

Vizualizace dat

Smysl a estetika vizualizace

30. 10. 2024

Carte Figurative des pertes successives en hommes de l'Armée Française dans la campagne de Russie 1812-1813.

Dressée par M. Minard, Inspecteur Général des Ponts et Chaussées en retraite Paris, le 20 Novembre 1869.

Les nombres d'hommes présents sont représentés par les largeurs des zones colorées à raison d'un millimètre pour dix mille hommes; ils sont de plus écrits en travers des zones. Le rouge désigne les hommes qui ont été en Russie, le noir ceux qui en sont sortis. Les renseignements qui ont servi à dresser la carte ont été puisés dans les ouvrages de M. M. Chiers, de Légar, de Fezensac, de Chambray et le journal inédit de Jacob, pharmacien de l'Armée depuis le 28 Octobre.

Pour mieux faire juger à l'œil la diminution de l'armée, j'ai supposé que les corps du Prince Jérôme et du Maréchal Davout qui avaient été détachés sur Minsk et Mohilow et qui rejoindront vers Orscha et Witobsk, avaient toujours marché avec l'armée.

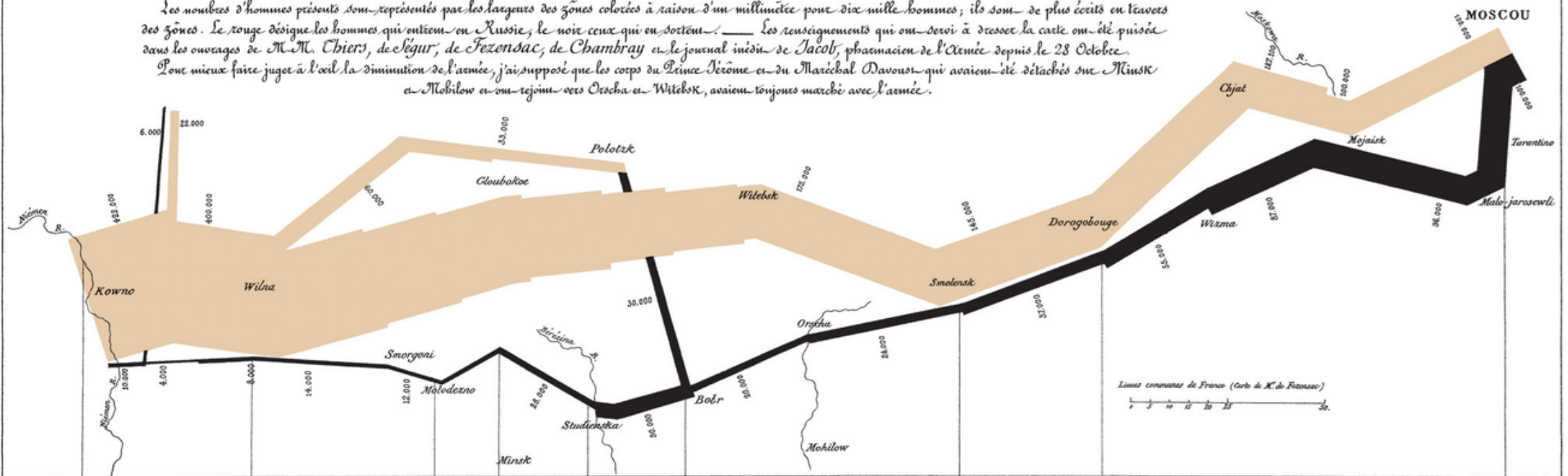
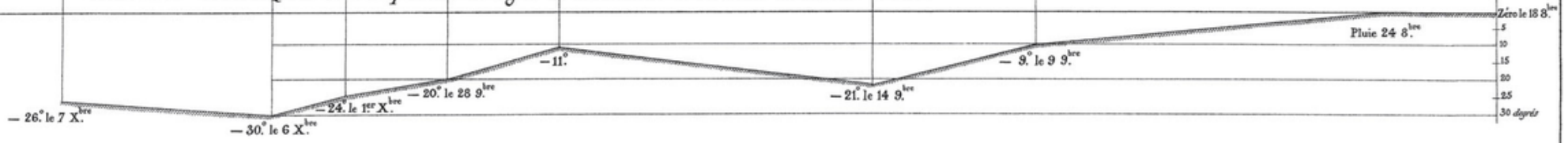


TABLEAU GRAPHIQUE de la température en degrés du thermomètre de Réaumur au dessous de zéro.

