GLOBAL WEALTH DIVIDE

A COMPREHENSIVE STUDY OF INCOME INEQUALITY ACROSS THE WORLD

A PROJECT REPORT

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1. INTRODUCTION

1.1 Project Overview

The Global Wide Income Analysis project aims to investigate and analyze income patterns and disparities across countries worldwide. The project utilizes a comprehensive dataset on income distributions, socio-economic factors, and other relevant variables to gain insights into the global income landscape. By examining income inequality, poverty levels, and income mobility, the project seeks to provide a comprehensive understanding of income dynamics on a global state.

1.2 Purpose

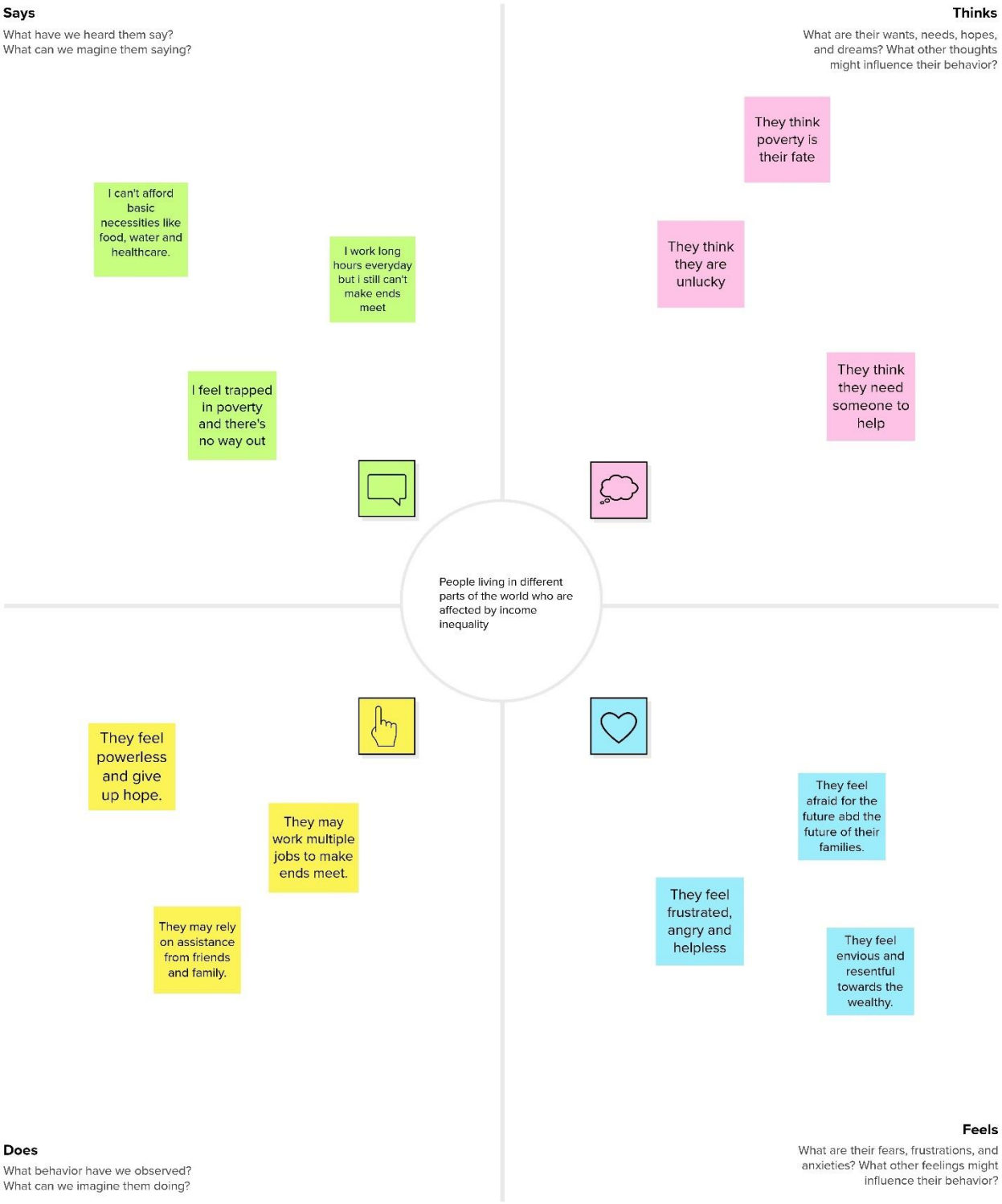
The purpose is to analyze the world economy status. By the analyze the income variance we can evaluate the economic progress and development of countries. It helps to identify the income disparities within and between countries. It highlights the gap between the rich and poor, the concentration of wealth, and the distribution of income across various socio-economic groups.

