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Data Visualization

Jumana Yousef

Early Grades Reading and Mathematics
Initiative (RAMP)

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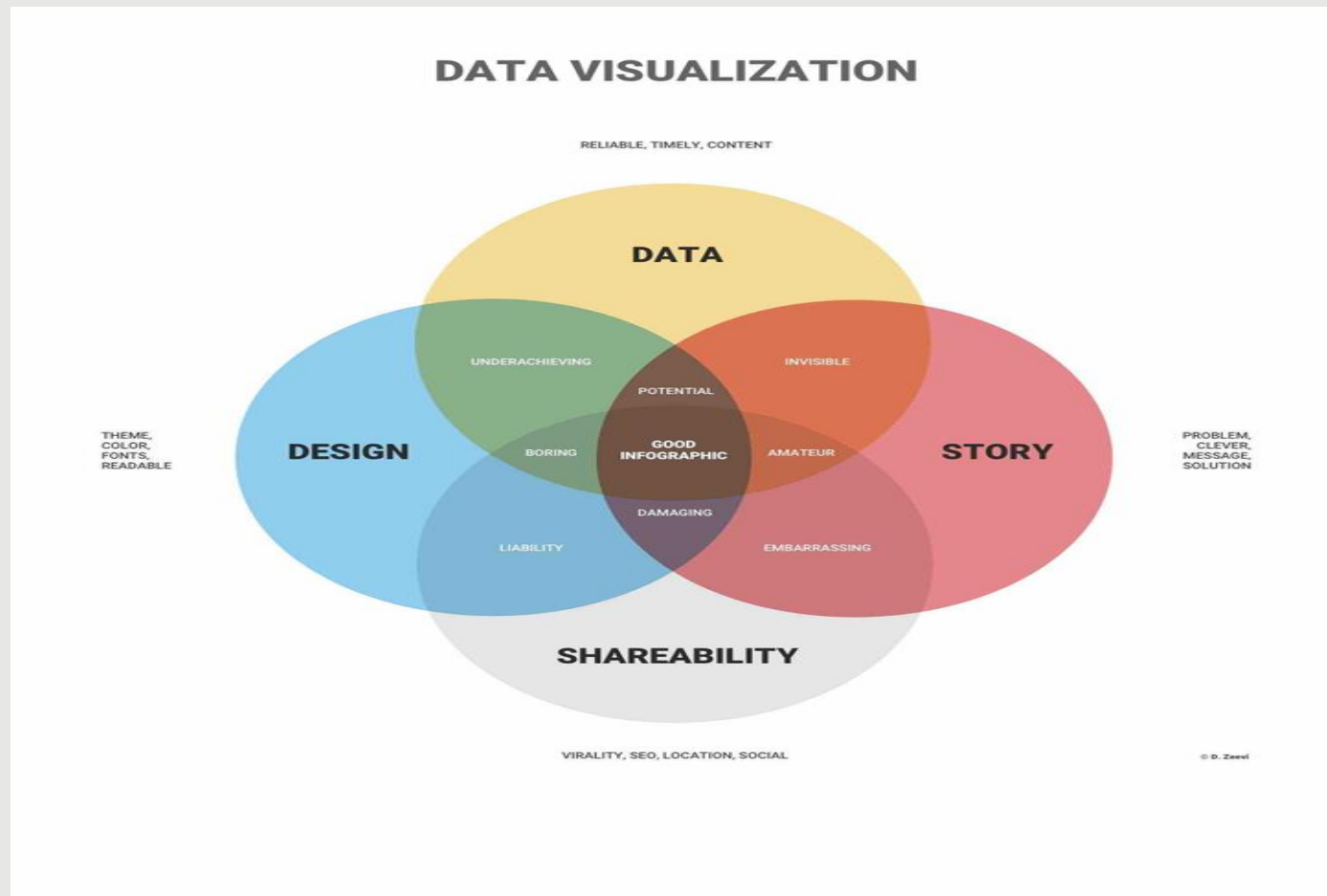
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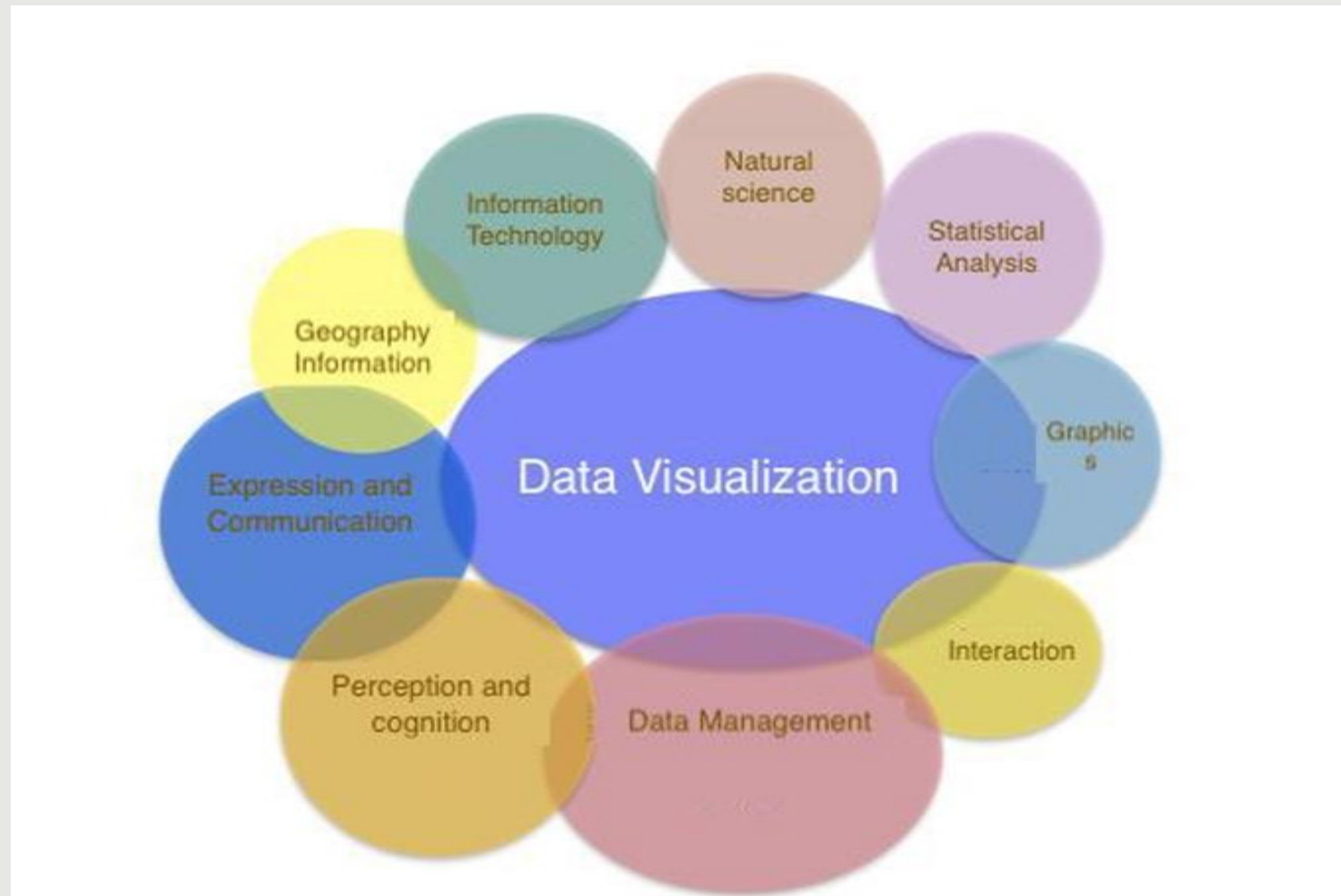
Introduction

