



EMPOWERING THE FUTURE: A LITERACY RATE ANALYSIS FOR A BETTER FUTURE TOMORROW



IBM NAAN MUDHALVAN PROJECT REPORT

Submitted By

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BALAKRISHNAN C (611220104017)
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in partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

COMPUTER SCIENCE AND ENGINEERING

**KNOWLEDGE INSTITUTE OF TECHNOLOGY,
SALEM-637504**

ANNA UNIVERSITY::CHENNAI 600 025

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BONAFIDE CERTIFICATE

Certified that this project report titled “**EMPOWERING THE FUTURE: A LITERACY RATE ANALYSIS FOR A BETTER FUTURE TOMORROW**” is the bonafide work of “**BALA CHANDAR C (611220104014), BALAKRISHNAN C (611220104017), DHINESH KUMAR T (611220104039), GOKULRAJA R (611220104049)**” who carried out the project work under my supervision.

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ABSTRACT

ABSTRACT

The literacy rate in India in 2021 is examined in this research. An important factor in determining a country's degree of development is literacy. An individual's ability to communicate through reading and writing is referred to as literacy. Any population's literacy rate calculates the proportion of people over a given age who are literate. The percentage of adults over the age of fifteen who are literate is known as the literacy rate. Some emerging nations are attempting to raise the literacy rate, including Bangladesh, Nepal, Laos, and India. In the past ten years, India's literacy rate has increased significantly. India still has lower levels of literacy than many other nations, though.

A high literacy rate (or low illiteracy rate) indicates the presence of a primary education system and/or literacy programs that have made it possible for a significant portion of the population to learn how to use the written word (and perform basic arithmetic calculations) in daily life and to continue learning. A literate person is a valuable asset to the prosperity of a country. To ensure that people have the complex communication and critical thinking abilities required to succeed in the workplace and a global economy because a high literacy rate is crucial.

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LIST OF ABBREVIATIONS

ABBREVIATIONS	EXPANSIONS
UT	Union Territory
CSV	Comma Separated Values
API	Application Programming Interface
SOAP	Simple Object Access Protocol
WSDL	Web Services Description Language
XML	Extensive Markup Language
HTML	Hypertext Markup Language
CSS	Cascading Style Sheet

INTRODUCTION

CHAPTER -1

INTRODUCTION

1.1 PROJECT OVERVIEW

Data analytics is a method of applying quantitative and qualitative techniques to analyze data, aiming for valuable insights. With the help of data analytics, we can explore data (exploratory data analysis) and we can even draw conclusions about our data (confirmatory data analysis). In this project, we will fetch the dataset from the external API. The extracted dataset is checked for null values. Using the IBM Cognos Analytics tool data pre-processing process is done and a cleaned data module is created. Using a cleaned data module data exploration is carried out. Using those exploration ideas dashboards, reports, and stories are created. Finally, the dashboard, report, and story are linked to the webpage.

1.2 PURPOSE

The literacy rate in India in 2021 is examined in this research. An important factor in determining a country's degree of development is literacy. An individual's ability to communicate through reading and writing is referred to as literacy. Any population's literacy rate calculates the proportion of people over a given age literate people over given ages over the age of fifteen who are literate is known as the literacy rate. Some emerging nations are attempting to raise the literacy, including Bangladesh, Nepal, Laos, and India, are attempting to raise the literacy rate has increased significantly. India still has lower levels of literacy than many other nations, though. The literacy rate is 77.70%, with literate males at 84.70% and literate

LITERATURE SURVEY

CHAPTER-2

LITERATURE SURVEY

2.1 Literacy Rate Analysis Dashboard [Kavita Sheoron ,2019]

Kavita Sheoron presented a paper on INTERNATIONAL JOURNAL OF SCIENTIFIC & TECHNOLOGY RESEARCH VOLUME 8, ISSUE 08, AUGUST 2019, in which she states that Literacy is characterized as the capability to read and compose a basic message in any language. A more expansive translation is literacy as apprehension and competence in a specific area. The key to literacy is a fundamental comprehension of composed content, the capacity to comprehend someone else talking, and comprehension and the ability to write. Reading and writing are foundation skills. Not solely are they needed for additional study, but they're conjointly crucial in helping us to know and interact with the world around us. Literacy in India is marked by an excellent amount of regional variation from one half to another. The regional differences in literacy levels within the nation have resulted from the regional diversity in various cultural, economic, and social factors besides a marked distinction within the historical expertise of various regions. India's illiteracy is a prime concern that has numerous factors connected to it. Illiteracy in India is majorly involved with completely different sorts of disparities that exist within the country. There are gender disparity, income variance, state variation, caste disproportion, and technological hurdles which form the literacy rates that exist within the country.

So, the study and analysis of literacy data of India is needed to supply a timely and sophisticated basis for serving to planning and management of education services and to ascertain or contribute to an education system for assortment, organization and utilization of education data.

2.2 Literacy Rate In India In 2022[Khritish Swargiary, Kavita Roy, 2022]

Khritish Swargiary and Kavita Roy presented a paper on ACADEMICIA: An International Multidisciplinary Research Journal ISSN: 2249-7137 Vol. 12, Issue 08, August 2022 in which they state that A high literacy rate (or low illiteracy rate) indicates the presence of a primary education system and/or literacy programs that have made it possible for a significant portion of the population to learn how to use the written word (and perform basic arithmetic calculations) in daily life and to continue learning. A literate person is a valuable asset to the prosperity of a country. To ensure that people have the complex communication and critical thinking abilities required to succeed in the workplace and a global economy, a high literacy rate is crucial. Over the past 40 years, India's literacy rate has substantially increased. The National Survey of India's report estimates that India's literacy rate would be 77.7% in 2022. 73% of people in 2011 were literate. 4% more people now live there than according to the most recent census. Although that is quite impressive in comparison to other emerging nations, it still means that almost one in four Indians cannot read or write (compared to about one in eight people worldwide). India's most literate state is Kerala. Kerala has a literacy rate of 96.2%. India will achieve universal literacy, according to UNESCO, in 2060

2.3 Literacy Rate at Primary Level: Identification of Causes and Impacts[

Mariam Javed, Dr. Qaisar Abbas et al ,2021]

Mariam Javed, Dr. Qaisar Abbas and Dr. Shafqat Hussain presented a paper on Pakistan Social Sciences Review April-June 2021, Vol. 5, No. 2 [492-506] in which they state that Illiteracy greatly hinders the economic and social progress of a person and a country. Education allows one to seek and pursue opportunities. People who have been to school or have a good education have the skill and intelligence to make good investment decisions and advance a country's growth agenda. Hence, illiteracy hinders the development of the country (Saqib& Ahmad, 2014). Literacy is an integral part of our lives. The results of low literacy are far-reaching and affect all areas of our daily lives. As people's needs change, so do the ways illiteracy affects people. Here's a sample of how low literacy affects us as individuals and as a community (Qureshi, 2013). Literacy affects income, employment, and financial wellbeing (Chaudhry et al., 2006). A variety of literacy skills are intertwined with basic and complex financial and decision-making tasks. Financial literacy requires the ability to use multiple kinds of literature at the same time: prose, documents, and numbers. For many, lack of literacy and lack of financial literacy makes it difficult for them and their families to lead better lives (Hussain & Salfi, 2011). Most teachers saw themselves as responsible for dropping out of school due to corporal punishment and inattention to students. Given that literacy is an indispensable tool for individuals and states to compete in the new global knowledge economy, many positions are vacant due to a lack of properly trained staff to maintain them; Without the basic tools necessary to achieve the objectives, people who are not sufficiently literate cannot participate fully and equally in social and political discourse

(Din e tal., 2011). Moreover, the investigation of Kim et al., (2014) revealed that low literacy is a serious health and safety problem at home and in the workplace. From reading the dosage instructions on a medicine bottle to interpreting plans and instructions, understanding the signs and warnings of hazardous substances, to maps and diagrams that follow the list. When there is a need for literacy in written language, numbers or diagrams, and symbols, adults with literacy problems are at risk; these risks can be life-threatening. Now it seems imperative to look into the context of illiteracy and its impact on the community.

2.4 Analysis And Forecast Of Literacy Rates In India[Vaidehi Nimje, Aboli Kulkarni Et Al, 1996]

Vaidehi Nimje, Aboli Kulkarni, and Prajakta Kulkarni presented a paper on JETIR December 2018, Volume 5, Issue 12 in which they state that In this research paper, the principle feature for forecasting literacy is considered to be the Population of a region. Hence, the projection of future population trends is carried out first and then a predictive algorithm is used to forecast the literacy rate. The total population, male population and female population of the state of Chhattisgarh is projected using a statistical method called logistic curve method. This method is used when the growth rate of the population due to births, deaths and migrations happen under normal situations and it is not subjected to any extraordinary changes like natural disasters, war or epidemic, etc. The growth curve characteristics of living things in limited space and economic opportunity is followed by population. The curve obtained when the population of a region is plotted with respect to time, under normal conditions looks like an S-shaped curve that is known as a logistic curve. From these projected populations, literacy

rate is forecasted using a data mining method of multiple regressions for the state. The multiple linear regression is used to explain the relationship between one dependent variable which is continuous and two or more independent variables. Here, literacy rate is the dependent variable which is predicted using multiple regression upon the independent variable- male population and female population which are obtained from projections.

2.5 Research Hot Spots of Teachers' Information Literacy and Visualization Analysis of Theme Evolution in China[Li Yang, Mengnan Zhu et al,2020]

Li Yang, Mengnan Zhu, and Yaojun Zhang presented a paper on 2020 International Symposium on Advances in Informatics, Electronics and Education (ISAIEE) in which they state that In the new media age in which the big data, AI and other digital media are highly developed, the problems such as information explosion, unfair distribution of information have come up. Teachers and students lose their subjectivity when facing so much information because of a lack of critical thinking. With the popularity of online-teaching after the epidemic, information literacy has become more and more prominent in daily teaching. The present researches on information literacy emphasize on the co-word analysis and visual presentation, but lack systematic and overall analysis on literature quantity, hot spots and evolving paths. Thus, this paper undergoes visualization analysis with the help of such spectrum software tools as UCINET, Gephi, VOSviewer and Pajek. The high-frequency keywords are found out through building the keyword matrix, and high-frequency keywords co-occurrence knowledge map and social network structure map will be drawn so that the research hot spots and characteristics of teachers' information literacy in China can be analyzed.

