PART 1

Covid-19 Spread history worldwide and Cases number in the time span between 22nd of Jan to 27th of July 2020

SECP1513

Group 7

section 05

Lecture: Dr. Sarina Sulaiman

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Aiman Haikal Bin Zainuddin (Leader)	A21EC0154	Describe Trends of Data Analytics in Different Sectors and reflection of these trends
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PART 2

2.1 Describe Trends of Data Analytics in Different Sectors and reflection of these trends.

There are many sectors that have seen exceptional growth due to the indulgement and improvement of Data Analytics. The process where peoples in a large organization can analyse tons of their raw data in order to achieve a summarised and reliable conclusion that can be disclosed from the information that was being used.

In our discussion of trending topics, we can discuss topics like predictive analytics, blockchain, graph analytics, and augmented analytics. Trends in this field are constantly changing and coming together to support a growing industry which allows for easier access to information while enhancing insights and explanations for data preparation.

To begin with, let's take a look at data analytics in the finance industry. Big data was truly first utilized by the finance sector to advance its business endeavours. Job opportunities for data professionals are plentiful in the finance sector, especially in fintech. Financial services firms, such as investment banks, and consumer banks, employ data analytics to conduct risk assessments, make investing decisions, identify trends, and make predictions. Machine learning engineers, for instance, are working in the finance industry, designing algorithms to protect against fraud or create customer databases. Financial analysts, risk management analysts, and incident response analysts are among the roles of data analysts in finance.

Additionally, the use of data analytics in healthcare is increasing, an industry that, for centuries, solely relied on paper-based data systems. This data is also useful in looking at wastes of resources, tracking practitioner performance, determining drug composition, sorting clinical data, identifying disease patterns in images, and analysing patient behaviour. The ability of health organizations to access fast and reliable information via data analytics can be a tremendous boost to their ability to increase efficiency and fight new phenomena like the COVID-19 cases much more effectively.

As a final note, the entertainment industry is booming. Big data is driving the growth of streaming services. Services such as Netflix has an 80% success rate in recommending movies to its users through data and is saving over a billion dollars annually. A continuously collected set of data includes everything a user does on your app: when they stop, scroll, click, what time they use it, how the weather is where they are, their demographic information, which advertisements they click, and so on. Streaming companies use this data to increase revenue, make recommendations, and improve their services. The use of data analytics can be useful in many scenarios including determining which productions to greenlight, creating digital radio stations for listeners, determining prices, forecasting trends, analysing customer sentiment, and improving the user experience.

From the discussion on the trends of data analytics in the sectors of finance, healthcare, and entertainment, I realize that data analytics has become an integral part of our organizational society as it helps a lot in order to deliver precise and reliable information about their customers and the usefulness of their own products through the summary of tons of raw data throughout the internet. But it is not all fun and games as there are some unreliable sources of data that data analysts need to be on the lookout for. The data that is used by the machine AI needs to verify and come from a reliable source so that misleading data from unresponsible parties would not affect the outcome and reliability of the research that is being done. Take the recent Covid-19 cases as an example where misleading data and reports can lead society astray and would give rise to a whole lot of problems that would deter the efforts of the government and the public to curb the spread of the virus. It is our responsibility to use the technology in our hands for the better of all.

2.2 Describe Industrial Talk 7

Microsoft Power BI is a business intelligence service that delivers tools for nontechnical business users to aggregate, analyse, visualise, and share data. Power BI's user experience is very straightforward for Excel users, and its broad connectivity with other Microsoft products makes it an extremely adaptable self-service tool with little prior training. Microsoft Power BI is often used to uncover insights from data inside a company. Power BI can assist in connecting different data sources, transforming and cleaning the data into a data model, and creating charts or graphs to visualise the data. All of this information may be accessed with other Power BI users in the business. Power BI data models may be utilised in a variety of ways for companies, including creating stories using charts and data visualisations and investigating "what if"

possibilities within the data. Power BI reports may also provide real-time answers to inquiries and assist with forecasts to ensure departments fulfil business metrics.

