

Data Visualisasi

Week 1 - Course Information

Apa itu Data Visualisasi?

Visualisasi data adalah proses memperoleh, menginterpretasi, dan membandingkan data untuk mengomunikasikan ide-ide kompleks secara jelas, sehingga memudahkan identifikasi dan analisis pola-pola yang bermakna.



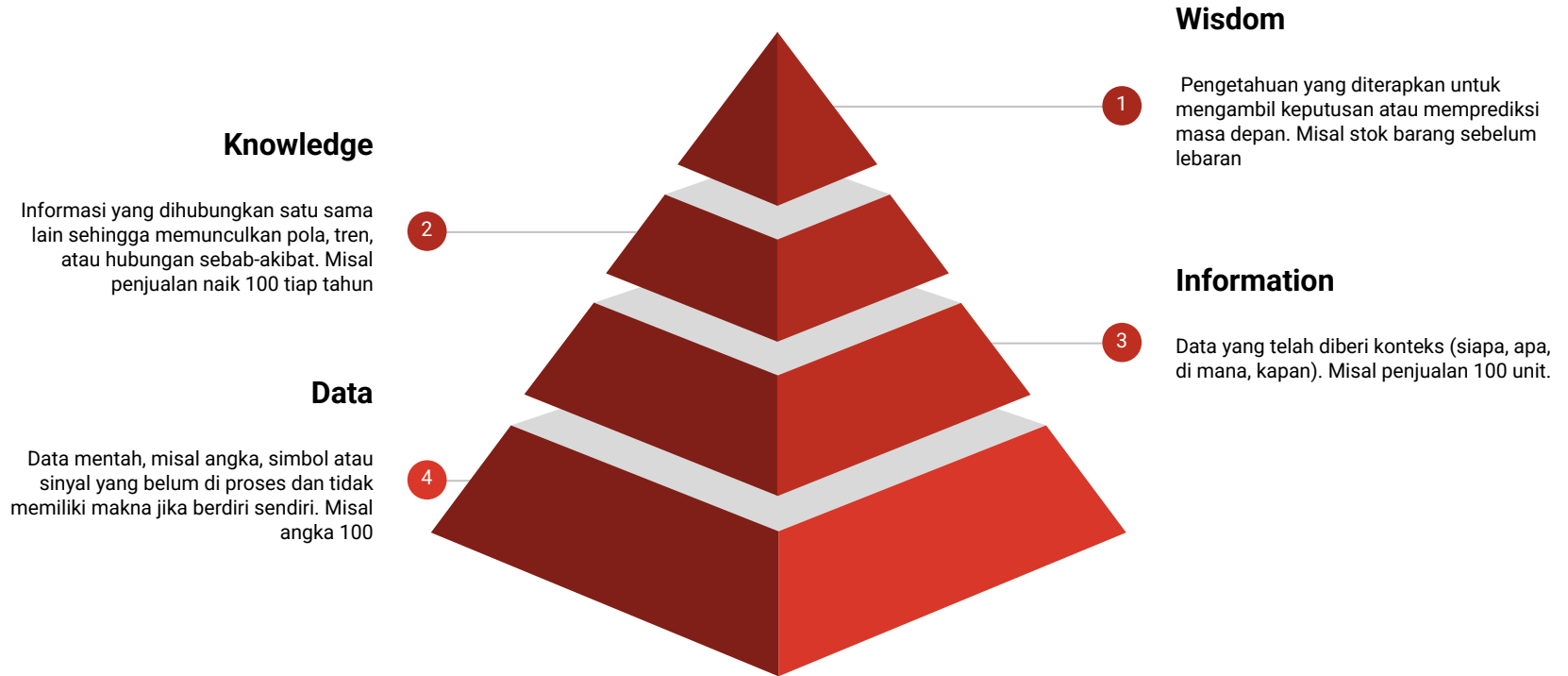
Tujuan

- Accessible: Membuat data mudah diakses
- Understandable: Membuat pola/tren mudah dipahami.
- Actionable: Membantu pengambilan keputusan.