IDEATION & PROPOSED SOLUTION

CHAPTER-3

IDEATION & PROPOSED SOLUTION

3.1 PROBLEM STATEMENT DEFINITION

Problem Statement (PS)	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1	a content writer	publish an article on the country's literacy rate	the data is insufficient	A lot of regional surveys are left uncalculated	frustrated
PS-2	an education -alist	analyze the reasons behind the downfall of literacy	the data available is inaccurate	the existing data is inappropriate to evaluate.	confused
PS-3	an educational officer	update the literacy rate	it takes a long time to respond	the server's current version is not enough to handle more data	Dis-appointed

3.2 EMPATHY MAP CANVAS

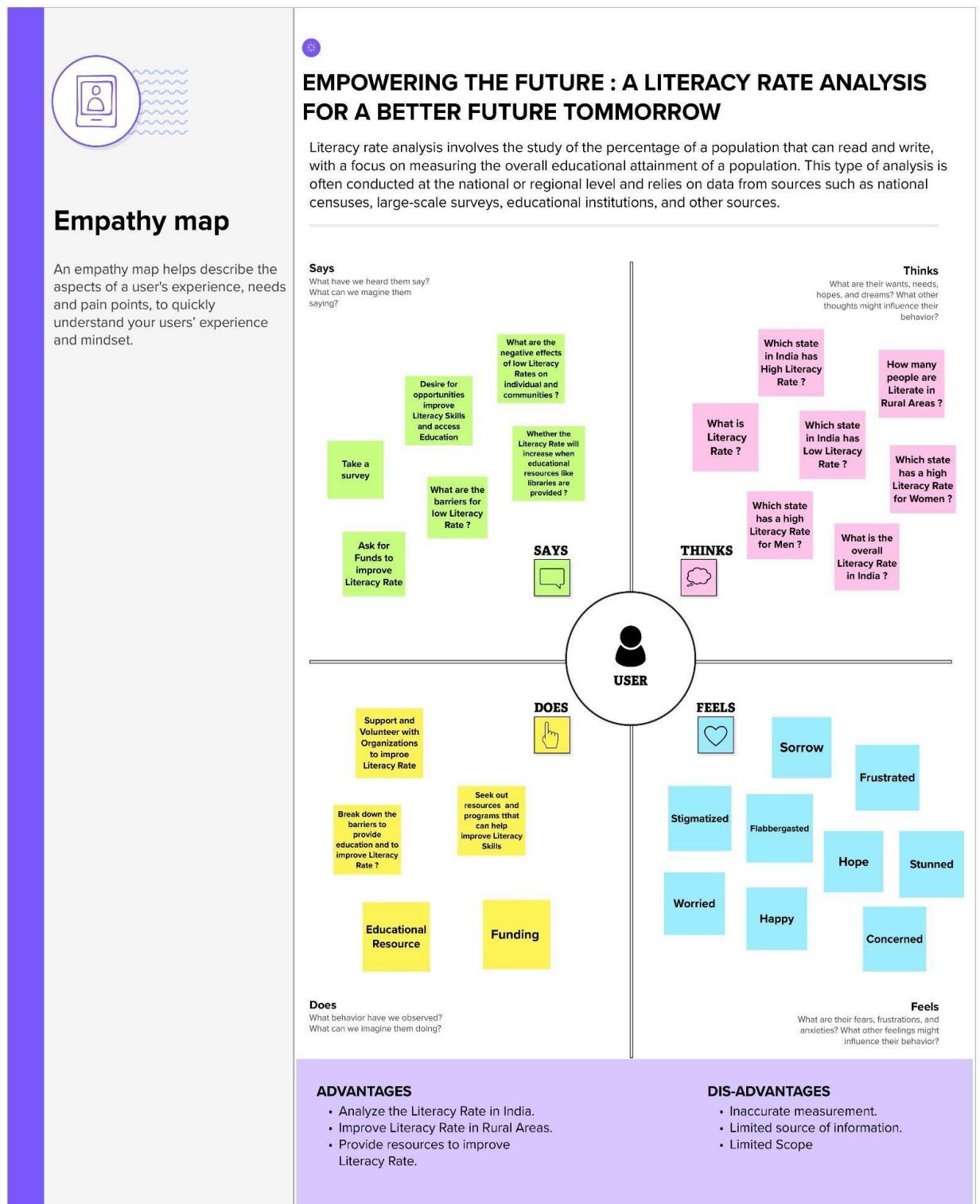


Fig- 3.2.1 Empathy map canvas

3.3 IDEATION & BRAINSTORMING



Brainstorm & idea prioritization

1

Problem Statement

Low literacy rates remain a significant global challenge, hindering social and economic development in many countries. Limited access to education, inadequate teaching methods, and a lack of resources are some of the factors that contribute to low literacy rates.

In this context, this project aims to conduct a thorough analysis of the current state of literacy rates worldwide and identify the key factors that contribute to low literacy rates. By doing so, this project seeks to highlight the urgency of the literacy problem and provide insights into potential solutions. The findings of this project could inform policies, programs, and interventions that can improve literacy rates and help individuals and communities overcome the challenges associated with low literacy levels.

Fig- 3.3.1 Ideation & Brainstorming

2

Brainstorm

NIVAASHINI S	
Identifying Literacy gaps.	Understanding Underlying causes.
Increasing Funds for Education.	Providing Educational Centers in all rural areas.

MYTHRAYAN O N	
Leveraging Technologies to connect with Educational Organizations.	Setting up libraries even in rural areas.
Provide Education irrespective of Gender Inequalities	Collaboration with different organizations to share resources.

KRISHNA PRASAD S	
Community Involvement for a supportive learning environment.	Providing Financial Support for education.
To provide On-Field Education to enhance children's interest in learning.	Standardized Education.

PAVITHRA S	
Multilingual Education.	Parental Involvement programs to improve their children's Literacy Development.
To participate in Internships for both educational and financial support in leisure time.	Providing an unpressurized educational environment

3

Group ideas

CAUSE	FINANCIAL SUPPORT
Identifying Literacy gaps.	Understanding Underlying causes.
Increasing Funds for Education.	
Providing Financial Support for education.	Community Involvement for a supportive learning environment.
INFRASTRUCTURE SUPPORT	
Setting up libraries even in rural areas.	Collaboration with different organizations to share resources.
Providing Educational Centers in all rural areas.	Community Involvement for a supportive learning environment.
EDUCATIONAL SUPPORT	
Parental Involvement programs to improve their children's Literacy Development.	Leveraging Technologies to connect with Educational Organizations.
Standardized Education.	Multilingual Education.
EDUCATIONAL ENHANCEMENT	
Provide Education irrespective of Gender Inequalities	To provide On-Field Education to enhance children's interest in learning.
Providing an unpressurized educational environment	To participate in Internships for both educational and financial support in leisure time.

Fig-3.3.2 Ideation & Brainstorming

4

Prioritize

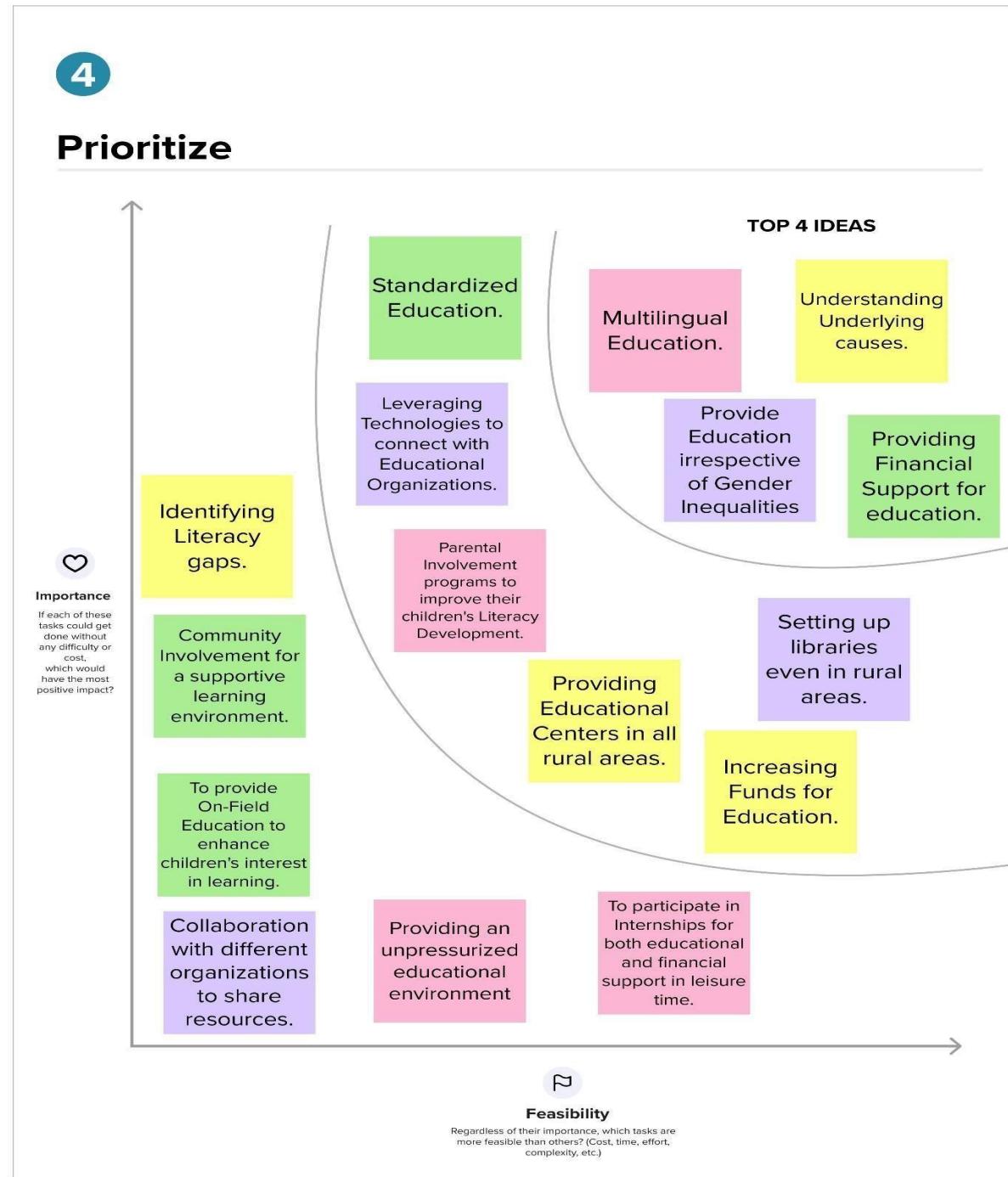


Fig-3.3.3 Ideation & Brainstorming

3.4 PROPOSED SOLUTION

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	<p>Literacy rate analysis involves the study of the percentage of a population that can read and write, with a focus on measuring the overall educational attainment of a population. This type of analysis is often conducted at the national or regional level and relies on data from sources such as national censuses, large-scale surveys, educational institutions, and other sources.</p> <p>The results of literacy rate analysis can be used to inform policy and decision-making at the national and local level, and to guide efforts to improve education and literacy in a given population. This type of analysis is important for understanding the current state of education and literacy in a given area, and for identifying areas where improvements are needed.</p>