- Data Visualization is an Important process to highlight the areas that are strong or need to improve using charts, Graphs, Maps ... etc.
- The data visualization is the intersecting of received data, Project design, Sharable information and the results story which can present theme all if the proper one is used
- Also, can tell the stakeholders the stories about the project activities
- Data visualization can be used on any Research or work fields.

Data Visualization and telling the story



Data Visualization and Area's to use



Data vs. Information

Data	Information
Can be Characters, Numbers , Images , words, Texts, means little or nothing to a man when data is processed	Organized and presented in a context to make it useful is called information
Alone can not be significant	Always important by itself
Based on records observations etc.	Based on analysis of data
Unorganized and does not depends on information	Always depends on data and organized



VS



Can data set telling us the story?

"The data is not related to any source"

Data set		
Number	Gender	Education
1	Male	No Information
2	Female	BA
3	Female	BA
4	Female	Higher Education
5	Female	Higher Education
6	Male	Higher Education
7	Male	High School
8	Male	BA
9	Female	BA
10	Male	Higher Education
11	Male	Higher Education
12	Female	No Information
13	Female	No Information
14	Female	Diploma
15	Female	High School
16	Male	Not Educated
17	Male	No Information
18	Male	Not Educated
19	Female	No Information
20	Male	Higher Education
21	Male	Higher Education
22	Female	BA
23	Female	BA
24	Female	Higher Education
25	Female	Higher Education
26	Male	Higher Education
27	Male	High School
28	Male	BA
29	Female	BA
30	Male	Higher Education

Can Visualization using Tabulation telling us story?