"The goal is to turn data into information, and information into insight." — Carly Fiorina.

DIKW Pyramid

Dari Data Menjadi Wisdom



Why Visualize?

Month	Jan	Feb	Mar	Apr	May	Jun
Sales	45	56	36	58	75	62

- ❑ Otak memproses visual 60.000x lebih cepat daripada teks.
- ❑ 90% informasi yang dikirim ke otak bersifat visual.
- ❑ Data visual lebih menarik dan mudah untuk dipahami.



Sumber : Netquest

Why Bad Figures are Bad?



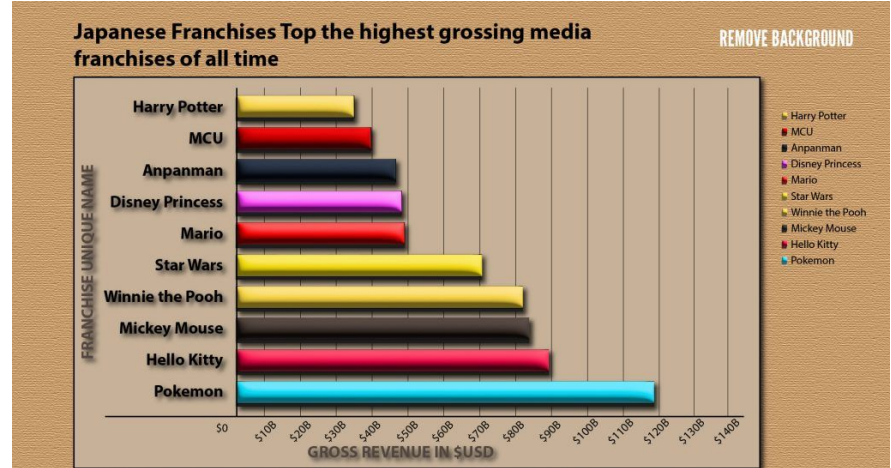
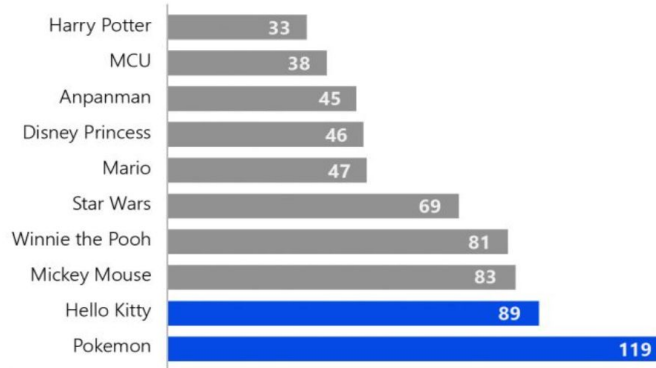
- ❑ Susah dibaca dan sulit membandingkan
- ❑ Duplikasi label
- ❑ 3D effect, bayangan yang tidak perlu

Design Principle

Data Ink Ratio - Edward Tufte

- ✗ Hapus Background gelap.
- ✗ Hapus Efek 3D / Bayangan.
- ✗ Hapus Gridlines tebal.
- ✓ Fokus pada Data.

Japanese Franchises Top the highest grossing (in Billions \$USD) media franchises of all time

