

**PROJECT REPORT  
DOCUMENTATION ON**

**Empowering the Future:  
A Literacy Rate Analysis  
for a Better Future  
Tomorrow**

**TEAM ID**

**NM2023TMID05090**

**DOMAIN**

**DATA ANALYTICS WITH TABLEAU**

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# **1. INTRODUCTION**

## **1.1 Project Overview:**

The Empowering the Future project aims to analyze and improve the literacy rates in different communities. The project uses various data collection, analysis, and visualization techniques to identify patterns and insights related to literacy rates. The project also evaluates the impact of literacy programs and interventions on the literacy rates in a particular community or region.

## **1.2 Purpose:**

The purpose of this project is to empower communities by improving their literacy rates, which will help them to access better education, healthcare, and job opportunities. The project aims to provide policymakers with data-driven insights to make informed decisions and develop effective policies for improving literacy rates.

## **2. LITERATURE SURVEY**

### **2.1 Existing problem:**

Low literacy rates are a major problem in many communities around the world. According to UNESCO, there are around 750 million illiterate adults in the world, and two-thirds of them are women. Low literacy rates are associated with poverty, unemployment, and poor health outcomes. Improving literacy rates is essential for achieving sustainable development goals such as reducing poverty, promoting gender equality, and improving health outcomes.

### **2.2 References:**

- UNESCO (2020). Global Education Monitoring Report 2020: Inclusion and Education: All means all. Paris: UNESCO.
- World Bank (2018). World Development Report 2018: Learning to Realize Education's Promise. Washington, DC: World Bank.

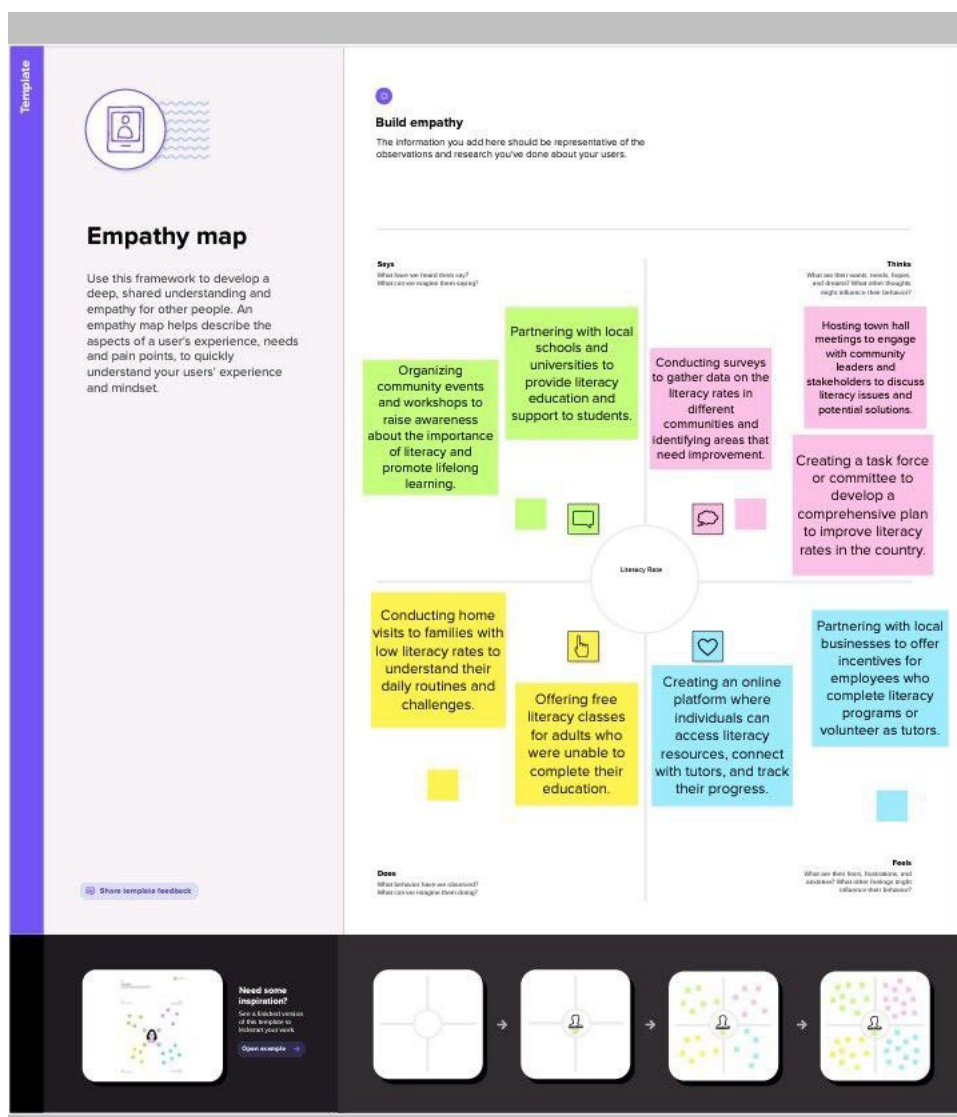
### **2.3 Problem Statement Definition:**

