



02. DATA VISUALIZATION

M5U4P2

The background is a dark teal gradient. In the corners, there are white line-art illustrations of circuit boards or data paths, consisting of straight lines and small circles representing nodes or components.

WHAT IS DATA VISUALIZATION?

DATA VISUALIZATION

- Most of the information that we have is in form of numbers
- That information is enough to answer our questions and find what we want but it is sometimes difficult to understand it
- We have to prepare the information in a way that will be easier to understand

EXAMPLE 1: TOURIST INFORMATION

- A tourist agency wants to prepare tours for the upcoming year by using the data from previous years

ภูมิภาค	พ.ศ. 2554	พ.ศ. 2555	พ.ศ. 2556	พ.ศ. 2557	พ.ศ. 2558
East Asia	10,345,866	12,525,214	15,911,375	14,603,825	19,908,785
Europe	5,101,406	5,650,619	6,305,945	6,161,893	5,631,438
South Asia	1,158,092	1,286,861	1,347,585	1,239,183	1,404,271
America	952,519	1,083,433	1,166,633	1,099,709	1,235,468
Oceania	933,534	1,046,755	1,021,936	942,706	922,977
Middle East	601,146	605,477	630,243	597,892	658,278
Africa	137,907	155,544	163,008	164,475	161,968
รวม	19,230,470	22,353,903	26,546,725	24,809,683	29,923,185

EXAMPLE 1: TOURIST INFORMATION

Can we know which region has the highest increase?

Can we easily present information from this table?

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EXAMPLE 1: TOURIST INFORMATION

We can answer all the questions from this table but it will be difficult to present it to someone because it is not visually appealing. What should we do?

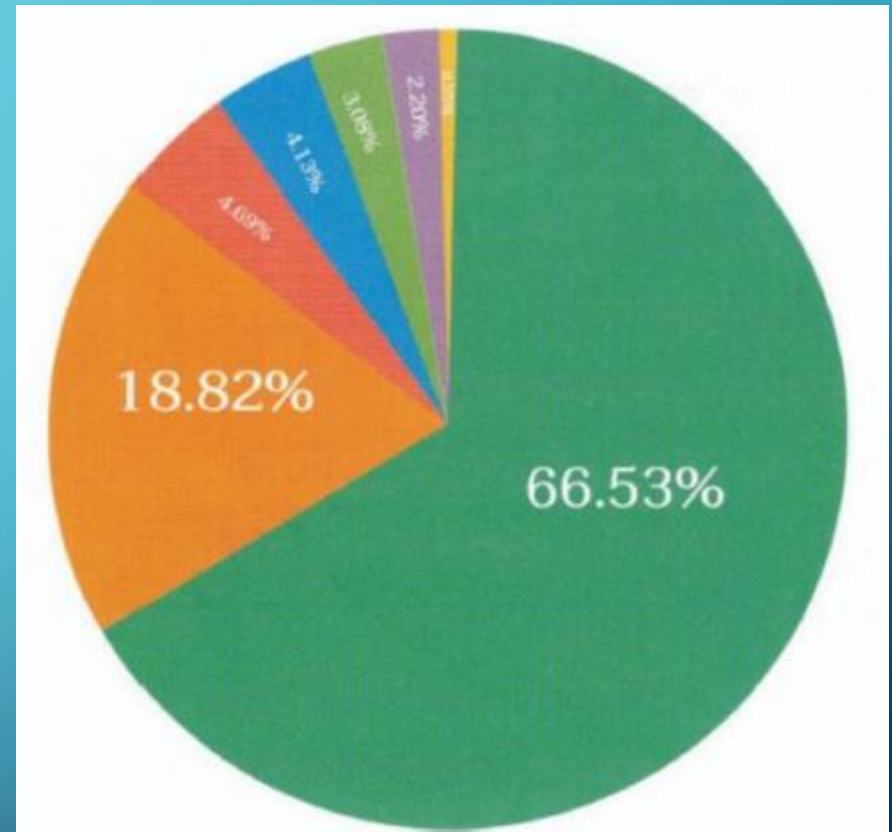
ภูมิภาค	พ.ศ. 2554	พ.ศ. 2555	พ.ศ. 2556	พ.ศ. 2557	พ.ศ. 2558
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The image features a dark blue gradient background with white decorative circuit-like lines in the corners. These lines consist of straight segments connected by small circles, resembling a network or data flow diagram. The lines are positioned in the top-left, top-right, bottom-left, and bottom-right corners, framing the central text.