2. IDEATION & PROPOSED SOLUTION

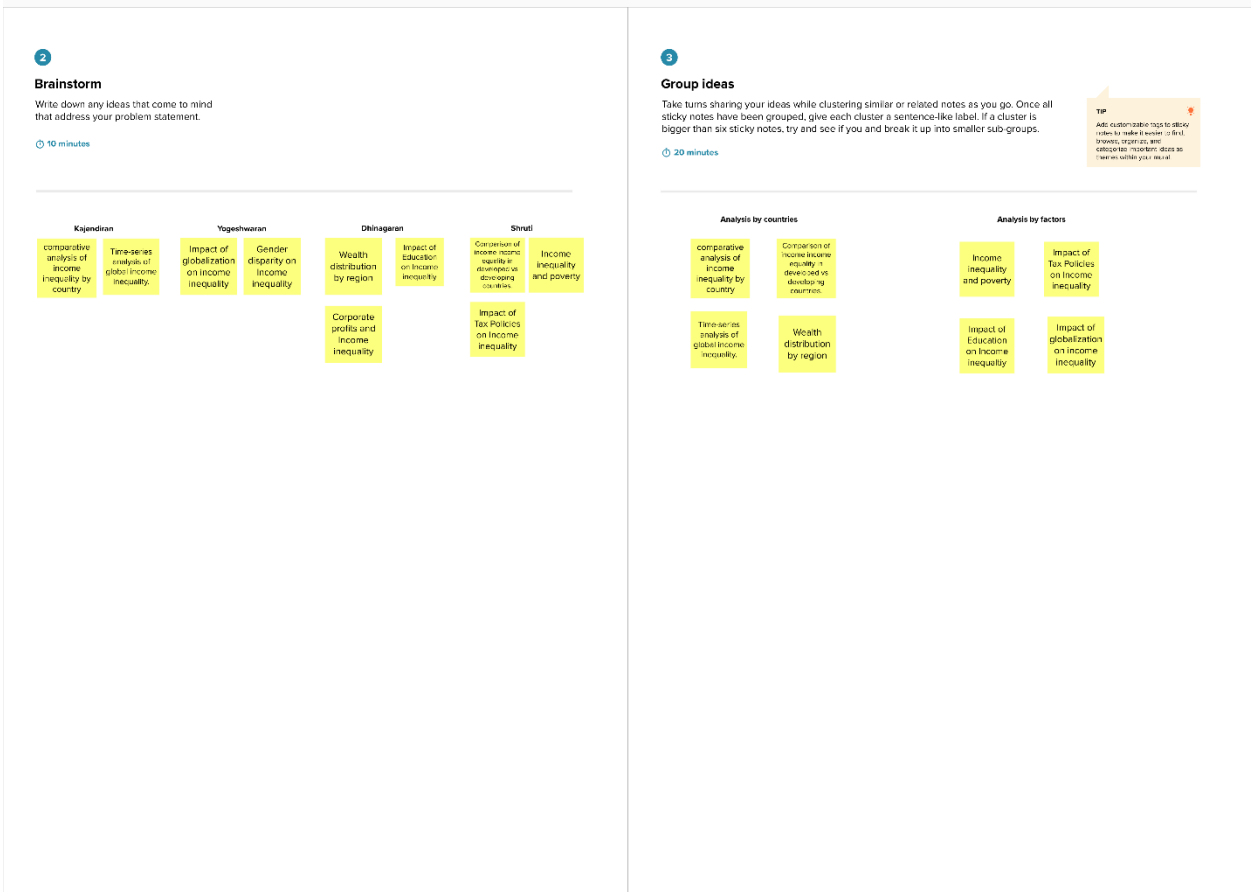
2.1 Problem Statement

There is a significant and growing wealth gap between the rich and poor in countries around the world. This has led to social and economic disparities, including limited access to education, healthcare, and basic necessities for those living in poverty. The issue of income inequality has become a major concern for policymakers, businesses, and individuals alike, and there is a need for a comprehensive study to understand the scope and causes of this problem. The project aims to identify the main drivers of income inequality, including factors such as education, employment, and social welfare policies. Additionally, the project will explore the impact of income inequality on different regions and demographic groups, including women, minorities, and those living in rural areas

2.2 Empathy Map Canvas



2.3 Ideation and Brainstorming



2.4 Proposed Solution

Global Wealth divide analysis helps to identify economically disrupted people and the root causes for their disruption and what is the factor is missing on them when compared with economically wealth people. This can be achieved on the income analysis. The education, occupation, knowledge about the finance, the childhood financial status, likewise all the factors are analyzed to understand the factor affecting the people not to achieve the financial freedom.

3. REQUIREMENT ANALYSIS

3.1 Functional requirement

1. Data Collection: The system should be able to collect relevant data on wealth distribution from various sources, such as national statistics, financial reports, and economic indicators. It should be capable of gathering data from different countries and regions worldwide.
2. Data Processing: The system should process the collected data to calculate wealth distribution metrics, such as Gini coefficient, wealth percentiles, and income ratios. It should be able to handle large datasets and perform complex calculations efficiently.
3. Visualization: The system should provide visual representations of wealth distribution data, such as charts, graphs, and maps. These visualizations should allow users to analyze and compare wealth disparities across countries and regions.
4. Comparative Analysis: The system should enable users to compare wealth distribution between different countries or regions. It should provide tools for generating comparative reports and conducting in-depth analysis to identify patterns, trends, and factors contributing to wealth inequality.
5. Regional and Demographic Breakdown: The system should provide the capability to break down wealth distribution analysis based on regions, such as continents, countries, or specific geographical areas. Additionally, it should allow analysis based on demographic factors, such as age groups, gender, and socioeconomic status.

3.2 Non-Functional requirements

1. Performance: The analysis should be able to handle large datasets and complex calculations efficiently. It should provide quick and responsive results, even when dealing with extensive global wealth data.

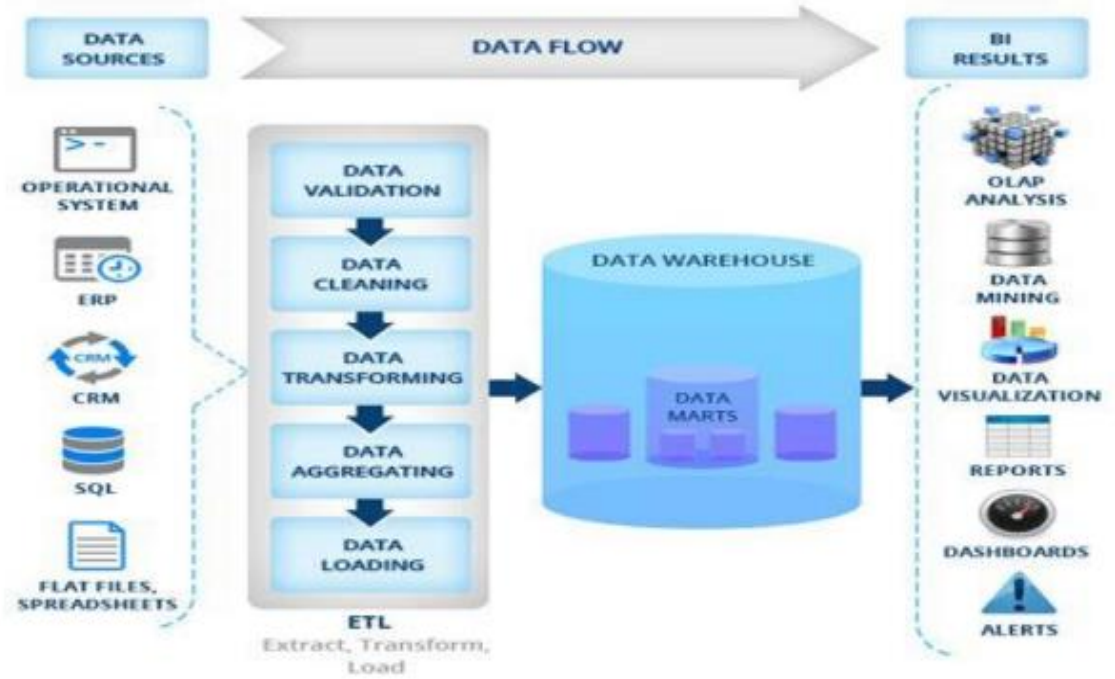
2. Scalability: The analysis should be designed to accommodate the growth of data over time. It should be able to handle an increasing amount of data without significant degradation in performance.

3. Reliability: The analysis should be accurate and reliable, ensuring that the calculations and findings are consistent and trustworthy. It should minimize errors and provide robust results.

