

Grafično oblikovanje

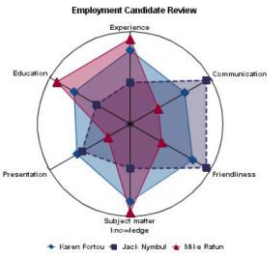
vizualizacija podatkov
dobra praksa

KORAKI VIZUALIZACIJE PODATKOV

koraki
vizualizacije podatkov

- 1. Determine your message and identify the data necessary to communicate it
- 2. Determine if a table, graph, or a combination of both is needed to communicate your message
- 3. Determine the best means to encode the values
- 4. Determine where to display each variable
- 5. Determine the best desing for the remaining objects
- 6. Determine if particular data should be featured above the rest, and if so, how

TABELA ALI GRAF?

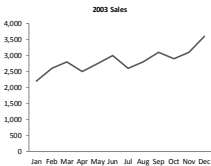


Employment Candidate Review

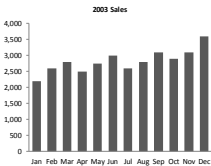
Rating Areas	Candidates		
	Karen Fortou	Mike Rafun	Jack Nymbul
Experience	4.00	4.50	2.50
Communication	3.50	2.00	5.00
Friendliness	4.00	2.00	4.50
Subject matter knowledge	4.00	5.00	2.50
Presentation	3.00	1.50	2.75
Education	3.50	4.50	2.00
Average Rating	3.67	3.25	3.21

RAZMERJA MED PODATKI

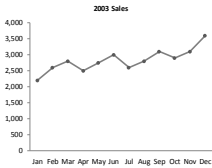
časovni potek



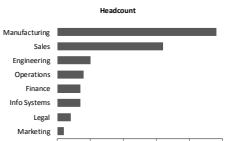
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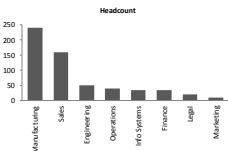
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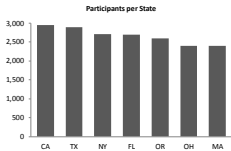
razvrščanje



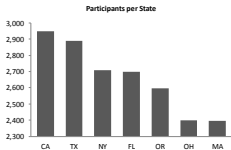
razvrščanje



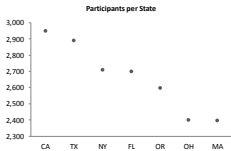
razvrščanje



razvrščanje



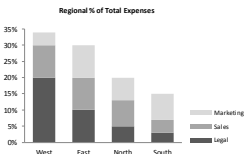
razvrščanje



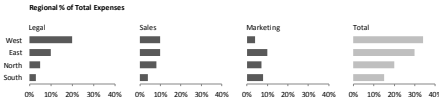
delež celote



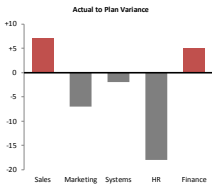
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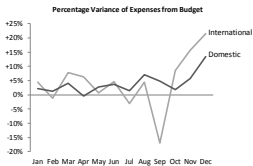
delež celote



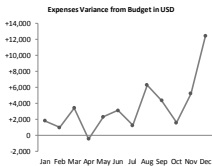
odstopanje



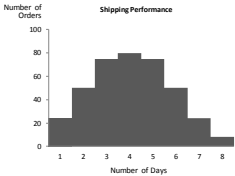
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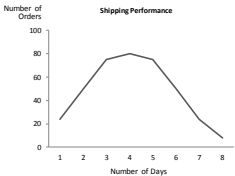
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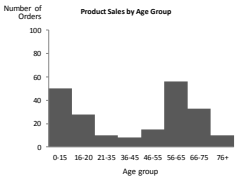
porazdelitev

