



BSD1323 STORYTELLING AND DATA VISUALIZATION

INDIVIDUAL PROJECT ASSIGNMENT

SEMESTER II 2022/2023

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| LECTURER | DR SITI ZANARIAH SATARI |
| SECTION | 01G |
| NAME | SHAHIRA BINTI MOHAIDEEN MEERA |
| STUDENT ID | SD22066 |

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|  اونیورسٹی ملیسیا پهنج UNIVERSITI MALAYSIA PAHANG | SUBJECT: BSD1323 STORYTELLING AND DATA VISUALIZATION TOPIC: CHAPTER 1 to CHAPTER 8 INDIVIDUAL PROJECT DUE DATE: 24 May - 13 June 2023 | | MARKS: 60(15%) |
| | | | |

OBJECTIVES:

GENERAL INSTRUCTIONS:

1. You are required to create an advanced data visualization dashboard using Tableau.
2. Prepare a report of your project.
3. Submit the following files in KALAM platform (**Due date 13 June 2022, 11pm**).
 - i. Tableau Workbook (twbx file).
 - ii. Excel/csv file of the dataset used.
 - iii. Project Report (pdf file). **Attach pages 2-4** of this project question paper (the rubrics) in your project report submission.
4. Submit the Project Report in hard copy (**Due date 13 June 2022, 5pm**).

PROJECT SCOPE: MALAYSIA DASHBOARD

1. Find any available dataset which records the historical data of any event/cases/issues/topics that includes or related with Malaysia. The number of records should be greater than 500.
2. The data fields should contain the following criteria:
 - a. At least 1 Date data type.
 - b. At least 1 Categorical/Qualitative data type.
 - c. At least 1 Geographic data type.
 - d. At least 1 Quantitative data type.
3. Create an **advanced dashboard** which contain:
 - a. A catchy title and a clear dashboard.
 - b. Combination of several types of visualization from each data field types in (2).
 - c. At least one advanced data visualization created using data calculation or table calculation techniques.
 - d. Interactive data visualizations.
 - e. At least 3 integrated dashboards (Must use *Actions Menu*).
4. The report of your project should contain:
 - a. Title and motivation of your project topic.
 - b. Details explanation of your dataset.
 - c. Details analysis of each visualization and dashboard.
 - d. Concluding remarks.

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| | TOPIC: CHAPTER 1 to CHAPTER 8 | | | |
| | INDIVIDUAL PROJECT | DUE DATE: 27 May - 13 June 2023 | | |
| | ID: SD22066 | NAME: SHAHIRA BINTI MOHAIDEEN MEERA | | |

INDIVIDUAL PROJECT: MARKING SCHEME

| CLO | Description | PLO mapping | Percentage | Marks |
|------|---|---|------------|-------|
| CLO2 | Demonstrate the data visualization skill using an effective storytelling. | PLO2: Cognitive Skills and Functional work skills with focus on Numeracy skills C3: Application | 5% | 20 |

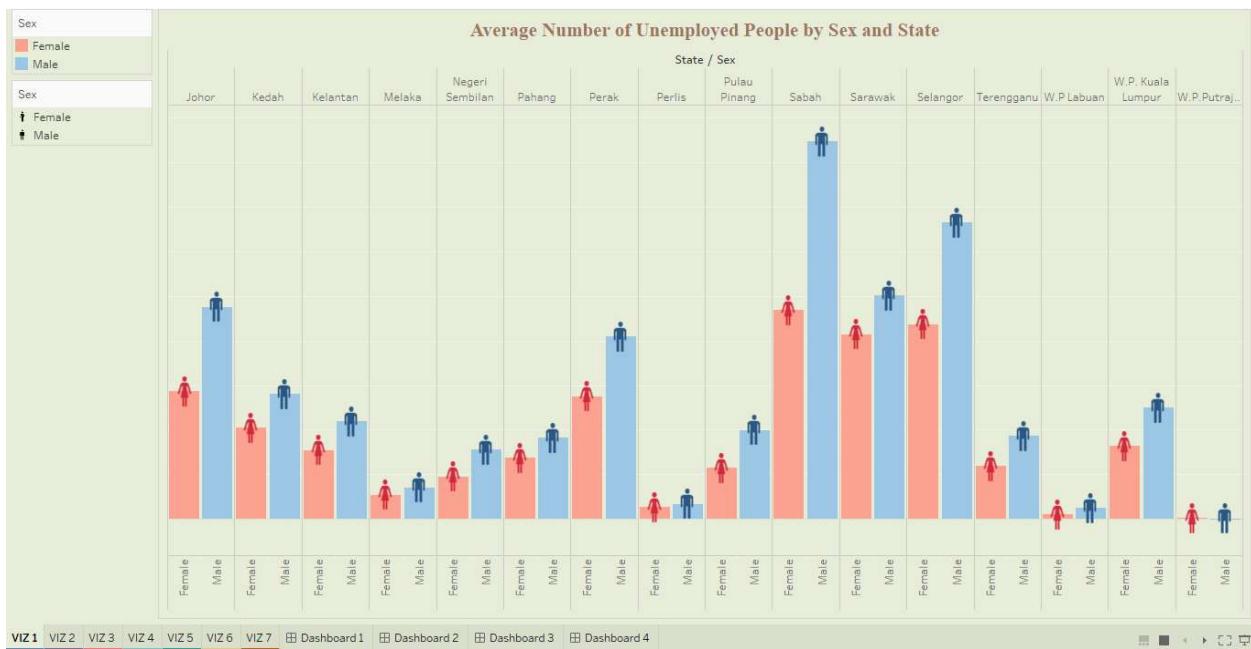
| CLO | Description | PLO mapping | Percentage | Marks |
|------|---|--|------------|-------|
| CLO3 | Display a powerful data visualization, report, dashboard or stories in solving various applications using appropriate software. | PLO3: Functional work skills with focus on Practical, and Digital skills P4: Mechanism | 10% | 40 |

