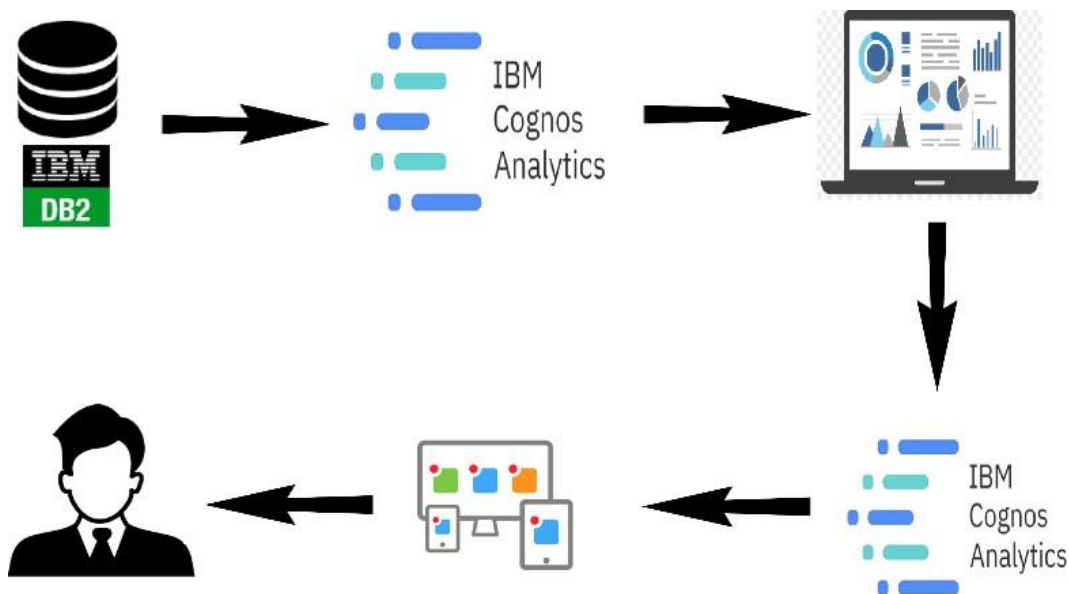


Date	05 November 2023
Team ID	PNT2022TMID591190

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

Technical Architecture:



Milestone 1: Define Problem/Problem Understanding:

Activity 1: Specify the business problem:

To know development in a society, Literacy is another proper indicator of economic development. For purpose of census, a person in age limit of seven and above, who can both write and read with understanding in any of the language is considered as a literate in India. Literacy plays a major role in the economic development of a nation. Although India has raised its current literacy rate of 74.04% (2021) from 12% at the time of Independence in 1947, it still lag behind the world average literacy rate of 84%. Compared with other nations, Republic of India has the largest illiterate population.

India Literacy Rate (According to 2011 Census)	
Overall	74.04%
Male	82.14%
Female	65.46%

Majority of states in India has shown majors signs of improvement in their overall illiteracy rate thus contributing towards a literate nation

Here we are analyzing literacy rate in India for 2021. This dataset contains a record Literacy rate each state of India, here we are going to analyze State wise, Region wise and Overall Literacy rate among Children, Women and Men in India in India.

Activity 2: Business requirements:

Understanding the literacy rate in India can also help businesses keep track of government policies and initiatives aimed at improving literacy rates. Businesses need to understand the literacy rates in India to conduct market research and determine the potential customer base for their products or services. The literacy rate analysis in India can help businesses make informed decisions, improve their marketing efforts, plan their workforce, and contribute to social causes, among other benefits. The ultimate goal is to gain insights and improve performance through data visualization techniques.

Activity 3: Literature Survey:

A literature survey for Literacy Rate Analysis involves reviewing academic articles, and other sources related to the analytics of Literacy Rate. Literacy rate analysis in India has been a topic of interest for researchers, policymakers, and scholars for many years. A literature survey on this topic reveals a wealth of information about the factors that influence literacy rates in India, as well as the challenges faced by policymakers in improving literacy rates across the country

Activity 4: Social or Business Impact:

Social Impact: It have a significant social impact, including the empowerment of individuals, improved social inclusion, poverty reduction, improved health outcomes, and promotion of gender equality

Business Model/Impact: It have a Businesses that invest in literacy programs and support education initiatives can benefit from a more skilled and innovative workforce, improved competitiveness, and enhanced social responsibility.

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, and evaluate outcomes and generate insights from the data.

Activity 1: Collect the dataset:



India_Updated
Literacy 2021.csv

Activity 1.1: Understand the data

Data contains all the meta information regarding the columns described in the CSV files. The name of file is India_Updated Literacy 2021.csv

Description for India_Updated Literacy 2021.csv:

The file India_Updated Literacy 2021.csv contains 112 rows. Each row corresponds to record of state with details and marks in respective subjects. The columns are:

Columns are:

- States- Indian States
- Area- Rural or Urban Area
- Children age 5 years who attended pre-primary school
- Women (age 15-49) (%)
- Men (age 15-49) (%)
- Women (age 15-49) with 10 or more years of schooling (%)
- Men (age 15-49) with 10 or more years of schooling (%)

Milestone 3: Data Preparation:

Data modules are containers that describe data and rules for combining and shaping data to prepare it for analysis and visualization in IBM Cognos Analytics. Data module sources. Data modules can be based on data servers, packages, uploaded files, data sets, and other data modules

Activity 1: Prepare the Data for Visualization

The screenshot shows the IBM Cognos Analytics interface. The top bar indicates the current module is 'LiteracyNewModule'. The left sidebar shows a 'Data ...odule' list with 'Indi...csv' selected. The main area displays a grid view of the data. The grid has columns for 'Avg', 'Sum', 'Row Id', 'States/UTs', 'Area', 'Children ag...ary school', 'Women (age 15-49) (%)', 'Men (age 15-49) (%)', and 'Wome'. The data is organized into rows, with the first row showing an average of 45.50 and a sum of 136.5 for India, Urban area, with 18.1% literacy for children, 83% for women, and 89.6% for men.

Avg	Sum	Row Id	States/UTs	Area	Children ag...ary school	Women (age 15-49) (%)	Men (age 15-49) (%)	Wome
45.50	136.5	1	India	Urban	18.1	83	89.6	56.3
29.80	89.4	2	India	Rural	12	65.9	81.5	33.7
34.93	104.80000000000001	3	India	Total	13.6	71.5	84.4	41
39.70	119.1	4	Andaman and Nicobar Islands	Urban	0	86.6	89.3	59.7
43.00	129	5	Andaman and Nicobar Islands	Rural	33.7	85.6	94.7	47.6
49.13	147.39999999999998	6	Andaman and Nicobar Islands	Total	42.6	86	92.5	52.5
40.30	120.9	7	Andhra Pradesh	Urban	10.2	79	86.4	51.2
28.87	86.6	8	Andhra Pradesh	Rural	9.8	63.8	76.3	34.3
32.47	97.4	9	Andhra Pradesh	Total	9.9	68.6	79.5	39.6
42.50	127.5	10	Arunachal Pradesh	Urban	8	84.7	92.1	55.4
28.90	86.7	11	Arunachal Pradesh	Rural	5.5	71.6	85.6	36.2
31.17	93.5	12	Arunachal Pradesh	Total	5.9	73.8	86.7	39.4
35.43	106.30000000000001	13	Assam	Urban	4.1	87.5	92.6	49
20.93	62.800000000000004	14	Assam	Rural	4.4	75.4	82.8	26.2
23.17	69.5	15	Assam	Total	4.4	77.2	84.3	29.6

