

Performance Analysis in Team games (ΑΠ-197επ)

Lecture 11

Data visualization through
spreadsheet applications

Data visualization

- Charts are a powerful data visualisation technique, transforming numbers and statistics into easy-to-interpret visuals.
- Using charts helps in:
 - Understanding
 - Trends and patterns in data.
 - Correlations between different variables.
 - How data is distributed.
 - Communication:
 - Presenting complex information in a clear and concise manner
 - Storytelling based on data
 - Enhancing audience persuasion and understanding

Chart Categories

Group	Content
Categorical	Compare categories and distributions of quantitative data
Hierarchical	Charting part-to-whole relationships and hierarchies
Relational	Graphing relationships to explore correlations and connections
Temporal	Showing trends and activities over time
Spatial	Mapping spatial data through overlays and distortions

Charts types

- Line graphs:
 - Illustrate changes in one variable over time or another variable.
 - Ideal for visualizing trends and patterns.
- Bar/column graphs:
 - Compare categories of data.
 - Good for visualizing measurements across discrete time intervals or categories.
 - Prefer bar charts over column charts
- Histograms:
 - They depict the distribution of a variable.
 - Ideal for displaying frequencies of occurrence of values.
- Pie charts:
 - They depict parts of a set as percentages.
 - Useful for comparing parts of a set.
 - Do not prefer 3D pie charts
- (Heat)maps
 - They visualize geographic or spatial data
 - Ideal for displaying spatial patterns and trends
- Radar graphs
 - visualize multiple comparisons between subjects

Designing effective charts

- Choosing the appropriate chart type:
 - It depends on the type of data and the message you want to convey.
- Clear and concise title:
 - Describes the content of the chart.
- Labels on the axes:
 - Clear and descriptive.
- Use of colors:
 - In moderation and consistency (Traffic light law: green, orange, red)
- Avoid overloading:
 - Limit the amount of data in a chart.
- Add a caption:
 - Explain any symbols or colors.
- Look for help online
 - Google (e.g. radar graphs excel video)

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