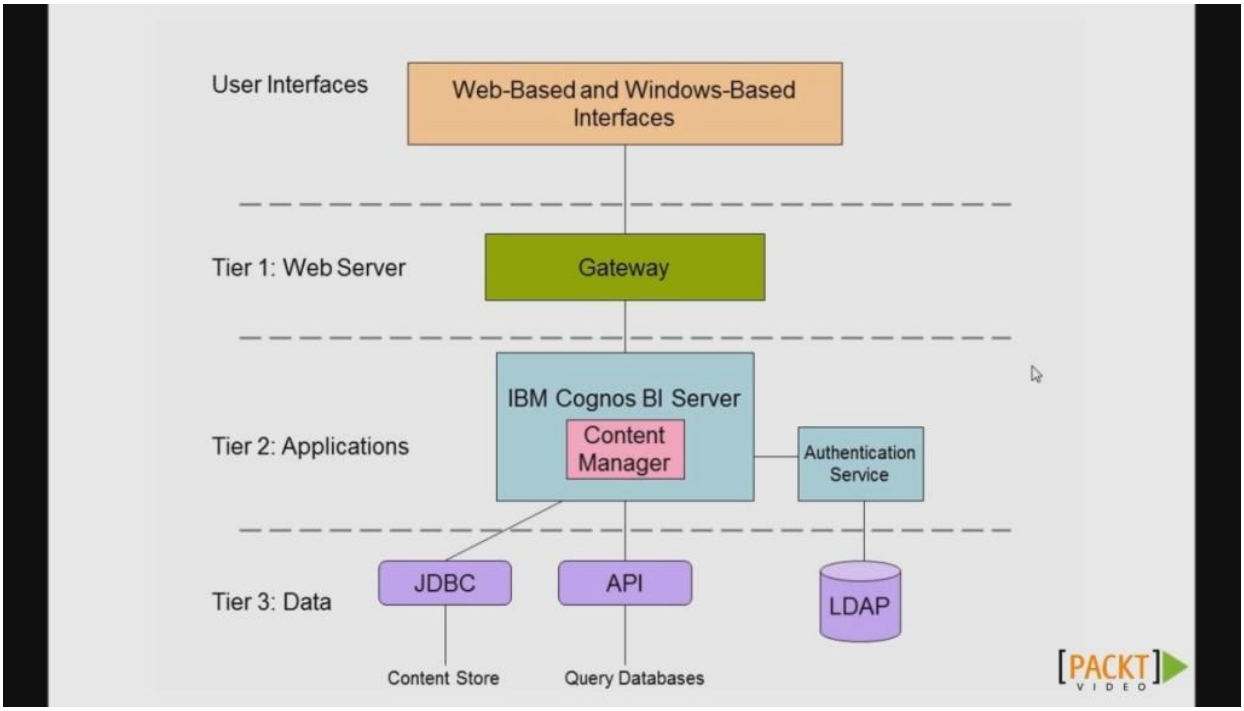
4. Security: The analysis should ensure the confidentiality and integrity of sensitive wealth data. It should have appropriate security measures in place to protect the data from unauthorized access or manipulation.

4. PROJECT DESIGN

4.1 Dataflow Diagrams



4.2 Solution & Technical Architecture



Components & Technologies:

S. No	Component	Description	Technology
1.	User Interface	The interface by which the user can interact.	HTML, CSS, Python
2.	Application Logic-1	The backend API provide the template and flow of the application.	Python, Flask
3.	Application Logic-2	The BI tool provide the live dashboard in the web page.	IBM Cognos
4.	Cloud Database	Database Service on Cloud provided the live data by the connection with the BI tool.	IBM DB2
5.	File Storage	The storage which stores the file required for the project.	Local Filesystem
6.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Localhost	Local

Application Characteristics:

S. No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Flask web framework.	Flask
2.	Security Implementations	Cognos security is a component of the IBM Cognos framework that manages user access to data. Cognos security manages authorization and authentication through third-party security providers, such as LDAP or Active Directory.	LDAP, Active Directory.
3.	Scalable Architecture	3-tier architecture.	Data: JDBC, LDAP, API Applications: IBM Cognos BI server User Interface: Flask
4.	Availability	To allow fast retrieval, Content Manager builds an in-memory cache to service many requests. This ensures optimal performance and enhances scalability by limiting the number of database reads required to meet user requests. In the single Content Manager process, multiple threads can concurrently service requests for content. Content Manager creates one or more threads for each user request. Performance depends on the power of the CPU of the computer on which Content Manager is installed.	Content Manager on Cognos
5.	Performance	• The correct queries are generated, and they run fast. • The correct indexes have been created. • The physical properties of the database are optimized.	Cognos Analytics 11.1 R5

4.3 User Stories

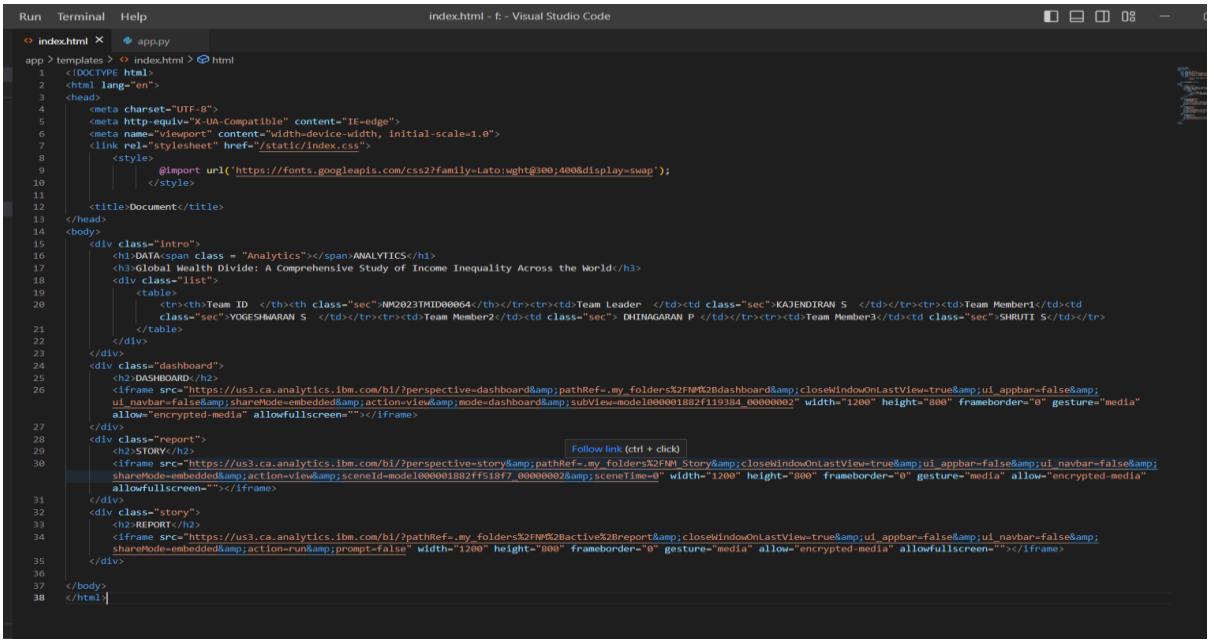
User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Team Member
Customer (Mobile user & Web user)	Data Collection	USN-1	The system should be able to collect data from various sources such as World Bank, International Monetary Fund (IMF), United Nations (UN), and other relevant organizations on income, wealth, and poverty across the world.	The data collected should be relevant to research question and objective.	High	Dhinagaran
	Data Analysis	USN-2	The system should be able to analyse the collected data and provide a comprehensive study of income inequality across the world.	: The data analysis should be accurate and free from errors. This can be ensured by using appropriate data analysis methods and tools, and by properly training data analysts.	High	Kajendiran
	Visualization	USN-3	The system should be able to present the analysed data in various visual formats such as graphs, charts, and maps to help users easily understand the results.	The visualization should be communicated clearly and effectively to stakeholders in the project. This can include written descriptions, annotations, or presentations.	High	Yogeshwaran
	Comparison	USN-4	The system should be able to compare income inequality across different countries, regions, and income groups to identify patterns and trends.	The comparison should be valid, meaning that it accurately measures what it is intended to measure. This can be ensured by using appropriate comparison methods and tools.	Medium	Shruti
	User Management	USN-5	The system should provide user management features such as registration, login, and access control to restrict access to authorized users only.	The user management system should be able to accommodate growth in the number of users and their access levels.	High	Kajendiran