2.	Idea / Solution description	<p>This project deals with the analysis of Literacy Rates in different states of India based on 680 factors. We are focusing on finding the top five factors and the least five factors that influence the literacy rate of a given state. Also, we predicted the literacy rate based on features and compared them with the available literacy rates and it was found to be accurate up to 93%. In our effort, we have tried to predict the Literacy Rates of each state using a reduced set of features.</p>
3.	Novelty / Uniqueness	<p>Currently the data available is inadequate and inaccurate to take any necessary decision to cover the literacy rate. By implementing our project, one may be able to know about the literacy rate from various regions without facing any troubles.</p>

4.	Social Impact / Customer Satisfaction	For the content writing people, our project will be very useful to publish their articles with accurate data. People who are at the side of education(educationalists) will be able to analyze the ups and downs of the literacy rate and they may be able to know the reasons behind the downfall. Government Officers may work freely without any tension from data in-appropriation.
5.	Business Model (Revenue Model)	Educational officers and ministers need an accurate literacy rate. By using our development model, it will be very easy for them to pass new laws and take important decisions on the literacy rate of the nation.
6.	Scalability of the Solution	The scalability of our project is very huge, especially covering the people on the education and human welfare development side.

REQUIREMENT ANALYSIS

CHAPTER-4

REQUIREMENT ANALYSIS

4.1 Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Dataset	Dashboard uses dataset from Cognos Cloud.
FR-2	Analysis	Data is pre-processed and cleaned. After cleaning the exploration process is carried out
FR-3	Visualization	Visualization of the prediction is shown in the dashboard created using IBM Cognos Analytics

4.2 Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	Dashboards are created in order to display the length of stay analysis in a visual manner. So, the analyzed can be easily understood.
NFR-2	Security	All the datasets used and visualized in the dashboard cannot be downloaded or accessed by external sources.
NFR-3	Reliability	The dashboard created after the analysis process will be more reliable and shows the result clearly and effectively.
NFR-4	Performance	The analysis has more accuracy.
NFR-5	Availability	analyzed data will be available for some time after the analyzation
NFR-6	Scalability	This system will analyze the length of stay of all kinds of users.

PROJECT DESIGN

CHAPTER-5

PROJECT DESIGN

5.1 DATA FLOW DIAGRAM

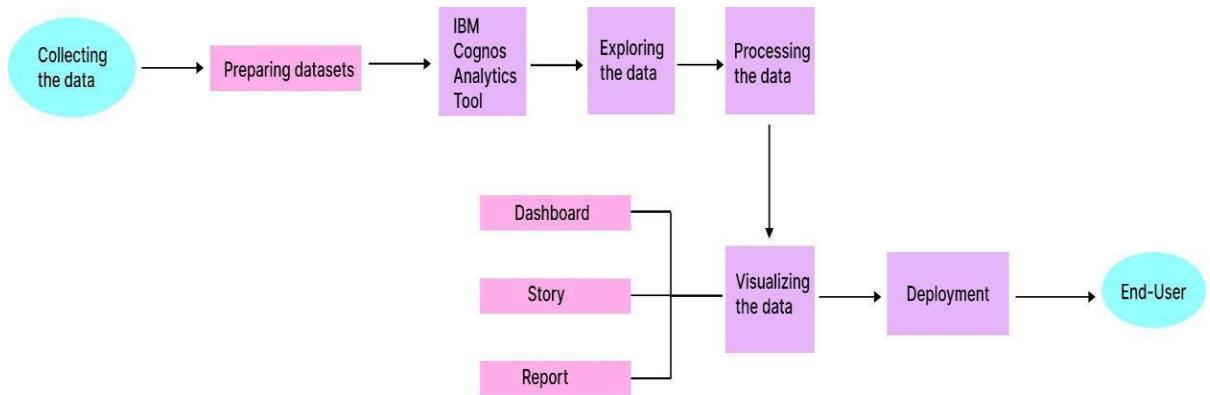


Fig 5.1.1 Data Flow Diagram

5.2 SOLUTION & TECHNICAL ARCHITECTURE

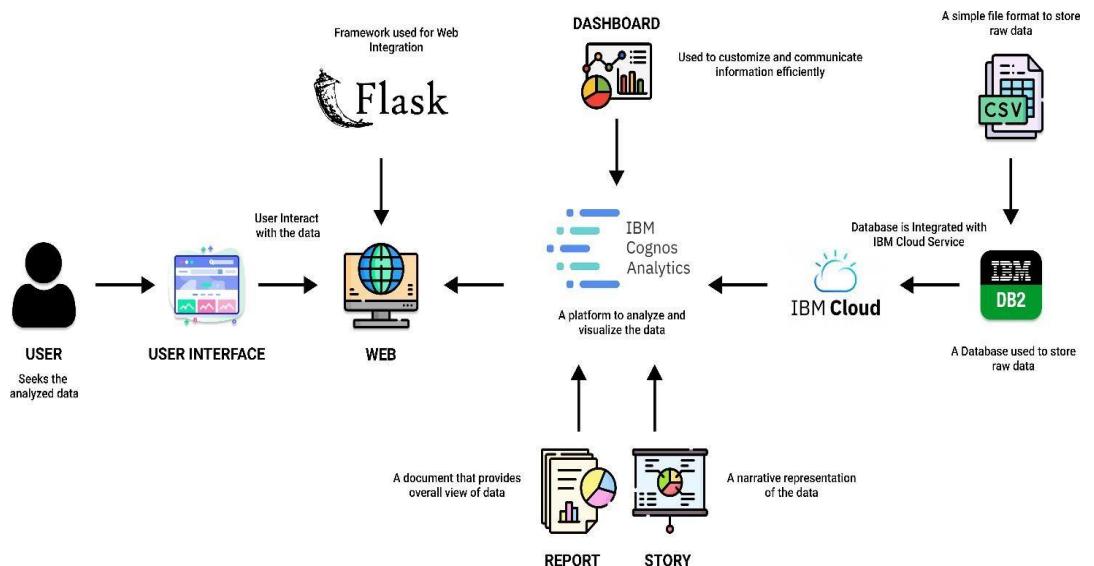


Fig 5.2.1 Solution Architecture

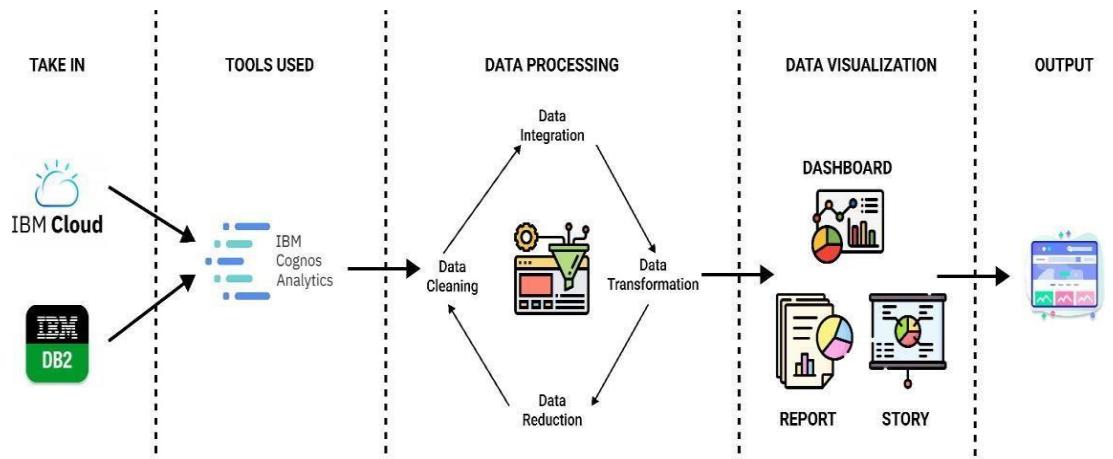


Fig-5.2.2 Technical Architecture

Table-1: Components & Technologies

S. No	Component	Description	Technology
1.	User Interface	The user can access the Dashboard using a web application	IBM Cognos Analytics, HTML, CSS.
2.	Data Processing	The data from the dataset is pre-processed	Java / Python
3.	Cloud Database	Database Service on Cloud	IBM DB2
4.	Data visualization	The data is visualized in different forms	IBM Cognos Analytics
5.	Web Integration	An API used for web integration	Flask

Table-2: Application Characteristics

S. No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open-source frameworks used	IBM Cognos Analytics
2.	Security Implementations	Request authentication using Encryptions	Encryptions.
3.	Scalable Architecture	Scalability consists of 2-tiers	Dashboard – IBM Cognos Analytics Database Server – IBM Cloud
4.	Availability	The application is available for cloud users	IBM Cloud Hosting
5.	Performance	The user views data visualization of the data	IBM Cognos Analytics

5.3 USER STORIES

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Team Member
Customer	Dashboard	USN-1	As a user, I can preview the datasets uploaded to the dashboard	I can explore the raw data	Medium	Balakrishnan C
	Dashboard	USN-2	As a user, I can be able to view the visualization s that can be done in the dashboard	I can access various operation s on the dashboard	Medium	Balakrishnan C
	View	USN-3	As a user, I can view the literacy details	I can view the visual data and the result of the summary	Medium	Dhinesh Kumar T
	Visualize	USN-4	As a user, I can use differe nt visuali zation	can be able to produce reports	Medium	Gokulraja R

Admin	Prepare	USN-5	As an admin, I will prepare the error-free dataset	I can be able to provide an accurate dataset	High	Bala Chandar C
	Analyze	USN-5	As an admin, I will analyze the given dataset	I can analyze the dataset	High	Bala Chandar C

CODING & SOLUTIONING

CHAPTER – 6

CODING & SOLUTIONING

6.1 Feature 1

It is a hectic process to find accurate data for regional literacy data specifically. But we are provided with a dataset that almost solves the data insufficiency problem. At first, we upload the dataset to IBM Cognos Analytics and create a comparison using an exploration tool to frame with different visualizations. Using those Visualizations, we can analyze the literacy rate among men, women, children, men with schooling, and women with schooling. In IBM Cognos Analytics, the cleaning of data is also easy because it has built-in options for processing the data.