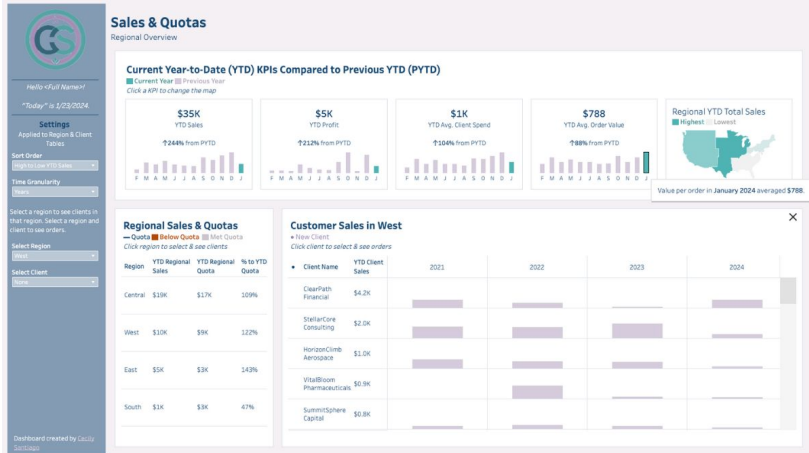


Sumber :
<https://deliveringdataanalytics.com/the-data-to-ink-ratio-chart-makeover>

Tools



- Leader di Gartner Magic Quadrant untuk Analytics Platform.
- Drag-and-Drop: Tidak perlu coding dari awal.
- Interactive: User bisa memfilter sendiri.
- Connect to Data: Bisa baca Excel, CSV, SQL, hingga Google Sheets



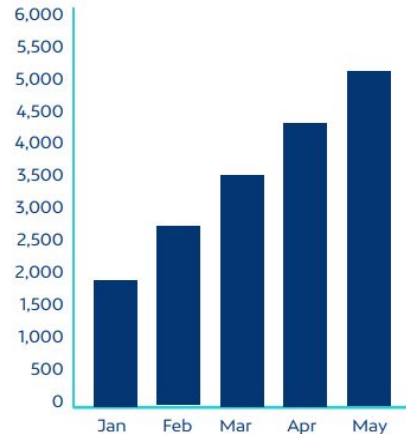
Choose the right chart

Bar Chart

Membandingkan nilai

Vertical column

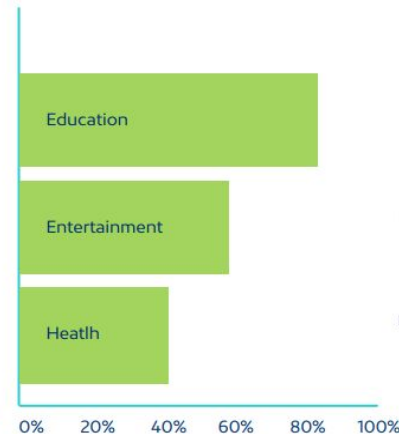
Used for chronological data, and it should be in left-to-right format.



Sumber : Netquest

Horizontal column

Used to visualize categories.

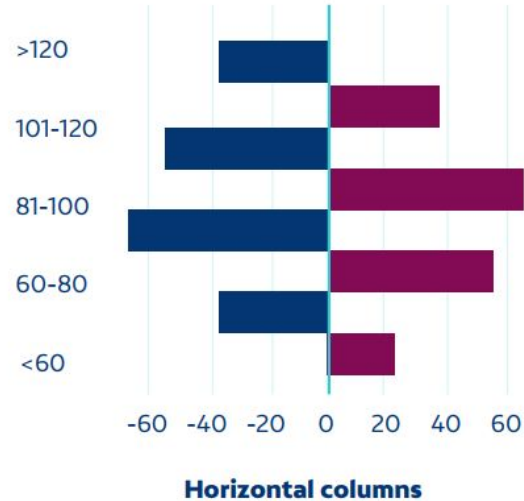
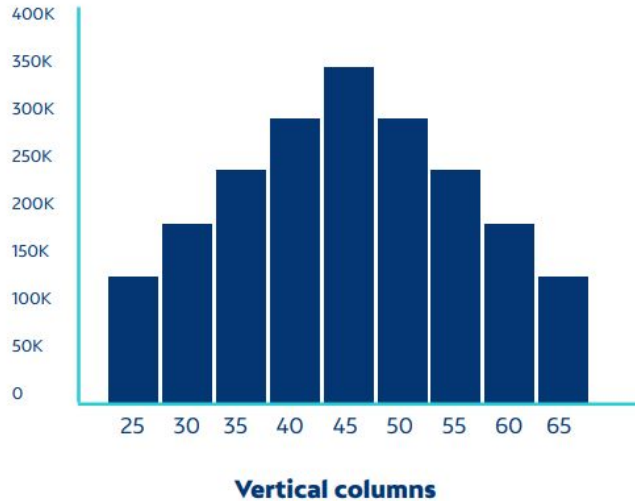


Full stacked column

Used to visualize categories that collectively add up to 100%.



