

Written Description of COVID 19 Report

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Introduction:

As we gather at this humanitarian convention to address the challenges posed by the COVID-19 pandemic, our team of diligent data scientists presents a comprehensive report enriched with compelling visualizations. Leveraging the power of Power BI, we have carefully curated a collection of visual charts that shed light on the global and country-specific impacts of the pandemic. Each visualization has been thoughtfully chosen to provide a holistic understanding of the situation, empower decision-making, and facilitate targeted interventions.

by Sumara Naz

The purpose of the current report is to analyze the John Hopkins Covid data, recorded for three years. The data consists of confirmed, death and recovered cases. It is a big data, and difficult to understand for a common person. So, we convert the numbers to visuals to make it understandable and easier to interpret. Visuals are more compelling and remain longer in memory.

I have used the following visualizations to bring this data to Dashboard.

1.Cards: to depict the summary of the data. Cards display bold and clear numbers with titles and one can get the picture of the whole data in one glance.

2. Area chart: for the death and recovery rates. Area charts are very useful when we have data from different countries or regions. With the help of area charts we can see the most or less effected country or the country with recovery cases by using slicer.

3: Slicer: is a user-friendly way of refining data on the canvass. We can create a numeric, text or date slicer. Just click or move on any of the objects in the slicer to filter the data.

4. Stacked column chart: for the visualization of active cases in each country. Column charts are always easier to interpret and provide a clearer picture.

The reason to select the above-mentioned visualizations is these are easy to understand and provide an effective way of communication to our audience. Secondly, these create positive impact in the group dashboard especially the card visualization, that has been included in main dashboard. Card visualization enhances communication and sometimes the single number is the most important thing you want to track. Like in this data, anyone can see any countries recovered, confirmed or death numbers.

By Irina Svensson

1. Map

In the visualization, you can see a map showing different countries/regions, with each country/region represented by a bubble. The size of the bubble indicates the maximum value of confirmed Covid cases in each country/region. A legend provides information about the different countries/regions. This visualization is crucial for a scientific (public) conference or humanitarian event because it provides a

quick overview of the geographical spread of Covid cases. By using a map, the information about the number of cases and their distribution across countries/regions is visually conveyed in a clear and easily understandable manner. It allows for the identification of high-risk areas or regions that require specific attention and actions.

The choice to use a map visualization with bubbles is an effective way to communicate the information because it provides a clear visual representation of the data. The size of the bubbles enables direct comparisons of the number of confirmed cases between different countries/regions. Using a color-coded legend further enhances the understanding of which countries/regions are represented by each bubble.

To plan this visualization, I would gather data on the confirmed Covid cases in each country/region related to the conference or event. Then, using Power BI, I would create a report and select a map visualization with bubbles. I would configure the bubbles to represent the maximum value of confirmed cases in each country/region. Finally, I would include a clear and informative legend explaining which countries/regions are shown in the visualization.

The purpose of this visualization is to support and help deliver the overall data narrative for the group at the scientific (public) conference or humanitarian event. By showing the geographical distribution of confirmed Covid cases, the visualization provides an overview of the situation and highlights key insights. It helps substantiate and reinforce the message about the spread of Covid cases and the need for actions in different countries/regions.

2. Area chart

In the visualization, you can see an area chart with the date on the X-axis representing when the confirmed Covid cases occurred, and the Y-axis representing the maximum value of confirmed Covid cases. A legend provides information about the different countries/regions represented in the visualization. This visualization is important for a scientific (public) conference or humanitarian event as it displays time-series data for confirmed Covid cases. By using an area chart, you can clearly see changes over time and identify trends or patterns in the spread of cases. It provides an opportunity to analyze how the spread has evolved and which periods may have been the most critical.

The choice to use an area chart as the visualization is justified by its ability to show changes over time and provide an overview of the overall spread of Covid cases. By filling the area under the curve, it visually represents the cumulative value of the confirmed cases over time. Additionally, by including the countries/regions in the legend, you can compare the spread between different locations.

To plan this visualization, I would gather time-series data for confirmed Covid cases in different countries/regions related to the conference or event. Then, using Power BI, I would create a report and select an area chart as the visualization format. I would place the date on the X-axis

and the maximum value of confirmed cases on the Y-axis. Finally, I would include a legend to identify the different countries/regions.

