

Excel Charts

Catarina
Oliveira

DCT DEPARTAMENTO CIÊNCIA
E TECNOLOGIA

CONTENT

1. Introduction
2. Chart categories
 1. Column
 2. Lines
 3. Pie
 4. Bar
 5. Area
 6. Scatter
 7. Stock
 8. Surface
 9. Doughnut
 10. Bubble
 11. Radar
3. Chart elements
4. Configuring and formatting
5. Chart operations
6. Sparkline charts
7. Sparkline chart elements
8. Sparkline chart operations

Introduction

Chart

- Visual representation useful to observe, analyse and compare data
- Might make data analysis simpler
 - And help identify patterns
 - Summarising a set of data and their relationships
 - Comparing items or data through time
- *Sparkline chart:*
 - Small simplified chart
 - Generated as a cell background
 - Can be generated in cells contiguous to the charts, allowing easier interpretation
- **Insert:**
 - Tab Insert
 - Group Charts
 - Chose the category

Chart categories: Columns

- Groups the dataset allowing to see comparisons or changes through time. Allows the representation of one or more series through vertical columns

2-D Column



3-D Column

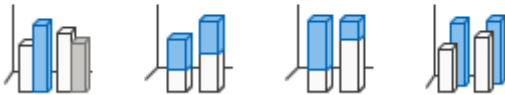
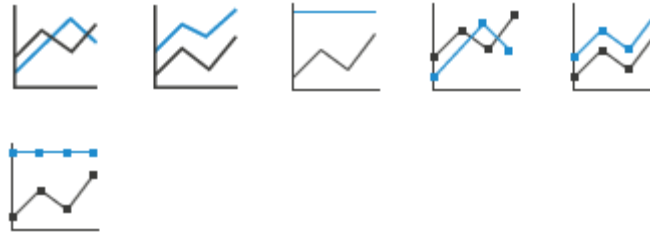


Chart categories: Lines

- Set of charts used to view continuous data through time, with the same scale

2-D Line



3-D Line



Chart categories: Pie

- Charts to illustrate the proportion of the items relatively to the total; allows only a single data series

2-D Pie



3-D Pie



Chart categories: Bars

- Similar to the column charts, except that in this case the “columns” are represented as horizontal bars

2-D Bar



3-D Bar

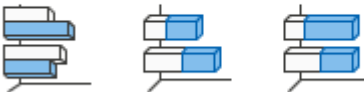


Chart categories: Area

- Set of charts used to view the magnitude of the changes through time

2-D Area



3-D Area



Chart categories: Scatter

- Set of charts to view the relation between two numerical values

Scatter

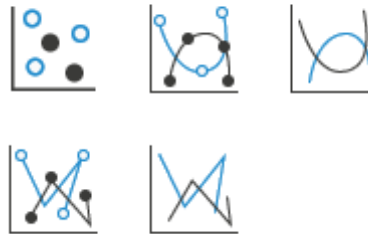


Chart categories: Stock

- Set of charts used for stock prices

Stock



Chart categories: Surface

- Set of charts used to view optimal combinations between two sets of data

Surface



Chart categories: Doughnut

- Similar to pie charts, but in this case, more than one series can be represented

Doughnut



Chart categories: Bubbles

- Set of charts to view the relation between three numerical values

Bubble



Chart categories: Radar

- Set of charts that allow comparing the aggregated values of a set of data

Radar



Chart elements (1)

The chart's layout is determined by:

- Data used
- Chart category chosen
- Configuration and formatting of its elements

