



Menyajikan Hasil Penelitian

Kuliah Metodologi Penelitian
Fasilkom UI

Oleh:

Arrianto Mukti Wibowo, M.Sc.

Agenda

- Written research reports
- Research report components
- Writing the report
- Presentation of statistics

Written research report

- Penelitian yang bagus bisa dihancurkan oleh laporan yang buruk! ☹️
- Harus terlihat objektivitasnya
- Short form
 - Untuk website
 - Untuk majalah dinding
 - Banyak diagram, tabel dan grafik
 - Tidak perlu methodology dituliskan

Long form Report

- Technical report:
 - Audiencenya adalah peneliti
 - Harus menceritakan proses secara detail
 - Penelitian bisa direplikasi
- Management report:
 - Fokus kepada “klien” yang memberikan order
 - Habis pengantar/pendahulun, sampaikan hasilnya.
 - Metodologi belakangan.
 - Kenapa? Karena pengambil keputusan perlu mengambil keputusan dengan tepat
 - Banyak menggunakan diagram/grafik visual.

Komponen Laporan

- Prefatory items
 - Title page, abstract, table of contents
 - Authoriaton letter: siapa yang menyuruh melakukan penelitian? Siapa sponsor penelitian?
- Introduction
 - Problem statement, tujuan penelitian,
 - later belakang: hasil dari penelitian kualitatif sebelumnya (studi literatur, etc), fokus group, etc.

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- Methodology, antara lain memuat
 - Sampling design
 - Dimensi penelitian
 - Data collection: proses pengambilan data dijelaskan. Cara mendapatkan sampel? Berapa lama waktu wawancara/pengisian kuesioner? Bagaimana kelainan / keunikan dikendalikan dalam proses pengambilan data?
 - Limitasi penelitian
 - Teknik analisa data seperti apa? Uji statistik yg dipakai? Program komputer apa?

- Findings

- Berusaha menjelaskan kepada pembaca mengenai data yang ditemukan
- Hanya jelaskan yang relevan dengan problem statement!
- Tampilkan setiap temuan dalam 1 halaman...! Tujuannya agar lebih mudah dibaca
- Lihat contoh

> **Exhibit 21-3** Example of a Findings Page in Central City Bank Market Study

Findings:

1. In this city, *commercial banks are not the preferred savings medium*. Banks are in a weak third place behind money market accounts.
2. Customers of the Central City Bank have a *somewhat more favorable attitude toward bank savings* and less of a preference for government bonds.

Question:

Suppose that you have just received an extra \$1,000 and have decided to save it. Which of the savings methods listed would be your preferred way to save it?

- ☐ Government bonds
- ☐ Savings and loan
- ☐ Bank savings
- ☐ Credit union
- ☐ Stock
- ☐ Other

Savings Method	Total Replies	Central City Bank Customers	Other Bank Customers
Government bonds	24%	20%	29%
Savings and loan	43	45	42
Bank	13	18	8
Credit union	9	7	11
Stock	7	8	5
Other	4	2	5
Total	100%	100%	100%
	$n = 216$	$n = 105$	$n = 111$

- **Conclusions**
 - Summary: brief statement of essential findings
 - Conclusion: apa yang bisa disimpulkan dari findings/temuan? Jangan mengambil kesimpulan tanpa data yang jelas!
 - Rekomendasi: jika perlu
- **Appendices: lampiran**
- **Bibliography:**
 - untuk IS use Harvard sytle referencing (cari di Internet)
 - Untuk CS pakai standar IEEE (yang pake [..])

Presentation of statistics

- List or bulleted results
- Tabular presentation (wajib)
- Graphics (wajib)

Tabular Presentation

Wal-Mart's continued ascendancy to the ranks of super-business is clearly visible in a comparison between it and the Forbes 500 top-ranked business, General Electric. Wal-Mart exceeds General Electric in sales, sales growth, and profit growth, but not in profits.

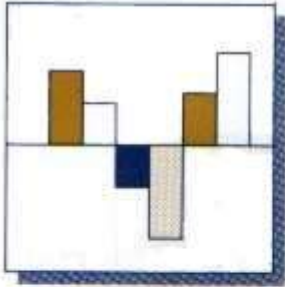
How Wal-Mart Compares	Rank	Sales (\$, millions)	Sales Growth over Prior Yr.	Profits (\$, millions)	Profit Growth over Prior Yr.
General Electric	1	\$131,698	4.60%	\$15,133.00	7.1%
Wal-Mart	6	\$244,524	12.30%	\$8,039.00	20.5%

Source: 2003 Forbes 500, <http://wwwforbes.com/2003/03/26/500sland.html>.

