Data analysis and visualization

23 July 2020

Agenda

- Data analysis steps
- Examples from Indonesia
- Group exercise

Data analysis steps

1) Define key questions to answer (in most cases, already done before data collection)
2) Clean and translate data
    - Do not merge or hide cells
3) Choose data points that you would use to analyze
4) Explore data using tools (e.g. Excel, PowerBI, Tableau, etc.)
5) Interpret results and draw conclusions
    - Did the data answer the key questions?
    - Any limitations you should reconsider?

Example from Indonesia

Key questions:

Are there significant* sex, age, area (rural/urban), education level differences for below perceptions?

- **COVID-19 danger**
- **COVID-19 transmission and protection**
- **specific group being responsible for COVID-19, and who**
- **worries**
- **frequency and trust of information sources**
- **Information needs**

***without going into statistical methods, we can see significant results from looking at trends (i.e. if the trend changes as you change the data points, it is worth noting)**

364
surveyed

71
DKI Jakarta

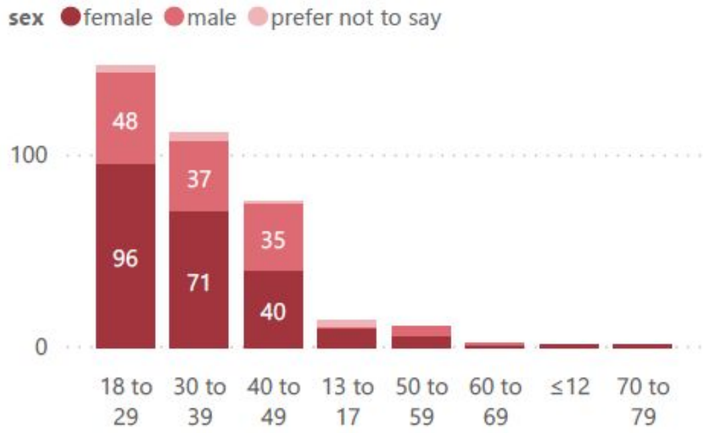
63
Jawa Barat

39
Jawa Timur

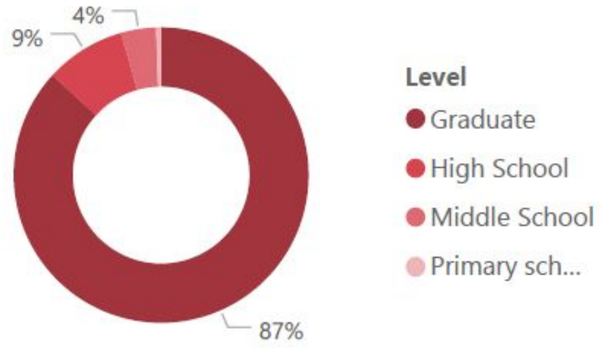
127
Male

226
Female

Age group and sex



Education level



7/3/2020 2:26:01 PM
Last refreshed (GMT+8)

Findings

- **Demographics:**
  - **62% females**
  - **Majority In the 18 to 29 (40%) and 30 to 39 (31%) age group**
  - **Majority (87%) educated to at least bachelor's level**
  - **20% from Jakarta (urban) area**
- **Because the demographics are skewed towards young adult age group and group with higher education, the perceptions may not be representative. You can even consider removing the ≤12, 60-69 and 70-79 age groups and primary school/no education group as they had 1% or less representation.**
- **Does not seem to be much differences between the sexes across the board.**
- **Majority (80%) perceives COVID-19 to be very dangerous.**
- **Main transmission methods identified are droplets (89%), object/surface (80%) and direct contact (64%).**

Findings

- **Main protection methods identified are washing hands (92%), using a mask (90%), covering sneezes (89%), following recommendations (89%), avoid close contact (84%) and avoid touching face (83%).**
- **Approximately half of the respondents (55%) believe a specific group is responsible for spread of COVID-19. Largest responsible group identified (by 46 respondents) are those categorised under “people not following regulations” which includes people not wearing masks, going out without proper protection, not following advice from authorities.**
- **Main worries are losing someone, overloading health system, getting sick and small companies closing.**
- **While social media (15%), search engines (12%) and websites (16%) are frequent sources of information, they are less trusted with social media trust (3%), search engines trust (5%) and websites trust (4%). Community health worker stands out as a frequent source (8%) and also trusted source (15%) followed by WHO and MoH.**

Group Exercise

23 July 2020

Data analysis and visualization exercise (15 mins)

1) Appoint notetaker
2) Each group member to download data set from Google Drive
3) In your group, select one key question (in next slide) to answer and how would you group pivot tables and charts to answer them (3 mins)
4) Each person to explore pivot charts and filters to answer the question together (7 mins)
5) In your group (5 mins):
    - interpret results
    - note down key findings of your analysis
    - note down challenges and successes of doing analysis
6) Share the above in larger group

Recommended key questions (pick one)

Is there a difference in perception of COVID-19 danger

1) **among age groups?**
2) **between male and female?**
3) **comparing respondents from Jakarta with other areas?**
4) **among the education levels?**

Is there a difference in perception that a specific group is responsible for COVID-19

5) **among age groups?**
6) **between male and female?**
7) **comparing respondents from Jakarta with other areas?**
8) **among the education levels?**
9) **related to perception of COVID-19 danger**