"The data is not related to any source"

Tabulation							
Gender	BA	Diploma	High School	Higher Education	No Information	Not Educated	Total
Female	6	1	1	4	3		15
Male	2		2	7	2	2	15
Total	8	1	3	11	5	2	30

Note:The above tabulation present information using the data set in previous slide

Data Visualization Types

– Tabulation “Source <https://www.who.int/>”



WHO Coronavirus (COVID-19) Dashboard



Overview

Measures

Table View

Data

More Resources

Back to top

Name	Cases - cumulative total	⇅	Cases - newly reported in last 7 days	Deaths - cumulative total	Deaths - newly reported in last 7 days	Total vaccine doses administered per 100 population	Persons fully vaccinated with last dose of primary series	Persons Boosted per 100 population
Global	500,186,525		6,448,828	6,190,349	21,480	145.07	58.64	20.06
+ By WHO Region								
+ By World Bank Income Group								
United States of America	79,716,960		214,867	979,321	3,658	166.91	64.48	28.99
India	43,039,023		7,065	521,737	207	134.82	60.96	1.79
Brazil	30,183,929		143,800	661,493	965	191.85	74.19	35.71
France	26,525,319		901,637	140,558	852	230.7	80.18	70.67
Germany	23,182,447		916,659	132,688	1,652	207.3	76.04	58.99
The United Kingdom	21,715,120		230,030	171,046	1,360	208.4	72.81	
Russian Federation	18,041,927		86,807	372,766	1,877	112.8	50.03	
Republic of Korea	15,979,061		1,200,700	20,352	1,971	235.23	86.64	63.98
Italy	15,467,395		431,452	161,187	935	226.5	79.47	65.05
Turkey	14,978,031		48,126	98,493	218	174.5	63.74	

Data Visualization Types

– Graphs and Charts “Source <https://www.who.int/>”



Health Topics ▾

Countries ▾

Newsroom ▾

Emergencies ▾

Data ▾

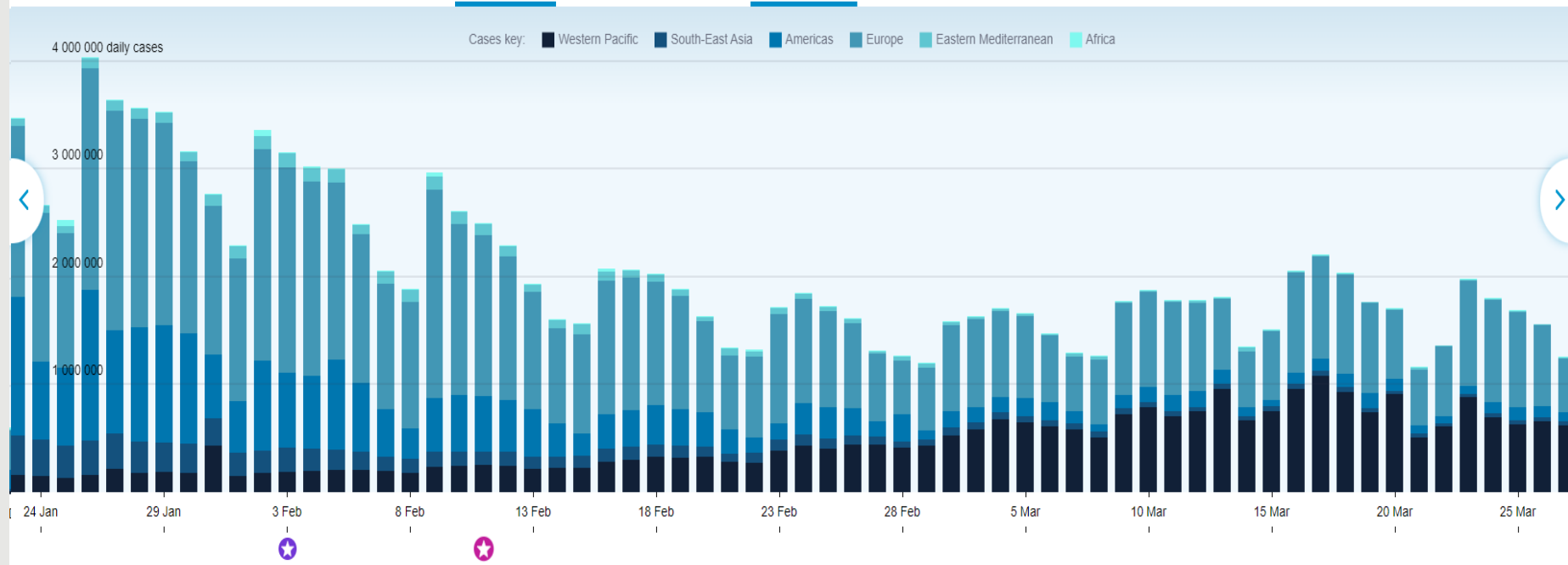
About WHO ▾

Timeline: WHO's COVID-19 response

Click on the action circles below the chart to find out more.