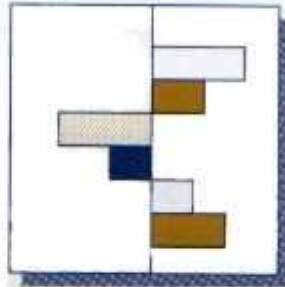
Tabular presentation

- General or summary
- Summary tables contain only few key pieces.
 - Omit unimportant details.
 - Melakukan grouping ulang terhadap kelompok-kelompok yang mirip jika perlu (selama tidak mengubah makna)
- Ada judul yang jelas, menjelaskan isi tabel itu apa.
- Interpretasi dari tabel itu.
- Catatan kaki boleh dipergunakan untuk hal-hal khusus.

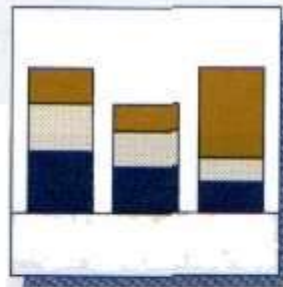
Graphics (I)



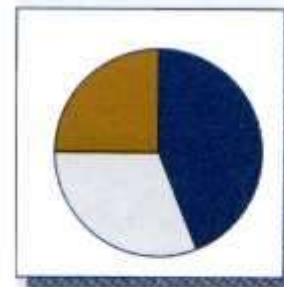
Column Compares sizes and amounts of categories usually for the same time. Places categories on X axis and values on Y axis.



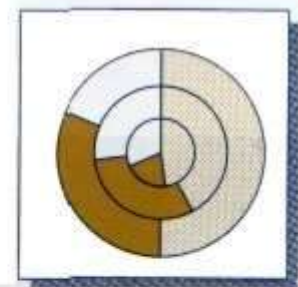
Bar Same as the column but positions categories on Y axis and values on X axis. Deviations, when used, distinguish positive from negative values.



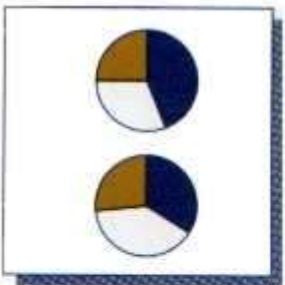
Stacked Bar In either bar or column, shows how components contribute to the total of the category.



Pie Shows relationship of parts to the whole. Wedges are row values of data.



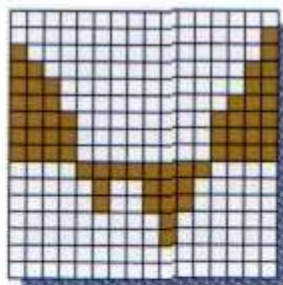
Stacked Pie Same as pie but displays two or more data series.



Multiple Pie Uses same data as stacked pie but plots separate pies for each column of data without stacking.



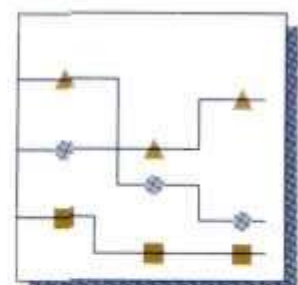
Line Compares values over time to show changes in trends.



Filled Line Similar to line chart, but uses fill to highlight series.

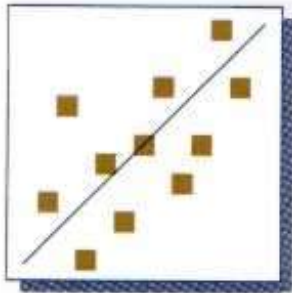


Area (surface) Like line chart, compares changing values but emphasizes relative value of each series.

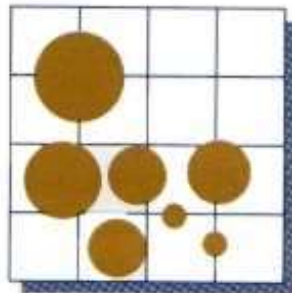


Step Compares discrete points on the value axis with vertical lines showing difference between points. Not for showing a trend.