5. CODING & SOLUTIONING

5.1 Feature 1

```python
#importing the required packages
from flask import Flask,render_template
app = Flask(__name__,template_folder='templates',static_folder='static')

@app.route('/') #decorator

#function to render intial content
def index_new():
    return render_template('index.html')


if __name__ == '__main__':
    app.run()
```

5.2 Feature 2



6. RESULTS

6.1 Performance Metrics

S. No.	Parameter	Values
1.	Dashboard design	No of Visualizations / Graphs - 10
2.	Data Responsiveness	Implementing techniques such as data caching, optimized rendering, interactive features, efficient preprocessing pipelines, proper indexing, query optimization techniques, and efficient query execution.
4.	Utilization of Data Filters	Gender, Age, Income, Location, Job
5.	Effective User Story	No of Scene Added - 5
6.	Descriptive Reports	No of Visualizations / Graphs - 5

7.ADVANTAGES

- Identifying inequality: Global wealth analysis helps in identifying and quantifying wealth inequality within and across countries. It provides valuable insights into the distribution of wealth, highlighting disparities between the rich and the poor.
- Informing poverty reduction efforts: By analyzing global wealth, researchers and policymakers can gain a comprehensive understanding of poverty and its causes.

- Assessing economic development: Global wealth analysis allows for the assessment of economic development and progress across countries and regions.

DISADVANTAGES

- Data Accuracy and Reliability: Global wealth analysis heavily relies on data collection and reporting, which can be challenging and prone to errors.
- Inequality Within Countries: Global wealth analysis often focuses on the distribution of wealth among countries, neglecting the significant disparities within nations. It fails to capture the wealth inequality within individual countries, which can vary widely and have profound social and economic implications.
- Wealth Hiding and Offshore Accounts: Wealth analysis typically relies on reported financial data, which can be manipulated or hidden through offshore accounts and tax havens. This can result in underestimating the true extent of global wealth inequality and distorting the accuracy of the analysis.
- Cultural and Contextual Factors: Global wealth analysis often overlooks cultural, historical, and contextual factors that shape wealth distribution patterns. Factors like social norms, political systems, institutional frameworks, and historical legacies can significantly influence wealth distribution, and failing to account for these factors may lead to oversimplification or misinterpretation of the analysis.

8.CONCLUSION

The goal of this project to analyse the wealth divide among the global. It helps to identify the region which has the poor development, community which faces the economic crisis and helps to devise the strategies to overcome their crisis.

9.FUTURE SCOPE

The future scope of this project to involve the integration of advanced technologies, expanded data sources, a broader focus on social and environmental impacts, and an increased emphasis on policy implications and ethical considerations. These developments can lead to more comprehensive, accurate, and impactful insights into global wealth distribution and dynamics.

10.APPENDIX

SOURCE CODE

index.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">
    <link rel="stylesheet" href="/static/css/index.css">
        <style>
                @import
url('https://fonts.googleapis.com/css2?family=Lato:wght@300;400&display=swap');
             </style>

    <title>Document</title>
</head>
<body>
    <div class="intro">
        <h1>DATA<span class = "Analytics"></span>ANALYTICS</h1>
        <h3>Global Wealth Divide: A Comprehensive Study of Income Inequality
Across the World</h3>
        <div class="list">
            <table>
                <tr><th>Team ID  </th><th
class="sec">NM2023TMID00064</th></tr><tr><td>Team Leader  </td><td
class="sec">KAJENDIRAN S  </td></tr><tr><td>Team Member1</td><td
class="sec">YOGESHWARAN S  </td></tr><tr><td>Team Member2</td><td class="sec">
DHINAGARAN P </td></tr><tr><td>Team Member3</td><td class="sec">SHRUTI
S</td></tr>
            </table>
        </div>
    </div>
    <div class="dashboard">
        <h2>DASHBOARD</h2>
        <iframe
src="https://us3.ca.analytics.ibm.com/bi/?perspective=dashboard&amp;pathRef=.my_f
olders%2FNM%2Bdashboard&amp;closeWindowOnLastView=true&amp;ui_appbar=false&amp;ui
_navbar=false&amp;shareMode=embedded&amp;action=view&amp;mode=dashboard&amp;subVi
ew=model000001882f119384_00000002" width="1200" height="800" frameborder="0"
gesture="media" allow="encrypted-media" allowfullscreen=""></iframe>
    </div>
    <div class="report">
```

```
        <h2>STORY</h2>
        <iframe
src="https://us3.ca.analytics.ibm.com/bi/?perspective=story&amp;pathRef=.my_folde
rs%2FNM_Story&amp;closeWindowOnLastView=true&amp;ui_appbar=false&amp;ui_navbar=fa
lse&amp;shareMode=embedded&amp;action=view&amp;sceneId=model000001882ff518f7_0000
0002&amp;sceneTime=0" width="1200" height="800" frameborder="0" gesture="media"
allow="encrypted-media" allowfullscreen=""></iframe>
    </div>
    <div class="story">
        <h2>REPORT</h2>
        <iframe
src="https://us3.ca.analytics.ibm.com/bi/?pathRef=.my_folders%2FNM%2Bactive%2Brep
ort&amp;closeWindowOnLastView=true&amp;ui_appbar=false&amp;ui_navbar=false&amp;sh
areMode=embedded&amp;action=run&amp;prompt=false" width="1200" height="800"
frameborder="0" gesture="media" allow="encrypted-media"
allowfullscreen=""></iframe>
    </div>