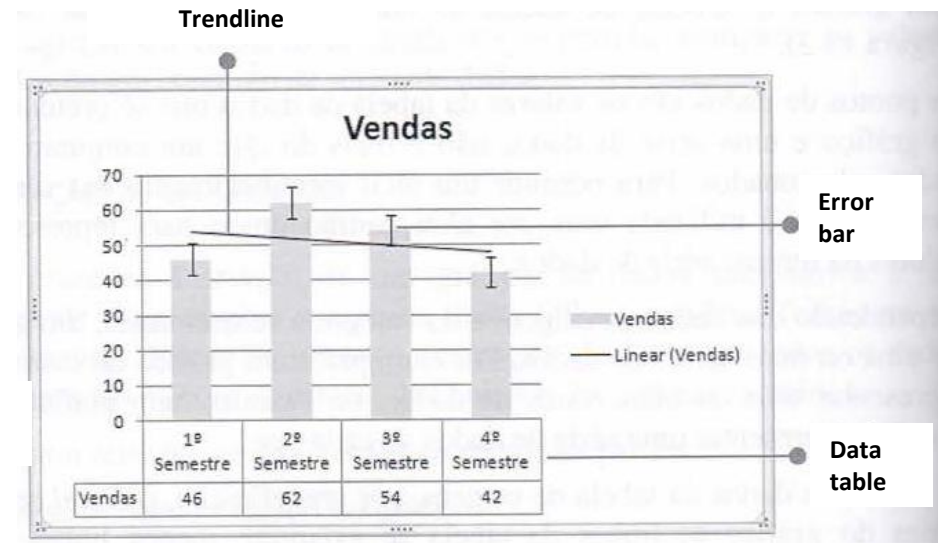
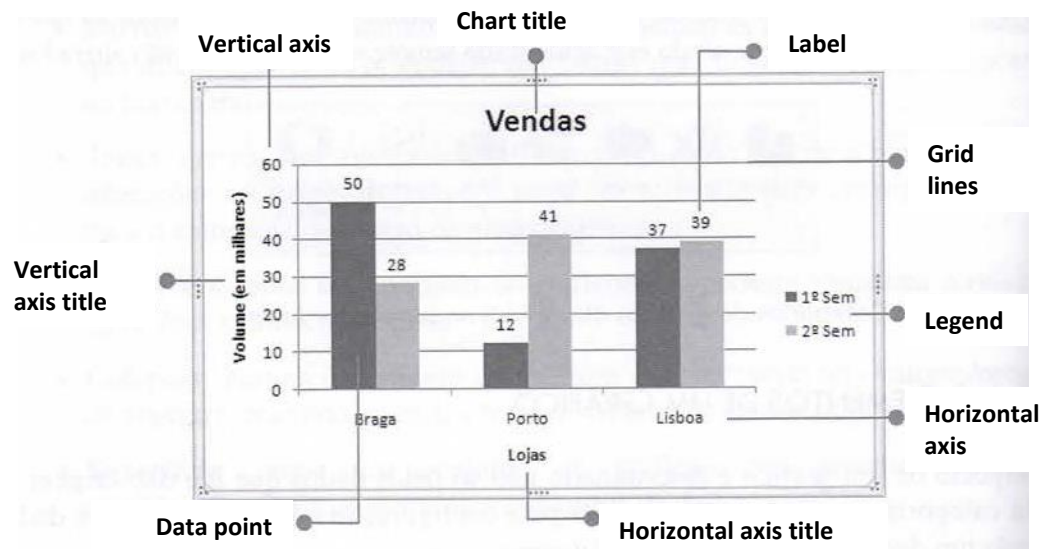


Chart elements (2)

Data points: values of the data table to show in the chart

Data series: set of related data points

- Usually we use a single colour/patter to represent values in the same series

From the data on the original table, Excel automatically selects the data for series and categories:

- Tables with few rows than columns:
 - Series: rows
 - Categories: columns
- Tables with few columns than rows:
 - Series: columns
 - Categories: rows

Switch chart series/categories:

- Contextual tab “Chart design” (to the right of the “Help” tab when the chart is selected)
- Group “Data”
- “Switch Row/Column”

Chart elements (3)

Axis: depending on the chart's type or category, one or more axis can exist

- Objective: allow referring to the same scale for comparisons
- In 2-axis charts (vertical and horizontal) the series are represented in one of the axis and the categories on the other

Titles, labels, legends, data tables:

- Elements that allow making the chart more understandable
- Data tables: replicas of the original data table
- **Trendlines:** lines created from the series' values by summary operators. For example:
 - Exponential
 - Linear
 - Logarithmic
 - Polynomial
 - Moving average

Chart configuration and formatting

Predefined charts do not always present the desired aspect

We can change:

- Chart's **layout** by changing:
 - Chart's type or category
 - Adding or removing data series
 - Configuring and formatting elements (e.g.: title, axis, labels)
- Chart's **location**
 - By default, it is inserted in the same sheet where it is generated
 - Can be moved, for example, to a dedicated sheet

Formatting elements (font, alignment, borders, fill):

- Click directly in the element in the chart

Chart operations ((Contextual) tab Chart Design)

Operation	Group	Command
Change chart type	Type	Change Chart Type
Switch series and categories	Data	Switch Row/Column
Add data (series or categories)	Data	Select Data
Format chart style	Chart Styles	-
Change chart location	Location	Move chart
Insert, remove, or reposition: <ul style="list-style-type: none"> • Axis • Axis titles • Chart title • Data labels • Data tables • Error bars • Gridlines • Legends • Trendlines • Bars 	Chart Layouts	Add Chart Element

Sparkline Charts

Small chart inserted as a cell background (the cell can have other values)

Allows a simple visual representation of a set of data

Useful to quickly display tendencies in the data or show a series maximum/minimum

Insert:

1. Select the cell to insert the chart
2. Tab Insert > Group Sparklines > Chose the type
3. On the dialog insert:
 - On “Data Range”: the range of cells where the data can be found
 - On “Location Range”: the selected cell (where the chart is to be inserted)
4. Ok

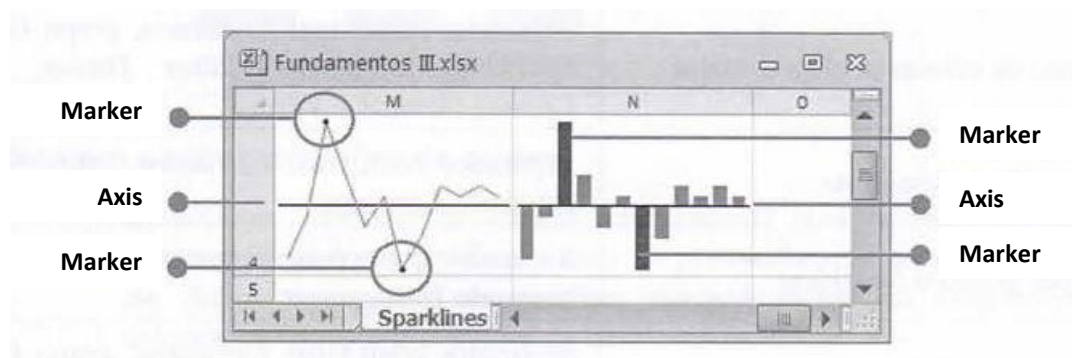


Sparkline Chart elements

These type of chart does not have many additional elements

Additional elements:

- Lines / bars
- Horizontal axis to differentiate positive and negative values
- Markers to identify:
 - Maximum (High Point)
 - Minimum (Low Point)
 - Negative Values (Negative Points)
 - First Value (First Point)
 - Last Value (Last Point)



Sparkline chart operations ((Contextual) tab Sparkline)

Operation	Group	Command
Change data	Sparkline	Edit Data
Change chart type	Type	(choose)
Show/hide markers	Show	(choose)
Change chart style	Style	(choose)
Change chart colours	Style	Sparkline Colour
Change marker colours	Style	Marker Colour
Customise horizontal axis	Group	Axis > Horizontal Axis Options
Customise minimum and maximum	Group	Axis > Vertical Axis ... Value Options
Deal with hidden and empty cells	Sparkline	Edit Data > Hidden & Empty Cells
Group / Ungroup / Remove sparklines	Group	Group / Ungroup / Clear



UNIVERSIDADE
PORTUCALENSE

Do conhecimento à prática.