6.2 Feature 2

It is easy for an analyst to analyze the data of a specific region manually. But when data from multiple regions of states are combined together it becomes difficult for an analyst to analyze the data. IBM Cognos tool makes the analyzing process easy when the dataset holds data from multiple regions of states. We can easily create visualizations that can be easily understood by the users.

RESULTS

CHAPTER – 7

RESULTS

7.1 PERFORMANCE METRICS

The column chart visualization was created for Men, Women, and Children. Then we created visualizations that summarize Men, Women, and Children by Urban and Rural areas. Also, we created columns that visualize men with schooling (Ages 15-49) and women with schooling(Ages 15-49). Therefore IBM Cognos Analytics creates visualizations that give an accurate count or percentage of the data.

ADVANTAGES & DIADVANTAGES

CHAPTER – 8

ADVANTAGES & DISADVANTAGES

8.1 ADVANTAGES

- Lower costs—reduces maintenance due to complete report coverage and a zero-footprint environment.
- Faster results—shorten reporting time due to seamless integration and adaptive authoring.
- Improved decision-making—reports and dashboards present data in easily-understood formats.
- Adaptive authoring automatically adjusts the report layout when objects are added, moved, or removed.
- Ability to work with data using familiar business terms.
- Ability to use a variety of charts—crosstabs, bar or 3D bar, pie or doughnut, line, gauge, funnel, scatter, dot density, waterfall, and so forth.
- High-performance data access across all sources.
- Complete connectivity regardless of environment.
- Open architecture that leverages XML, SOAP, and WSDL.

- Multiple export formats—Excel, Portable Document Format (PDF), Extensible Markup Language (XML), Hypertext Markup Language (HTML), and Comma Separated Value (CSV).
- Multilingual capabilities automatically deliver reports in the users' working language.
- Ability to integrate seamlessly with the Selling and Fulfillment Foundation, without the user having to log in to the application again.

8.2 DISADVANTAGES

- Its data visualization features require configuration to integrate with third-party tools.
- The user interface may not be the most intuitive, we feel that there is room for improvement.

CONCLUSION

CHAPTER – 9

CONCLUSION

The goal of this project is to analyze the literacy dataset. The provided dataset is first checked for null values and the columns with null values are identified using Python. The dataset is uploaded to the database using the IBM cloud and the database is connected to the IBM Cognos Analytics tool. In the IBM Cognos Analytics tool, the data module option is selected and the dataset is pre-processed (null values are replaced with valid values. Using this cleaned data module data exploration process is carried out, in which different visualizations are created. An interactive dashboard, report, and story are created in the IBM Cognos Analytics tool using the cleaned data module. Finally, the created dashboard, report, and story are embedded in the webpage by fixing the iframe code in the html code.

FUTURE SCOPE

CHAPTER -10

FUTURE SCOPE

In future, we would like to add more parameter metrics along with this project. It can be developed using Python and machine learning algorithms. After developing the code we can analyze the result accurately. Then we added the pages to our website. When we connect the website, we are visualization the dataset not only for literacy it will fit all types of datasets. But only in the form of a CSV file it accepts. we can easy to visualize the dashboard, report, and story helping people to understand in better ways.

APPENDIX

CHAPTER – 11

APPENDIX

A.1 SOURCE CODE

HTML CODE:

index.html

```
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="utf-8">
  <meta content="width=device-width, initial-scale=1.0" name="viewport">

  <title>NM Project</title>
  <meta content="" name="description">
  <meta content="" name="keywords">

  <!-- Favicons -->
  <link href="assets/img/favicon.png" rel="icon">
  <link href="assets/img/apple-touch-icon.png" rel="apple-touch-icon">

  <!-- Google Fonts -->
  <link
    href="https://fonts.googleapis.com/css?family=Open+Sans:300,300i,400,400i,600,
    600i,700,700i|Jost:300,300i,400,400i,500,500i,600,600i,700,700i|Poppins:300,300
    i,400,400i,500,500i,600,600i,700,700i" rel="stylesheet">

  <!-- Vendor CSS Files -->
  <link href="assets/vendor/aos/aos.css" rel="stylesheet">
  <link href="assets/vendor/bootstrap/css/bootstrap.min.css" rel="stylesheet">
  <link href="assets/vendor/bootstrap-icons/bootstrap-icons.css" rel="stylesheet">
  <link href="assets/vendor/boxicons/css/boxicons.min.css" rel="stylesheet">
  <link href="assets/vendor/glightbox/css/glightbox.min.css" rel="stylesheet">
  <link href="assets/vendor/remixicon/remixicon.css" rel="stylesheet">
  <link href="assets/vendor/swiper/swiper-bundle.min.css" rel="stylesheet">
```

```

<!-- Template Main CSS File -->
<link href="assets/css/style.css" rel="stylesheet">

</head>

<body>

<!-- ===== Header ===== -->
<header id="header" class="fixed-top ">
  <div class="container d-flex align-items-center">

    <h1 class="logo me-auto"><a href="index.html">NAAN  
MUDHALVAN</a></h1>
    <!-- Uncomment below if you prefer to use an image logo -->
    <!-- <a href="index.html" class="logo me-auto"></a>-->

    <nav id="navbar" class="navbar">
      <ul>
        <li><a class="nav-link scrollto active" href="#hero">Home</a></li>
        <li><a class="nav-link scrollto" href="#about">About</a></li>
        <li><a class="nav-link scrollto" href="#services">Services</a></li>
        <li><a class="nav-link scrollto" href="#team">Team</a></li>
        <li class="dropdown"><a href="#"><span>Analysis</span> <i class="bi bi-chevron-down"></i></a>
          <ul>
            <li><a href=".dashboard.html">Dashboard</a></li>
            <li><a href=".report.html">Report</a></li>
            <li><a href=".story.html">Story</a></li>
          </ul>
        </li>
        <li><a class="nav-link scrollto" href="#contact">Contact</a></li>
        <li><a class="getstarted scrollto" href="#about">Get Started</a></li>
      </ul>
    </nav>
  </div>
</header>

```

```

<i class="bi bi-list mobile-nav-toggle"></i>
</nav><!-- .navbar -->

</div>
</header><!-- End Header -->

<!-- ===== Hero Section ===== -->
<section id="hero" class="d-flex align-items-center">

<div class="container">
<div class="row">
    <div class="col-lg-6 d-flex flex-column justify-content-center pt-4 pt-lg-0
order-2 order-lg-1" data-aos="fade-up" data-aos-delay="200">
        <h1><b>A LITERACY RATE ANALYSIS FOR A BETTER FUTURE
TOMORROW</b></h1>
        <h2>Literacy rate is the total percent of population who can read and
write</h2>
        <div class="d-flex justify-content-center justify-content-lg-start">
            <a href="#about" class="btn-get-started scrollto">Get Started</a>
            <a href="https://www.youtube.com/watch?v=jDDaplaOz7Q"
class="glightbox btn-watch-video"><i class="bi bi-play-circle"></i><span>Watch
Video</span></a>
        </div>
    </div>
    <div class="col-lg-6 order-1 order-lg-2 hero-img" data-aos="zoom-in" data-
aos-delay="200">
        
    </div>
</div>
</div>

</section><!-- End Hero -->

<main id="main">

<!-- ===== About Us Section ===== -->

```

```
<section id="about" class="about">
<div class="container" data-aos="fade-up">

<div class="section-title">
    <h2>About Us</h2>
</div>

<div class="row content">
    <div class="col-lg-6">
        <p>
            Some emerging nations are attempting to raise the literacy rate. While Bangladesh, Nepal, Laos, and India have attempted to raise their literacy rates, India still has lower levels of literacy than many other nations, though
        </p>
        <ul>
            <li><i class="ri-check-double-line"></i><b>Education Assessment:</b> Literacy rates are used to assess the effectiveness of educational systems in a region or country</li>
            <li><i class="ri-check-double-line"></i> <b>Social Inclusion:</b> Literacy is a fundamental skill that empowers individuals to participate in social and civic activities.</li>
            <li><i class="ri-check-double-line"></i> <b>Gender Equality:</b> Literacy rates are often used to gauge progress in achieving gender equality. </li>
        </ul>
    </div>
    <div class="col-lg-6 pt-4 pt-lg-0">
        <p>
            The literacy rate in India in 2021 is examined in this research. An important factor in determining a country's degree of development is literacy. An individual's ability to communicate through reading and writing is referred to as literacy. The literacy rate is 77.70%, with literate males at 84.70% and literate females at 70.20%.
        </p>
        <a href="#" class="btn-learn-more">Learn More</a>
    </div>
</div>
```

dashboard.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Dashboard</title>
    <link href="assets/css/style.css" rel="stylesheet">