</body>
</html>
```

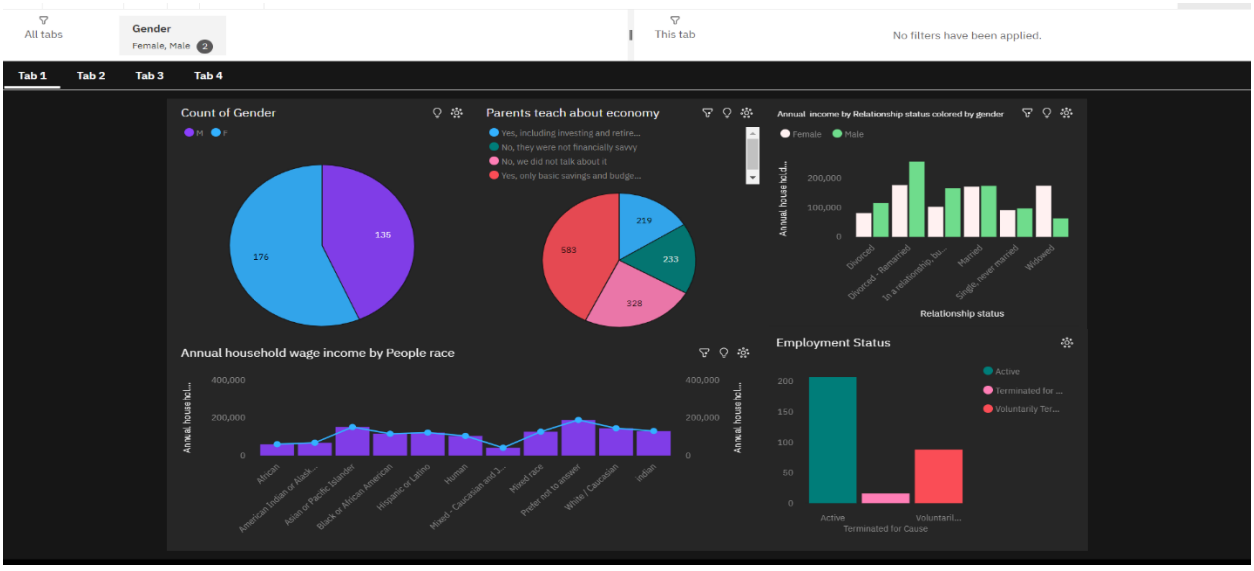
index.css

```
html{
background: linear-gradient(to right, #200122, #6f0000);
font-family:'Lato', sans-serif;
}
.intro,.dashboard,.story,.report
{
    border-radius: 25px;
    background-color:   #ffffff;
    text-align: center;
    margin: 25px 25px 25px 25px;
    padding: 20px 20px 20px 20px;
}
.list{
    margin-left:450px;
}
tr{
   text-align: left;
   padding-left: 50px;
}
table
{border-spacing: 20px;}
```

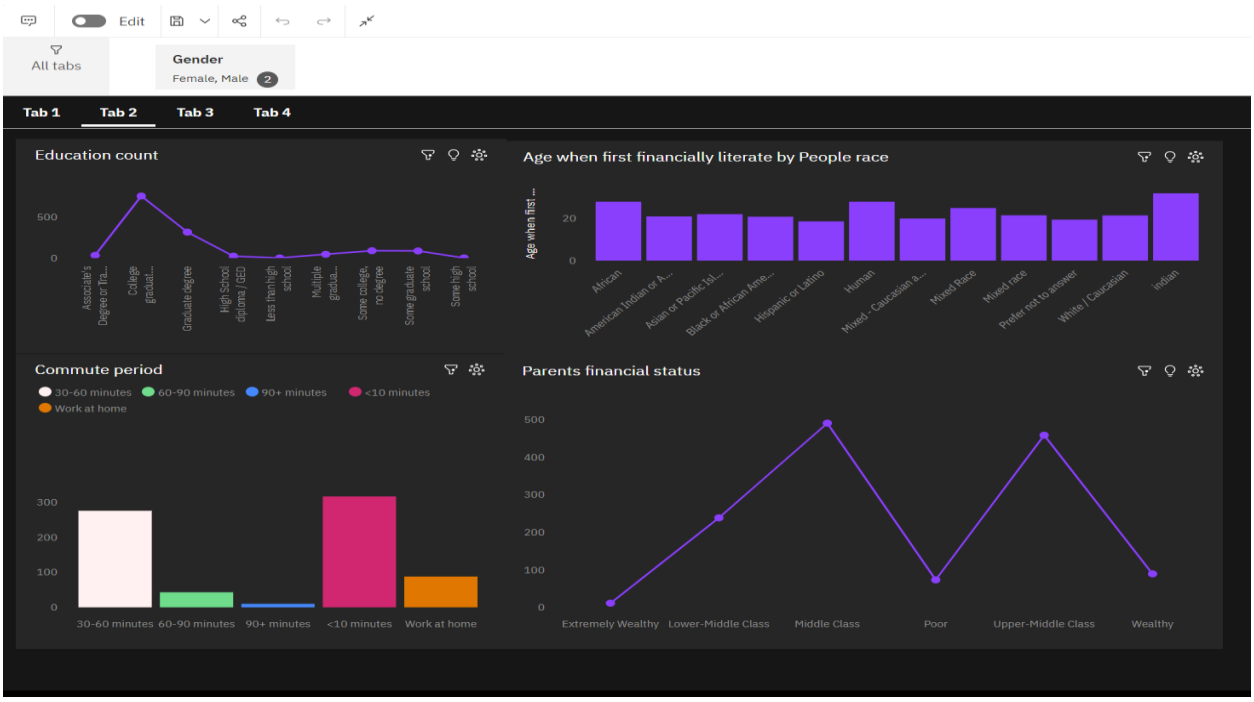
app.py

```
from flask import Flask,render_template
app = Flask(__name__,template_folder='templates',static_folder='static')

@app.route('/')
def index_new():
    return render_template('index.html')