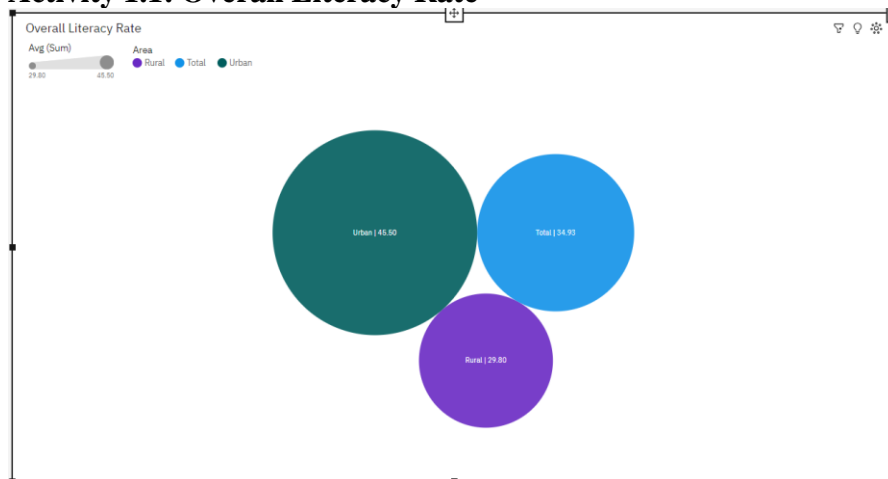
Milestone 4: Data Visualization

Data visualization is the process of creating graphical representations of data in order 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.

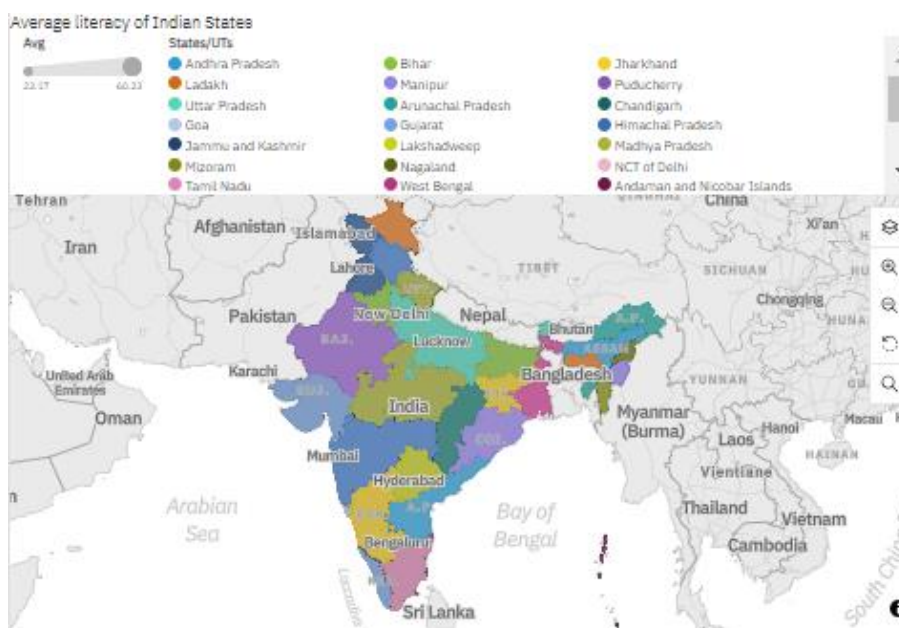
Activity 1: No of Unique Visualizations

The number of unique visualizations that can be created with a given dataset. Some common types of visualizations that can be used to analyse the Literacy include bar charts, line charts, heat maps, scatter plots, pie charts, Maps etc. These visualizations can be used to compare performance, track changes over time, show distribution, and relationships between variables, breakdown of revenue and customer demographics, workload, resource allocation and location of hotels.