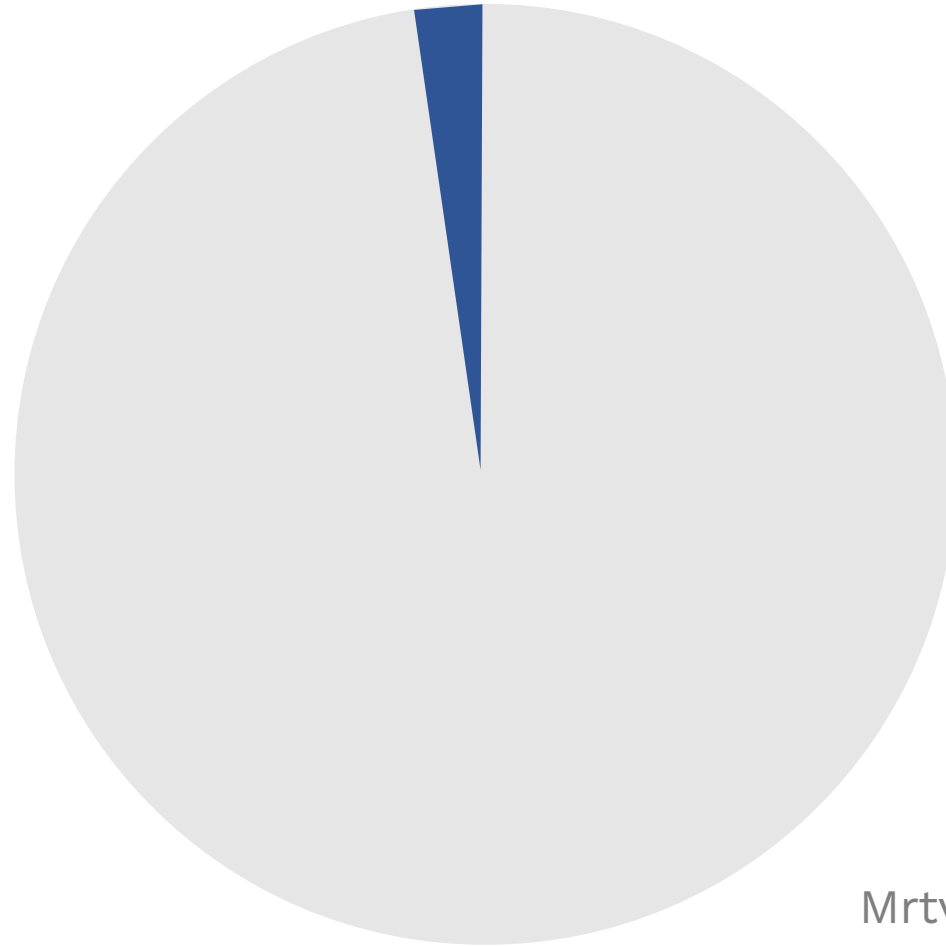
Les Cosaques passent au galop le Niémen gelé.



Autog. par Regnier, 8. Par. 5^{ème} Marie 5^{ème} G^{ème} à Paris.

Imp. Lit. Regnier et Doucet.

Přeživší



Mrtví vojáci



Vizualizace je nástroj!

Vizualizace je subjektivní nástroj!


data + cíle + forma + *publikum*
user testing?

Vložit graf

Doporučené grafy Všechny grafy

- Poslední
- Šablony
- Sloupcový
- Spojnicový
- Výšečový**
- Pruhový
- Plošný
- XY bodový
- Burzovní
- Povrchový
- Paprskový
- Stromová mapa
- Vícevrstvý prstencový
- Histogram
- Krabicový graf
- Vodopádový
- Trychtýřový
- Kombinovaný

Výšečový

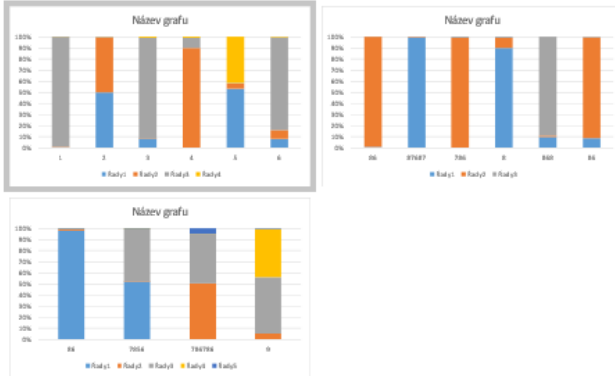


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- Vodopádový
- Trychtýřový
- Kombinovaný

100% skládaný sloupcový



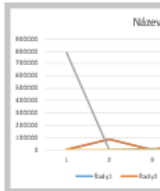
OK Zrušit

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- Vodopádový
- Trychtýřový
- Kombinovaný