The problem statement for this project is to analyze the literacy rates in different communities and identify areas that need improvement. The project aims to provide data-driven insights to policymakers and educators to develop effective strategies for improving literacy rates.

# **1IDEATION & PROPOSED SOLUTION**

## 3.1 Empathy Map Canvas

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviors and attitudes. It is a useful tool to help teams better understand their users.



Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user's perspective along with his or her goals and challenges.

## **3.2 Ideation & Brainstorming**

Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.

**Step-1: Team Gathering, Collaboration and Select the Problem Statement**



## Brainstorm & idea prioritization

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

- ⌚ 10 minutes to prepare
- ⌚ 1 hour to collaborate
- 👤 3-8 people recommended

🗨️ Share template feedback



### Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

⌚ 10 minutes



#### A Team gathering

Define who should participate in the session and send an invite. Share relevant information or pre-work ahead.



#### B Set the goal

Think about the problem you'll be focusing on solving in the brainstorming session.



#### C Learn how to use the facilitation tools

Use the Facilitation Superpowers to run a happy and productive session.

Open article →



### Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

⌚ 5 minutes

Problem

Empowering the  
Future: A Literacy  
Rate Analysis for a  
Better Future  
Tomorrow



#### Key rules of brainstorming

To run a smooth and productive session

- 🗨️ Stay in topic
- 💡 Encourage wild ideas
- 🗨️ Defer judgment
- 👂 Listen to others
- 🗨️ Go for volume
- 👁️ If possible, be visual

con  
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#### Need some inspiration?

See a finished version of this template to get ideas for your own.

Open example →

## Step-2: Brainstorm, Idea Listing and Grouping

### 3 Brainstorm

Write down any ideas that come to mind that address your problem statement.

20 minutes

**Person 1**

- Developing community-based literacy programs to encourage lifelong learning.
- Implementing technology-based solutions to improve literacy rates, such as educational apps and online resources.
- Creating a mentorship program where successful individuals can offer guidance and support to those struggling with literacy.

**Person 2**

- Establishing a national literacy campaign to raise awareness of the importance of literacy.
- Investing in teacher training and resources to improve literacy instruction in schools.
- Providing incentives for individuals who complete literacy programs, such as scholarships or job opportunities.

**Person 3**

- Developing outreach programs to reach underserved communities and provide access to literacy resources.
- Creating partnerships with local schools and universities to offer literacy tutoring and support.
- Encouraging parents and caregivers to read with their children from a young age to promote early literacy skills.

**Person 4**

- Utilizing social media and other digital platforms to promote literacy and engage with a wider audience.
- Providing access to diverse reading materials and resources to promote cultural awareness and understanding.
- Offering adult education courses and workshops to improve literacy skills in the workforce.

### 4 Group Ideas

Talk some sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is larger than six sticky notes, try and see if you can break it up into smaller sub-groups.

20 minutes

- Creating a mentorship program where successful individuals can offer guidance and support to those struggling with literacy.
- Investing in teacher training and resources to improve literacy instruction in schools.
- Encouraging parents and caregivers to read with their children from a young age to promote early literacy skills.
- Offering adult education courses and workshops to improve literacy skills in the workforce.