</head>
<body>
    <section id="dashboard" class="services section-bg">
        <div class="container" data-aos="fade-up">

            <div class="section-title">
                <h2>Dashboard</h2>
            </div>

            <div class="row">
                <iframe
                    src="https://us3.ca.analytics.ibm.com/bi/?perspective=dashboard&pathRef=.my_folders%2FLiteracy_Rate_dashboard&closeWindowOnLastView=true&ui_appbar=false&amp;ui_navbar=false&shareMode=embedded&action=view&mode=dashboard&subView=model0000018b70353735_00000001" width="1600" height="700"
                    frameborder="0" gesture="media" allow="encrypted-media" allowfullscreen=""></iframe>
            </div>
        </div>
    </section>
</body>
```

```
</div>  
</section>  
</body>
```

report.html

```
<!DOCTYPE html>  
<html lang="en">  
<head>  
    <meta charset="UTF-8">  
    <meta http-equiv="X-UA-Compatible" content="IE=edge">  
    <meta name="viewport" content="width=device-width, initial-scale=1.0">  
    <title>Report</title>  
    <link href="assets/css/style.css" rel="stylesheet">  
  
</head>  
<body>  
    <section id="report" class="services section-bg">  
        <div class="container" data-aos="fade-up">  
            <div class="section-title">  
                <h2>Report</h2>  
            </div>  
  
            <div class="row">  
                <iframe  
                    src="https://us3.ca.analytics.ibm.com/bi/?pathRef=.my_folders%2FLiteracy_Report&am  
NM2023TMID02641" style="width: 100%; height: 100%; border: none; margin-top: 10px;">  
            </div>  
        </div>  
    </section>  
</body>
```

```
p;closeWindowOnLastView=true&amp;ui_appbar=false&amp;ui_navbar=false&amp;shareMode=embedded&amp;action=run&amp;format=HTML&amp;prompt=false" width="1600" height="700" frameborder="0" gesture="media" allow="encrypted-media" allowfullscreen=""></iframe>

</div>

</div>
</section>

</body>
</html>
```

story.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Story</title>
    <link href="assets/css/style.css" rel="stylesheet">

</head>
<body>
    <section id="story" class="services section-bg">
        <div class="container" data-aos="fade-up">

            <div class="section-title">
                <h2>Story</h2>
            </div>

            <div class="row">
                <iframe
src="https://us3.ca.analytics.ibm.com/bi/?perspective=story&pathRef=.my_folders%2FLLiteracy_Rate_story&closeWindowOnLastView=true&ui_appbar=false&ui_navbar=false&shareMode=embedded&action=view&sceneId=mdl0000018b70e6a2ec_00000001&sceneTime=0" width="1600" height="700" frameborder="0"
gesture="media" allow="encrypted-media" allowfullscreen=""></iframe>

        </div>
    </section>
</body>
</html>
```

CSS CODE:

app.css

```
@import
url('https://fonts.googleapis.com/css2?family=Roboto&display=swap');

@import
url('https://fonts.googleapis.com/css2?family=Cherry+Cream+Soda&displa
y=swap');

*{
    box-sizing: border-box;
    margin: 0;
    padding: 0;
}

body{
    margin: 10px 50px;
    color: white;
}

li, a{
    cursor: pointer;
    font-family: Roboto, sans-serif;
    font-weight: 500;
```

```
    font-size: 16px;  
    color: white;  
    text-decoration: none;  
}  
  
.header{  
    font-family: Roboto, sans-serif;  
    display: flex;  
    justify-content: space-between;  
    align-items: center;  
    align-content: center;  
    padding: 30px 10px;  
    background-color: rgba(255, 255, 255, 0.119);  
}  
  
p{  
    font-family: Roboto, sans-serif;  
}  
  
.back-video{  
    width: 100vw;  
    height: 100vh;  
    object-fit: cover;  
    position: fixed;  
    left: 0;  
    right: 0;
```

```
    top: 0;  
    bottom: 0;  
    z-index: -1;  
}  
  
.logo{  
    font-family: 'Cherry Cream Soda';  
    cursor: pointer;  
  
    overflow: hidden;  
    white-space: nowrap;  
    animation: typing 5s steps(40) ;  
}  
  
@keyframes typing {  
    from { width: 0; }  
    to { width: 64%; }  
}  
  
.nav-links{  
    list-style: none;  
}  
  
.nav-links li{  
    display: inline-block;  
    padding: 0px 20px 0px 0px;  
    border-right: 1px solid wheat;  
}
```

```
.nav-links li a{  
    transition: all 0.3s ease 0s;  
}  
  
.nav-links li a:hover{  
    color: wheat;  
}  
  
.Section {  
    padding: 30px 30px;  
    background-color: rgba(255, 255, 255, 0.119);  
    margin-top: 5%;  
    width: 100%;  
    border-radius: 10px;  
}.nav-links li a {  
    position: relative;  
}  
  
.nav-links li a:after {  
    content: " ";  
    position: absolute;  
    left: 0;  
    bottom: -2px;  
    width: 0;  
    height: 2px;  
    background-color: wheat;
```

```
    transition: width 0.3s ease-in-out;  
}  
  
.nav-links li a:hover:after {  
    width: 100%;  
}  
  
.Section p{  
    line-height: 1.5pc;  
    text-align:justify;  
    font-size: larger;  
  
}
```

```
.a {  
    text-indent: 75px;  
}  
.b {  
    text-indent: 150px;  
}
```

dashboard.css

```
@import  
url('https://fonts.googleapis.com/css2?family=Cherry+Cream+Soda&displa  
y=swap');  
  
body{  
    background-color: black;
```

```
}
```

```
h1{
```

```
    font-family: 'Cherry Cream Soda';
```

```
    color: white;
```

```
    text-align: center;
```

```
    font-size: 50px;
```

```
}
```

```
.iframe1{
```

```
    border: 2px solid gray;
```

```
    padding: 20px 30px;
```

```
    display: flex;
```

```
    align-items: center;
```

```
    justify-content: center;
```

```
}
```

report.css

```
@import
```

```
url('https://fonts.googleapis.com/css2?family=Cherry+Cream+Soda&display=swap');
```

```
body{
```

```
    background-color: black;
```

```
}
```

```
h1{
```

```
    font-family: 'Cherry Cream Soda';
    color: white;
    text-align: center;
    font-size: 50px;

}

.iframe2{
    border: 2px solid gray;
    padding: 20px 30px;
    display: flex;
    align-items: center;
    justify-content: center;
}

}
```

story.css

```
@import
url('https://fonts.googleapis.com/css2?family=Cherry+Cream+Soda&display=swap');

body{
    background-color: black;
}

h1{
    font-family: 'Cherry Cream Soda';
    color: white;
```

```
    text-align: center;  
    font-size: 50px;  
  
}  
  
.iframe3{  
    border: 2px solid gray;  
    padding: 20px 30px;  
    display: flex;  
    align-items: center;  
    justify-content: center;  
}
```

FLASK CODE :

app.py

```
from flask import Flask, render_template  
  
from flask_cors import CORS  
  
app = Flask(__name_)  
  
CORS(app)  
  
@app.route("/")  
  
def index():  
  
    return render_template("index.html")  
  
@app.route("/dashboard")  
  
def dashboard():  
  
    return  
  
    render_template("dashboard.html")  
  
@app.route("/story")  
  
def story():  
  
    return render_template("story.html")  
  
@app.route("/report")  
  
def report():  
  
    return render_template("report.html")
```