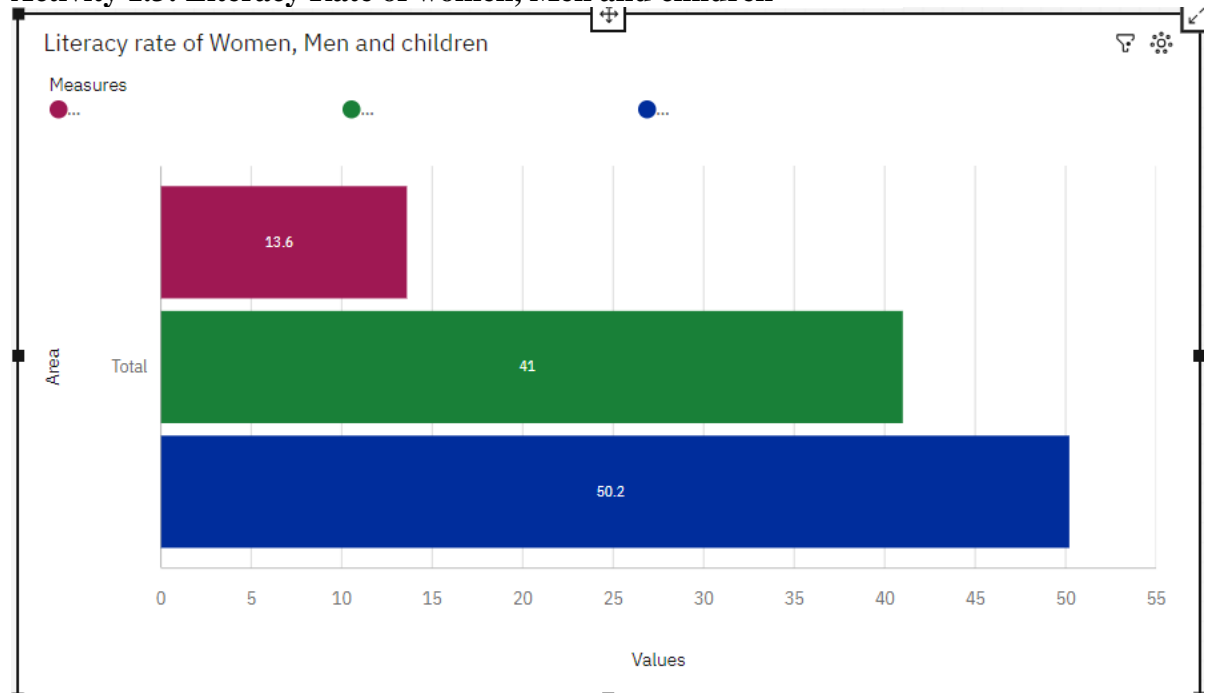
Activity 1.1: Overall Literacy Rate



Activity 1.2: Literacy Rate in Indian states

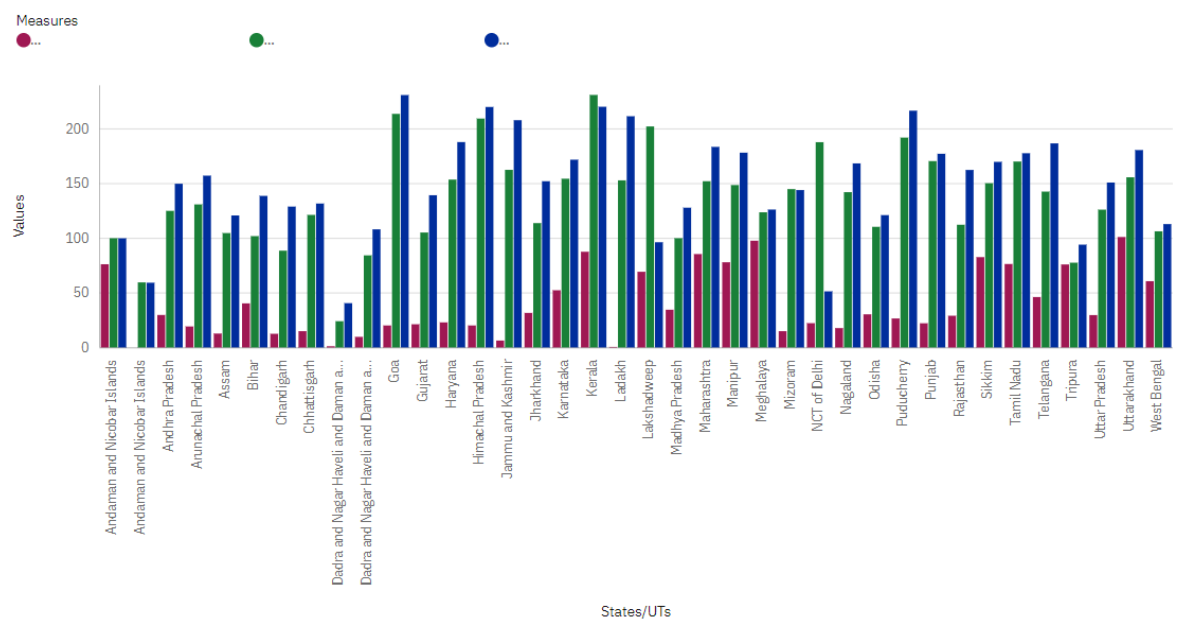


Activity 1.3: Literacy Rate of women, Men and children

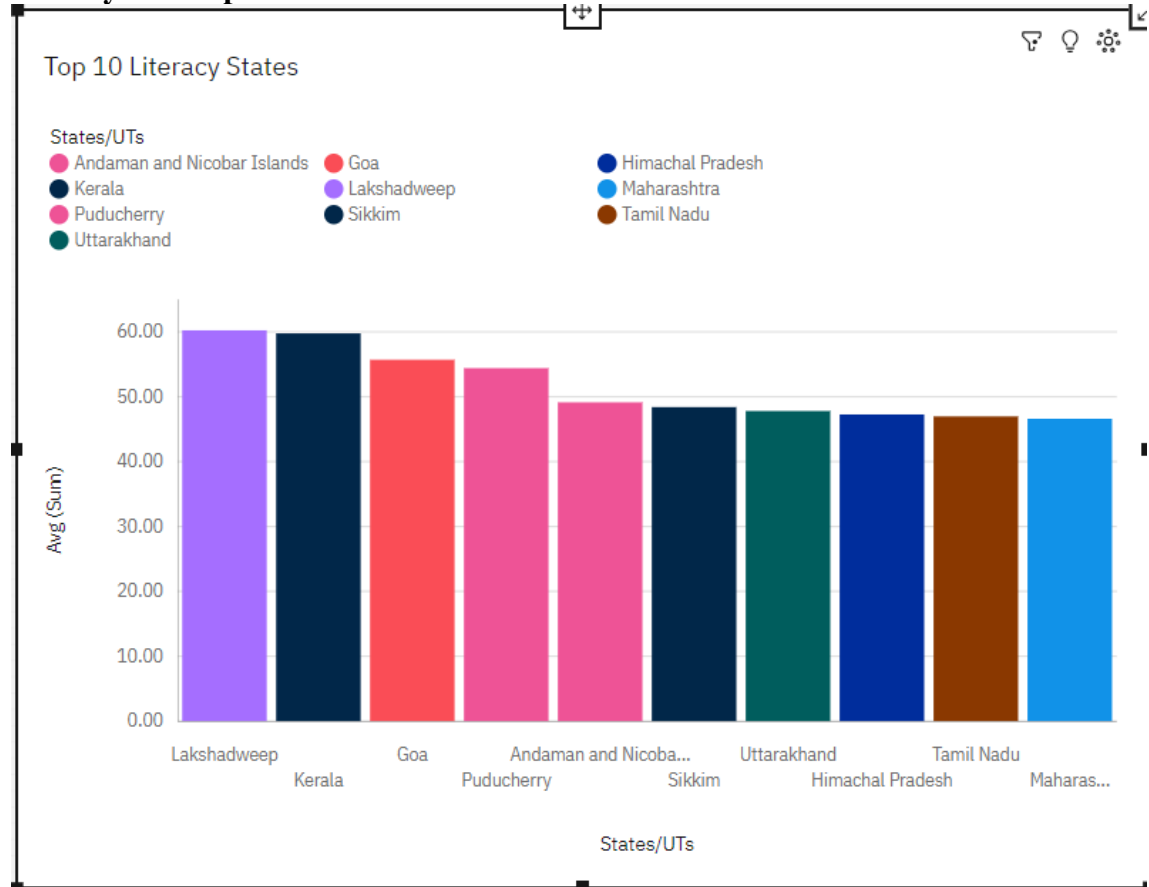


Activity 1.4: Average Literacy rate of women, men and children in States

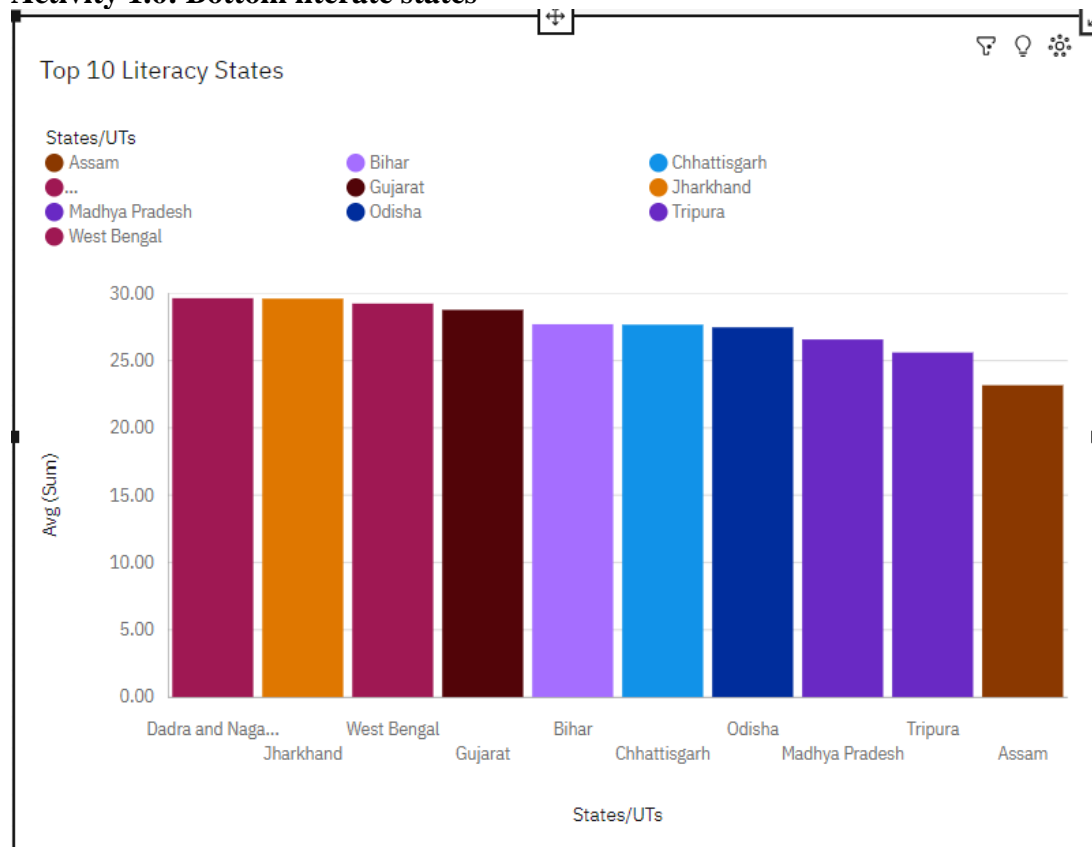
Average Literacy Rate of women, men and children in states