WE CAN PRESENT THE INFORMATION IN
CHARTS/GRAPHS

PIE CHART

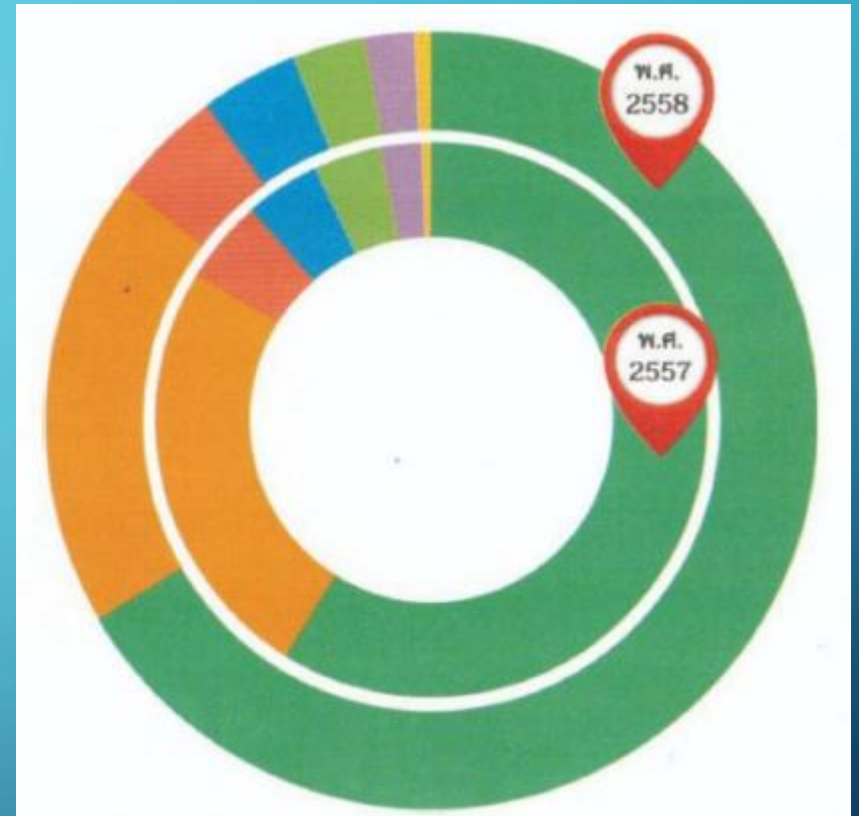
- A pie chart is created by taking a circle and dividing it into proportions according to the amount of information
- It should be used for data that has a small number of groups
- It can show the information in percentage which can help us compare groups



- | | |
|--------------|---------------|
| ● East Asia | ● Oceania |
| ● Europe | ● Middle East |
| ● South Asia | ● Africa |
| ● America | |

DONUT CHART

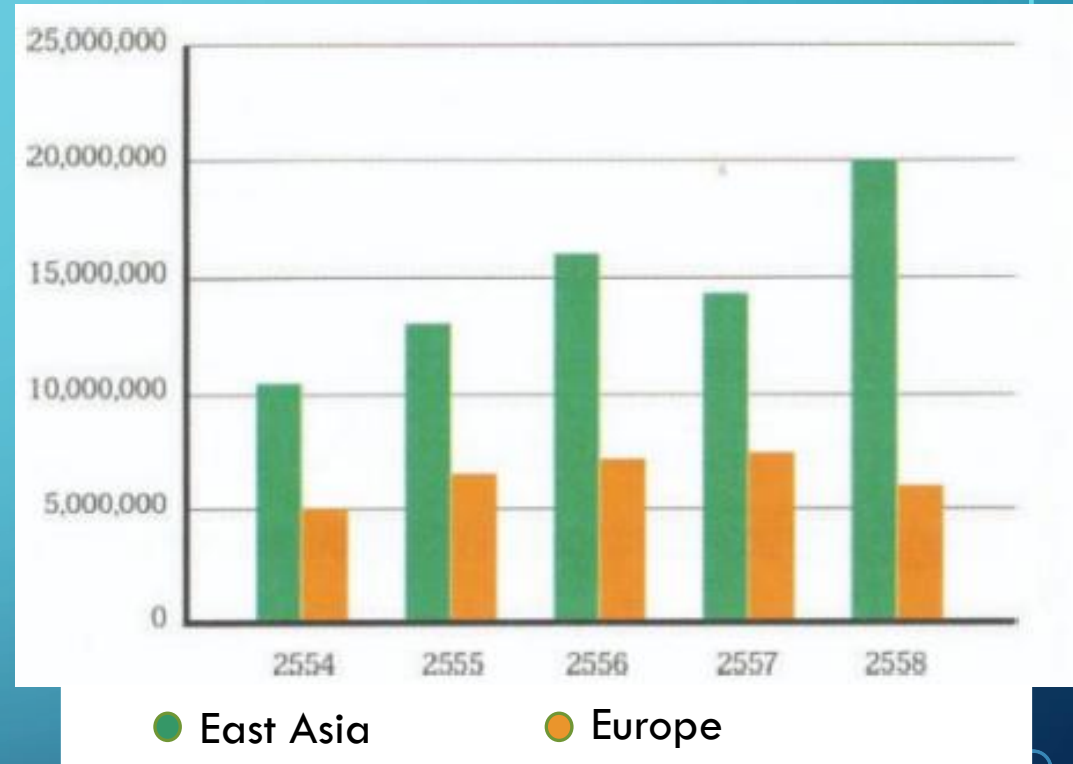
- In addition to pie chart we also have donut chart
- It works in the same way but the middle of the circle is empty
- Can be used to compare two similar datasets
- Sometimes it might be difficult because the starting points will not match