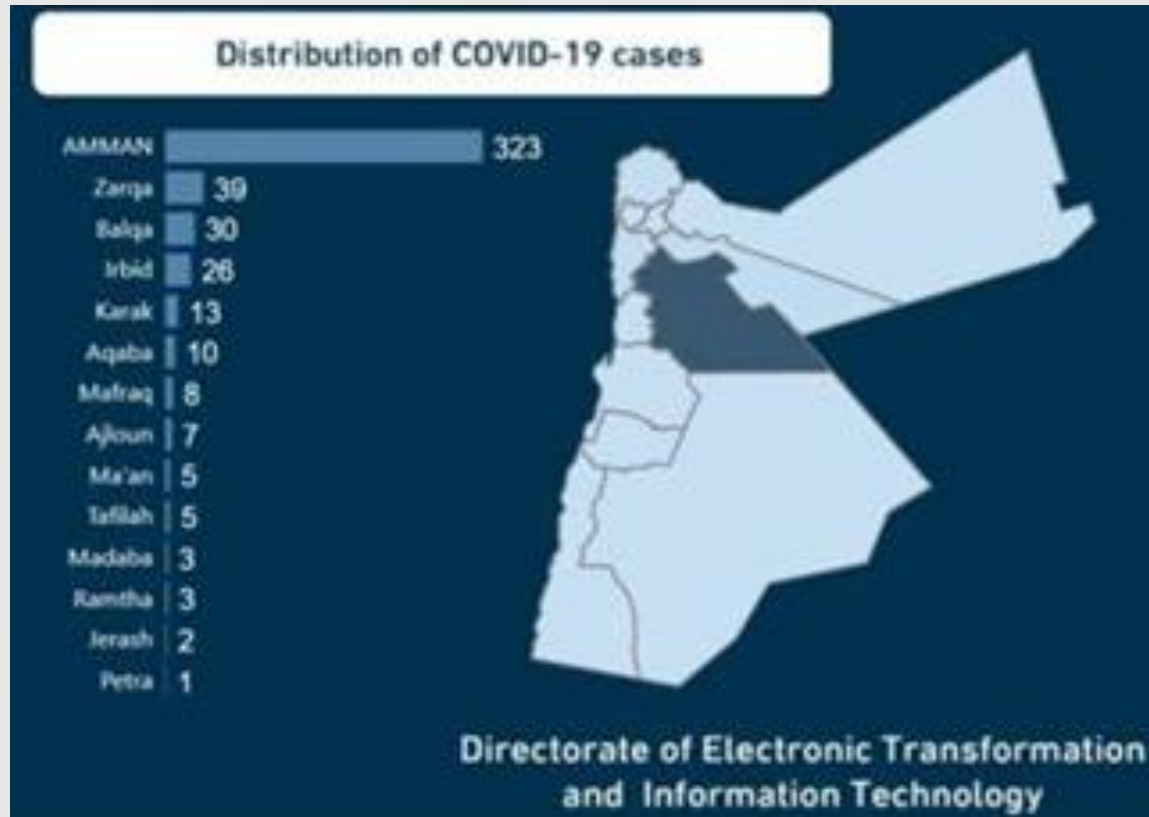
● All actions ● Information ● Science ● Leadership ● Advice ● Response ● Resourcing

Cases key: ■ Western Pacific ■ South-East Asia ■ Americas ■ Europe ■ Eastern Mediterranean ■ Africa