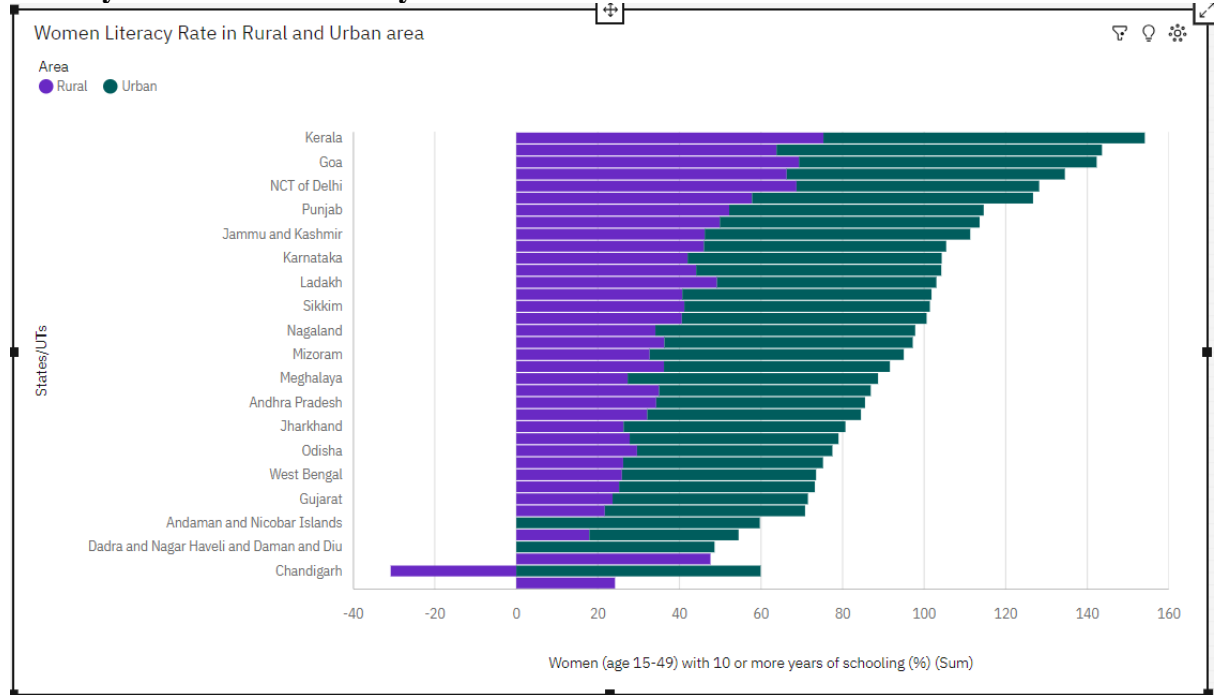
Activity 1.5: Top literate states



Activity 1.6: Bottom literate states



Activity 1.7: Women Literacy rate in Rural and Urban areas



Activity 1.8: Men with age group 15-49 over those who attended schooling

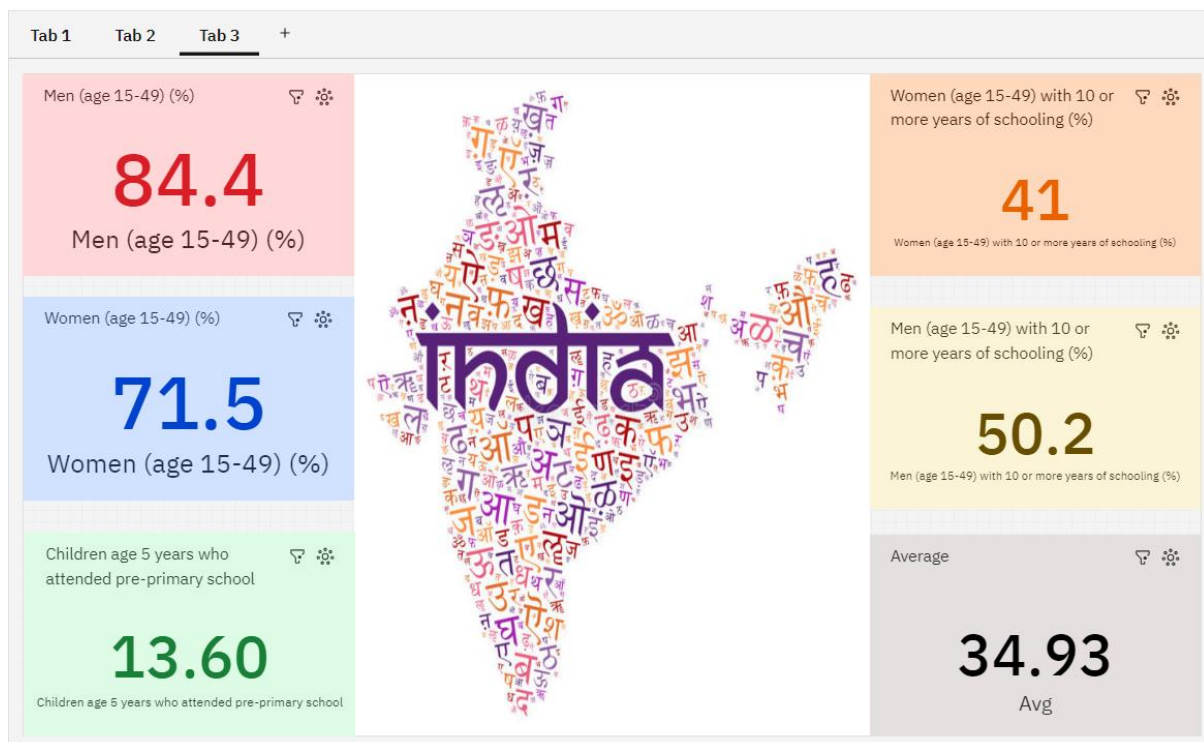


Milestone 5: Dashboard

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

The responsiveness and design of a dashboard for Data-Driven insights on Student Performance is crucial to ensure that the information is easily understandable and actionable. Key considerations for designing a responsive and effective dashboard include user-centered design, clear and concise information, interactivity, data-driven approach, accessibility, customization, and security. The goal is to create a dashboard that is user-friendly, interactive, and data-driven, providing actionable insights.



Milestone 6: Story

A data story is a way of presenting data and analysis in a narrative format, with the goal of making 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 in a logical and systematic way, 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 Data-Driven insights on Literacy 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.