- | | |
|--------------|---------------|
| ● East Asia | ● Oceania |
| ● Europe | ● Middle East |
| ● South Asia | ● Africa |
| ● America | |

BAR CHART

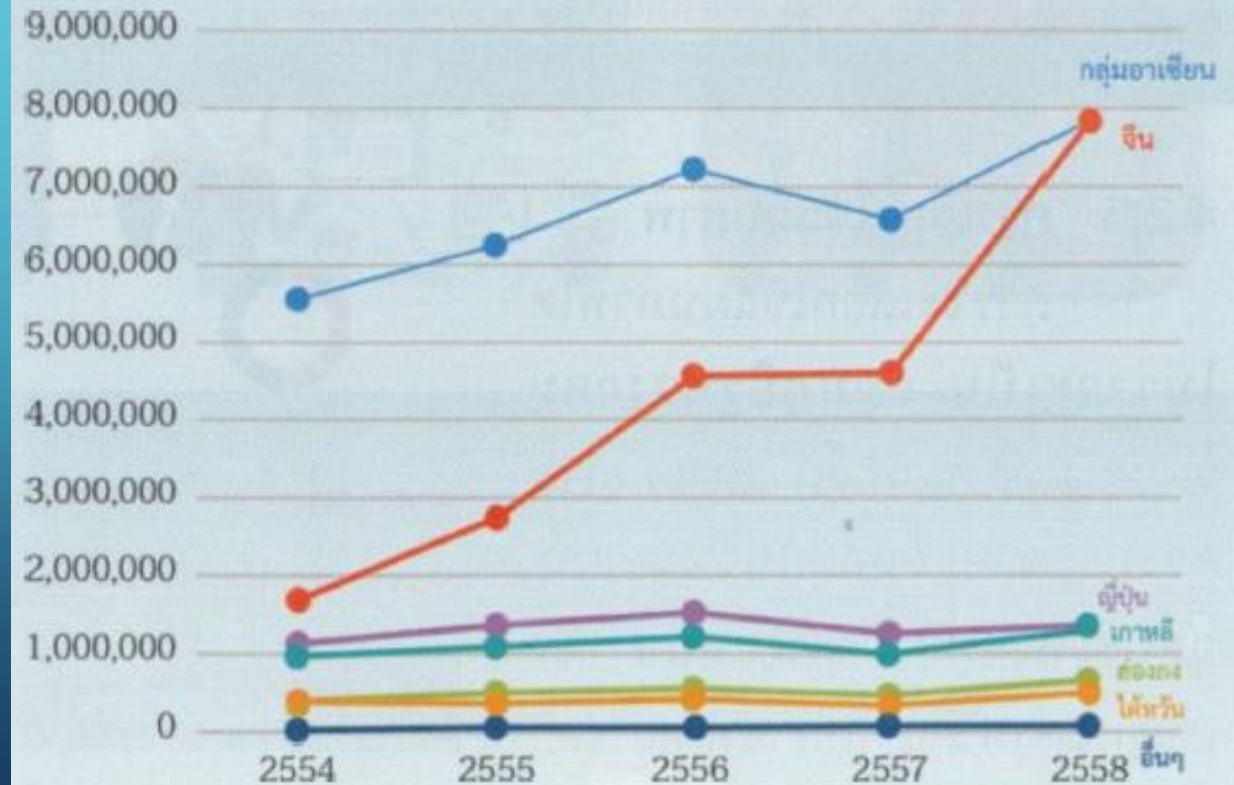
- It is used to show the difference in volume between data sets
- It sorts the data from left to right and usually arranged horizontally
- In this bar chart we can see the difference between tourists from East Asia and Europe
- What do you notice?



LINE GRAPH

- Line graph is used to show changes of individual data and compare those changes with other data
- Because of its design it will take less space than other graphs
- This table shows the number of tourists depending on the region and country

ภูมิภาค/ ประเทศ	ปี พ.ศ.				
	2554	2555	2556	2557	2558
กลุ่มอาเซียน	5,594,577	6,281,153	7,282,266	6,641,772	7,920,481
จีน	1,721,247	2,786,860	4,637,335	4,636,298	7,936,795
ฮ่องกง	411,834	473,666	588,335	483,131	669,617
ญี่ปุ่น	1,127,893	1,373,716	1,536,425	1,267,886	1,381,702
เกาหลี	1,006,283	1,163,619	1,295,342	1,122,566	1,373,045
ไต้หวัน	447,610	394,225	502,176	394,149	552,699
อื่น ๆ	36,422	51,975	69,496	58,023	74,446



SCATTER PLOT CHART

- It is used to show the distribution of the data
- Can be used to compare the data also
- The dashed line shows the increase of data



The background is a dark teal gradient. In the corners, there are decorative white line-art elements resembling circuit traces or data paths, with small circles at the end of the lines.

HOW DO WE KNOW WHICH CHART TO USE
WHEN?

FOLLOW THESE SIMPLE RULES

Type of chart	Purpose of presentation
Pie chart	Shows proportion of data with a small number of different data
Bar chart	Compare individual data sets
Line chart	Shows changes in continuous data
Scatter plot	Shows relationship between two data sets



ANY QUESTIONS



THE END