| CRITERIA | LEVEL OF ACHIEVEMENT | | | | | | WEIGHTAGE | SCORE |
|--|--|--|--|---|---|---|-----------|-------|
| | 0 | 1 Inadequate | 2 Emerging | 3 Developing | 4 Good | 5 Excellent | | |
| Theory/ Knowledge on data visualization | No theoretical knowledge on data visualization observed. | Very little knowledge observed on data visualization or some information is incorrect. | Some knowledge or information on data visualization observed but missing all major points. | Some knowledge or information on data visualization observed but still missing some major points. | Good knowledge on data visualization observed, missing some minor points. | Excellent knowledge on data visualization observed; provides all necessary background principles. | 1 | |
| Interactive Data Visualization Techniques | Failed to demonstrate the given task. | Inappropriate interactive data visualization techniques are demonstrated. | Partly correct interactive data visualization techniques are demonstrated, with partly valid data. | Correct interactive data visualization techniques are demonstrated, with partly valid data. | Good interactive data visualization techniques are demonstrated, with valid but not completely accurate data. | Competent interactive data visualization techniques are demonstrated, with valid and accurate data. | 1 | |
| Theory/ Knowledge on advanced dashboard | No theoretical knowledge on advanced dashboard observed. | Very little knowledge observed on advanced dashboard or some information is incorrect. | Some knowledge or information on advanced dashboard observed but missing all major points. | Some knowledge or information on advanced dashboard observed but still missing some major points. | Good knowledge on advanced dashboard observed, missing some minor points. | Excellent knowledge on advanced dashboard observed; provides all necessary background principles. | 1 | |
| Advanced Dashboard Techniques & Data Validation | Failed to demonstrate the given task. | Inappropriate advanced dashboard techniques are demonstrated. | Partly correct advanced dashboard techniques are demonstrated, with partly valid data. | Correct advanced dashboard techniques are demonstrated, with partly valid data. | Good advanced dashboard techniques are demonstrated, with valid but not completely accurate data. | Competent advanced dashboard techniques are demonstrated, with valid and accurate data. | 2 | |

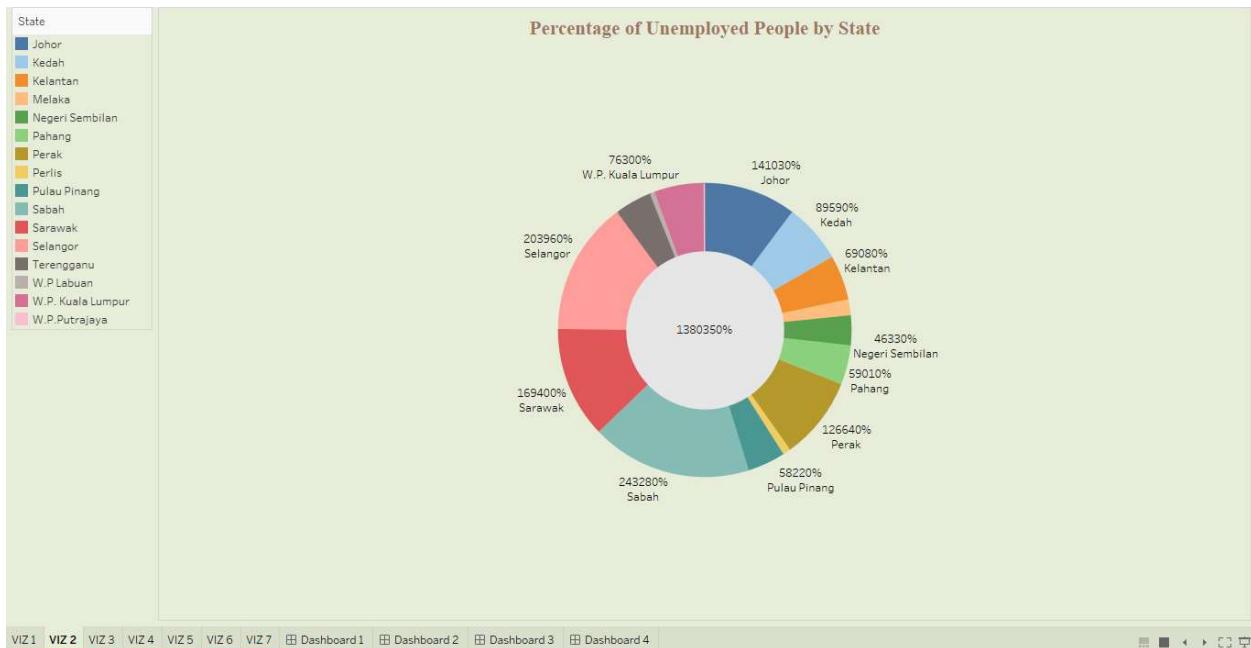
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|---|---------------------------------------|---|---|--|--|--|---|--|
| Efficiency/ Assembly/ Tidiness | Failed to demonstrate the given task. | Not efficiently, effectively and neatly demonstrated the given task. | Partly efficient, but not effectively and neatly demonstrated the given task. | Efficiently, but not effectively and neatly demonstrated the given task. | Efficiently and effectively but not neatly demonstrated the given task. | Efficiently, effectively and neatly demonstrated the given task. | 1 | |
| Final Results (the advanced dashboard) | Failed to demonstrate the given task. | Lack of results/ zero readability of the result. Poor originality. | Partly complete result and less originality. | Result presented but at low readability/ some result presented. Reader has to guess some of the missing information. Less originality. | Clear, neat presentation. All required results are presented. Readability. Complete with labels, title, axes, etc. | Very Clear, neat presentation. All required results are presented. High readability. Complete with labels, title, axes, etc. | 2 | |
| | | | | | | TOTAL (40) | | |