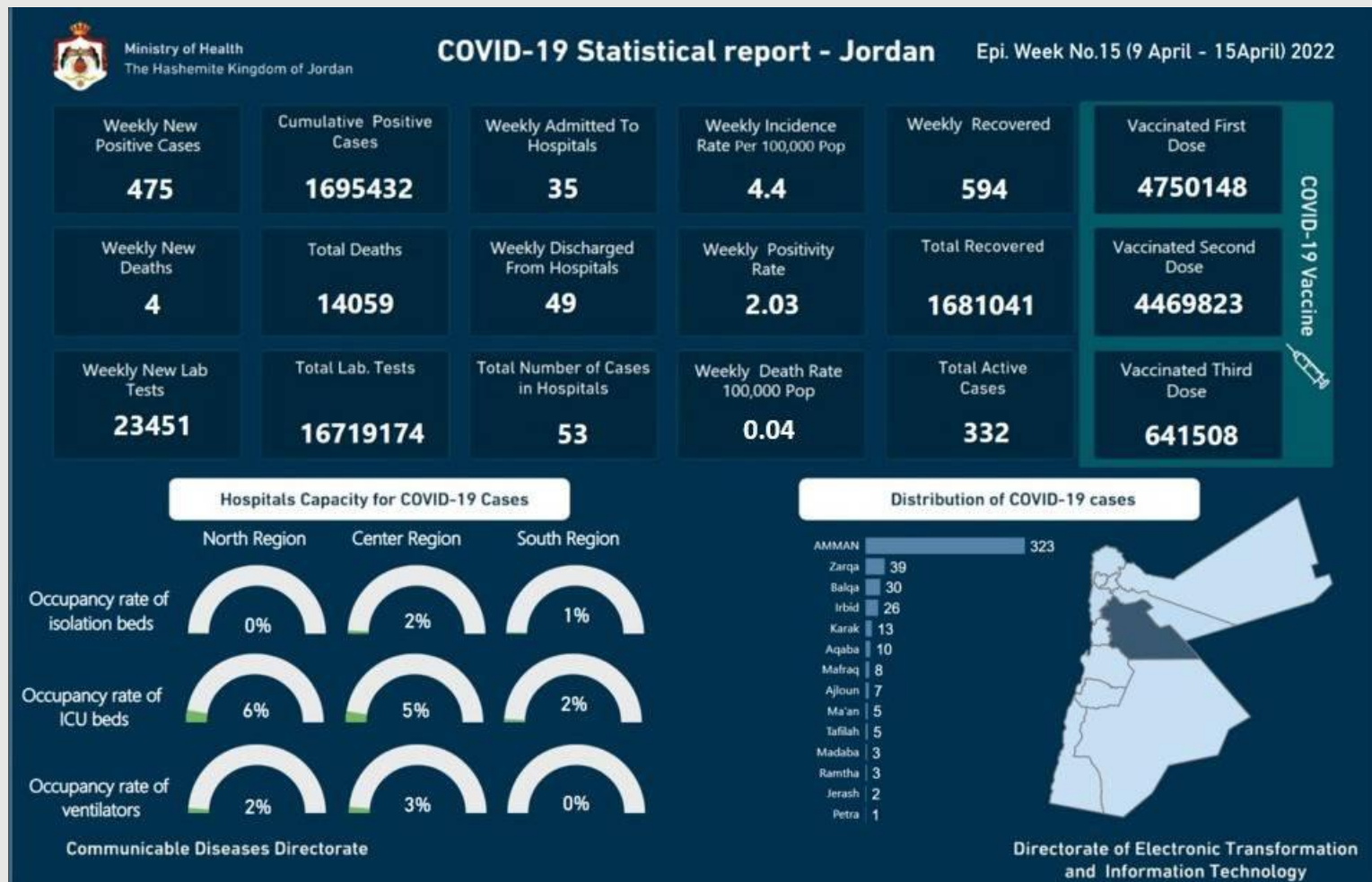
Data Visualization Types

– Maps “Source Jordan MOH”