Although Power BI is a self-service BI solution that makes data analytics available to employees, it is mostly utilised by data analysts and business intelligence specialists who construct data models before spreading reports all through the organisation. Those without analytical experience, on the other hand, may use Power BI and produce reports. Microsoft Power BI is utilised by both department representatives and management, with reports and projections prepared to assist sales and marketing representatives, as well as statistics for management on how the department or individual employees are performing toward their goals. Analysts and other users may establish data connections, data models, and reports with Power BI Desktop. The Power BI platform is where those data can be accessed with other users so that they may view and engage with them. Connecting data sources is the first step in creating a Power BI report. Users can then query the data to generate reports depending on their own requirements. The report is shared and published to Power BI Service, allowing cloud and mobile users to see and interact with it. Permissions can be added to allow or restrict colleagues' ability to change reports or build dashboards.

Overall, Mr Isma Redha truly taught us something very useful for our future. We were able to understand what data engineering is about, the difference between data analysts and engineers and the usage of every type of graph. Also, we managed to understand how to use the Microsoft Power BI as he had shown us and did the demonstration at the last part of the talk. So, we did not have any problem while using the application that really helped us in presenting data and so on.

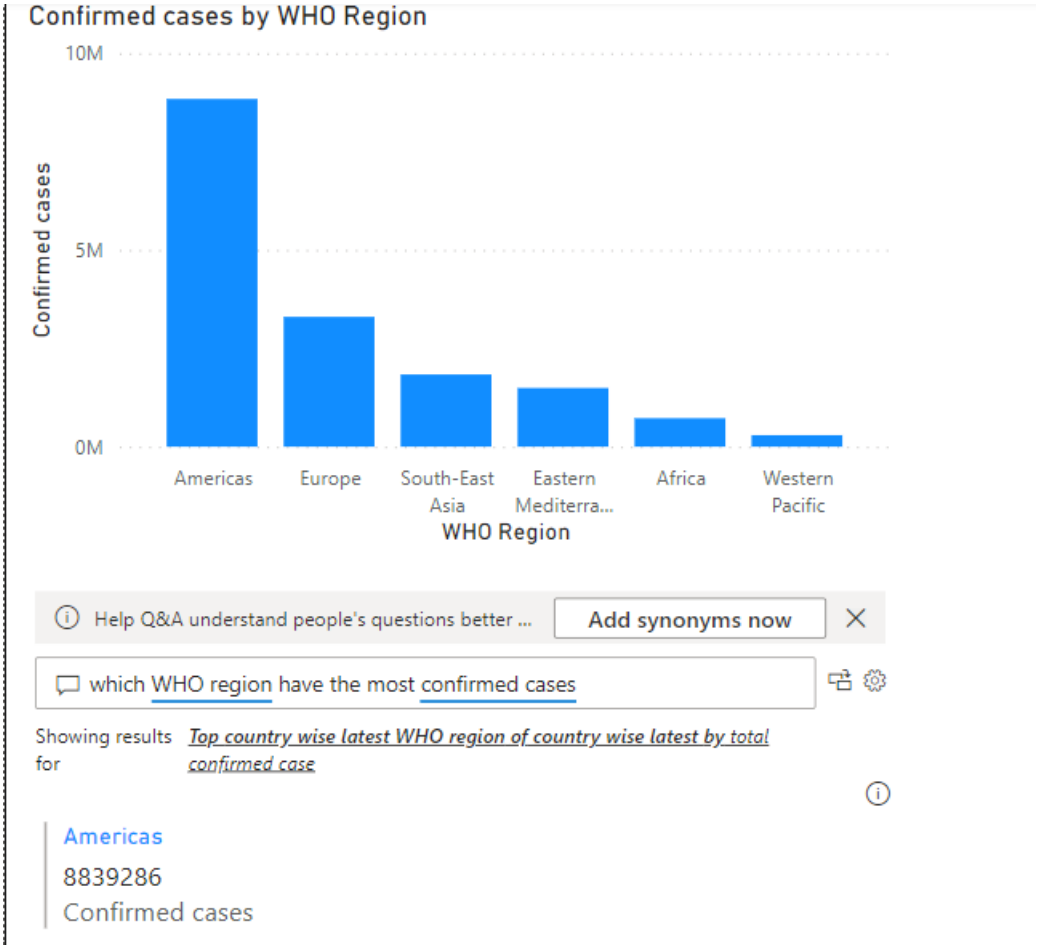
PART 3

1.0 INTRODUCTION

The recent covid-19 pandemic came as a shock to everyone as it caused so many deaths around the world. We conduct this data analytic to determine how much people been infected by this disease including the death caused by this disease, new cases, and recovered cases. The data that we used were collected all over the world to know how much dangerous this disease can be. With that, we can determine which country and World Health Organization (WHO) region that have the most infected by covid-19. To get a better result, we were using Microsoft Power BI to make the data visualization such as clustered column chart, pie chart, scatter chart and filled map.