Homepage

NAAN MUDHALVAN

Home About Services Team Analysis Contact Get Started

A LITERACY RATE ANALYSIS FOR A BETTER FUTURE TOMORROW

Literacy rate is the total percent of population who can read and write

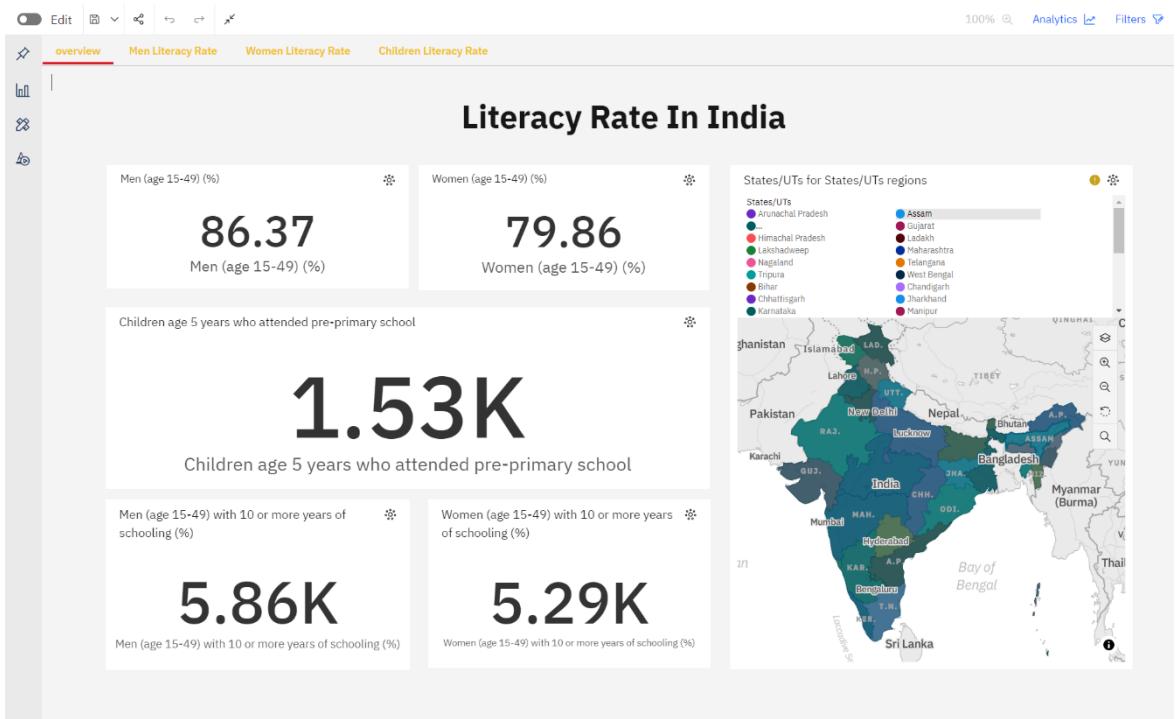
Get Started Watch Video

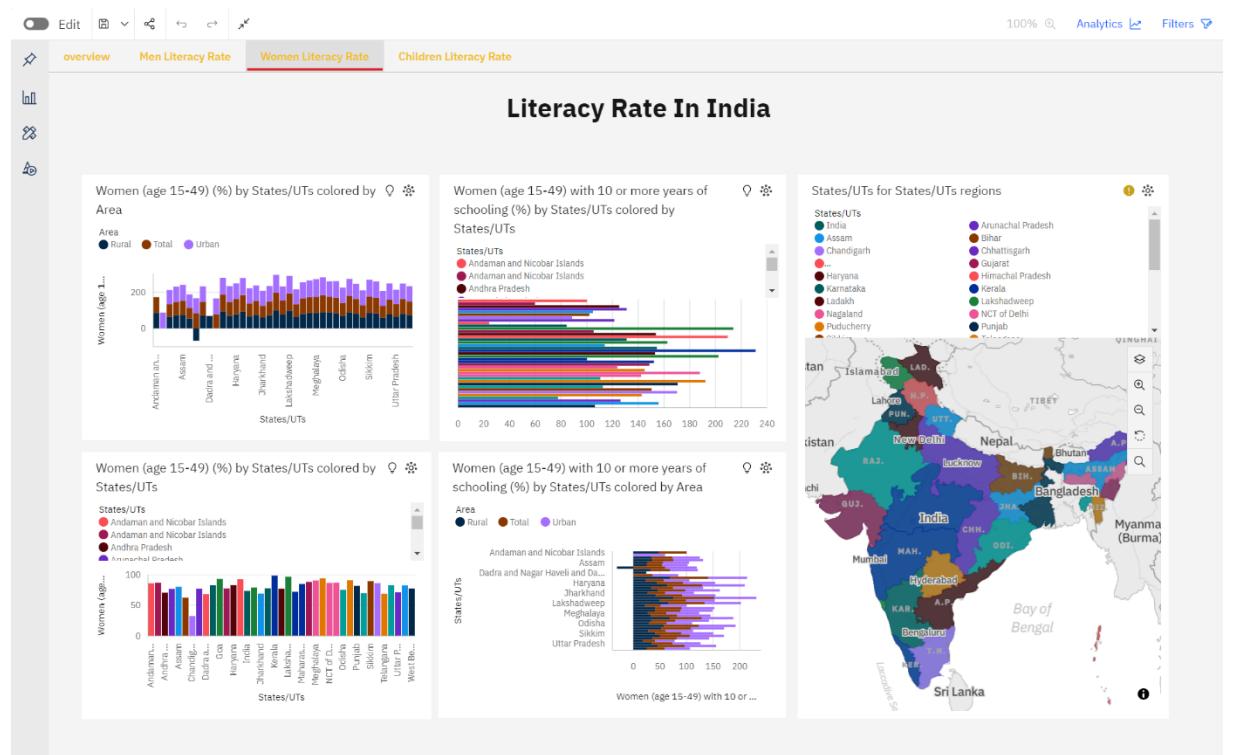
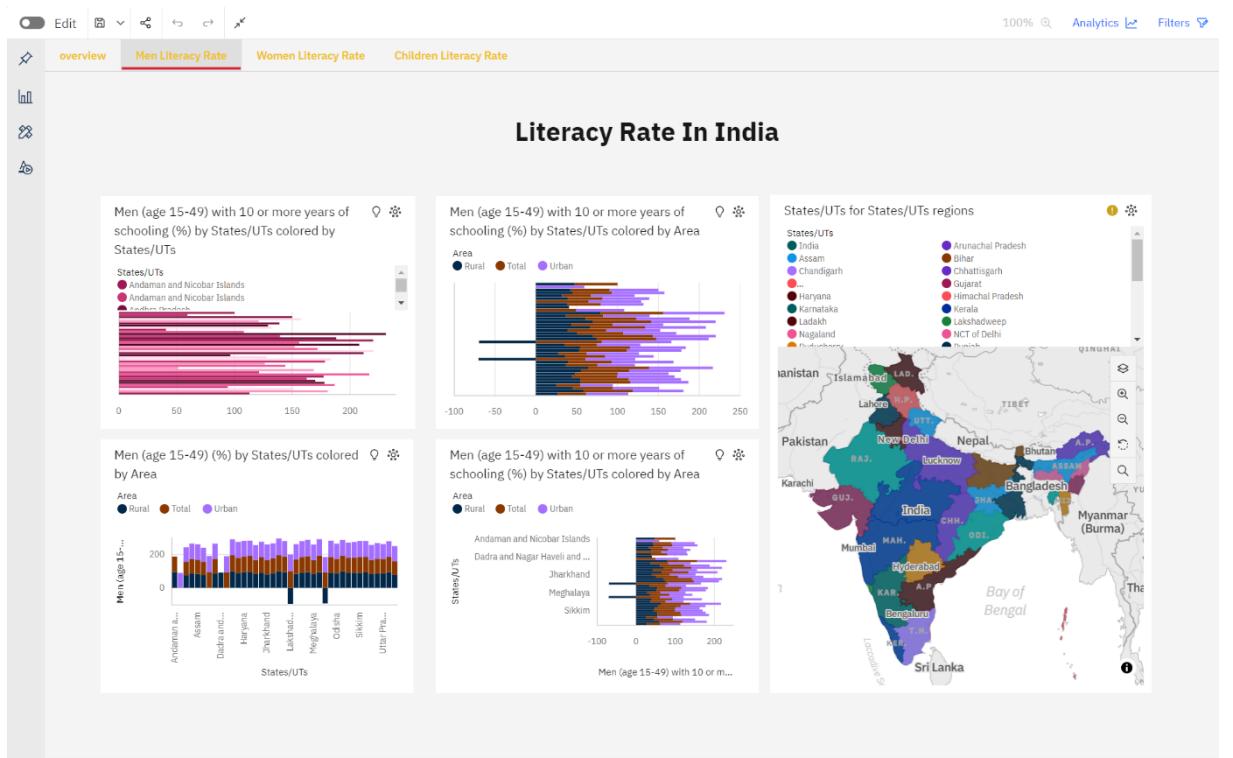


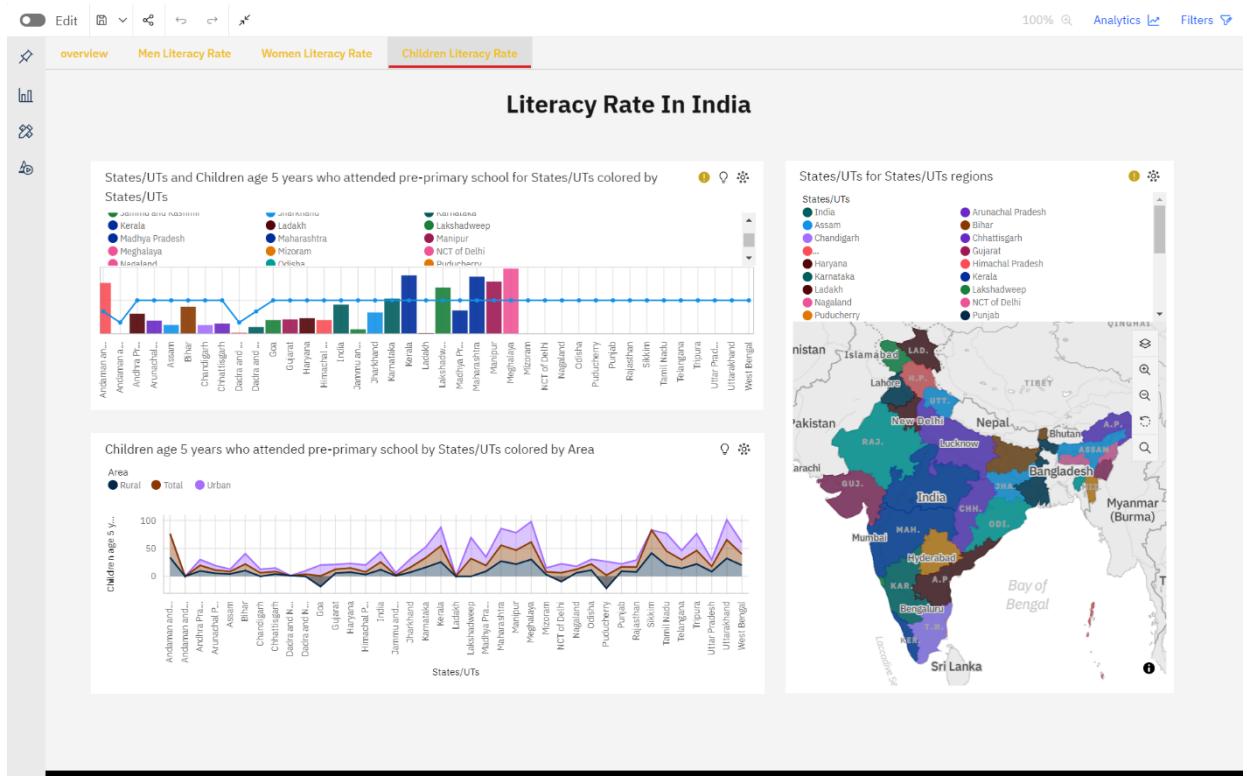
ABOUT US

Some emerging nations are attempting to raise the rate, including Bangladesh, Nepal, The literacy rate in India in 2021 is examined in this research. An important factor in