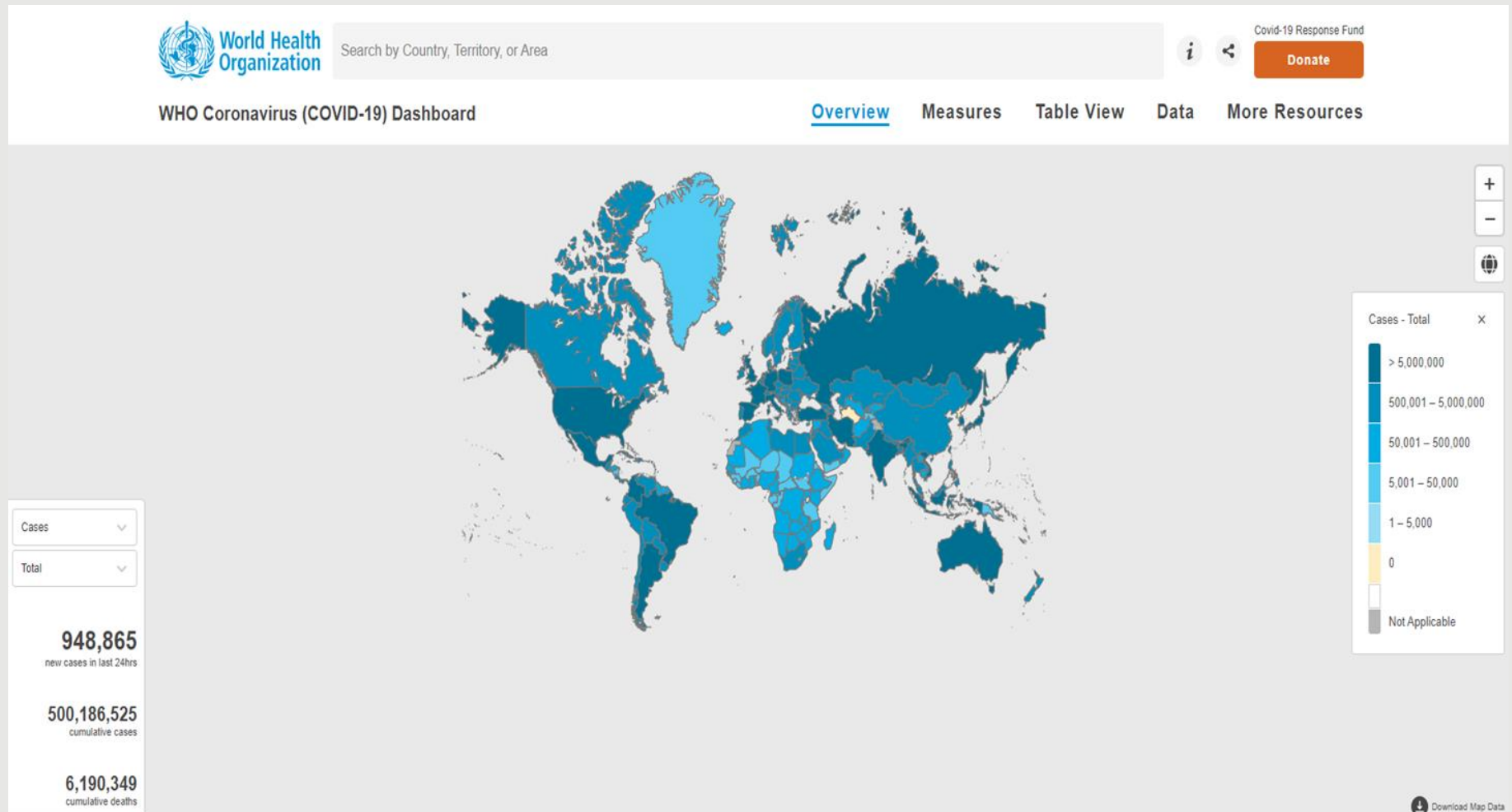
Data Visualization Types

– Infographic “Source Jordan MOH”



Data Visualization Types

– Dashboard “Source <https://www.who.int/>”



Data Visualization Types

– Infographic vs Dashboard

Infographic	Dashboard
Best for telling a premeditated story and offer subjectivity	Best for allowing the audience to draw their own conclusions , and offer objectivity
Best for guiding the audience to conclusions and point out relationships	Ideal for understanding data at a glance
Created manually for one specific dataset	Automatically generated for arbitrary datasets

Data Visualization Tools Free software Examples

- Microsoft Office “Word, Power Point and Excel”
- Power BI
- QGIS
- SPSS
- Python and R

— Activity I: Visualizing data before and after Cleaning “10 minutes”

Through Excel Software Use File Activity I in Both Sheets to represent the following information:

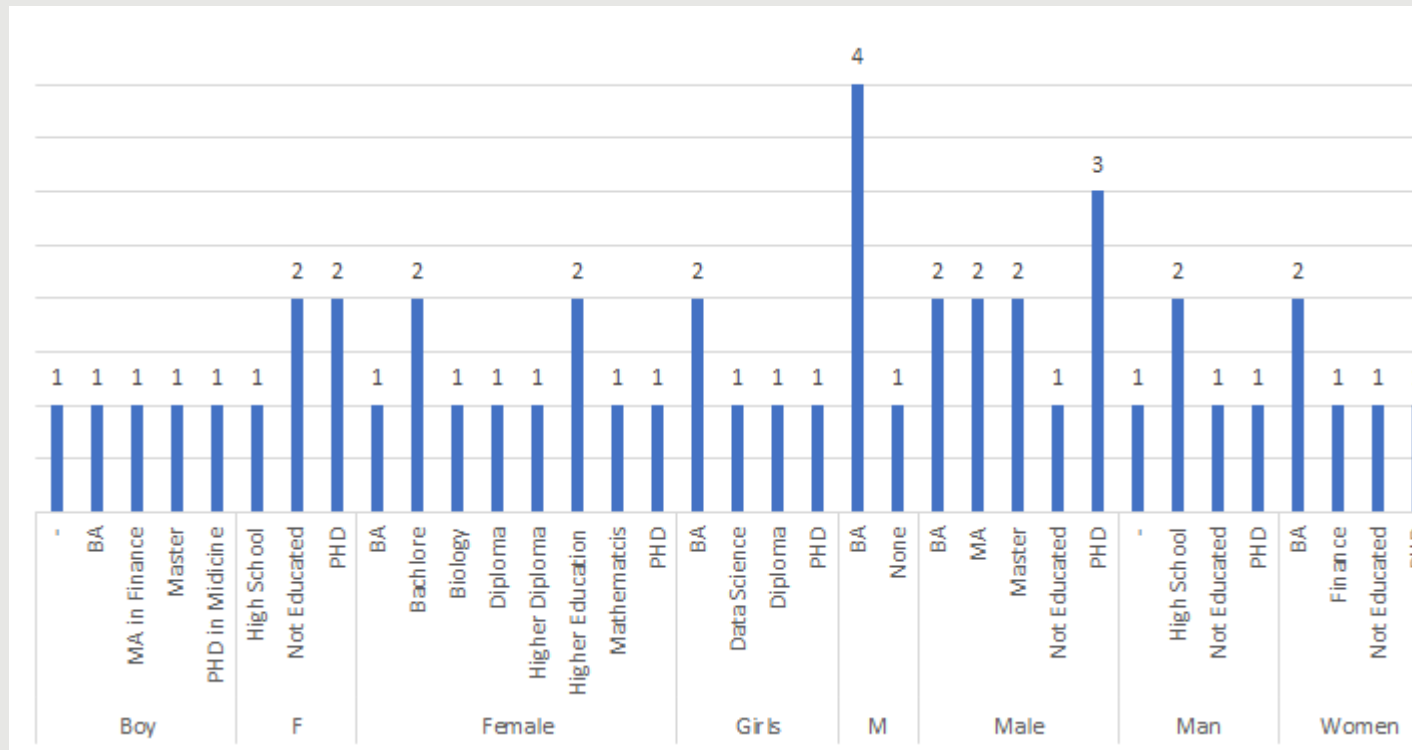
“The data on the sheet is not related to any source”

