aadhaar generation trends across different regions or districts. This visualization highlights regional disparities and helps identify areas with higher or lower Aadhaar issuance rates.
4. **Aadhaar Generated by Gender:** A pie chart or stacked bar chart illustrating the distribution of Aadhaar generation by gender. This visualization offers insights into gender-based disparities in Aadhaar enrollment.
5. **Aadhaar Issued by Mobile:** A line chart or bar chart showing the proportion of Aadhaar issued through mobile enrollment channels over time. This visualization tracks the adoption of mobile enrollment methods and their impact on overall Aadhaar issuance.
6. **Top 10 Highest Aadhaar Generated Registrar:** A horizontal bar chart ranking the top 10

registrars based on the number of Aadhaar cards generated. This visualization identifies the most active registrars contributing to Aadhaar issuance.

**7. Bottom 10 Aadhaar Generated States:** A bar chart or horizontal bar chart highlighting the states with the lowest Aadhaar issuance rates. This visualization sheds light on areas with lower enrollment penetration and may indicate regions requiring targeted enrollment efforts.

Each visualization provides a unique perspective on Aadhaar issuance patterns, facilitating informed decision-making and policy formulation. By analyzing these visualizations collectively, stakeholders can gain comprehensive insights into Aadhaar enrollment dynamics and prioritize interventions effectively.