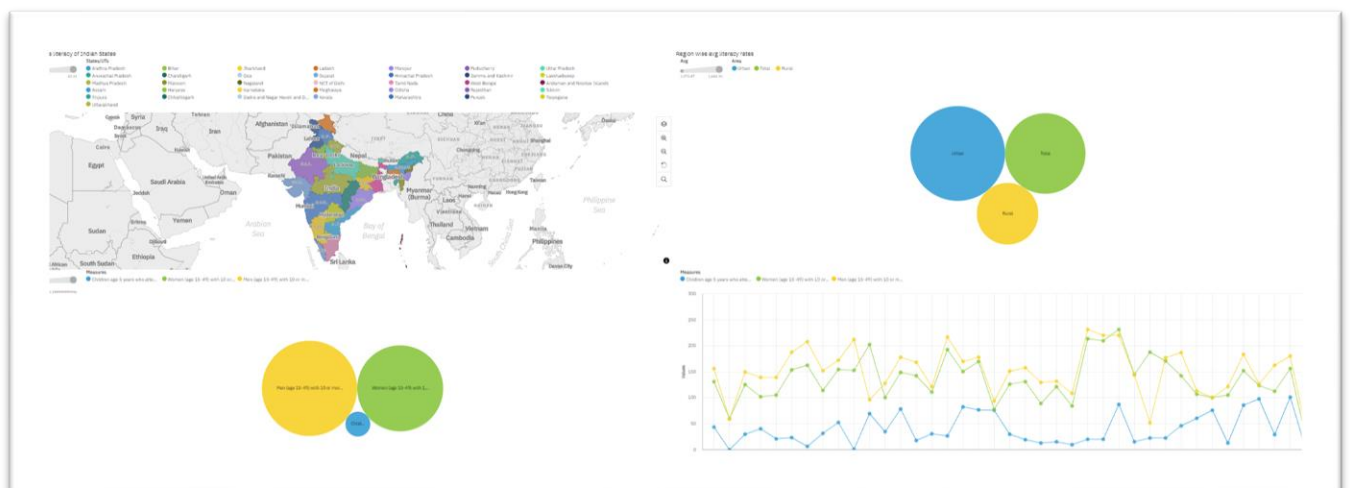
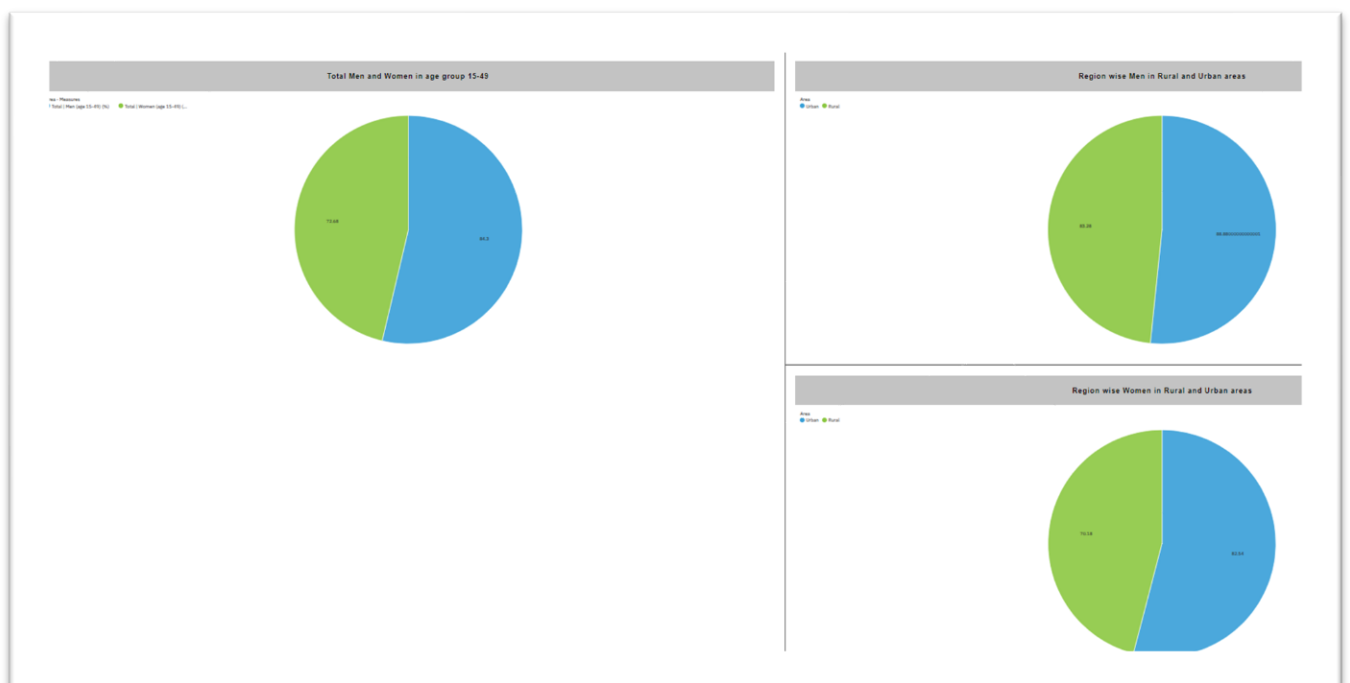


Milestone 7: Report

A report in data analytics typically involves analyzing and interpreting data to draw insights and conclusions that can inform business decisions or address research questions. The report usually includes a summary of the data analysis process, including the methods and tools used, as well as the findings and recommendations based on the analysis. The report should begin with an executive summary, which provides a brief overview of the main findings and recommendations. The introduction should provide background information on the problem or research question being addressed and the data sources used.

Activity:1- No of Visualization with detail information

When creating a report in Cognos, it is often helpful to include visualizations to help communicate the findings of the analysis.