The purpose of this visualization is to support and help deliver the overall data narrative for the group at the scientific (public) conference or humanitarian event. By showing the time-series data for confirmed Covid cases, the visualization provides a deeper understanding of the spread over time. It can help identify key events or periods of increased spread and support decision-making and actions needed to effectively manage the situation.

3. Line chart

In the visualization, you can see a line chart with the date on the X-axis representing when the Covid deaths occurred, and the Y-axis representing the maximum value of Covid deaths. A legend provides information about the different countries/regions represented in the visualization. This visualization is important for a scientific (public) conference or humanitarian event as it displays the trend of Covid deaths over time. By using a line chart, you can easily track the changes in death counts and observe the trajectory of the pandemic. It provides a clear visual representation of the severity and impact of Covid deaths on different countries/regions.

The choice to use a line chart as the visualization is justified by its ability to show the progression and trend of Covid deaths over time. The line connecting the data points allows for a smooth representation of the data, enabling viewers to easily identify increasing or decreasing trends. By including the countries/regions in the legend, you can compare the death rates and patterns across different locations.

To plan this visualization, I would gather time-series data for Covid deaths in different countries/regions related to the conference or event. Using Power BI, I would create a report and select a line chart as the visualization format. I would place the date on the X-axis and the maximum value of Covid deaths on the Y-axis. Finally, I would include a legend to identify the different countries/regions.

The purpose of this visualization is to support and help deliver the overall data narrative for the group at the scientific (public) conference or humanitarian event. By showing the trend of Covid deaths over time, the visualization provides a comprehensive understanding of the severity and progression of the pandemic. It helps highlight the impact on different countries/regions, enables the identification of critical periods, and emphasizes the importance of implementing appropriate measures to control the spread of the virus and reduce mortality rates.

4. Slicer

In the visualization, there are two slicers: one for Country/Region and one for Date.

The visualization shows the result of filtering based on the selected values in the slicers. This means that you can filter the visualization to display data for specific countries/regions and time periods.

I chose to use slicers as a way to visualize and communicate the information because it empowers the user to choose and control which countries/regions and time periods are displayed. It provides an interactive and customizable experience that engages the user and allows them to delve into specific parts of the dataset. It also offers flexibility for different users to focus on what is most relevant to their interests or research areas.

To plan this visualization, I would ensure access to a comprehensive dataset containing data on countries/regions and dates for the scientific (public) conference or humanitarian event. Then, I would create a report in Power BI and add two slicers: one for Country/Region and one for Date. Finally, I would connect the slicers to relevant visualizations and ensure they are user-friendly and intuitive to use.

The purpose of this visualization is to support and help deliver the overall data storytelling impact for the group at the scientific (public) conference or humanitarian event. By providing users with the ability to filter and customize the visualization, they can explore and analyze the data in a way that is most relevant to their research or interests. It offers an interactive and engaging experience that contributes to a deeper understanding of the dataset and enhances the impact of the overall data storytelling.

by Simone Dag

Analysis of Confirmed Cases and Deaths

Visualization choices for confirmed cases:

I have chosen a stacked area chart and heat map to visualize the cumulative number of confirmed COVID-19 cases over time. The stacked area chart allows for easy comparison between different regions or countries and clearly shows the overall trend.

With the heat map, we can see the daily increase in COVID-19 cases across different countries. It provides a clear visual distinction between high and low case numbers, allowing for easy identification of regions experiencing significant outbreaks.

Visualization choices of confirmed deaths:

The area chart is chosen to represent the cumulative number of COVID-19 deaths over time. The area chart shows the overall trend of deaths, and the filled area emphasizes the severity of the pandemic. This visualization helps track the progression of the pandemic and enables comparisons between different periods.

Trend Analysis:

Analyzing the trend of confirmed cases and deaths over time. Looking for patterns, spikes, or fluctuations that indicate the severity of the pandemic.

Comparing the growth rates of confirmed cases and deaths. Identify periods when the number of cases increased rapidly, followed by changes in the number of deaths, indicating the impact of infections on mortality rates.

Explained in a more simplified way: We look at the line chart to see how many people got sick and how many people passed away because of COVID-19 over time. We notice if the numbers go up a lot or stay the same.