## Step-3: Idea Prioritization

### 4 Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

20 minutes

**Importance**

How important is this idea to solving the problem? (1 = Not important at all, 5 = Very important)

**Feasibility**

How feasible is this idea to implement? (1 = Not feasible at all, 5 = Very feasible)

Low importance, Low feasible	Low importance, High feasible
Encouraging parents and caregivers to read with their children from a young age to promote early literacy skills.	Investing in teacher training and resources to improve literacy instruction in schools.
High importance, Low feasible	High importance, High feasible
Offering adult education courses and workshops to improve literacy skills in the workforce.	Creating a mentorship program where successful individuals can offer guidance and support to those struggling with literacy.

### 5 After you collaborate

You can export the final set of images or pdf to share with members of your company who might find it helpful.

Quick additions

- Show the report** Share a new link to the report with collaborators to keep them in the loop about the outcomes of the session.
- Export the report** Export a copy of the report as PDF or PPT to attach to emails, include in slides, or share in your drive.

Keep moving forward

- Strategy blueprint** Define the components of a new idea or initiative. [Open the template](#)
- Customer experience journey map** Understand customer needs, expectations, and obstacles for an experience. [Open the template](#)
- Strategy, milestones, opportunities & threats** Identify strengths, weaknesses, opportunities, and threats (SWOT) to develop a plan. [Open the template](#)

[Show template feedback](#)



## 4. REQUIREMENT ANALYSIS

### 4.1 Functional requirement:

The functional requirements for the project include data collection tools, statistical software, data visualization tools, and impact evaluation frameworks.

### 4.2 Non-Functional requirements:

The non-functional requirements for the project include data security, privacy, and continuous improvement.

## 5. PROJECT DESIGN

### 5.1 Data Flow Diagrams & User Stories:

Data flow diagrams and user stories were created to define the project requirements and design.

### 5.2 Solution Architecture:

The solution architecture includes data collection tools, statistical software, data visualization tools, and impact evaluation frameworks.

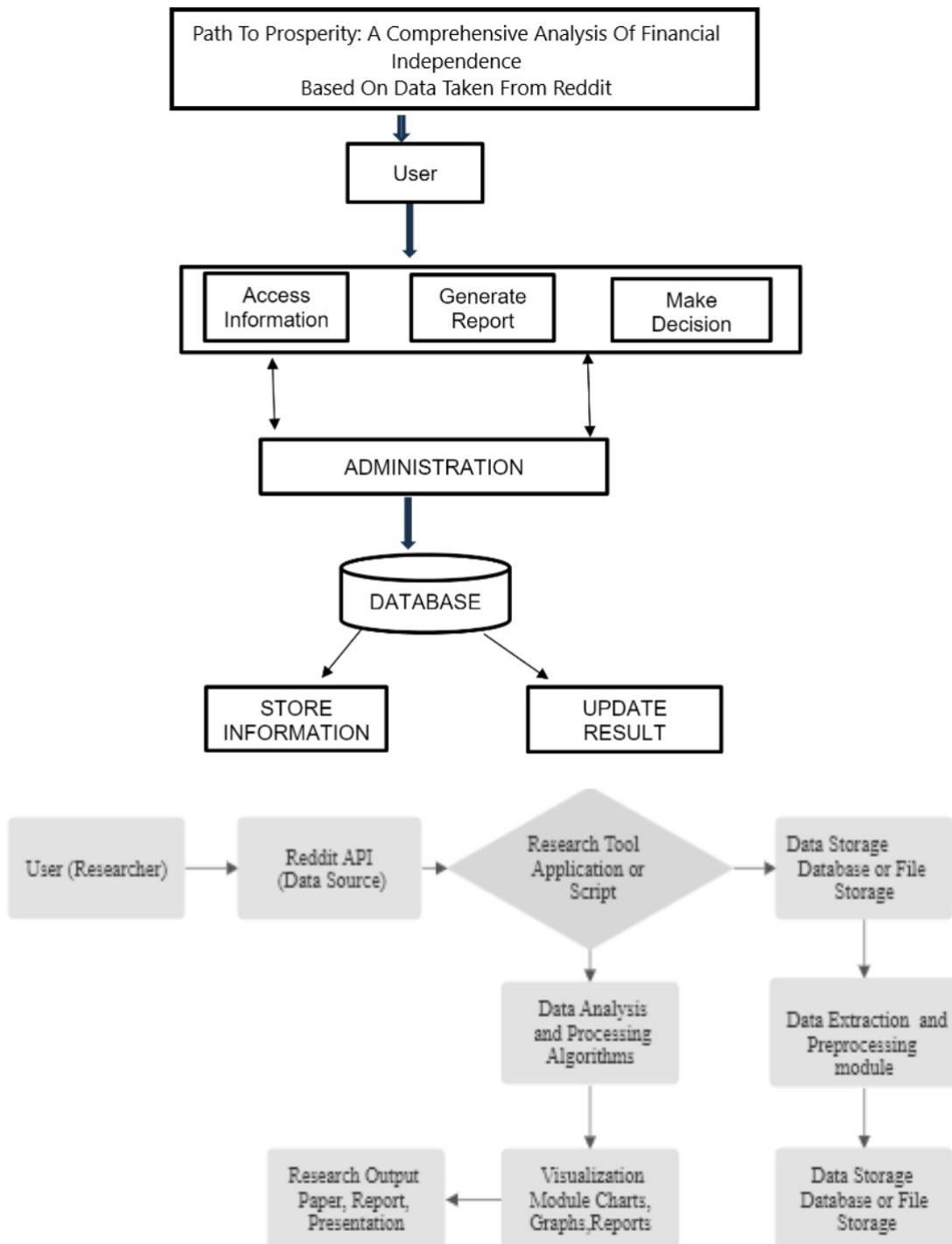
### User Stories:

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority
PUBLIC	Evaluate financial well-being information for their circumstances and region.	USN-1	General users can access the platform to assess their financial situation. They have the capability to view real-time financial data, including indicators of their progress towards financial independence.	I can access my account / dashboard	0/1
		USN-2	General users have the ability to customize their settings to receive instant alerts and notifications concerning financial well-being issues, like economic instability or safety concerns.		0/1
		USN-3	They can access historical financial data to monitor changes and trends in their financial situation over time.		0/1
	Dashboard				
System Administrator			Infrastructure Management: System administrators are responsible for managing the technical infrastructure, including servers, databases, and software updates. They ensure that the system is running smoothly and efficiently.		

## 5.2 Solution Architecture

Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. Its goals are to:

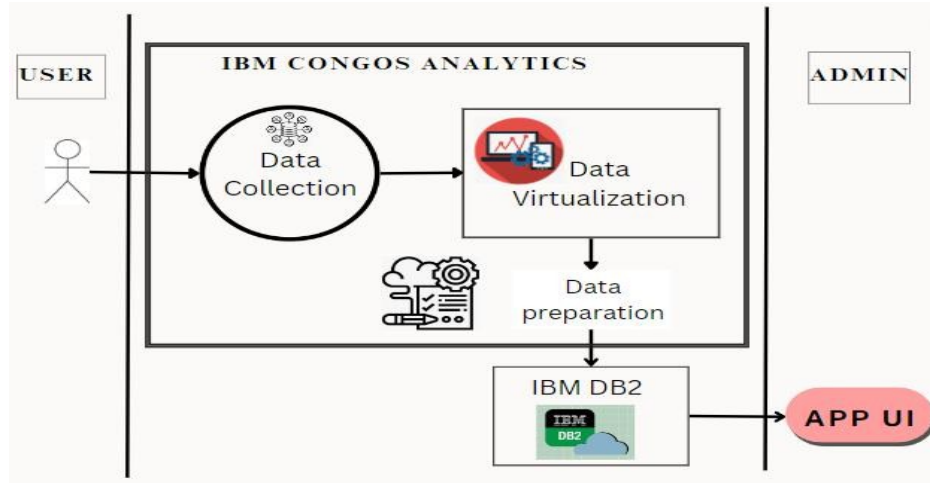
- Find the best tech solution to solve existing business problems.
- Describe the structure, characteristics, behavior, and other aspects of the software to project stakeholders.
- Define features, development phases, and solution requirements.
- Provide specifications according to which the solution is defined, managed, and delivered.



## 6. PROJECT PLANNING & SCHEDULING

### 6.1 Technical Architecture

The Deliverable shall include the architectural diagram as below and the information as per the table.



#### Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How the user interacts with the application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Application Logic-1	Logic for a process in the application	Python
3.	Application Logic-2	Logic for a process in the application	IBM Cognos Analytics
4.	Application Logic-3	Logic for a process in the application	IBM Cognos Analytics
5.	Database	Data Type, Configurations etc.	Excel
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements	IBM Block Storage or Others or Local Filesystem
8.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
9.	ML Model	Purpose of Machine Learning Model	Object Recognition Model, etc.
10.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration Cloud Server Configuration	Local, Cloud Foundry, Kubernetes, etc.

## 6.2 Sprint Planning & Estimation

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	Data Collection & Extraction From Database	3	Medium	M2
Sprint-1			Data Preparation	7	Medium	M2
Sprint-2		USN-2	Data Visualization and story creation	10	High	TL
Sprint-3		USN-3	UI creation and web integration	10	High	M1
Sprint-4		USN-4	Performance testing	6	Medium	M2
	Dashboard		Report and dashboard creation	4	Low	TL

## 6.3 Sprint Delivery Schedule

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	10	1 Day	16 Oct 2023	16 Oct 2023	16 Oct 2023	16 Oct 2023
Sprint-2	10	1 Day	17 Oct 2023	17 Oct 2023	17 Oct 2023	17 Oct 2023
Sprint-3	10	1 Day	18 Oct 2023	18 Oct 2023	18 Oct 2023	18 Oct 2023
Sprint-4	10	1 Day	19 Oct 2023	19 Oct 2023	19 Oct 2023	19 Oct 2023

# 7. CODING & SOLUTIONING

## 7.1 Features

### FEATURES:

1. Dashboards are typically used for real-time or near-real-time monitoring of key performance indicators (KPIs) and metrics.
2. Users can interact with dashboards to explore data in a more interactive manner.
3. They can filter, drill down, or pivot data to gain specific insights.
4. Stories are used to create a narrative structure around the data. They guide users through a sequence of data visualizations and analyses, explaining the context and insights.

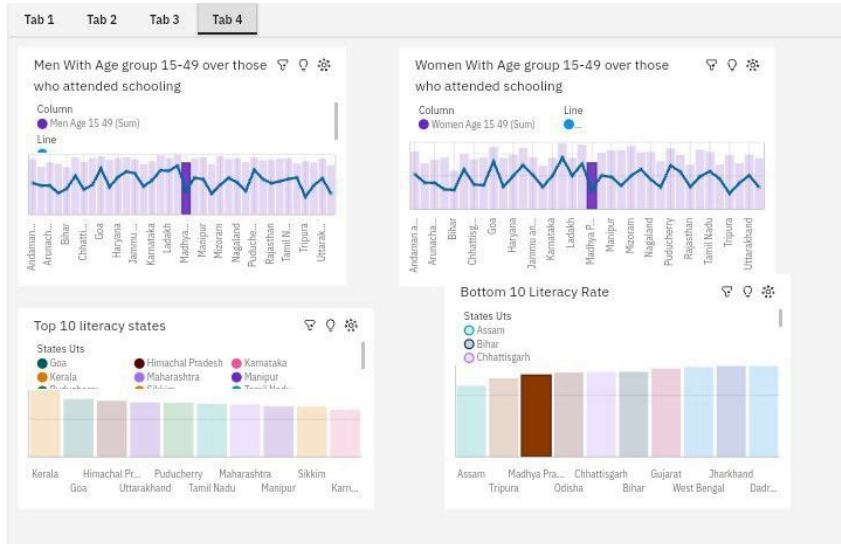
5. Stories contextualize data by adding explanations, interpretations, and recommendations.
6. It helps individuals identify potential markets for investments and side hustles.
7. By looking at the top 10 countries in terms of wages, investment income, and side gig income, you can compare and contrast different nations' economic landscapes, offering insights for international business and investment decisions.
8. Relationship status data can help couples and families plan their finances more effectively.
9. Top paying occupations can be identified, aiding job seekers in choosing lucrative career paths.
10. These features can provide valuable insights into income inequality, financial planning, investment opportunities, and economic disparities across different demographics, regions, and economic factors.