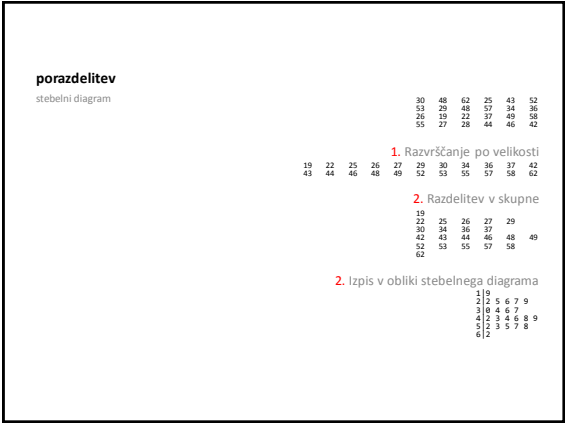


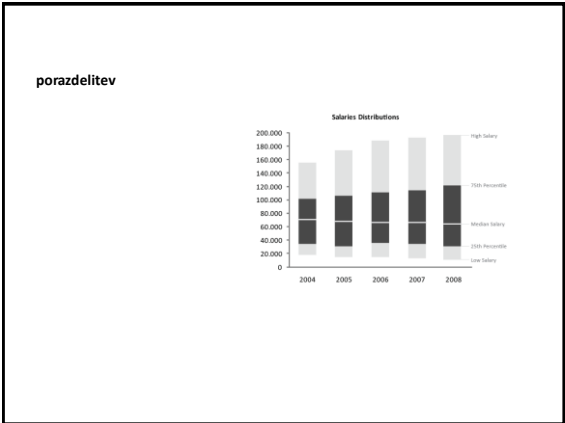
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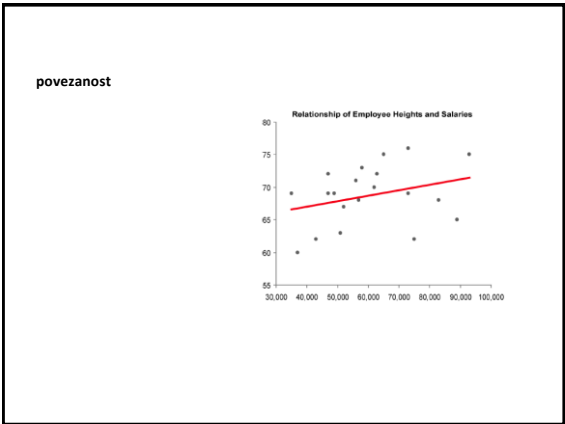


porazdelitev

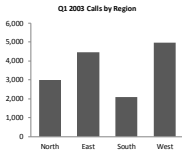






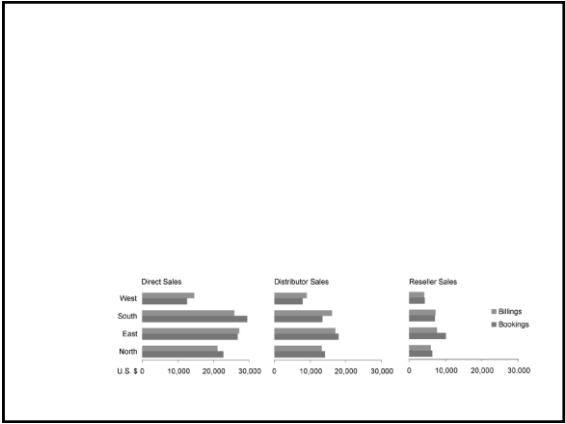


nominalna primerjava

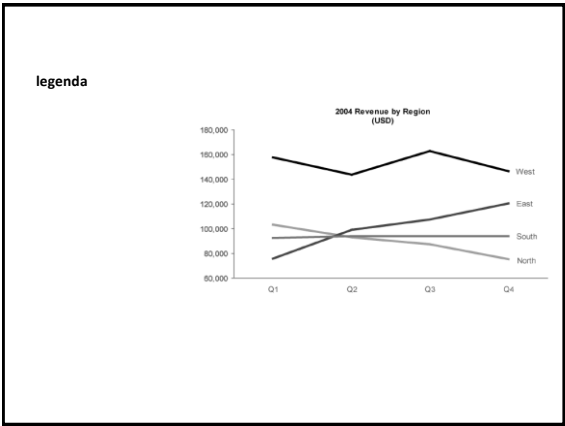


KAM S SPREMENLJIVKO?