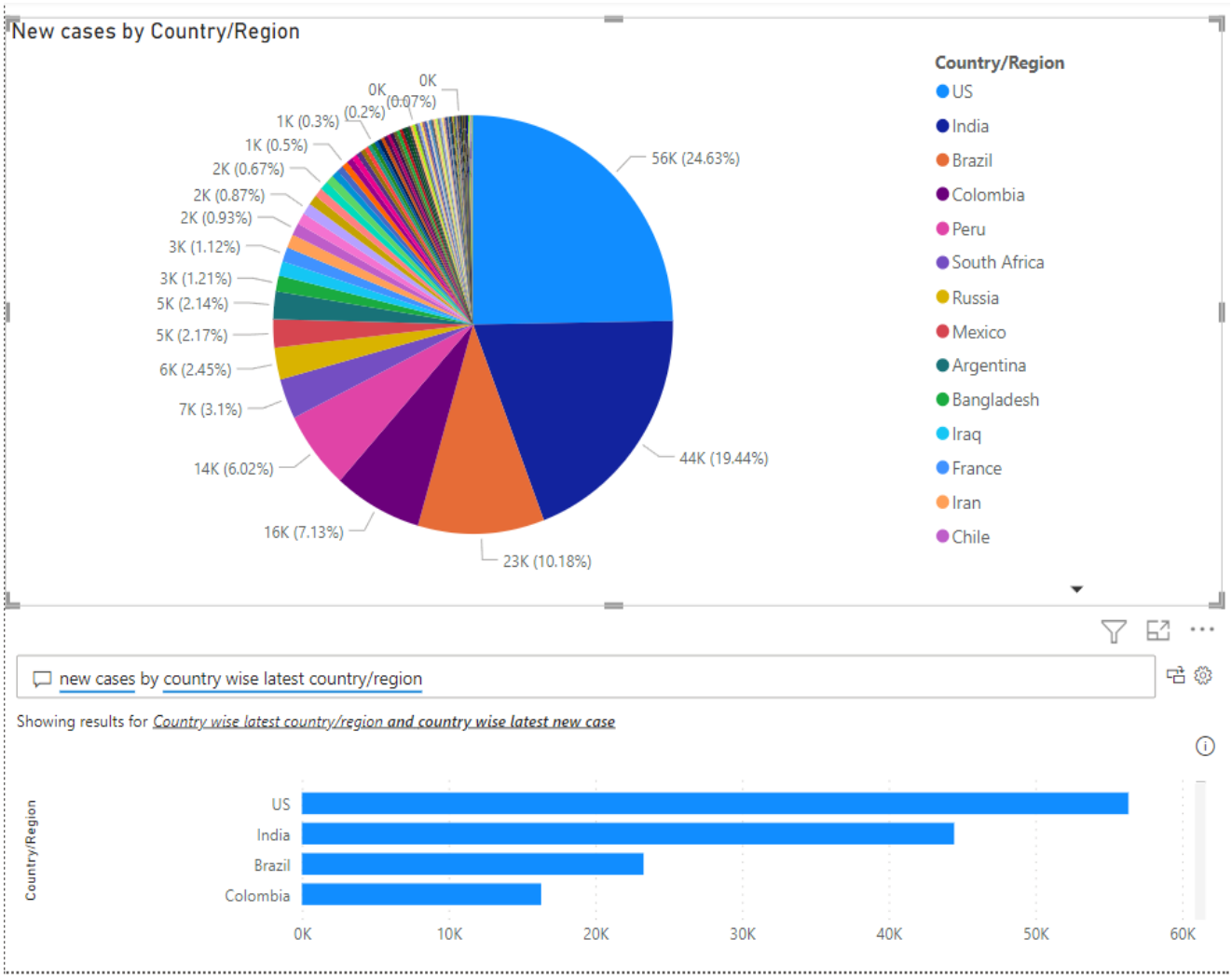
2.0 ANALYTIC OUTPUT

2.1 clustered column chart for confirmed cases by WHO region



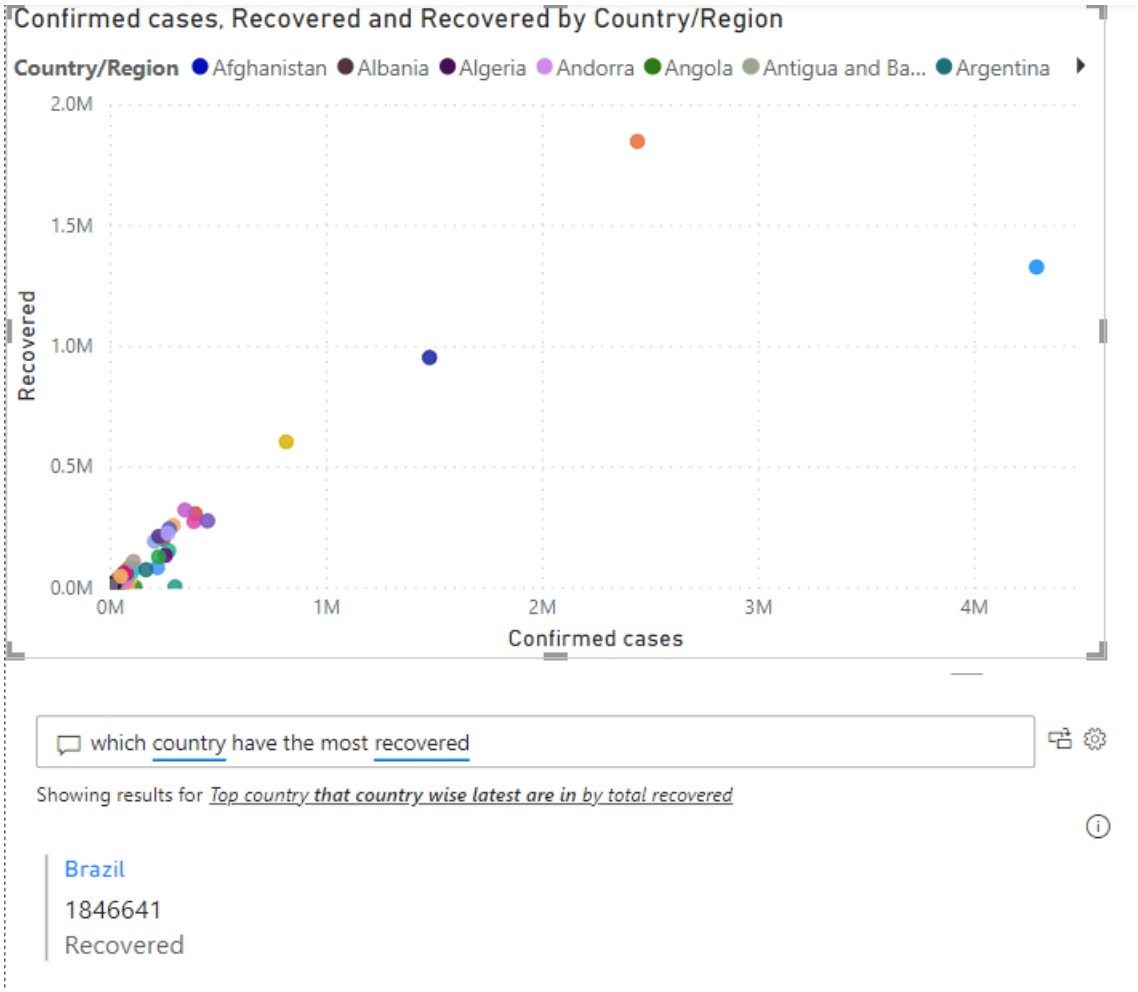
In this chart, the y-axis is confirmed cases which is the summation result of total death, total recovered, and active cases. Meanwhile, the x-axis of this graph is WHO region such as Americas, Europe, South-East Asia, Africa, and Western Pacific. From the graph, we can see that Region of Americas have the most confirmed cases which are 8839286 cases recorded and the least confirmed cases is Western Pacific with 292428 cases. We can conclude that the most affected WHO region based on this data is the Region of Americas.