- A Summary of Participants Education Level and gender

- A Summary of Participants Birth Location

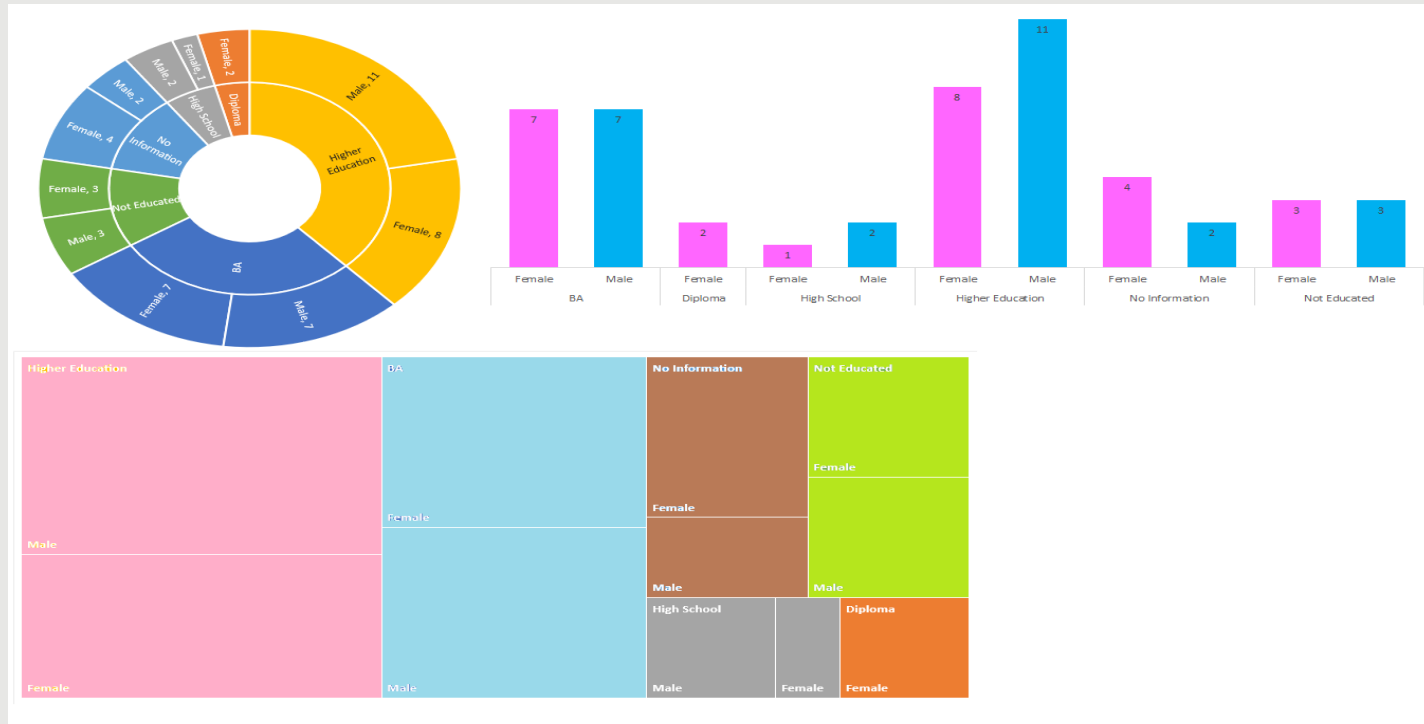
Activity I Results

Before Cleaning data we had misleading information



Activity I Results

After Cleaning data we can design charts and get proper information for available data “Participants Education Level and gender”