if __name__ == '__main__':
    app.run()
```

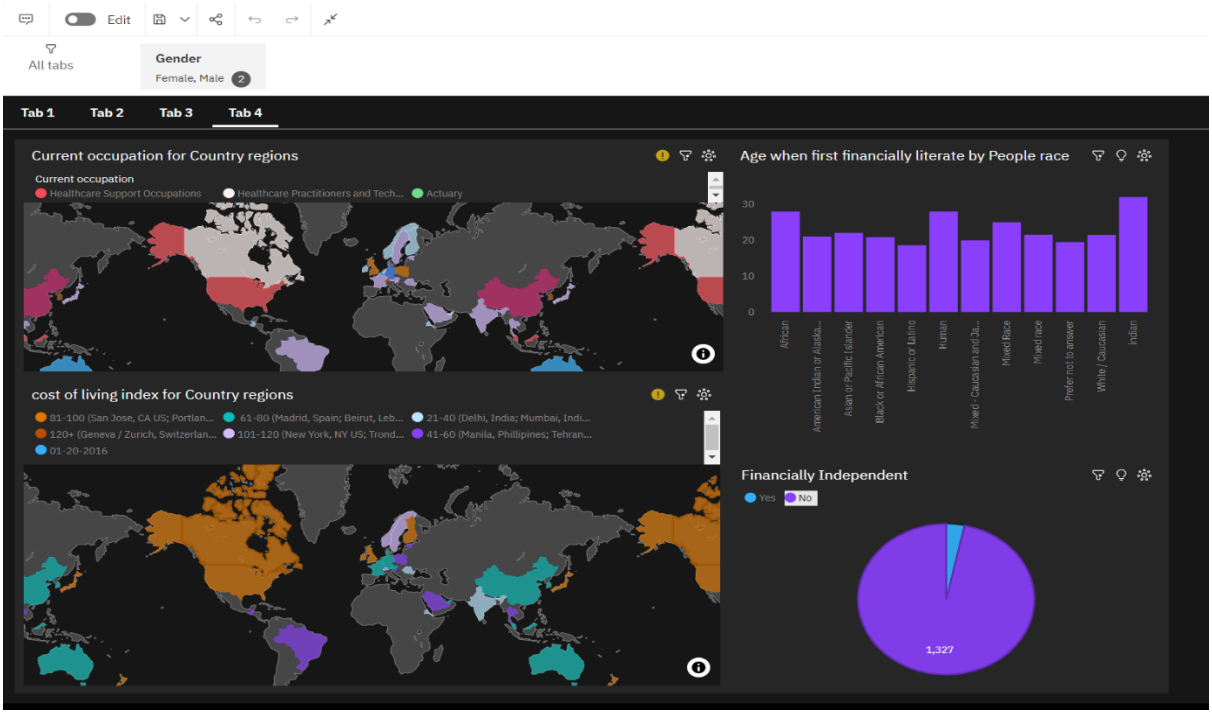
DASHBOARD



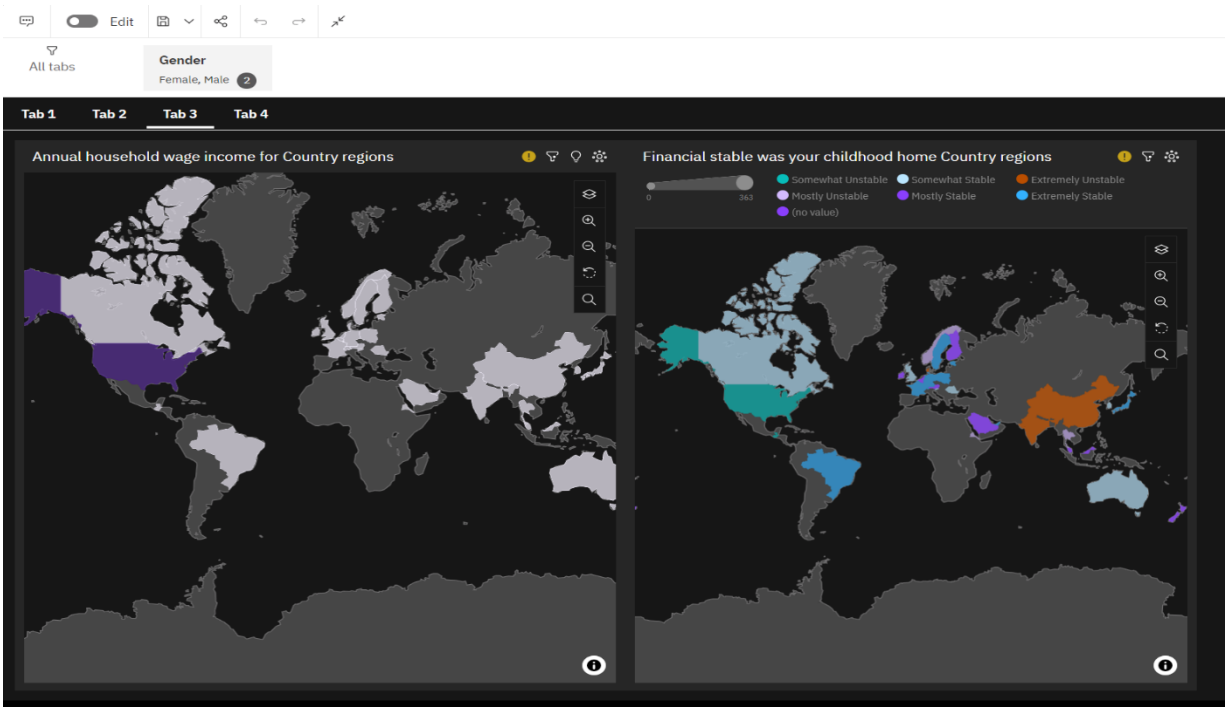
This tab explains the analysis of Count of Gender, how the parents taught about economy, annual income of the people with the relationship status by gender, employment status, annual wage income by people races.



The above tab explains the education count, age when they first literate about finance by people race, commute period, parent financial status.

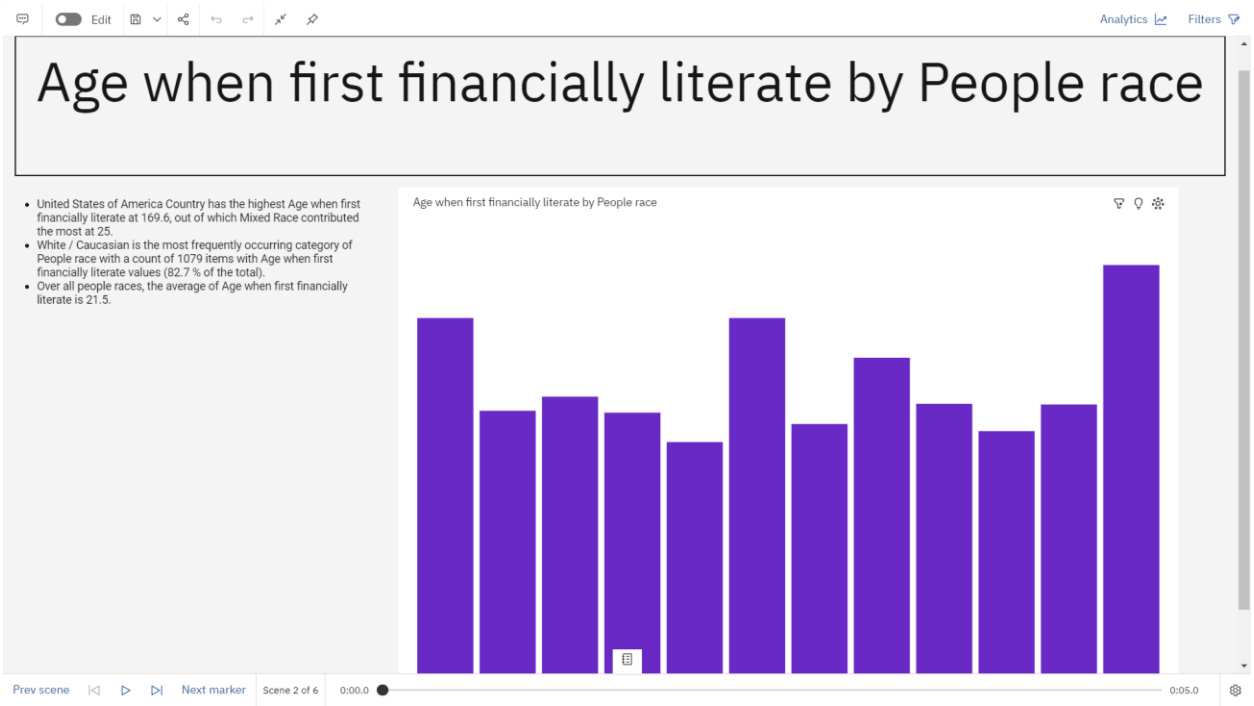


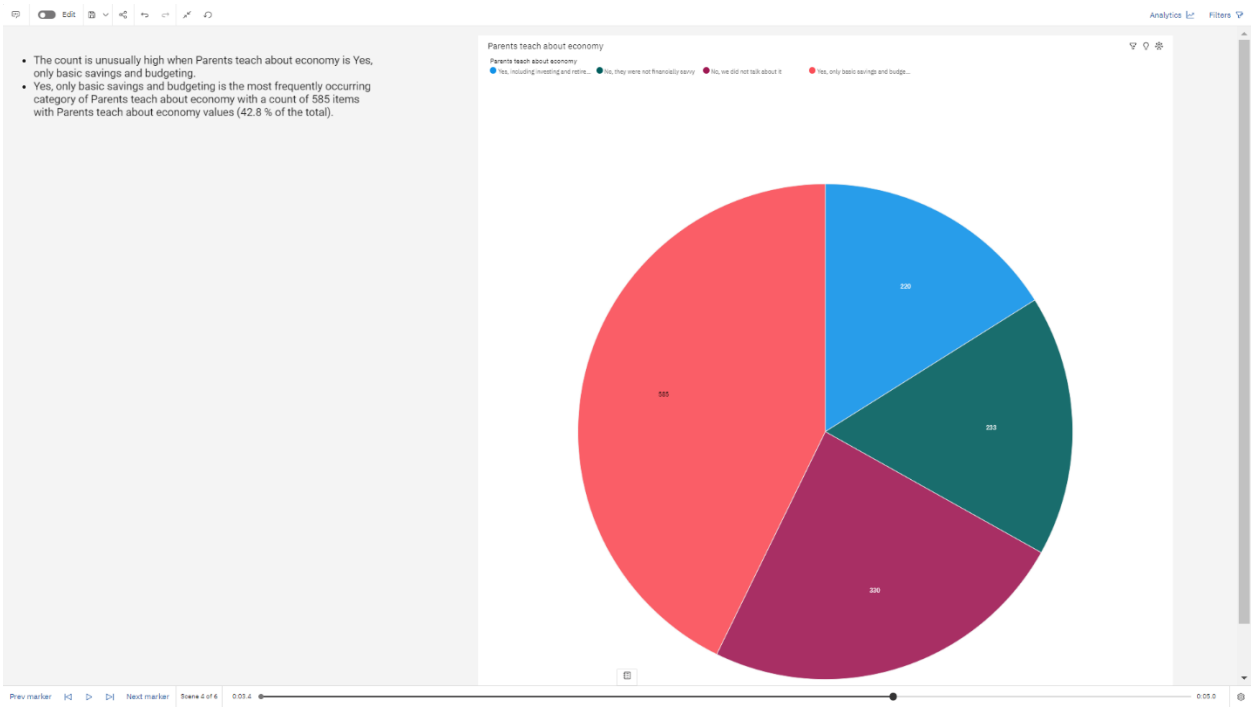
This tab explains the occupations of the people by country, the cost of living index for country, how many people are independent.

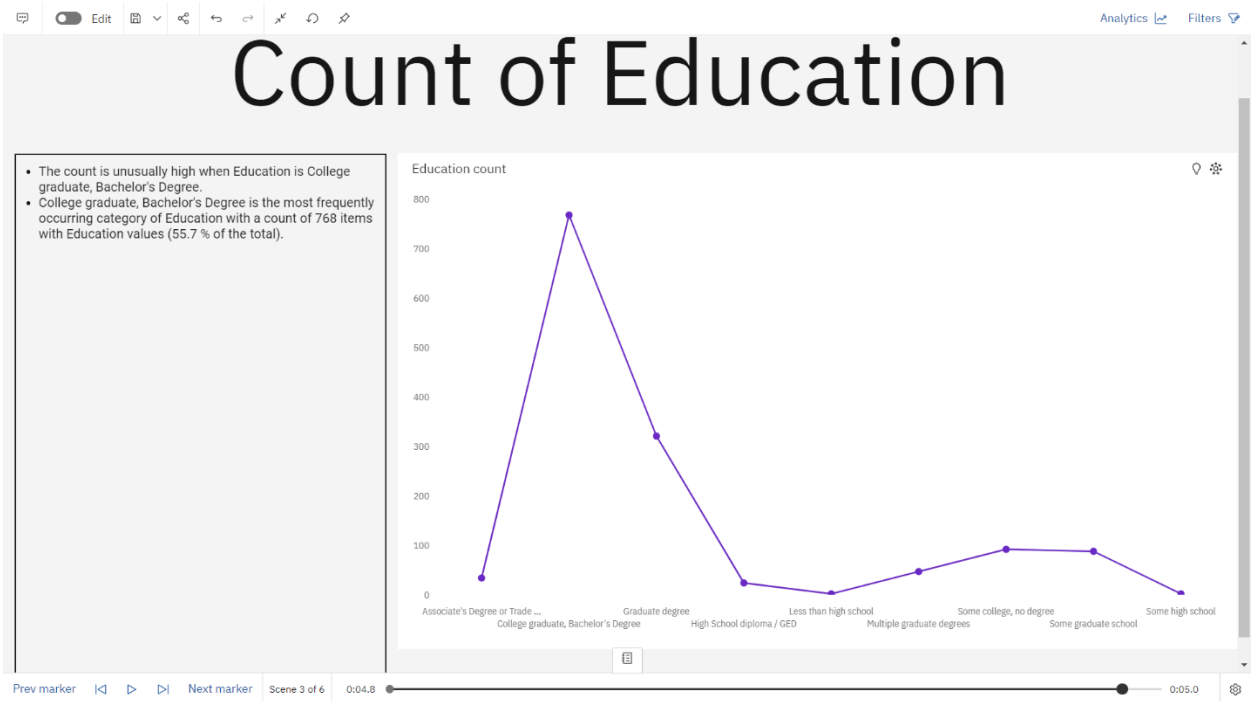


This tab explains about the annual wage income for countries and how the financial stable was the childhood by country.