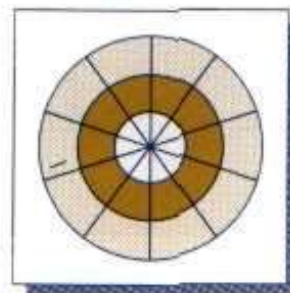
Graphics (2)



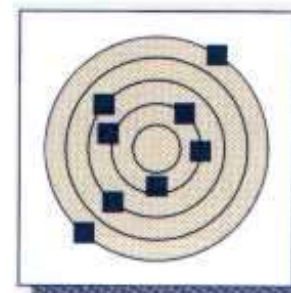
Scatter Shows if relationship between variables follows a pattern. May be used with one variable at different times.



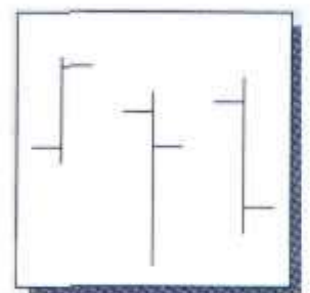
Bubble Used to introduce third variable (dots of different sizes). Axes could be sales, profits; bubbles are assets.



Spider (and Radar) Radiating lines are categories; values are distances from center (shows multiple variables—e.g., performance, ratings, progress).

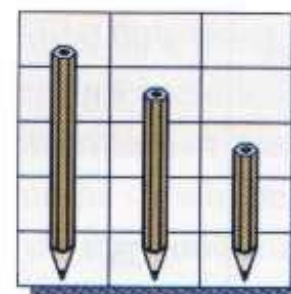
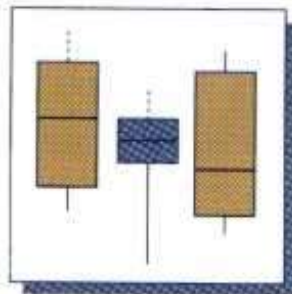


Polar Shows relationship between a variable and angle measured in degrees (cyclical trends, pollution source vs. wind direction, etc.).



Open Hi Lo Close Shows fluctuating values in a given period (hour, day). Often used for investments.

Boxplots Displays distribution(s) and compares characteristics of shape (Chapter 17).



Pictographic Special chart that uses pictures or graphic elements in lieu of bars.

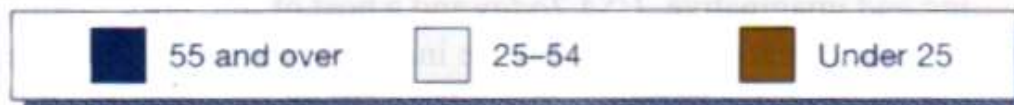
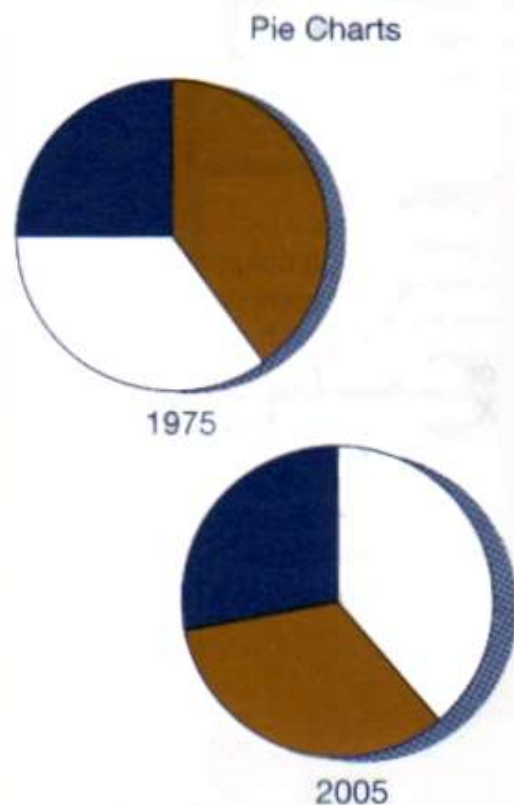
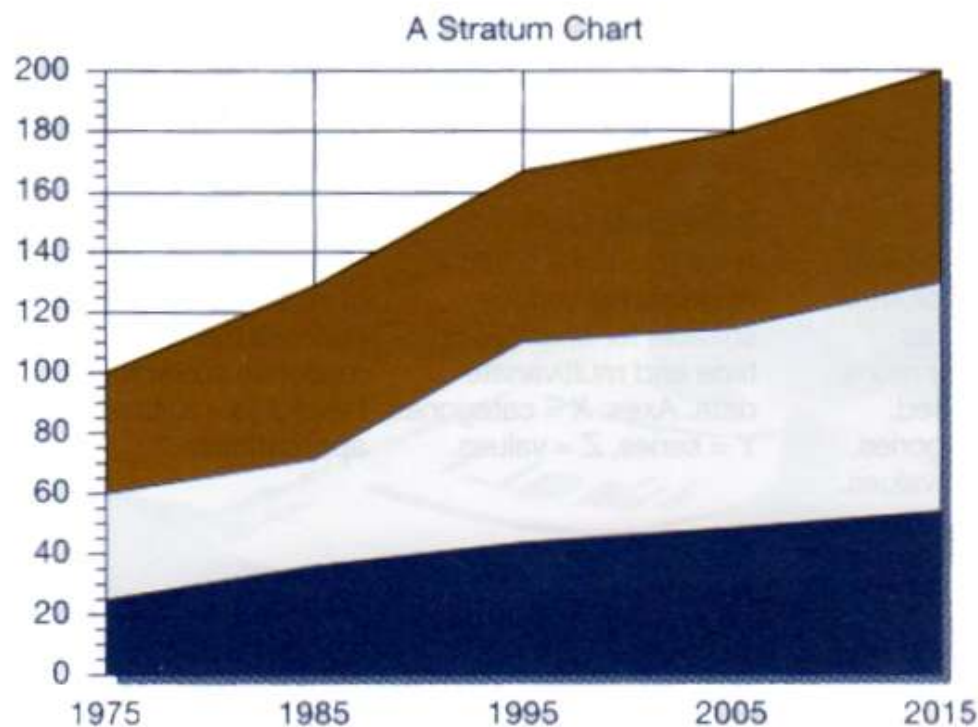
Catatan