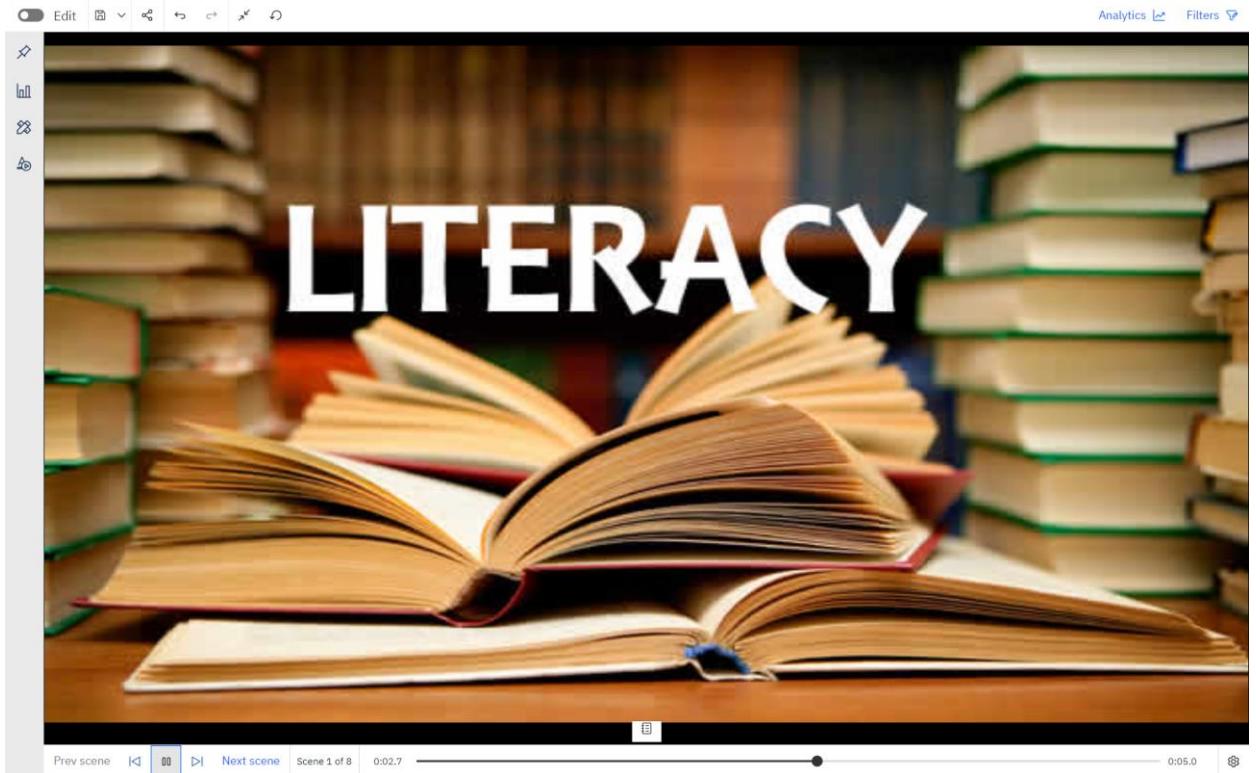
DASHBOARD







STORY



Analytics Filters

OVERVIEW OF INDIA

- The total number of results for States/UTs, across all States/UTs, is 111.
- The overall number of results for average is 111.
- The overall number of results for sum is 111.

States/UTs and Children age 5 years who attended pre-primary school for States/UTs colored by States/UTs

States/UTs	Number of Children (approx.)
Andhra Pradesh	10
Bihar	10
Gujarat	10
Haryana	10
Jharkhand	10
Karnataka	10
Kerala	10
Lakshadweep	10
Maharashtra	10
Madhya Pradesh	10
Nagaland	10
Punjab	10
Rajasthan	10
Sikkim	10
Tripura	10
Uttarakhand	10
Uttar Pradesh	10
West Bengal	10
Total	111

States/UTs for States/UTs regions

Jump to the end of the scene to 0:05.0

Prev scene 00 Next scene Scene 2 of 8 0:02.5 0:05.0

Analytics Filters

Summary of Men Aged 15-49

- Men Age 15 - 49**
- The overall number of results for Men Age 15 - 49 is 111

Men (age 15-49) (%)

86.37

Men (age 15-49) (%)

Prev scene 00 Next scene Scene 3 of 8 0:04.7 0:05.0

Analytics Filters

Literacy Rate Analysis Of Men Based On States And Areas

- Over all values of States/UTs and States/UTs, the average of Men (age 15-49) (%) is 86.37.
- The average values of Men (age 15-49) (%) range from 30.33 to 98.27.
- Men (age 15-49) (%) is unusually low when the combination of States/UTs and States/UTs is NCT of Delhi and NCT of Delhi.
- Across all values of states Ut, the sum of Men age is 86.37

Men (age 15-49) (%) by States/UTs colored by States/UTs

Men (age 15-49) (%) by States/UTs colored by Area

Prev scene 00 Next scene Scene 4 of 8 0:04.2 0:05.0

Analytics Filters

Summary Of Women Aged 15 - 49

- The overall number of results for Women (age 15-49) (%) is 111.

Women (age 15-49) (%)

79.86

Women (age 15-49) (%)

Prev scene 00 Next scene Scene 5 of 8 0:03.7 0:05.0

Analytics Filters

Literacy Rate Analysis Of Women Based on States And Areas

- Women (age 15-49) (%) is unusually low when States/UTs is Chandigarh.
- Over all values of States/UTs and States/UTs, the average of Women (age 15-49) (%) is 79.86.
- Women (age 15-49) (%) is unusually low when Area is Rural.
- Over all values of States/UTs and Area, the average of Women (age 15-49) (%) is 79.86.

Women (age 15-49) (%) by States/UTs colored by States/UTs

States/UTs	Women (age 15-49) (%)
Andhra Pradesh	~85
Assam	~85
Chandigarh	~75
Dadra & Nagar Haveli	~85
Goa	~95
Haryana	~85
India	~95
Jharkhand	~85
Kerala	~95
Lakshadweep	~95
Maharashtra	~95
Meghalaya	~85
NCT of Delhi	~95
Odisha	~85
Punjab	~95
Sikkim	~95
Telangana	~85
Uttarakhand	~85
West Bengal	~85

Women (age 15-49) (%) by States/UTs colored by Area

Area	Women (age 15-49) (%)
Rural	~10
Total	~10
Urban	~10

Prev scene Next scene Scene 6 of 8 0:02.5 0:05.0 Analytics Filters

Analytics Filters

Summary Based On Children

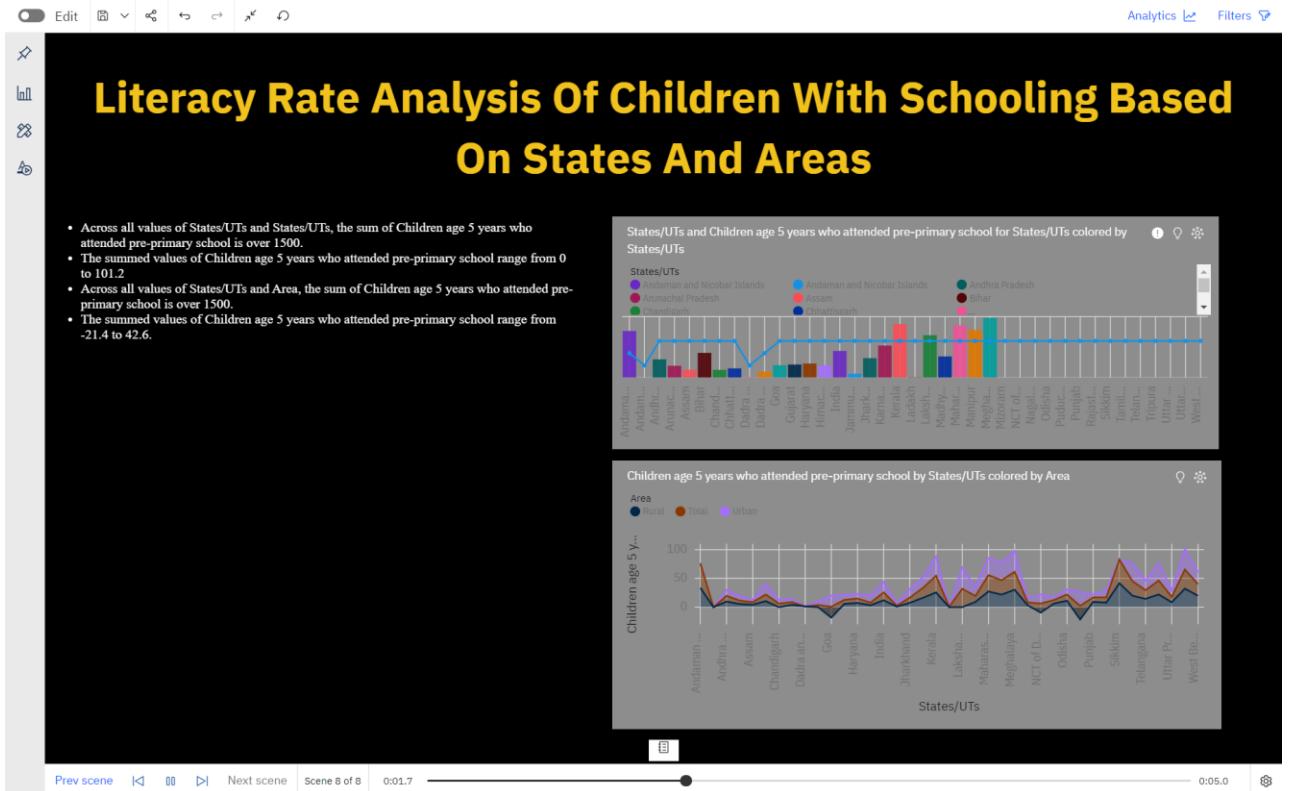
- The overall number of results for Children age 5 years who attended pre-primary school is 111