Mortality Rate Assessment:

Comparing mortality rates across different countries or regions. Identifying regions with higher or lower mortality rates and analyzing potential factors contributing to the differences, such as healthcare infrastructure, age demographics, or access to medical resources.

We check how many people got sick and how many people passed away because of COVID-19. We compare the numbers to understand how many people out of every 100 who got sick unfortunately didn't make it.

Outliers and Hotspots:

Look for outliers or significant spikes in the data. These could indicate localized outbreaks, data reporting issues, or regions with unique circumstances that require further investigation.

Identify hotspots where the number of confirmed cases and deaths is consistently high. Analyze the underlying reasons, such as population density, healthcare capacity, or socioeconomic factors.

Sometimes, there are places where many more people get sick or pass away. We try to understand why these places are different and if there's something special happening there.

Regional Comparisons:

Compare the confirmed cases and deaths across different countries or regions. Identify regions that have effectively managed the pandemic with lower death rates relative to the number of cases.

Analyze the response strategies and measures taken by these regions, such as early testing, contact tracing, or effective healthcare systems.

We look at different places around the world and compare how many people got sick and how many people passed away. We want to see if some places did a better job of keeping people safe compared to others.

Analysis of the Recovery Cases:

The Line Chart was chosen to visualize COVID-19 recoveries because it effectively displays trends and patterns over time. By plotting the recoveries on the y-axis and dates on the x-axis, the line chart shows how the number of recoveries changes over time for different countries or regions.

By observing the line chart, you can draw several insights and analyze the recovery cases:

Recovery Trend:

Identify whether the number of recoveries is increasing, decreasing, or fluctuating over time. Look for any significant changes or spikes in the recovery rate, which could indicate policy changes, testing strategies, or the effectiveness of medical interventions.

Compare the recovery rates between different countries or regions. Identify regions with higher or lower recovery rates and assess the potential factors contributing to the differences, such as healthcare infrastructure, testing capacity, or vaccination rates.

Stacked area chart: to visualize the cumulative number of confirmed COVID-19 cases over time. The stacked area chart allows for easy comparison between different regions or countries and clearly shows the overall trend.

The area chart is chosen to represent the cumulative number of COVID-19 deaths over time. The area chart shows the overall trend of deaths, and the filled area emphasizes the severity of the pandemic. This visualization helps track the progression of the pandemic and enables comparisons between different periods

by Rianna Aalto

The Visualization Charts I used on this COVID-19 analysis are the following:

1. Filled Map with the value of Confirmed Cases.

The Filled Map visualization serves as a powerful tool to comprehend the geographic spread of the pandemic. By depicting the intensity of COVID-19 cases across various regions, it highlights hotspots and areas in need of immediate attention. This will enable humanitarian organizations to identify and implement targeted interventions to contain the virus and support affected communities effectively.

2. Matrix Chart and Cards

The Matrix chart together with the Cards displaying results by country allows for a comprehensive comparison of COVID-19 statistics across different nations. This visualization presents vital information such as confirmed cases, death counts, death rates, and recovery rates in a concise and easy-to-interpret format. These cards offer a quick snapshot of the current situation, enabling decision-makers to gauge the severity of the pandemic and assess the effectiveness of mitigation strategies. By monitoring these key metrics, organizations can make informed decisions and track progress in combating the virus.

3. Bar Chart Showing Total Vaccinated People by Country

The Bar Chart showcasing the total number of vaccinated individuals by country provides a visual representation of vaccinated progress. This visualization allows decision-makers to identify countries with high vaccination rates and areas requiring additional support to accelerate immunization efforts. By understanding the vaccination landscape, organizations can allocate resources effectively, promote vaccine equity and monitor the effectiveness of immunization campaigns.

4. Play Axis app

I included this app to interactively show the charts given data played with monthly interval and yearly.

Conclusion:

Through the adept utilization of Power BI, our report presentation harnesses the potential of visualizations to analyze and address the impact of COVID-19. Heat Map, Filled Map, Matrix chart, Slicer, Card visuals and Bar/ Line Chart collectively offer a comprehensive understanding of the pandemic's global and country-specific dynamics. Armed with these insights, humanitarian organizations can make informed decisions, allocate resources efficiently, and

tailor interventions to effectively combat the challenges posed by the virus. Together, let us strive towards a brighter and healthier future for all.