- Anda harus menyesuaikan data yang ingin anda tampilkan dengan diagram/grafik yang cocok/sesuai.
- Jangan sampai membuat impresi yang salah, misalnya dengan “memotong” axis Y tanpa 0
- Ada juga namanya geographic charts
- Juga ada pictographs

Area & Pie Charts

> Exhibit 21-9 Examples of Area Charts: A Stratum Chart and Two Pies

Notice that the two pie charts seem to indicate a decrease in the "under 25" category relative to the stratum chart. The "under 25" category did in fact decrease (from 40 to 33 percent) but not as dramatically as the stratum to pie comparison would suggest. Also note that the sample size changed from 100 to 180 units between 1975 and 2005. It is important not to use a pie chart alone in a time series, to avoid giving erroneous impressions.

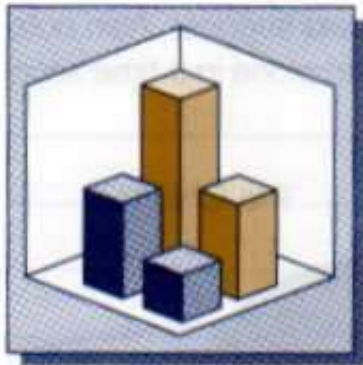


Pie charts

- Harus 100%
- Harus ada call outs (label)
- Warna gelap untuk potongan kecil
- Boleh dipisahkan potongan yang menjadi “perhatian”
- Pie chart tidak bisa untuk time series.
Gunakan area charts sebagai alternatifnya,
yang bisa menunjukkan pertumbuhan
dalam deret waktu.

3-D Charts

- Jika ada dimensi lebih dari 2

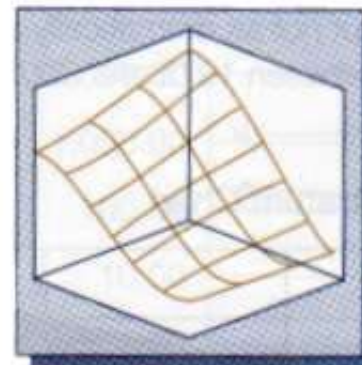


3-D Column

A variation on column charts, they compare variables to each other or over time. Axes: X = categories, Y = series, Z = values. Other variations include 3-D area charts and connect-the-dots scatter charts.



3-D Ribbon This example is a one-wall plot showing columns of data (series) as ribbons. One or more columns are used. Axes: X = categories, Y = series, Z = values.



3-D Wireframe

A variation of a contour or response surface; suitable for changes in time and multivariate data. Axes: X = categories, Y = series, Z = values.



3-D Surface Line

Handles three columns of data and plots XYZ coordinates to show a response surface. Helpful for multivariate applications.