Choose the right chart



Histogram

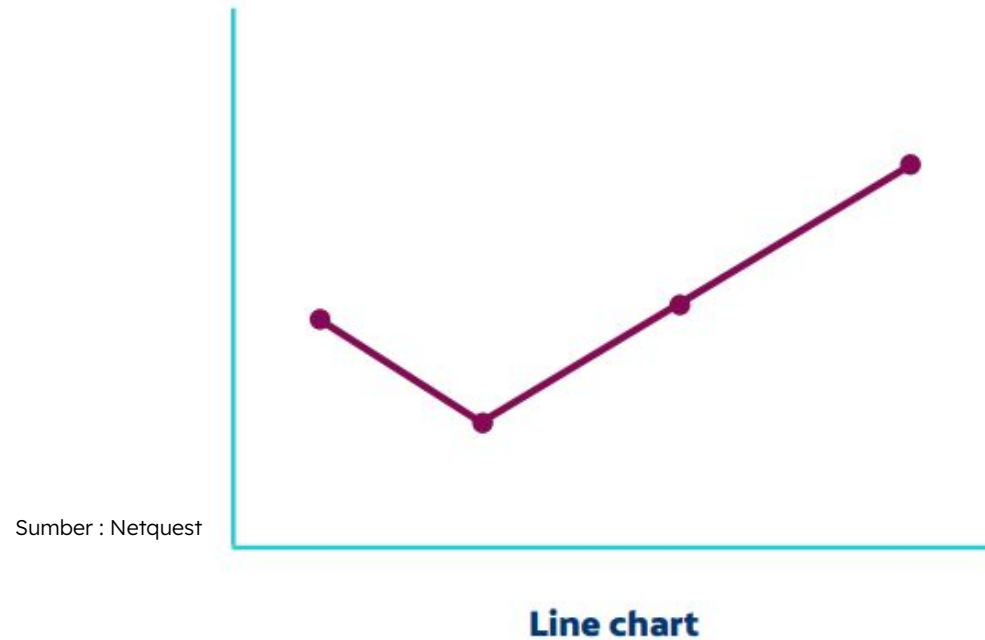
Melihat distribusi

Sumber : Netquest

Choose the right chart

Line Chart

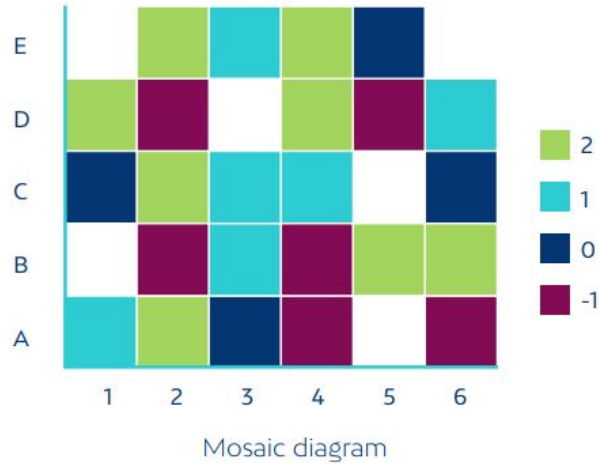
Tren waktu



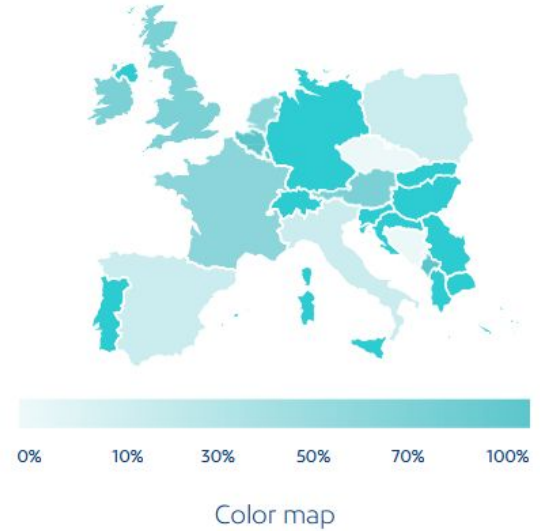
Choose the right chart

Heat Map

Melihat density



Mosaic diagram



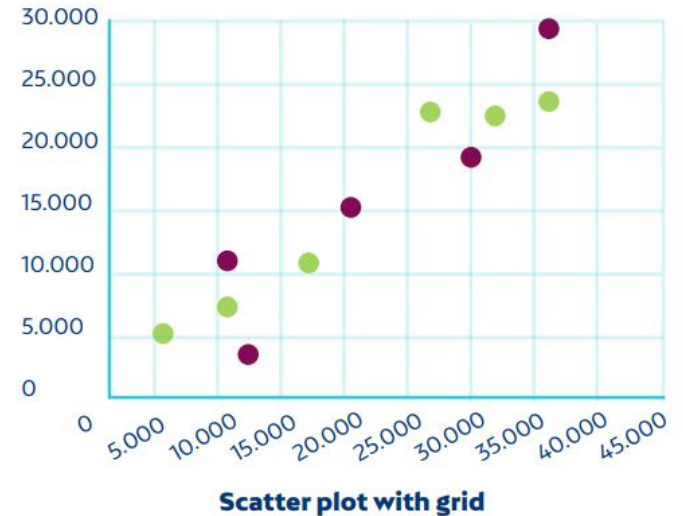