Children age 5 years who attended pre-primary school

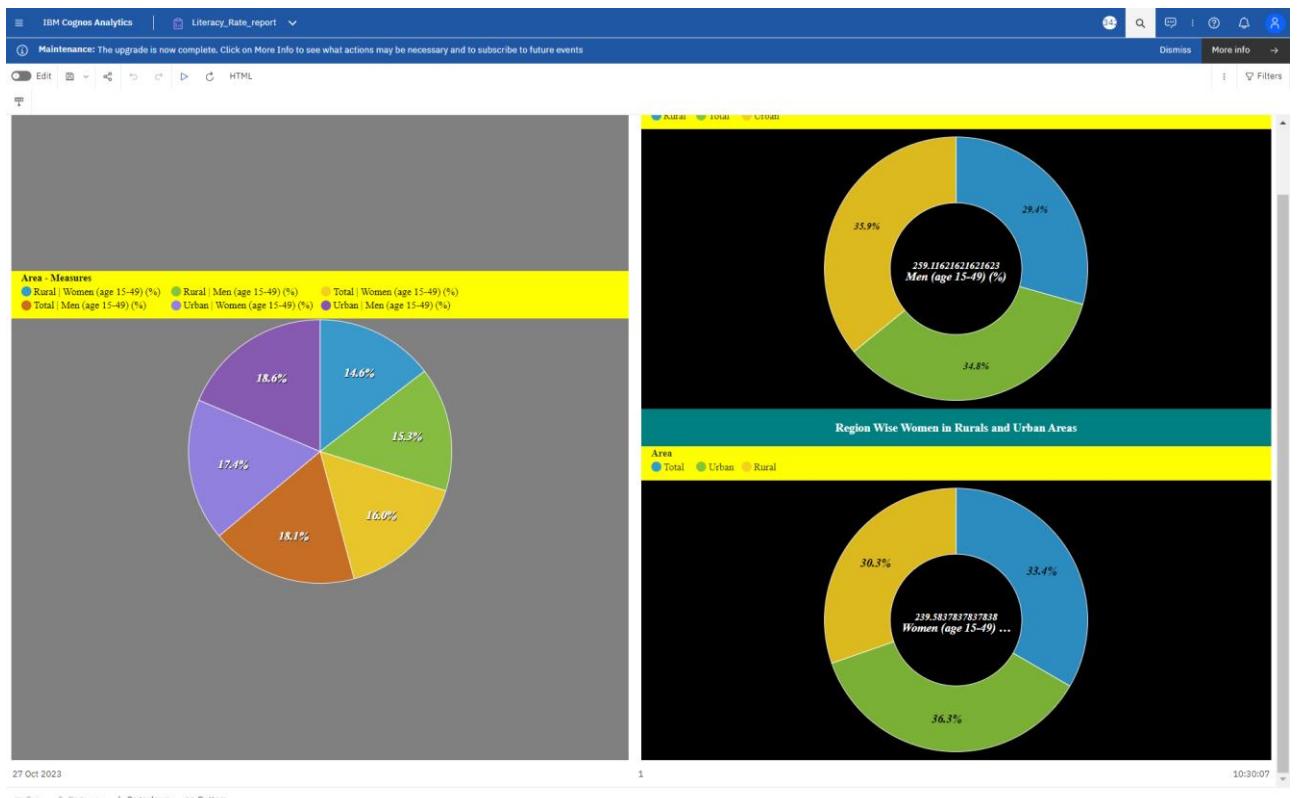
1.53K

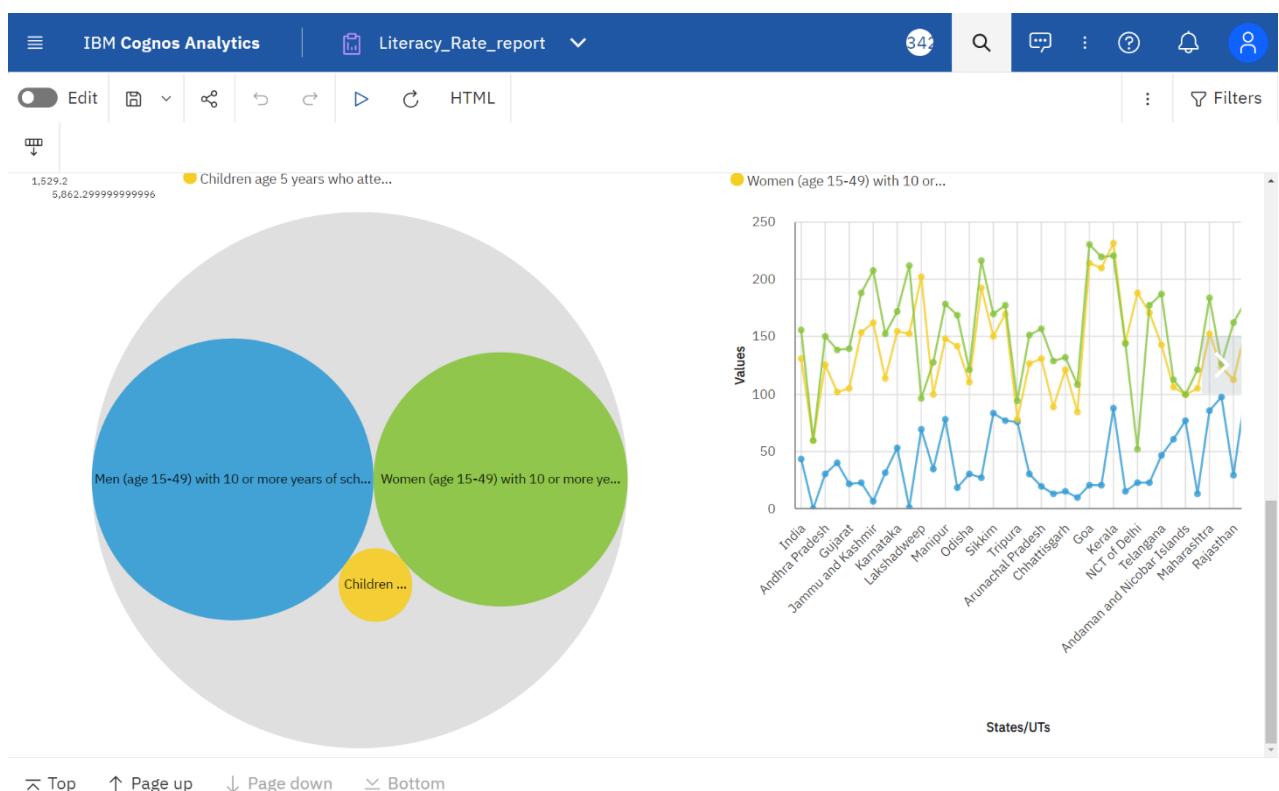
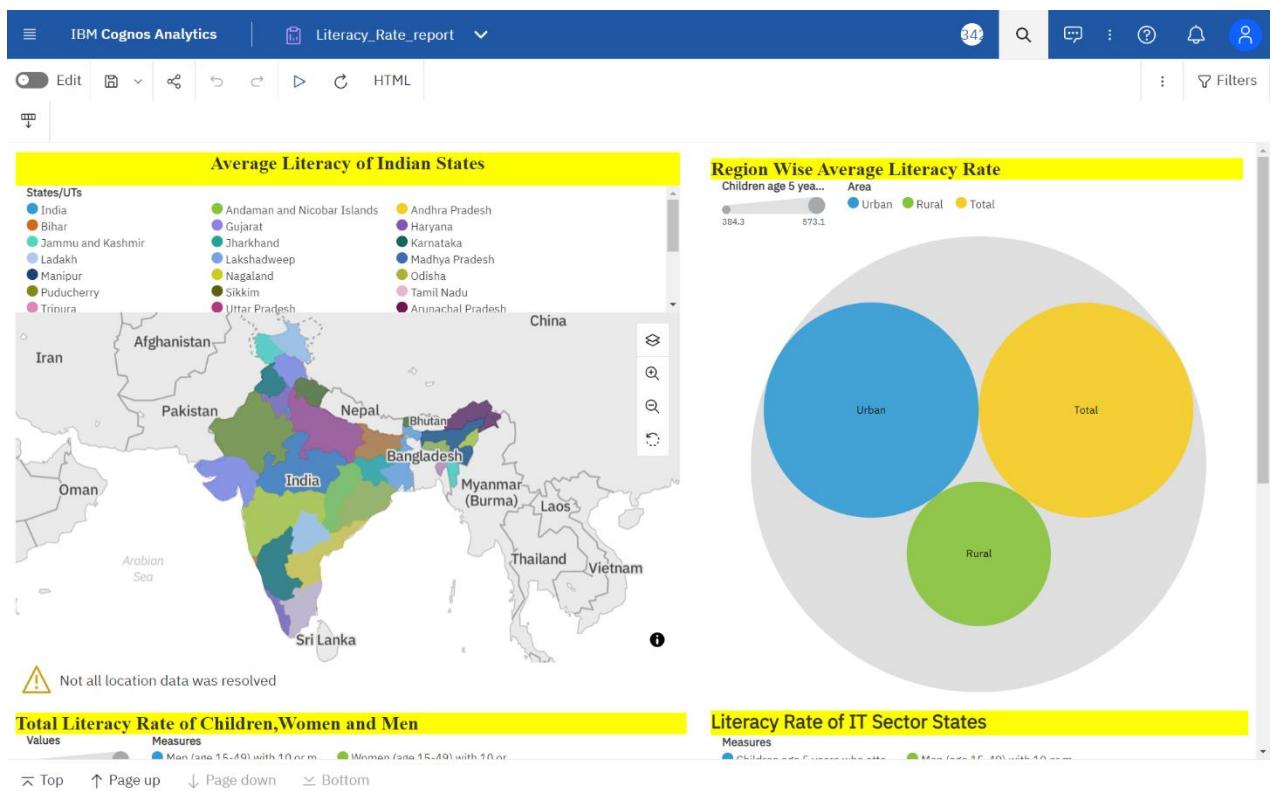
Children age 5 years who attended pre-primary school

Prev scene Next scene Scene 7 of 8 0:01.9 0:05.0 Analytics Filters



REPORT





A.2 GITHUB LINK & PROJECT DEMO VIDEO:

GITHUB :

https://github.com/BALA-CHANDAR-C/NM2023TMID02641_DataAnalytics_Literacy-Rate-Analysis.git

PROJECT DEMO VIDEO :

<https://drive.google.com/file/d/1CMN9zvuEeb6N5pefm43OlVnU69CsRxRH/view?usp=sharing>