STORY

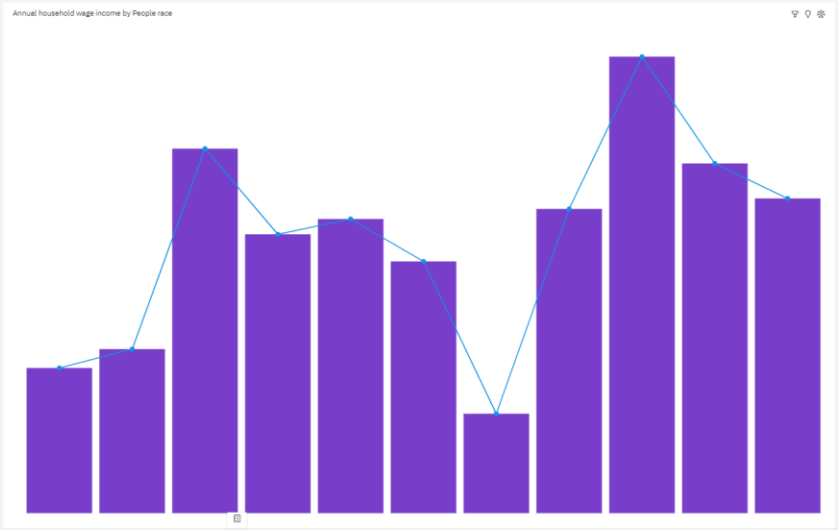



Edit
Analytics
Filters
The count is unusually high when Parents teach about economy is Yes, only basic savings and budgeting.
Yes, only basic savings and budgeting is the most frequently occurring category of Parents teach about economy with a count of 585 items with Parents teach about economy values (42.8 % of the total).
Parents teach about economy
Parents teach about economy
Yes, including investing and retire...
No, they were not financially savvy
No, we did not talk about it
Yes, only basic savings and budge...
220
233
330
585
Prev marker
Next marker
Scene 2 of 6
0:03.4
0:05.0

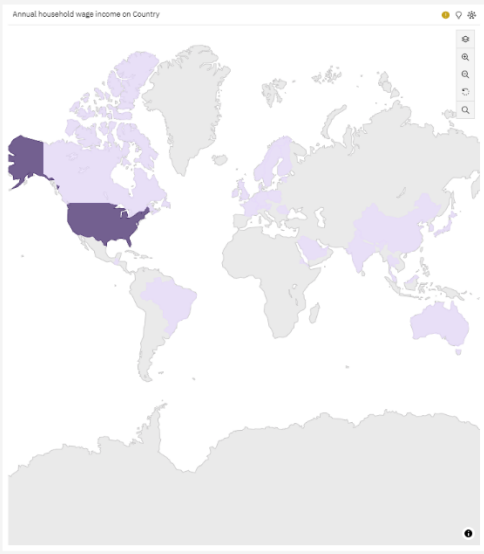

Edit
Analytics
Filters
Count of Education
The count is unusually high when Education is College graduate, Bachelor's Degree.