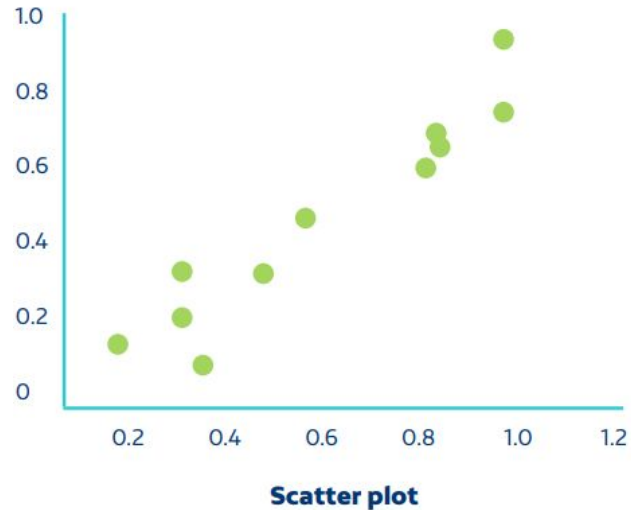
Color map

Sumber : Netquest

Choose the right chart

Scatter Plot

Melihat korelasi

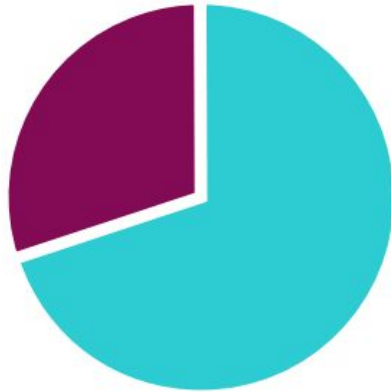


Sumber : Netquest

Choose the right chart

Pie Chart

Melihat proporsi suatu kategori terhadap total keseluruhan



■ A ■ B

Standard pie chart



■ A ■ B ■ C ■ D

Donut pie chart

Sumber : Netquest