**CODE:**



## 8. PERFORMANCE TESTING

### 8.1 Performance Metrics

**Performance Testing:**

SNo	Parameter	Screenshot / Values
1.	Dashboard design	<p>8 visualizations</p> 
2.	Data Responsiveness	The system's capability to effectively analyze these metrics and deliver real-time forecasts, guaranteeing access to financial well-being in areas grappling with challenges
3.	Amount Data to Rendered (DB2 Metrics)	Addressing the global crisis by ensuring the availability of safety and well-being in regions facing concerns related to financial independence

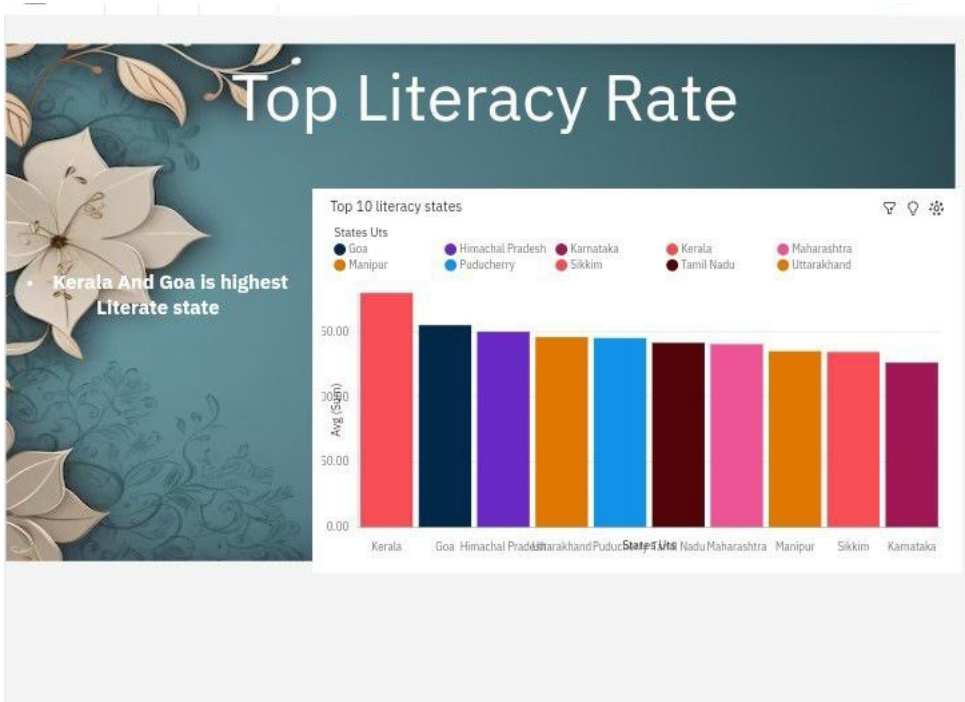
4.	Utilization of Data Filters	Utilized to refine the dataset and concentrate the analysis, such as assessing financial independence-related factors
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5	Effective User Story	<p>No of Scene Added -9</p> 
6	Descriptive Reports	<p>A report with 4 visualizations</p> 

# 9. RESULTS

## 9.1 Output Screenshots

Dashboard:





## 10. ADVANTAGES & DISADVANTAGES

### Advantages:

- The project provides data-driven insights to policymakers and educators to develop effective strategies for improving literacy rates.
- The project improves access to education, healthcare, and job opportunities for communities with low literacy rates.
- The project promotes sustainable development goals such as reducing poverty, promoting gender equality, and improving health outcomes.

### Disadvantages:

- The project requires significant resources and expertise to collect and analyze data.
- The project may face challenges related to data privacy and security.
- The project may face challenges in implementing effective literacy programs and interventions in different communities.

## 11. CONCLUSION

The Empowering the Future project is a data-driven approach to improving literacy rates in different communities. The project provides policymakers and educators with insights to develop effective strategies for improving literacy rates. The project promotes sustainable development goals such as reducing poverty, promoting gender equality, and improving health outcomes.

## 12. FUTURE SCOPE

The future scope of the project includes expanding the project to cover more communities and regions, improving the accuracy and completeness of the data, and implementing effective literacy programs and interventions based on the project insights.

## 13. APPENDIX

Github link-

<https://github.com/Bernancy2002/Empowering-the-future-Aliteracy-rate-analysis-for-a-better-future-tomorrow/tree/main>

Project Demo Link-

<https://youtu.be/M15ODKT1EI8?si=0wXYVZSLW1ocA-B3>