PRINT SCREEN OF ALL VISUALIZATION

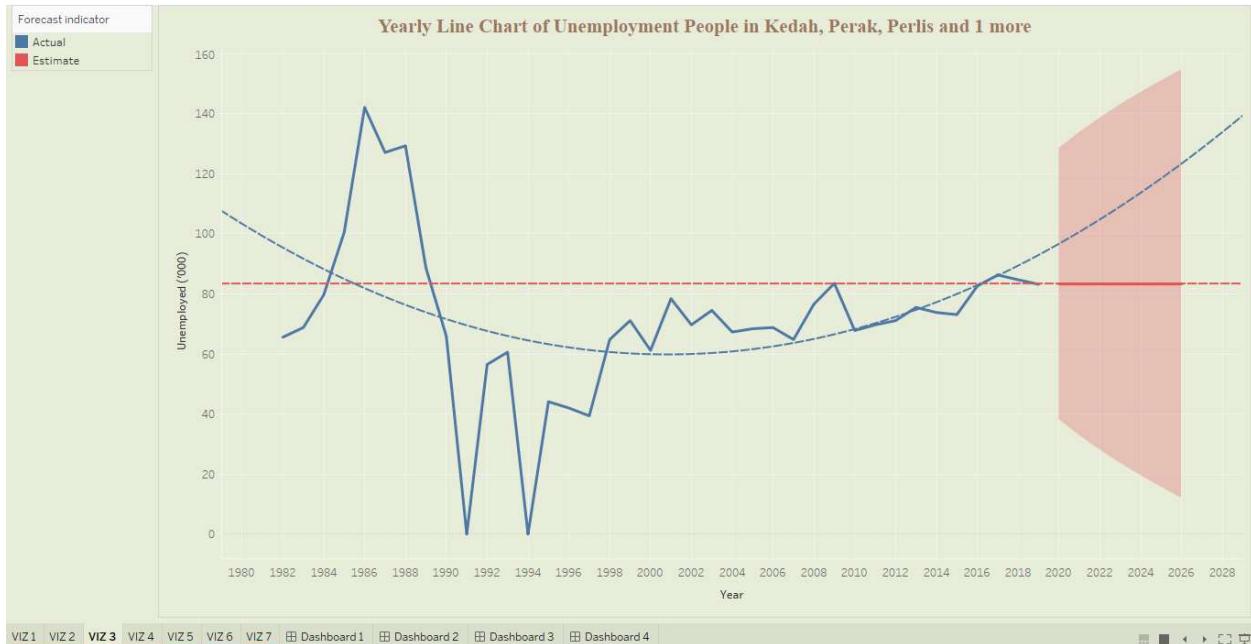
VIZ 1:



VIZ 2:



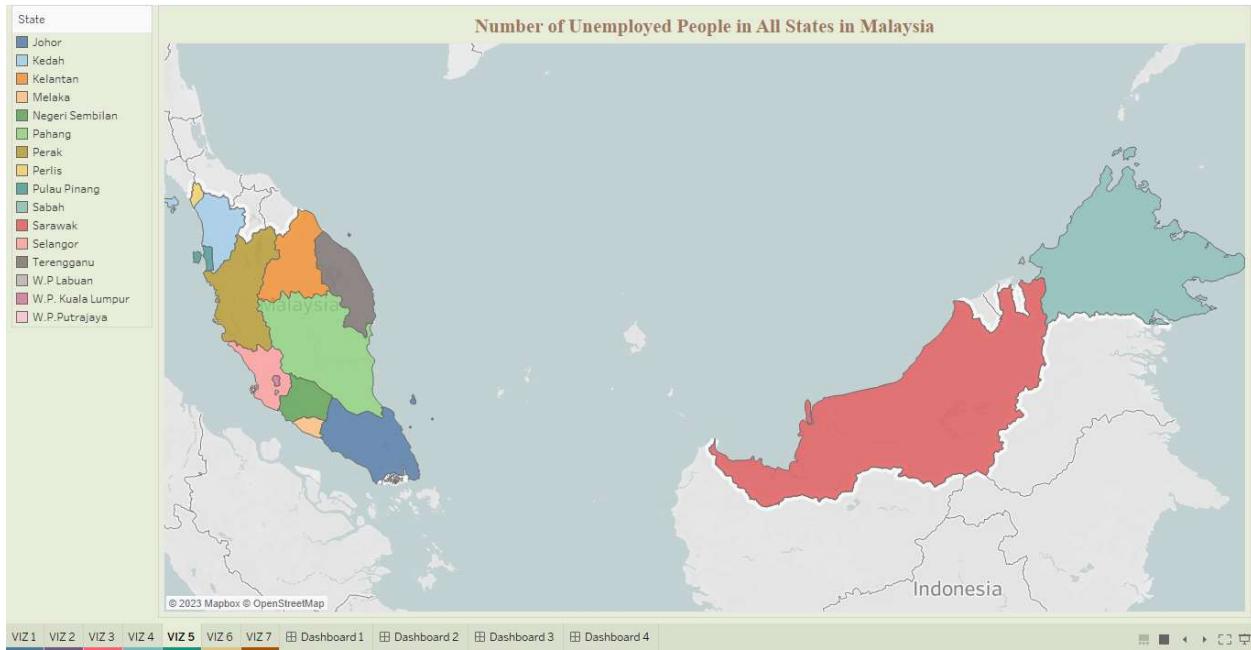
VIZ 3:



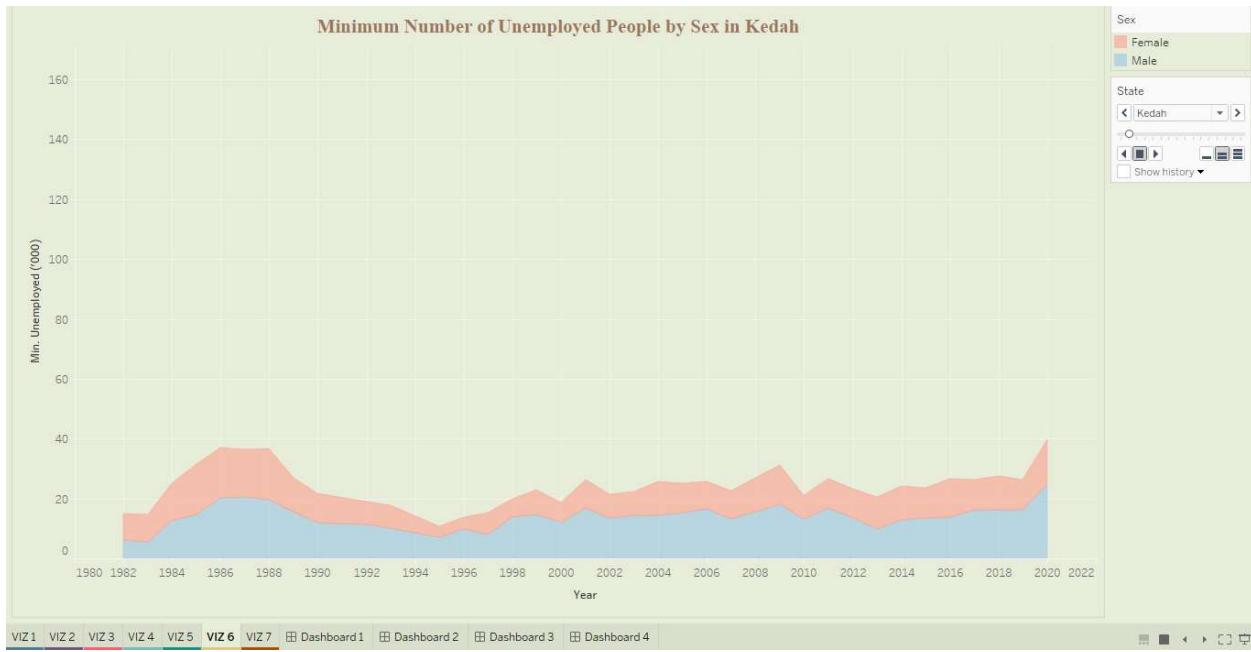
VIZ 4:



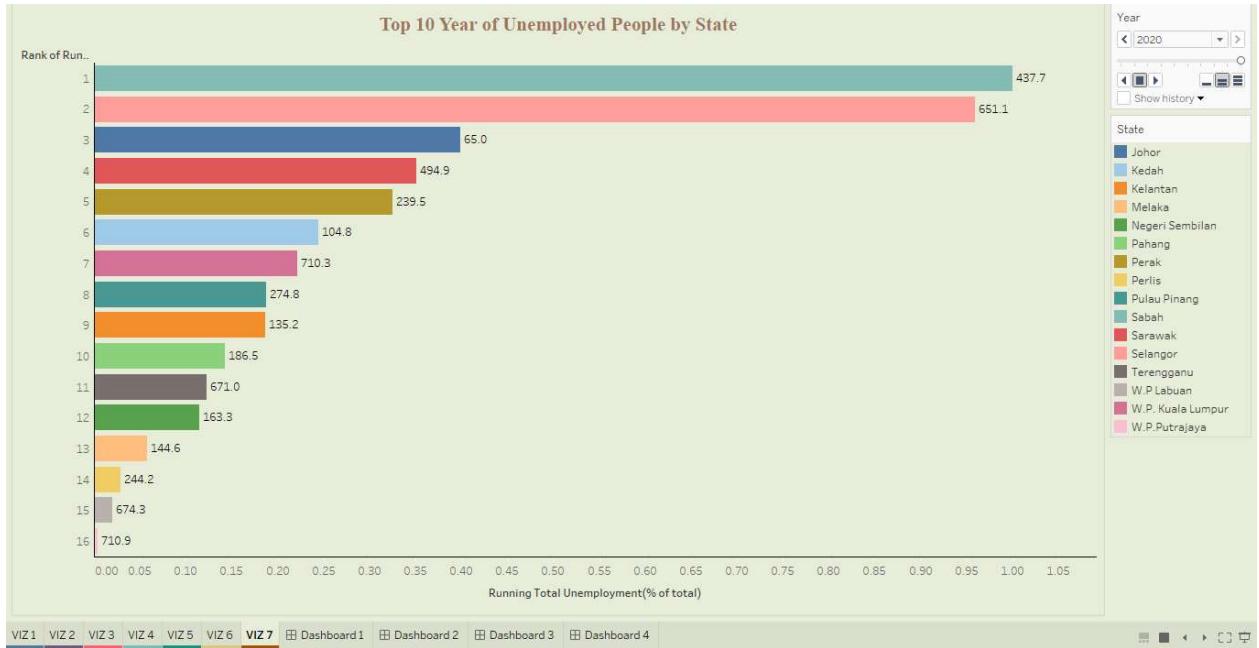
VIZ 5:



VIZ 6:



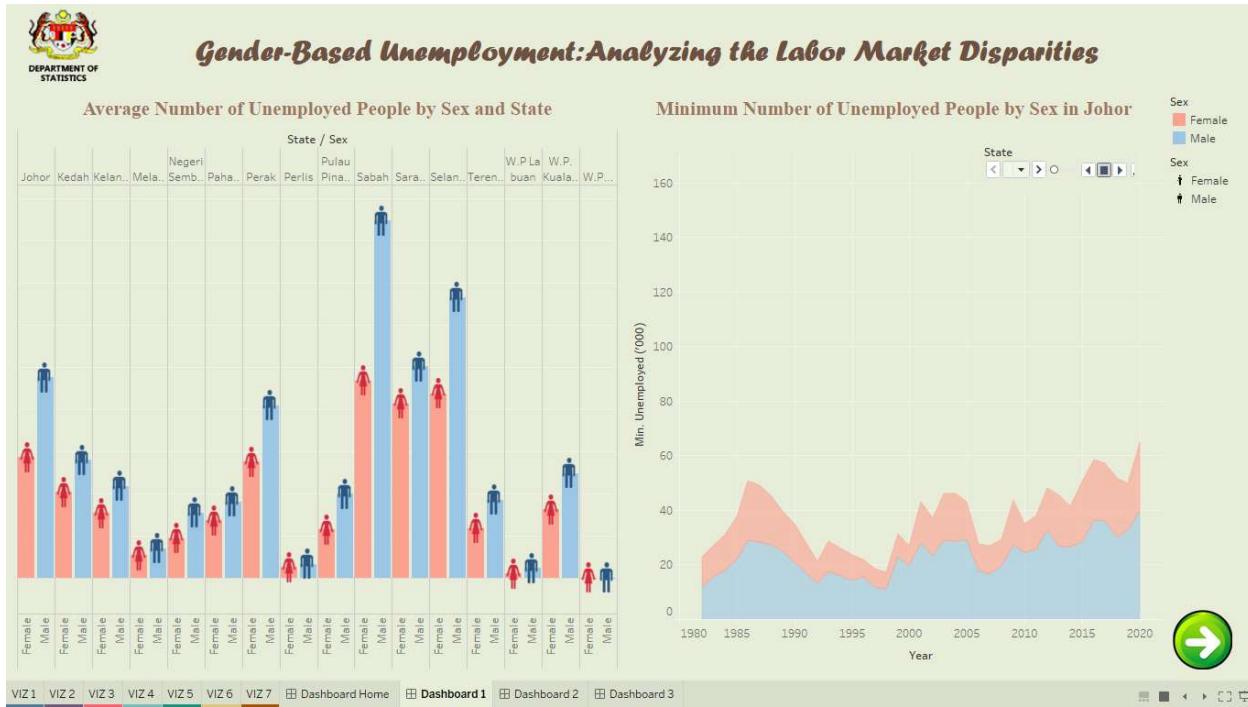
VIZ 7:



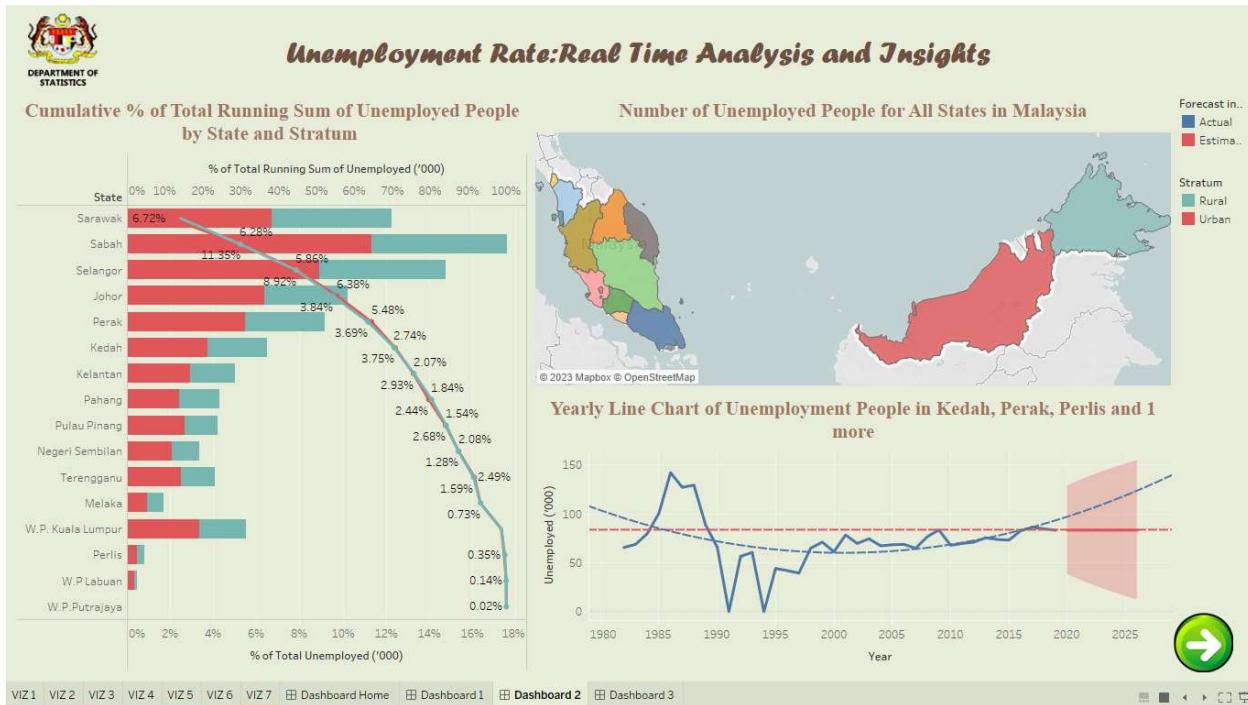
DASHBOARD HOME:



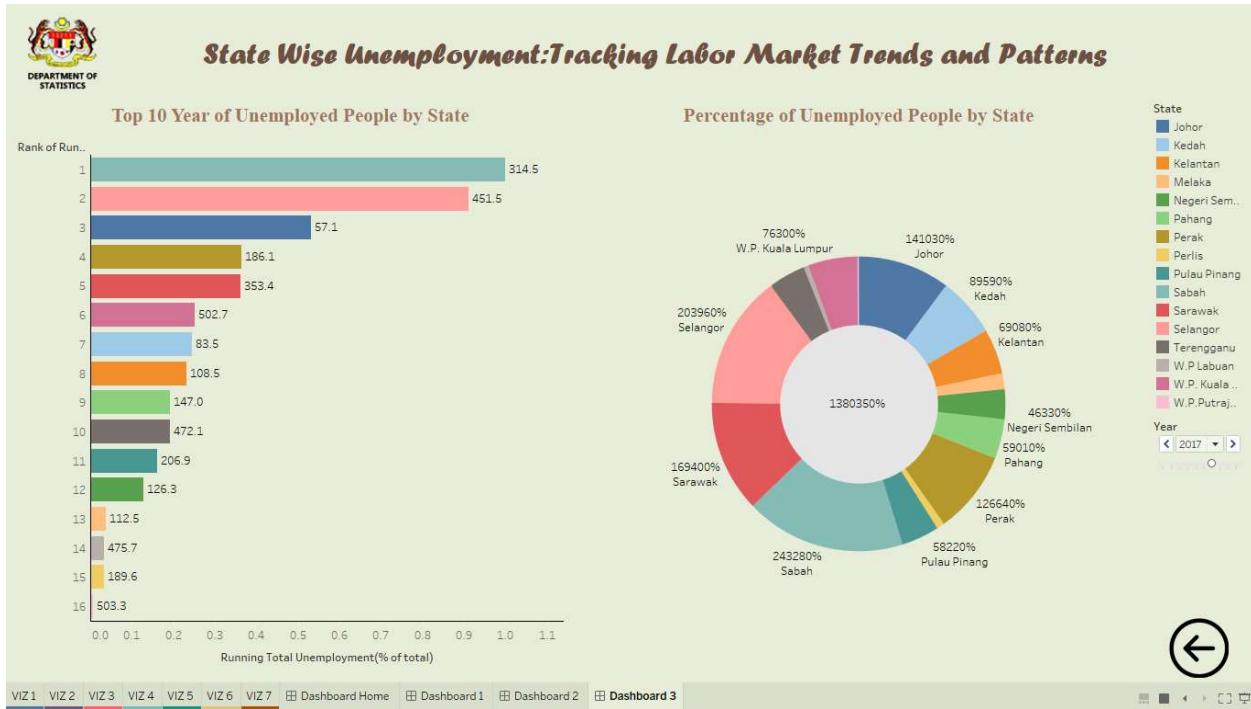
DASHBOARD 1:



DASHBOARD 2:



DASHBOARD 3:



REPORT:

| VIZ / DASHBOARD | TITLE | ANALYSING DATA VISUALIZATION |
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| VIZ 1 | Average Number of Unemployed People by Sex and State | <ul style="list-style-type: none">- This data visualization shows the average number of unemployment people by sex and state in Malaysia.- According to the data, the highest number of unemployed males are in Sabah, urban area with total average of 42.33.- For females, the highest number of unemployed are also in Sabah, rural area with total average of 23.42.- Based on the gender in all states, males have the highest average number of unemployment compare to females. One factor that contribute to this is that males are more likely to work in certain industries that have been disproportionately affected by economic changes, such as manufacturing or construction. Additionally, males may have different educational backgrounds or skill sets that could impact their employment opportunities. |
| VIZ 2 | Percentage of Unemployed People by State | <ul style="list-style-type: none">- This donut chart shows the percentage of unemployed people by state.- There are 1380350% of unemployed people in all states in Malaysia.- Wilayah Persekutuan Putrajaya has the least percentage of unemployed people with a total of 510% compare to the other states.- The reasons why Wilayah Persekutuan Putrajaya has the least percentage of unemployed people may be due to various factors. One possible reason could |

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| | | be the presence of a high number of government administrative offices and services in Putrajaya, since it is the federal administrative center of Malaysia. This could create job opportunities for individuals with different educational and professional backgrounds. |
| VIZ 3 | Yearly Line Chart of Unemployment People in <State> | <ul style="list-style-type: none"> - This visualization shows the yearly trend line chart of unemployment of people in Northern State in Malaysia from the year 1982 to 2020. - Based on the line chart, there is a decrease in the number of unemployed people in Northern state over the years. - In the year 1986, there are an average of 142.1 unemployed people in Northern State in Malaysia. This is the peak of yearly line chart. - The exponential model is significant since p-value is 0.0437 which is less than 0.05 and the r-squared is 0.1638. |
| VIZ 4 | Cumulative % of Total Running Sum of Unemployed People by State | <ul style="list-style-type: none"> - The cumulative bar chart shows the percentage of Total Running Sum of Unemployed People by State. - The Top 3 States with the highest unemployment rates are Sarawak, Sabah and Selangor. - Percentage of Total Running Sum of Unemployed in Sabah is the highest in urban area which is 5.86%. - The lowest percentage of Total Running Sum of Unemployed is in Wilayah Persekutuan Putrajaya, rural area which is 0.02%. - The reason why rural area has the least unemployment people is because the cost of living |

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| | | <p>in rural areas is generally lower than in urban areas. This means that people in rural areas may need to earn less money to maintain a comfortable standard of living, reducing the pressure to find work.</p> |
| VIZ 5 | Number of Unemployed People in All States in Malaysia | <ul style="list-style-type: none"> - Maps in the visualization shows the number of unemployed people for all Malaysian states. - The color differences show that there are 16 states in Malaysia. - Sabah and Sarawak have the highest number of unemployment because they are located in the eastern part of Malaysia and are relatively isolated from the rest of the country. This can make it more difficult for businesses to operate and create jobs. |
| VIZ 6 | Minimum Number of Unemployed People by Sex in < Page Name > | <ul style="list-style-type: none"> - This data visualization shows the minimum number of unemployed people by sex in all states. - The minimum number of unemployed people in Perlis, Wilayah Persekutuan Labuan and Putrajaya for both male and female are the lowest compare to other states. - The highest minimum number of unemployed people is in Sabah, Sarawak and Selangor for male. |
| VIZ 7 | Top 10 Year of Unemployed People by State | <ul style="list-style-type: none"> - The running bar chart shows the top 10 Year of Unemployed People by State from the year 1986 to 2020. - This type of visualization shows the decrement of unemployed people over the years. - By the year 2020, advances in technology have created new industries and job opportunities, particularly in fields such as information technology, e-commerce and digital marketing. |