Spojnicový

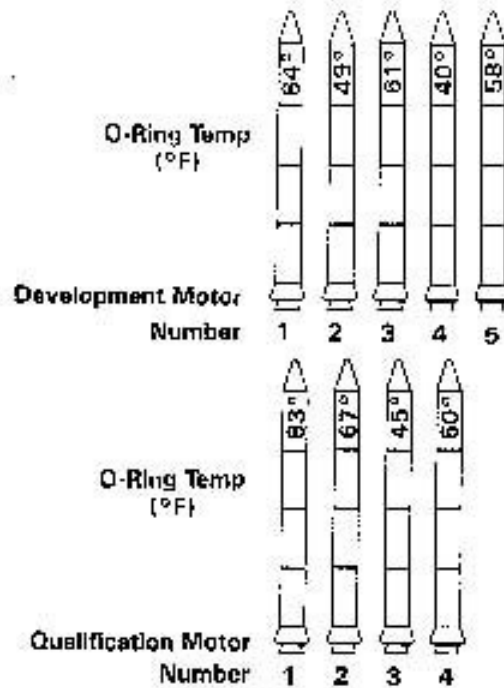


OK Zrušit





History of O-Ring Damage in Field Joints



Code

- = Heating of Secondary O-Ring
- = Primary O-Ring Blowby
- = Primary O-Ring Erosion
- = Heating of Primary O-Ring
- = No Damage

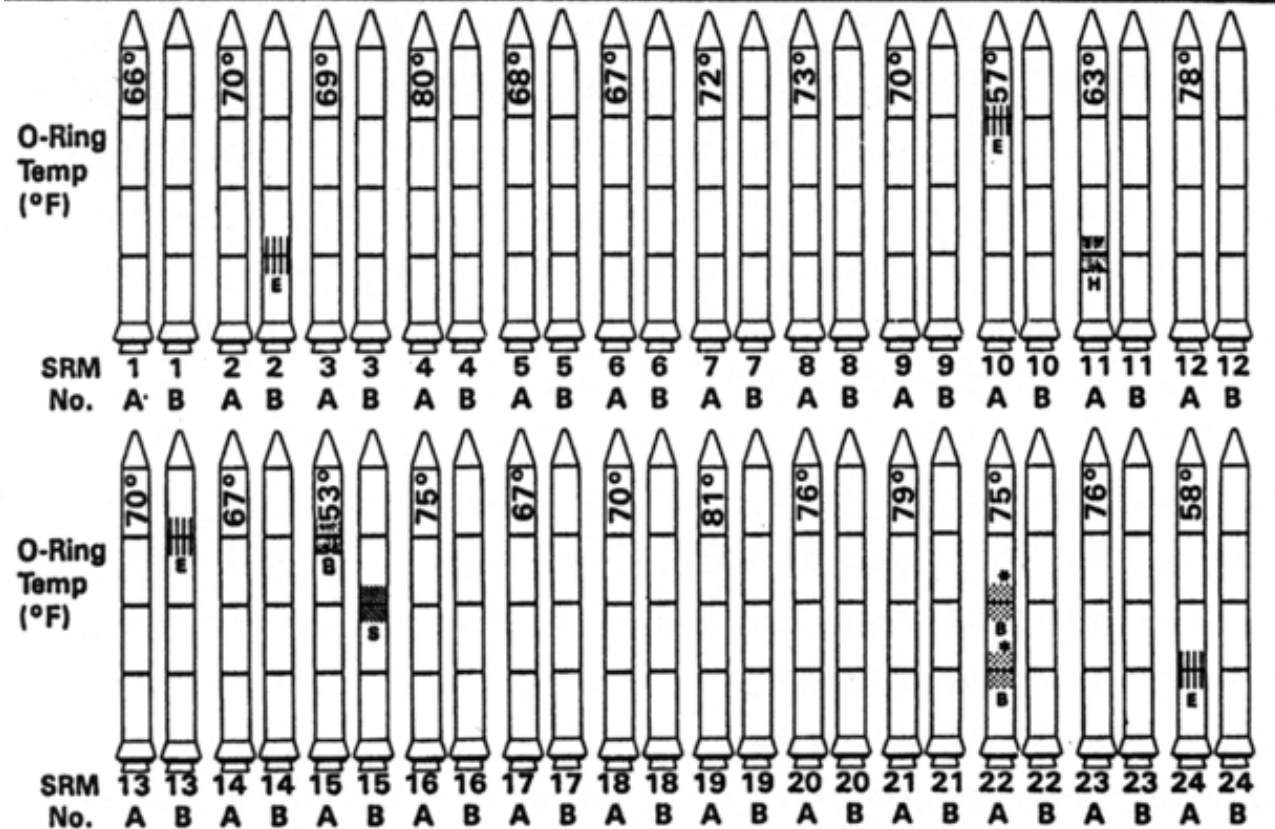
STATIC TEST MOTORS

- ♦ HORIZONTAL ASSEMBLY
- SOME PUTTY REPAIRED

MORTON TROKOL, INC.
Watch Operations

INFORMATION ON THIS PAGE WAS PREPARED TO SUPPORT AN ORAL PRESENTATION AND CANNOT BE CONSIDERED COMPLETE WITHOUT THE ORAL DISCUSSION