College graduate, Bachelor's Degree is the most frequently occurring category of Education with a count of 768 items with Education values (55.7 % of the total).
Education count
800
700
600
500
400
300
200
100
0
Associate's Degree or Trade ...
College graduate, Bachelor's Degree
Graduate degree
High School diploma / GED
Less than high school
Multiple graduate degrees
Some college, no degree
Some graduate school
Some high school
Prev marker
Next marker
Scene 3 of 6
0:04.8
0:05.0

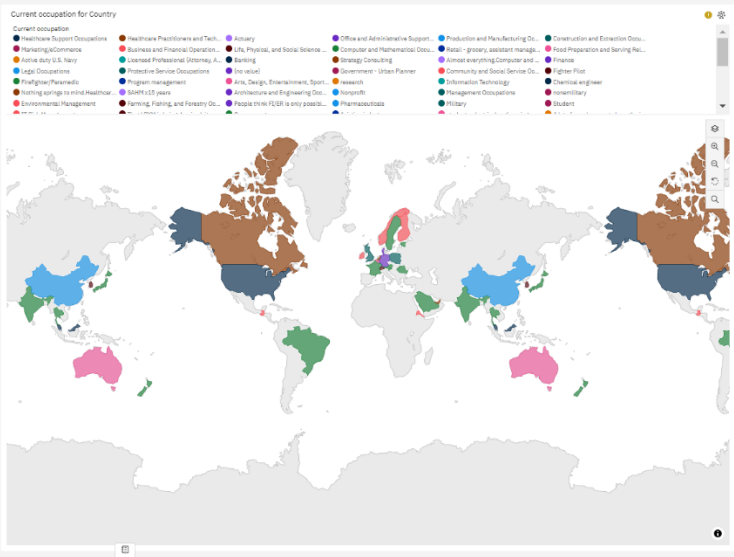
Annual household wage income by People race

- White / Caucasian has the highest average Annual household wage income due to China Country.
- Over all people races, the average of Annual household wage income is nearly 144 thousand.

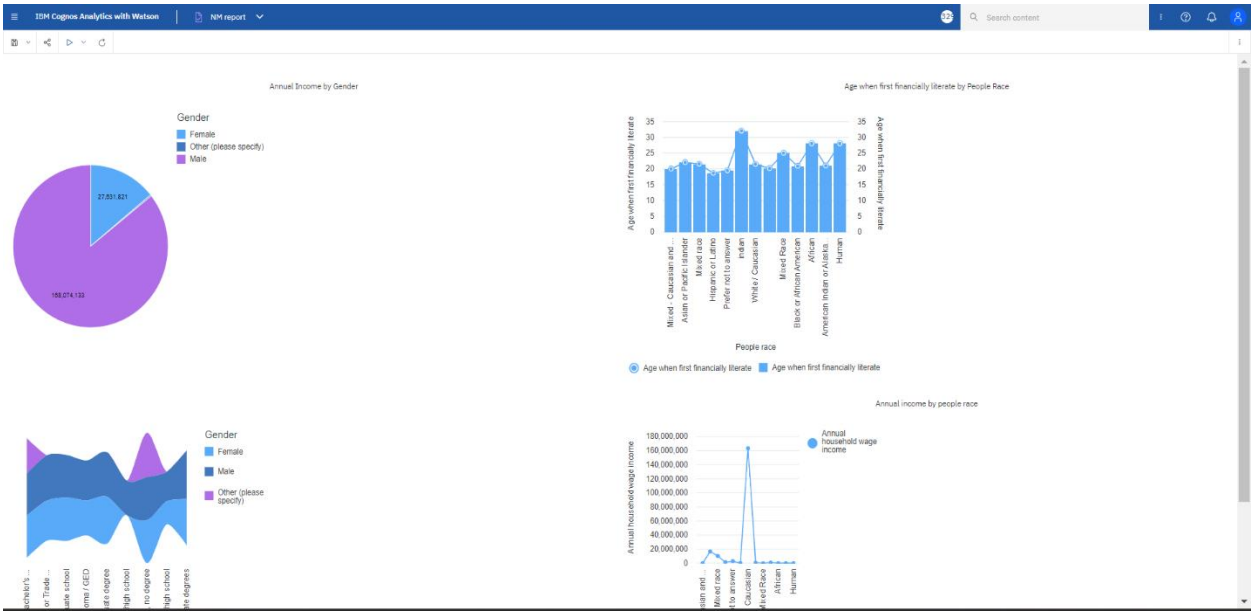


Analysis on Country





REPORT



LINKS

Dashboard : dashboard link

Story : story link

Report : report link

Video Link : drive link