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| DASHBOARD 1 | Gender – Based Unemployment: Analyzing the Labor Market Disparities | <ul style="list-style-type: none"> - Gender – based unemployment refers to the difference in unemployment rates between men and women in a particular labor market. This type of analysis aims to understand the disparities in employment opportunities and outcomes that exist between genders. - Analyzing the labor market disparities by gender can provide insights into the underlying causes of gender-based unemployment. For example, it can help identify whether women are being discriminated against in hiring or promotion processes, or whether they face barriers in accessing education that would help them qualify for better jobs. - By analyzing gender-based unemployment, policymakers and employers can identify areas where intervention is needed to reduce disparities and promote equal opportunities for all workers. For example, policies such as paid parental leave, flexible work arrangements and affirmative action programs could help address gender-based unemployment. |
| DASHBOARD 2 | Unemployment Rate: Real Time Analysis and Insights | <ul style="list-style-type: none"> - Unemployment Rate: Real Time Analysis and Insights is a study that provides up-to-date information on unemployment rates in a particular country or region. The study is important as it helps to track the current status of the labor market and provides useful insights into the factors that contribute to unemployment. In Malaysia, the unemployment rate was 4.8% in 2020, according to the Department of Statistics Malaysia. However, |

the COVID-19 pandemic and associated movement restrictions have had significant impacts on unemployment rates in the country. Real-time analysis and insights into these impacts can help policymakers to develop effective strategies to address the problem of unemployment.

- One of the key benefits of using real-time analysis and insights is the ability to track unemployment rates in near real-time. This enables policymakers to make more informed decisions and take timely action to address changes in the labor market. For instance, if there is a sudden increase in unemployment, policymakers can quickly develop and implement programs to support job seekers and businesses. Another benefit is the ability to identify the factors that contribute to unemployment. Real-time analysis can help to identify patterns and trends in the labor market, such as changes in industry or demographic shifts, which may be affecting employment levels. This information can be used to develop targeted policies and programs to address specific challenges.
- In Malaysia, for example, the real-time analysis and insights on unemployment rates during the pandemic have revealed that certain industries, such as tourism and hospitality, have been particularly hard hit. As a result, the government has implemented targeted assistance programs to support workers and businesses in these sectors.
- In conclusion, unemployment rate: real-time analysis and insights provide valuable information

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| | | <p>on the current status of the labor market, allowing policymakers to make more informed decisions and take timely action to address the problem of unemployment. By tracking unemployment rates in real-time and identifying the factors that contribute to unemployment, policymakers can develop targeted policies and programs to support job creation and economic growth.</p> |
| DASHBOARD 3 | <p>State Wise Unemployment: Tracking Labor Market Trends and Patterns</p> | <ul style="list-style-type: none"> - State Wise Unemployment: Tracking Labor Market Trends and Patterns in Malaysia refers to the analysis of unemployment rates across different states in Malaysia. The study is important as it provides insight into the labor market trends and patterns that affect employment and unemployment levels in the country. This information can be used by policymakers to develop effective strategies and policies to address the problem of unemployment in Malaysia. - The variations in unemployment rates across states can be attributed to differences in the economic structure, industrial composition, and demographic characteristics of each state. For instance, Terengganu has a high dependence on the oil and gas sector, which has been impacted by the global economic downturn and declining oil prices. Sabah, on the other hand, has a large informal sector, which is more vulnerable to economic shocks and disruptions. Kuala Lumpur, as the country's capital and financial hub, has a relatively higher proportion of skilled workers, but also higher competition for jobs. |

- On the other hand, states like Melaka and Johor have a more diversified economy, with a mix of manufacturing, services, and tourism industries. Perlis, being a smaller and less developed state, may have a smaller workforce, but also fewer job opportunities and competition.
- In conclusion, State Wise Unemployment: Tracking Labor Market Trends and Patterns in Malaysia provides valuable insights into the labor market dynamics in Malaysia, highlighting the variations in unemployment rates across different states. Policymakers can use this information to develop targeted policies and programs to support job creation and address the problem of unemployment in the country.

CONCLUSION:

According to the Department of Statistics Malaysia, the unemployment rate in Malaysia was 4.8% in 2020. The unemployment rate for men was slightly higher than that of women at 5.1% and 4.4%, respectively. In terms of stratum, the unemployment rate was higher in urban areas (5.3%) compared to rural areas (3.6%). This may be due to the fact that urban areas have more job opportunities, but they also have a larger population looking for work. Regarding states, the top three states with the highest unemployment rates were Terengganu (6.6%), Sabah (6.5%), and Kuala Lumpur (6.1%). On the other hand, the states with the lowest unemployment rates were Melaka (2.9%), Johor (3.3%) and Perlis (3.5%). Overall, the unemployment rate in Malaysia is still a concern, but the government has implemented various initiatives to address the issue, such as job matching programs, reskilling and upskilling training, and financial assistance for those affected by the pandemic.