2.2 pie chart for new cases by country



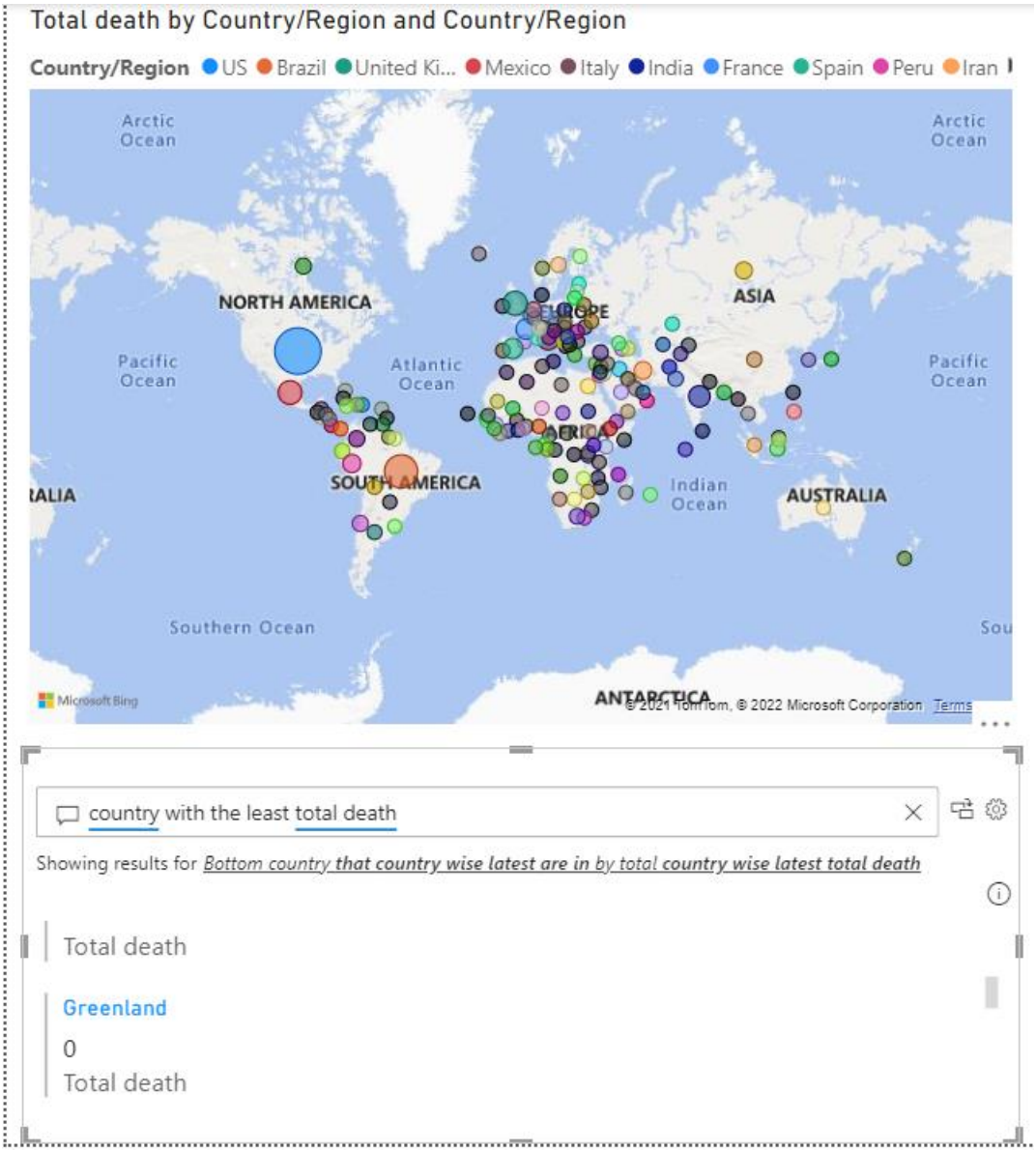
In this pie chart, there are two component which are new cases and the country. From this pie chart, we can see that the country with the greatest number of new cases was United States that have 56336 cases recorded followed by India, Brazil, and Colombia. This is because United States is in the Region of Americas and have many populations compared to other countries. Meanwhile, there are several countries that recorded 0 new cases such as Barbados, Grenada, and Monaco.