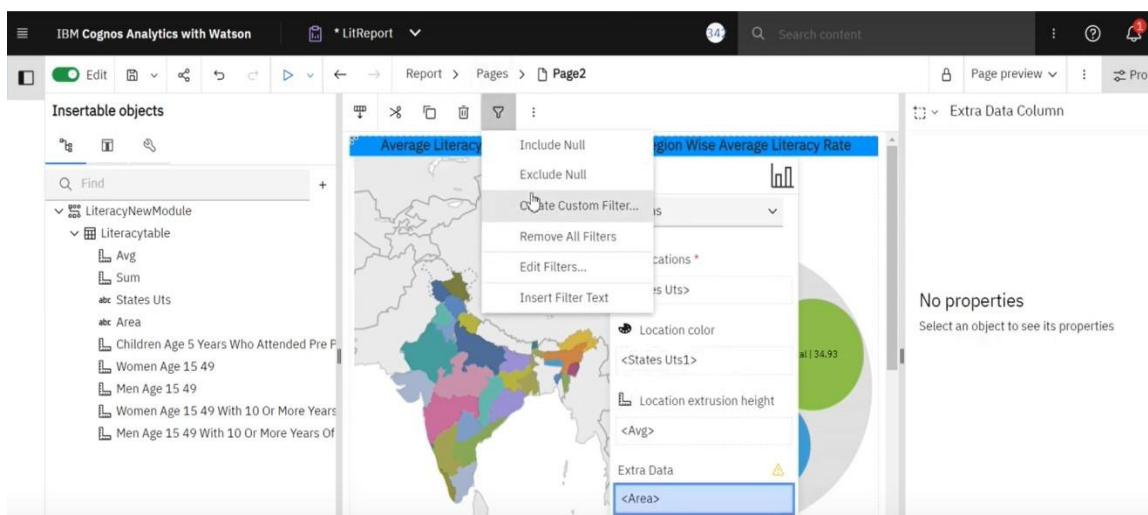
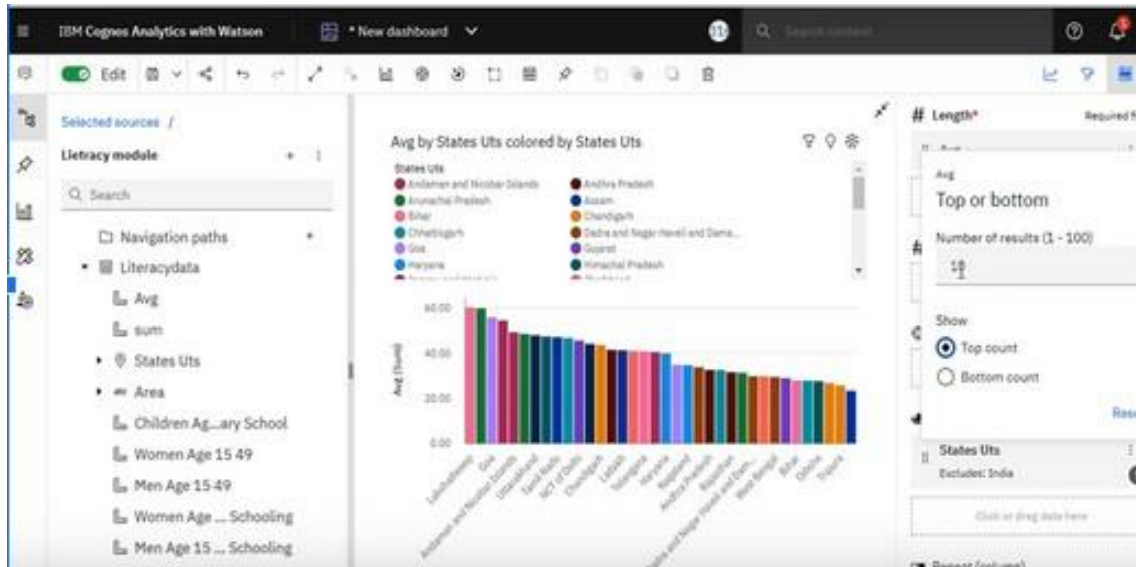


Milestone 8: Performance Testing

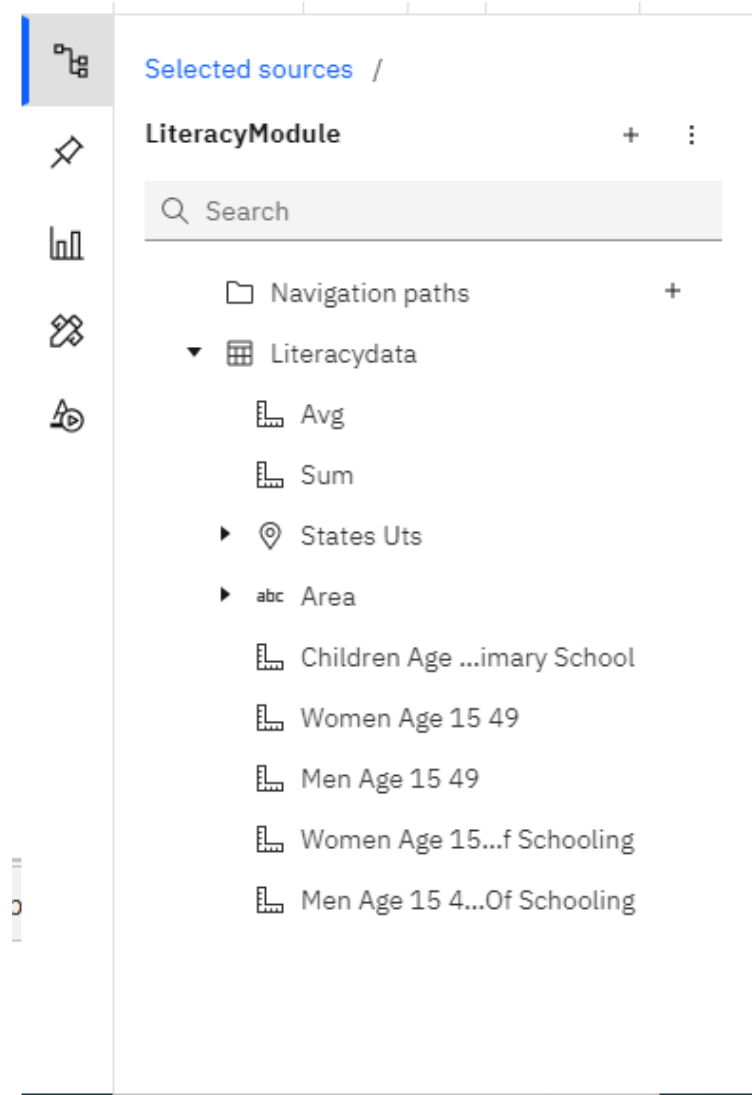
Activity 1: Amount of Data Rendered to DB2

- 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

Activity 2: Utilization of Data Filters



Activity 3: No of Calculation Fields



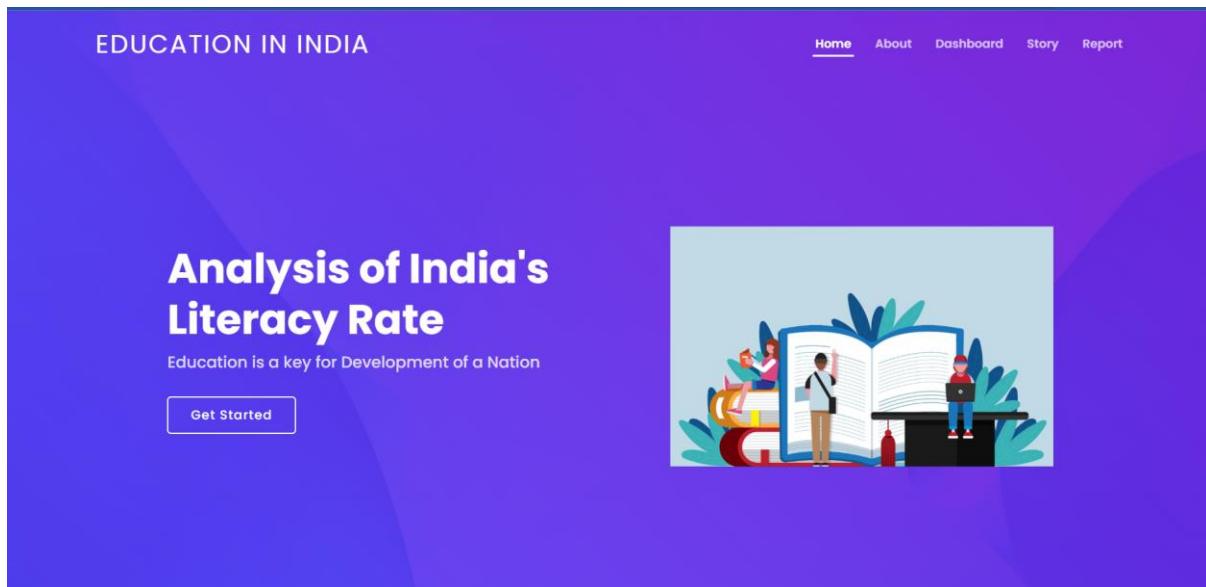
Activity 4: No of Visualizations/ Graphs