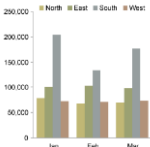




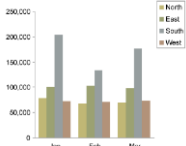
SPREMNI ELEMENTI?



legenda



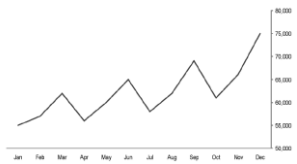
legenda



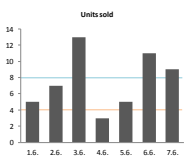
osi



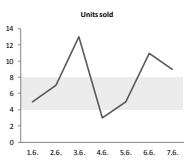
osi



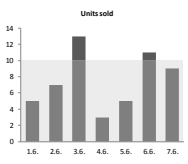
označbe



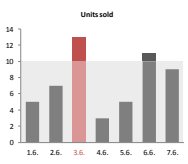
označbe



označbe



označbe



Edward Tufte in

VIZUALNE SMETI

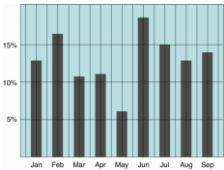
“The interior decoration of graphics generates a lot of ink which does not tell the viewer anything new. The purpose of the decoration varies - to make the graphic appear more scientific, to enliven the display, to give the designer an opportunity to exercise artistic skill. Regardless of the cause, it is all non-data-ink or redundant data-ink, and it is often chartjunk”

$$\text{data-ink ratio} = \frac{\text{data-ink}}{\text{total ink used to print the graphic}}$$

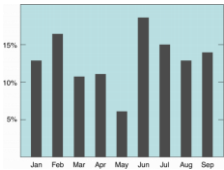
= proportion of a graphic's ink devoted to the non-redundant display of data-information

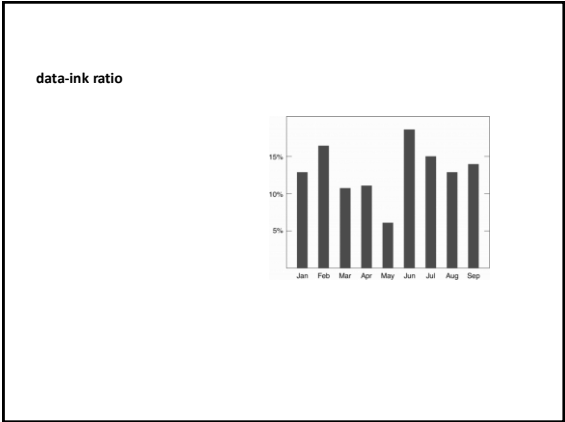
= 1.0 - proportion of a graphic that can be erased without loss of data-information.

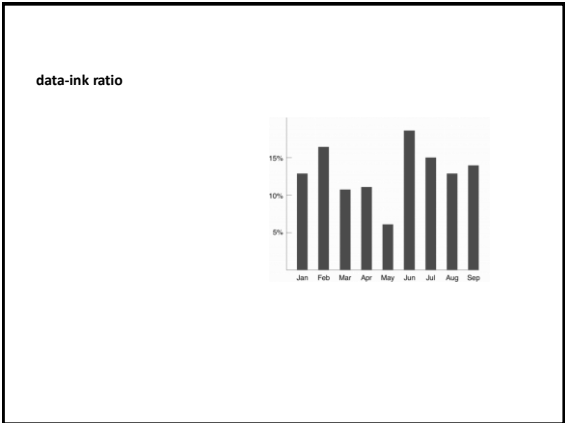
data-ink ratio

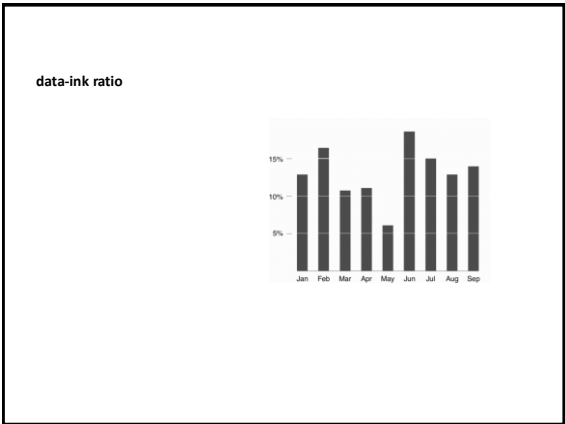


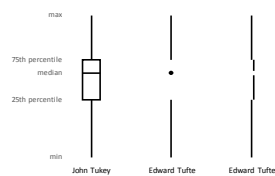
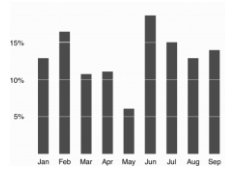
data-ink ratio