2.3 Scatter chart for confirmed cases, recovered cases by country



In this scatter chart, recovered cases as the y- axis and confirmed cases as x-axis. Brazil is the country that have the most recovered cases with 1846641 cases followed by United states with 1325804 recovered cases recorded. Although these two countries have high new cases number, but they also got high recovered cases recorded. This indicates that Brazil and US were still under control. Meanwhile, there were also countries that have no recovered cases such as Syria and Sweden.

2.4 Map for total death by country



In this map, there are countries and total death for covid-19 cases around the world. Bhutan, Cambodia, and Fiji recoded 0 total death that indicate these countries were in a good condition. Unfortunately, the countries that have the greatest number of total deaths was United States with 149087 deaths. This data cannot be ignored by the US government, they should act as fast as possible to save others life.

3.0 VARIABLES TRANSFORMATION

From this dataset, we were transformed two variables to percentage which are the percentage of the new covid-19 cases by country and the total death rate for every country.

4.0 CONCLUSION

From our data analytic, most of the country with high population numbers having a chance to be infected easily since there were many people did not aware about how dangerous this Covid-19 disease can be. For example, United States, India, and Brazil. Meanwhile the WHO region that recorded the highest number of confirmed cases was Region of Americas. This disease is very dangerous to us since it can cause death no matter who we are and how old are we. We should take several precautions in public places such as always stay away from others for at least 1 meter, always using face mask and washing hand to protect ourselves.

Link to Power BI:
https://app.powerbi.com/view?r=eyJrIjoiMWQ1YzdjMzEtOGRlMy00NTk4LTkxZGEtZWVkN2UzOWI5ZjdjIiwidCI6IjBlMGRiMmFkLWM0MTYtNDdjNy04OGVjLWNlYWM0ZWU3Njc2NyIsImMiOjEwfQ%3D%3D