1. Overall Literacy Rate
2. Literacy Rate in Indian States
3. Literacy Rate of Women, Men and Children
4. Average Literacy Rate of Women, Men and Children in States
5. Top Literate States
6. Bottom Literate States
7. Women Literacy Rate in Rural and Urban Area
8. Men with Age group 15-49 over those who attended schooling

Milestone 9: Web integration

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

Activity 1: Dashboard, Report and Story embed with UI with Flask



Read More

1433233750

Population of India

738418319

Male

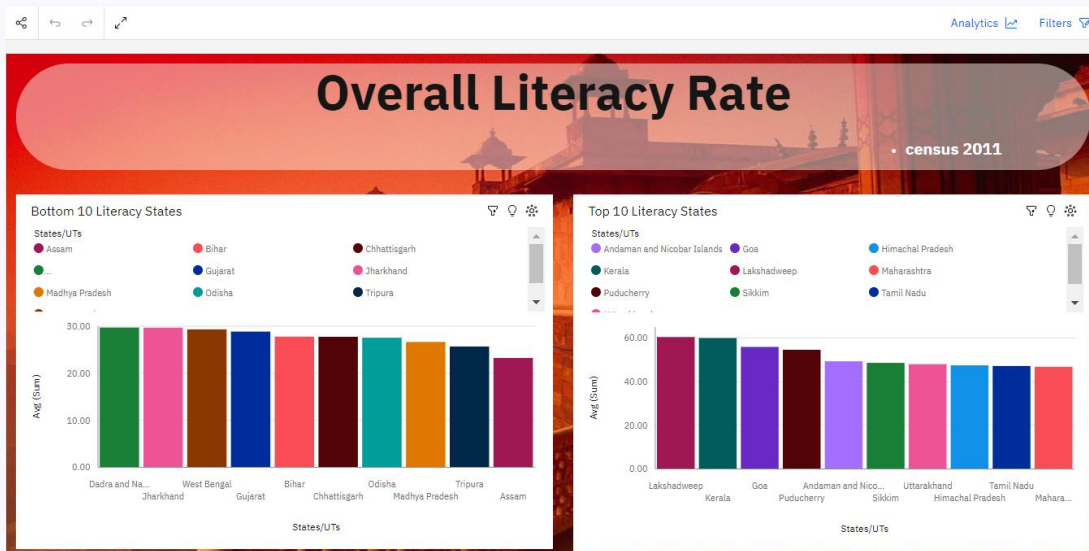
692736758

Female

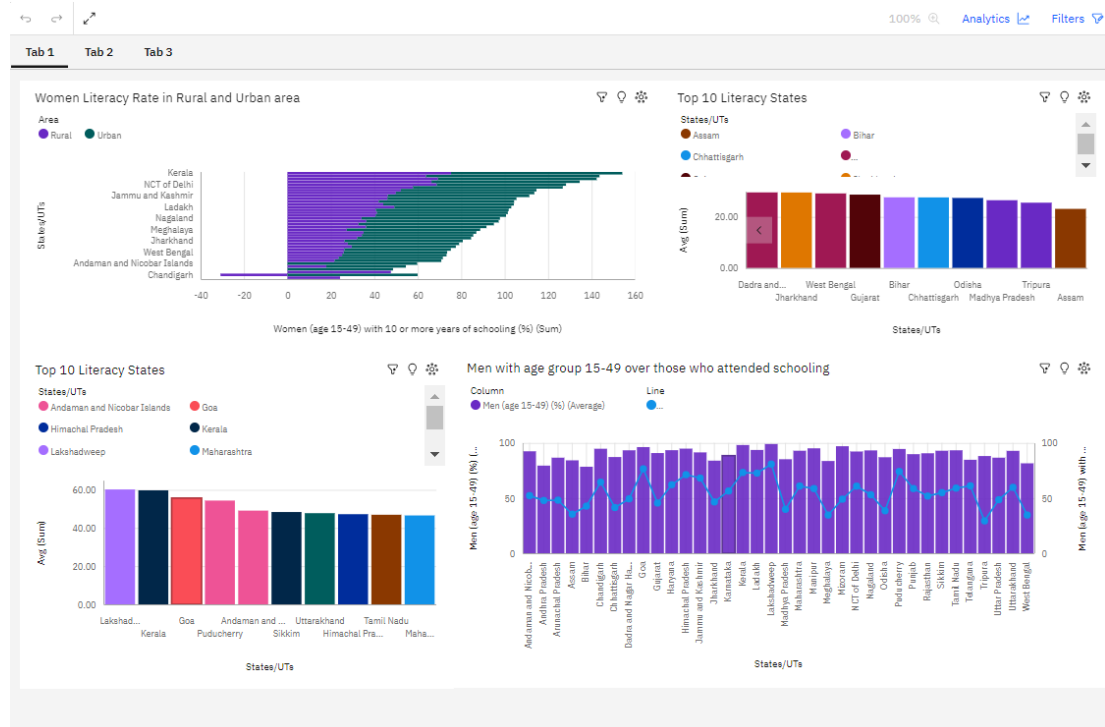
1102965870

Average Literacy number

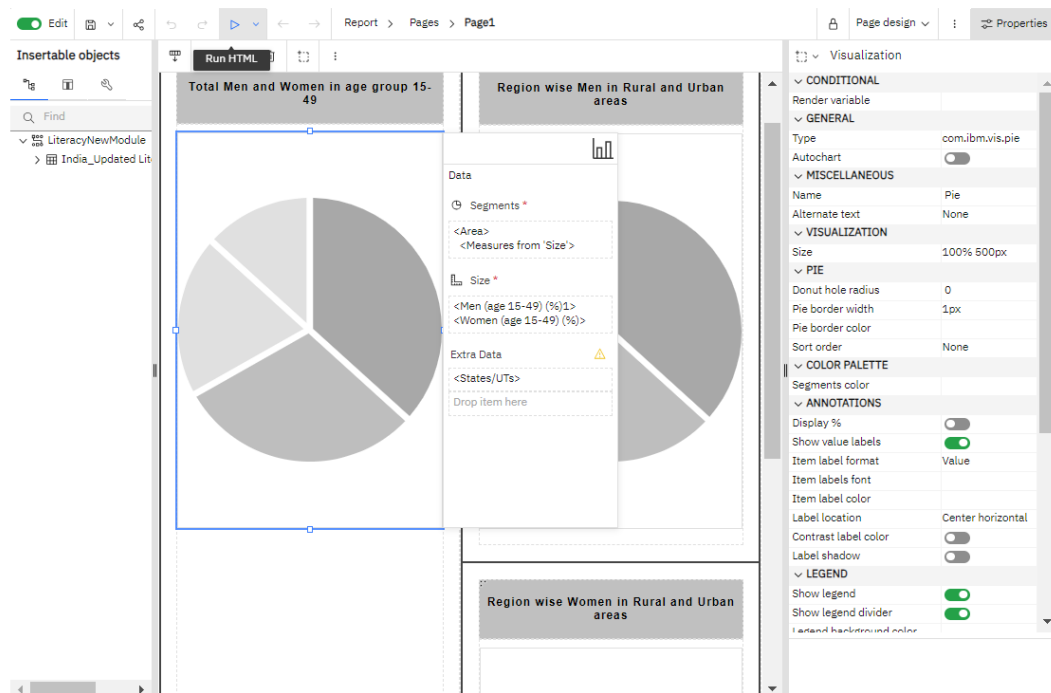
STORY



DASHBOARD



REPORT




EDUCATION IN INDIA

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TESTIMONIALS

From words to wisdom, the journey of India's literacy.


