

Advanced Data Visualization

Advanced Charts

Geographic Information Systems Charts

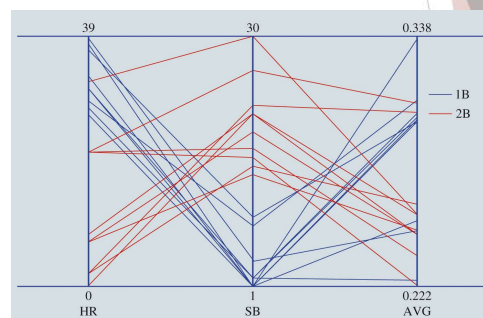
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Advanced Data Visualization

► **Parallel-coordinates plot:**
Chart for examining data with more than two variables:

- Includes a different vertical axis for each variable.
- Each observation is represented by drawing a line on the parallel-coordinates plot connecting each vertical axis.
- The height of the line on each vertical axis represents the value taken by that observation for the variable corresponding to the vertical axis.

Figure 3.33: Parallel-Coordinates Plot for Baseball Data



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Help The Marked DJIA 12369.38 73.11 -0.56% Nasdaq 2778.79 34.90 -1.24% 6:50 pm May 19

Sector view

Color Key (% change)

-56.6% 0 +55.6%

News

Icons None

Show change since

Over 26 weeks YTD

Highlight Top 5

Gainers Losers

None

Find (name or ticker)

Color scheme

red/green blue/yellow

Apple Inc. +58.21%
AAPL last: \$530.34 chg: +\$195.10
(click for more details)

Data Dashboards

Principles of Effective Data Dashboards

Applications of Data Dashboards

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Data Dashboards

► Data dashboard:

- Data-visualization tool that illustrates multiple metrics and automatically updates these metrics as new data become available.

► Example: Grogan's IT call center

- Dashboard developed to monitor the performance of the call center
- Different charts to track:
 - Call Volume
 - Percent of Time solving problems
 - Call Volume by problem for locations
 - Time of unresolved problems

Figure 3.39: Data Dashboard for the Grogan Oil Information Technology Call Center



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Principles of Effective Data Dashboards:

- ▶ **Key performance indicators (KPIs) in dashboards:**
 - ▶ Automobile dashboard: Current speed, Fuel level, and oil pressure.
 - ▶ Business dashboard: Financial position, inventory on hand, customer service metrics.



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Principles of Effective Data Dashboards:

Principles Continued:

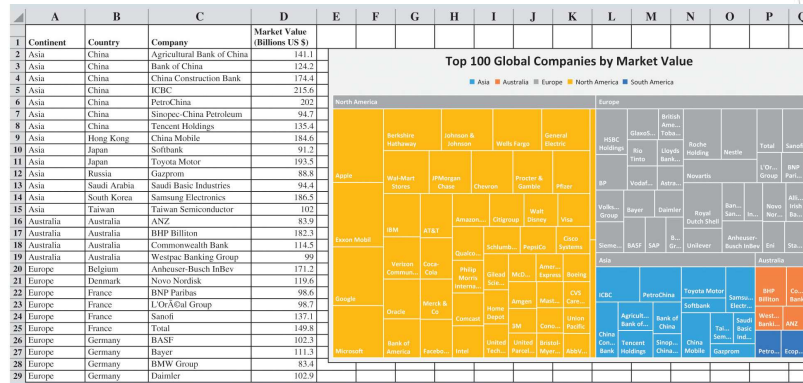
- ▶ Should provide timely summary information on KPIs that are important to the user.
- ▶ Should present all KPIs as a single screen that a user can quickly scan to understand the business's current state of operations.
- ▶ The KPIs displayed in the data dashboard should convey meaning to its user and be related to the decisions the user makes.
- ▶ A data dashboard should call attention to unusual measures that may require attention.
- ▶ Color should be used to call attention to specific values to differentiate categorical variables, but the use of color should be restrained.



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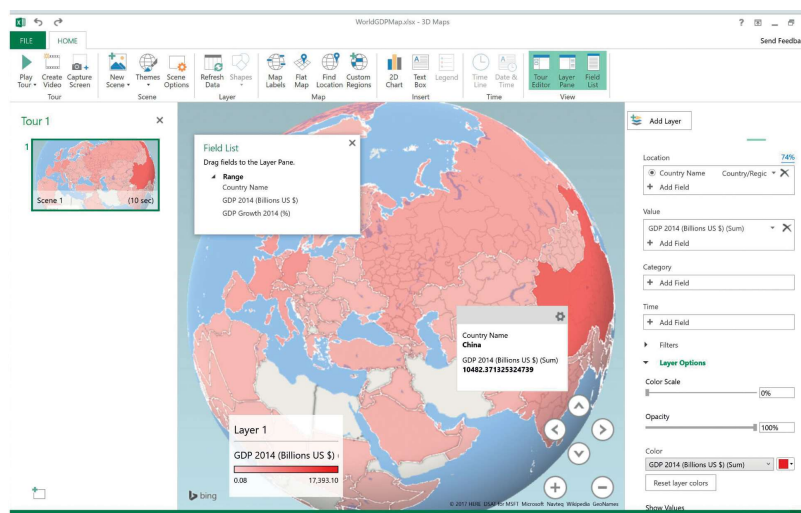
Advanced Data Visualization in Excel

Figure 3.35: Treemap Created in Excel for Top 100 Global Companies Data



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Advanced Data Visualization in Excel



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