Sparklines: Intense, Simple, Word-Sized Graphics

Two most common data display is a word followed by some numbers. For example, a medical patient's current level of glucose is typically reported in a clinical record as a word and number:

glucose (18)

When placed in a relevant context, a single number takes on additional meaning. Thus the most recent measurement of glucose might be – and often should be – compared to earlier measurements. This line shows a path of the last ten readings of glucose:

Page 128

Lacking a scale of measurement, this free-floating line is *disqualified*. But at least we do know the value of the line's right-most data point, which corresponds to the most recent value of phase, the number recorded on the right. These 11 representations of the most recent reading are tied together with a color accent:

signature, gloves 128

Additional context is provided by showing the normal range of glucose, here as a gray band. Compared to normal brain, readings above the band horizon are elevated, those below reduced.

memberless class 119

For clinical analysis, the task is quickly to detect and assess wayward deviations from normal limits, shown here by visual deviations outside the gray band. Multiplying this format brings in additional data from the medical record; a stack, which can show hundreds of variables and thousands of measurements, allows fast effective parallel comparisons.

symbolizing peace **FOR**

anatomical respiration

temperature

WBC 9,800

These little data lines, because of their active quality over time, are called *quillies*: small, high-resolution graphics embedded in a context of words, numbers, images. Quillies are data-intensive, design-simple, word-sized graphics.

Edward Tufte: Beautiful Evidence
www.edwardtufte.com

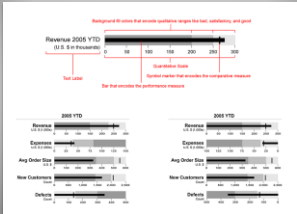
“A dashboard is a visual display of the most important information needed to achieve one or more objectives which fits entirely on a single computer screen so it can be monitored at a glance”

Stephen Few in

NADZORNE PLOŠČE

pregledne? plošče





Background: Metrics for overall customer ratings for last, reliability, and profit

Revenue 2005 YTD
\$15,300,000

Expenses
\$10,000,000

Avg Order Size
\$100

New Customers
1000

Defects
100

Revenue 2005 YTD
\$15,300,000

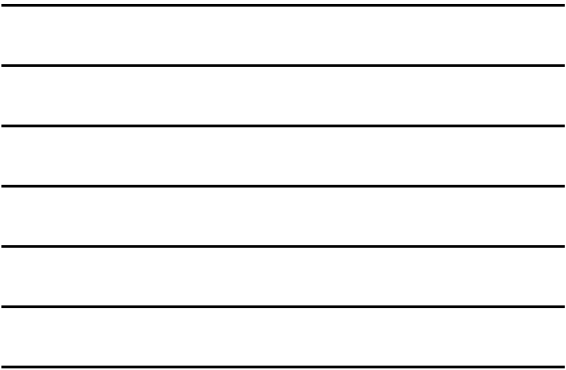
Expenses
\$10,000,000

Avg Order Size
\$100

New Customers
1000

Defects
100

Stephen Fewer, Better, Group
www.greatertwenty.com





<http://www.visualcomplexity.com/vc/>
<http://flowingdata.com/>
<http://yourflowingdata.com/>
<http://datavisualization.ch/>
<http://dataviz.tumblr.com/>
<http://infothetics.com/>
<http://dd.dynamicdiagrams.com/category/visual-explanation/>
<http://www.smashingmagazine.com/>

dodatna literatura

BLOGI

Few, Effectively Communicating Numbers - Selecting the Best Means and Manner of Display
goo.gl/ajq134

Few, Bullet Graph Design Specification
goo.gl/e6OVgm

Tufte, Sparklines: theory and practice
goo.gl/2pBCRM

Stone, Choosing Colors for Data Visualization
goo.gl/M2f85t

King, How do you read a stem and leaf plot
goo.gl/Gt17qX

Tufte, Envisioning information

Few, Now you see it, ch 7-12

Few, Information dashboard design

Tufte, The visual display of quantitative information

Ware, Information visualization: Perception for design

Tufte, Visual explanations: Images and quantities, evidence and narrative

dodatna literatura

DO PRIHODNJIČ