Participants Birth Location information can not be presented since no available data are related to

Activity I Results

Some request we can not provide based on Available data set; The decision maker need to be informed about required information data availability “specially for secondary sources”

Reminder:

“A primary source gives you direct access to the subject of your research. Secondary sources provide second-hand information and commentary from other researchers.”

Activity I Results

- Data Cleaning Importance:
 - Organize received data
 - Reach the Proper Information
- Data Visualization using Clean and Proper dataset:
 - Summarize all required information
 - Support Decision maker to take actions based on Proper and available information

— Activity II: Designing Infographics “20 minutes”

Through Excel Software Use File Activity I After Cleaning Sheet to Produce an infographic which represent the following information:

“The data on the sheet is not related to any source”

- Participants Percentage by Gender

- Participants Education level Percentage

- Participants Age Groups Percentage by Gender

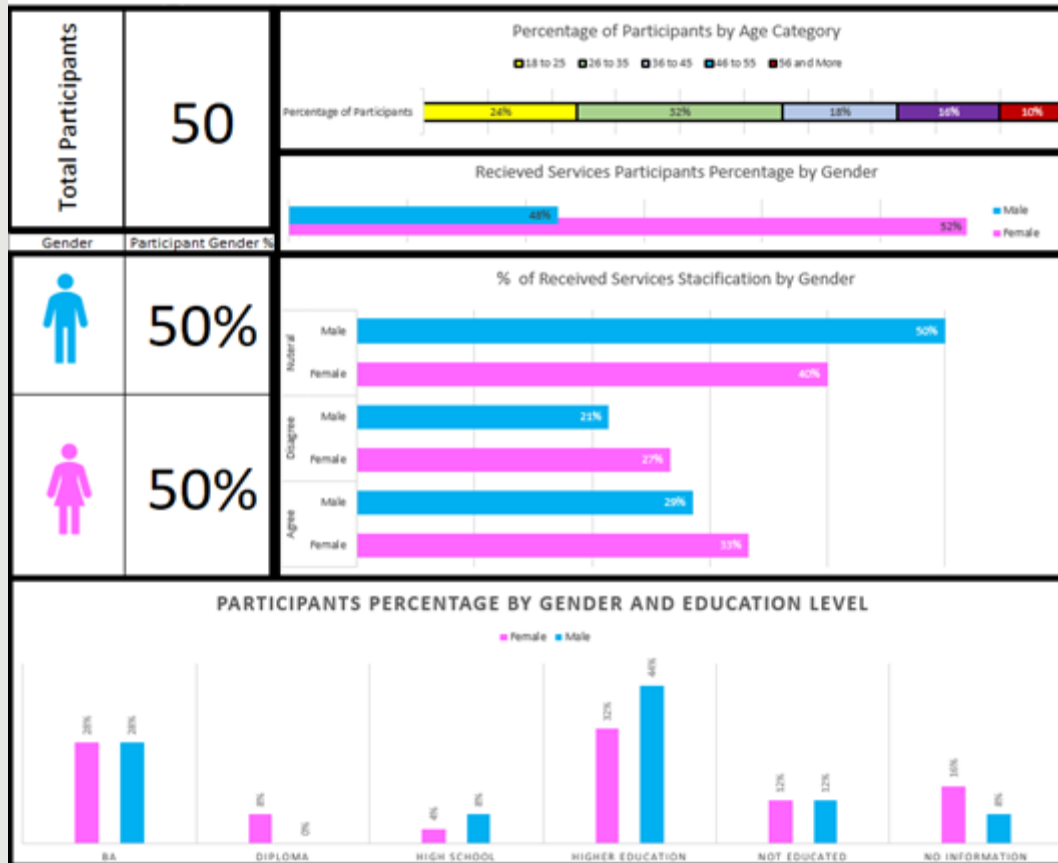
- Percentage of Participants who received Services by Gender

- Percentage of Received Services Stratification by Gender



Activity II Results

Infographic



Activity II Results

- The Infographic Can be designed using any Kind of Graphs or charts since it is representing the same Information
- Infographs are tools that support Decision makers to explore all available information

Conclusion

- Visualizing data a tool that can support decision maker to explore information
- To get Proper information we need have proper and cleaned dataset
- Infographs are tools that can be used to explore all available information based on the available data set or/and data sources

Q&A