“ Literacy is the basic foundation on which we build our lives. It is the single-most-important tool that shapes our lives. ”



Dr.A.P.J.Abdul Kalam

11th President of India & Aerospace Scientist


“ Literacy in itself is no education. Literacy is not the end of education or even the beginning. By education, I mean an all-round drawing of the best in child and man in body, mind, and spirit. ”



Mahatma Gandhi

Father of Indian Nation

“ One child, one teacher, one book, and one pen can change the world. ”



Malala Yousafzai

Education Activist

EDUCATION IN INDIA

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FREQUENTLY ASKED QUESTIONS

Education in India is a multifaceted landscape, deeply rooted in tradition while rapidly evolving to meet the demands of the modern world. It grapples with challenges of access and quality but is increasingly guided by reforms aimed at a more inclusive and globally competitive system.

① What is the current literacy rate in India, and how has it evolved over the years?

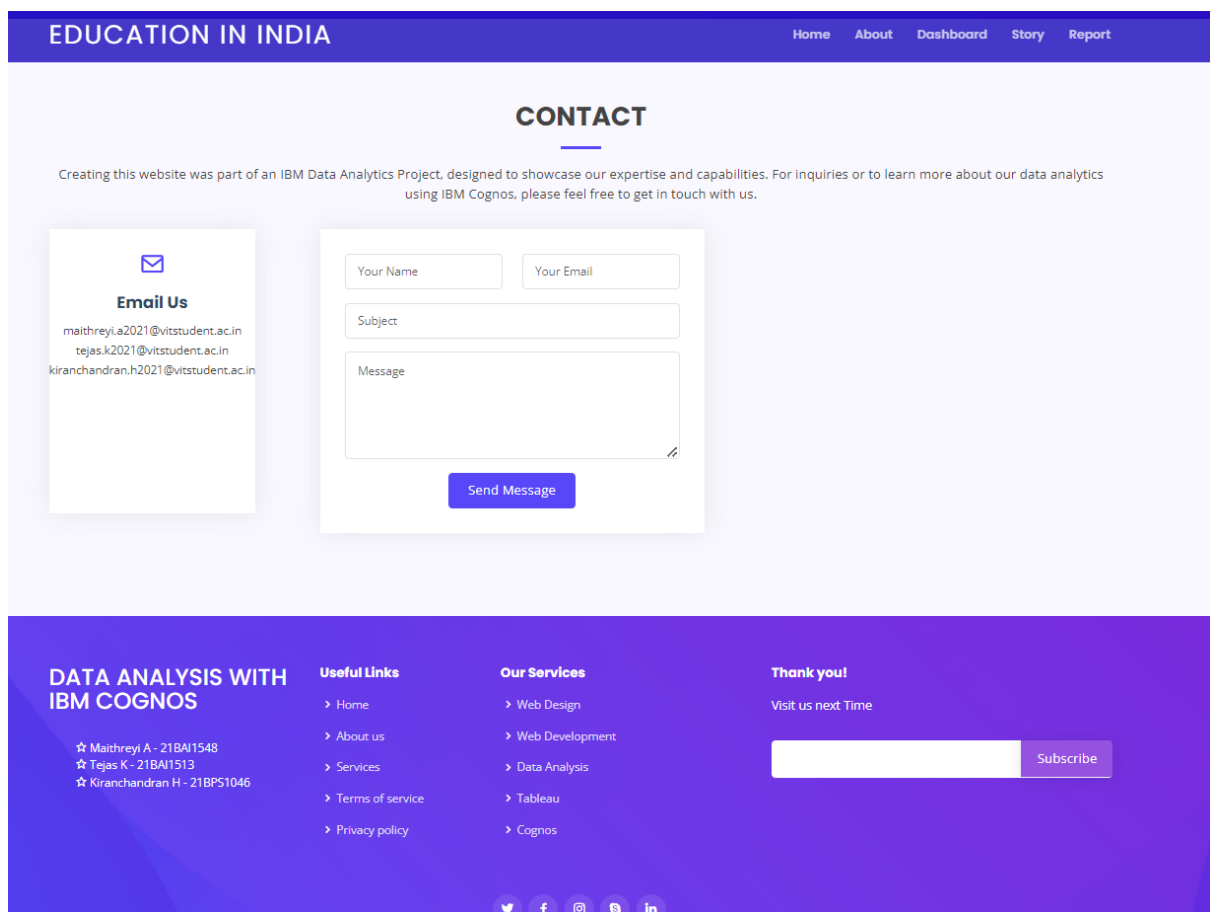
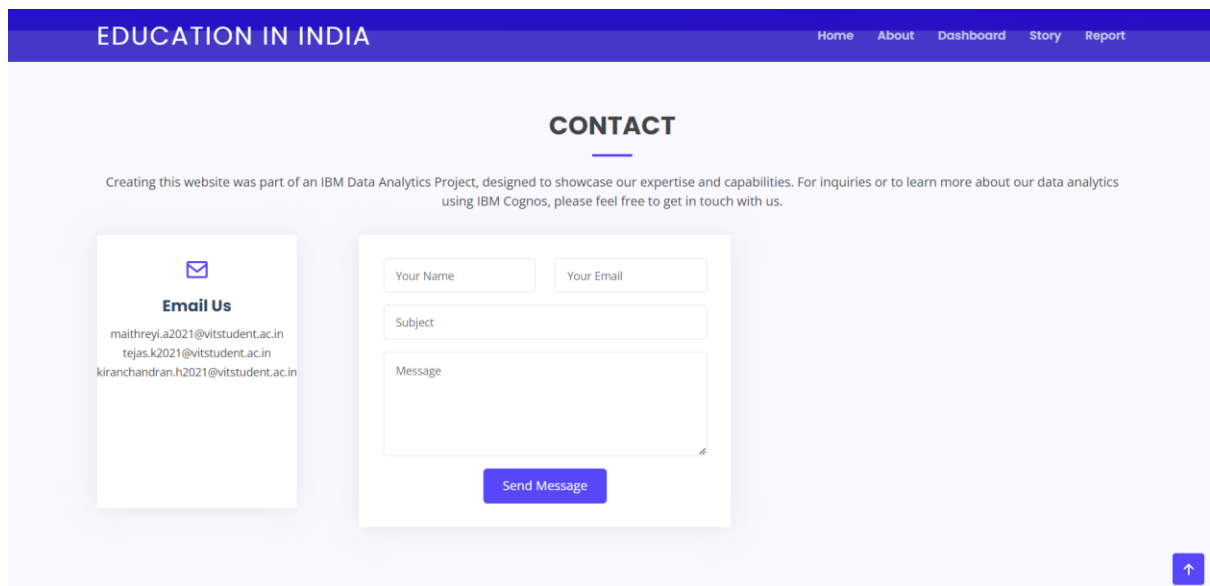
② What are the key challenges and barriers to improving literacy education in India?

Some of the major challenges include inadequate infrastructure, lack of access to quality education in rural areas, gender disparities, and economic factors. Additionally, the quality of education, teacher training, and curriculum development are areas that need attention.

③ How is the government addressing literacy and educational disparities among different states and regions in India?

④ What are the initiatives and programs in place to promote adult literacy and lifelong learning in India?

⑤ How does the quality of education in India affect literacy rates, and what steps are being taken to enhance the quality of education across the country?



Milestone 10: Project Demonstration & Documentation

Activity 1: Record explanation Video for project end to end solution

Activity 2: Project Documentation