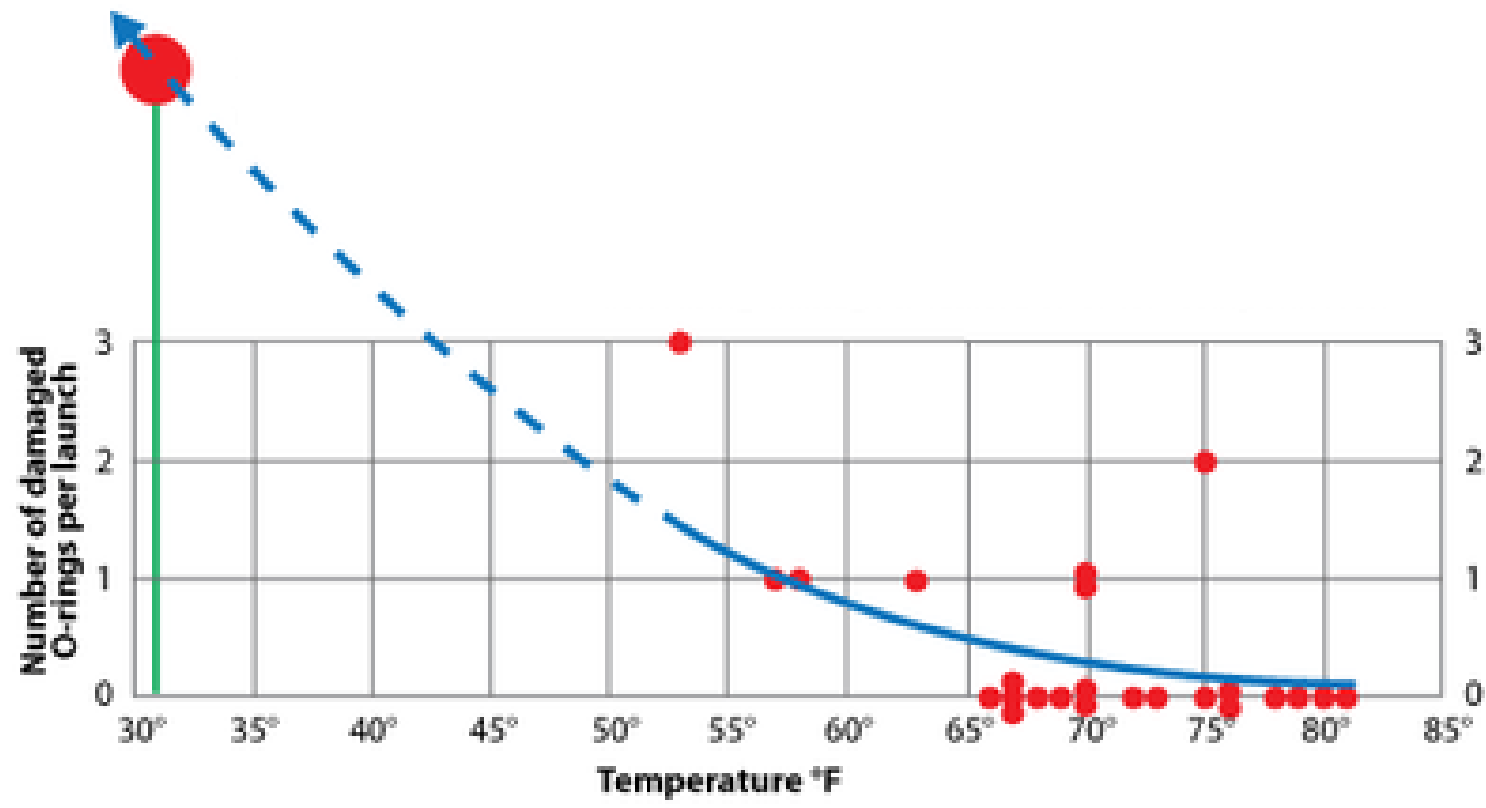
History of O-Ring Damage in Field Joints (Cont)

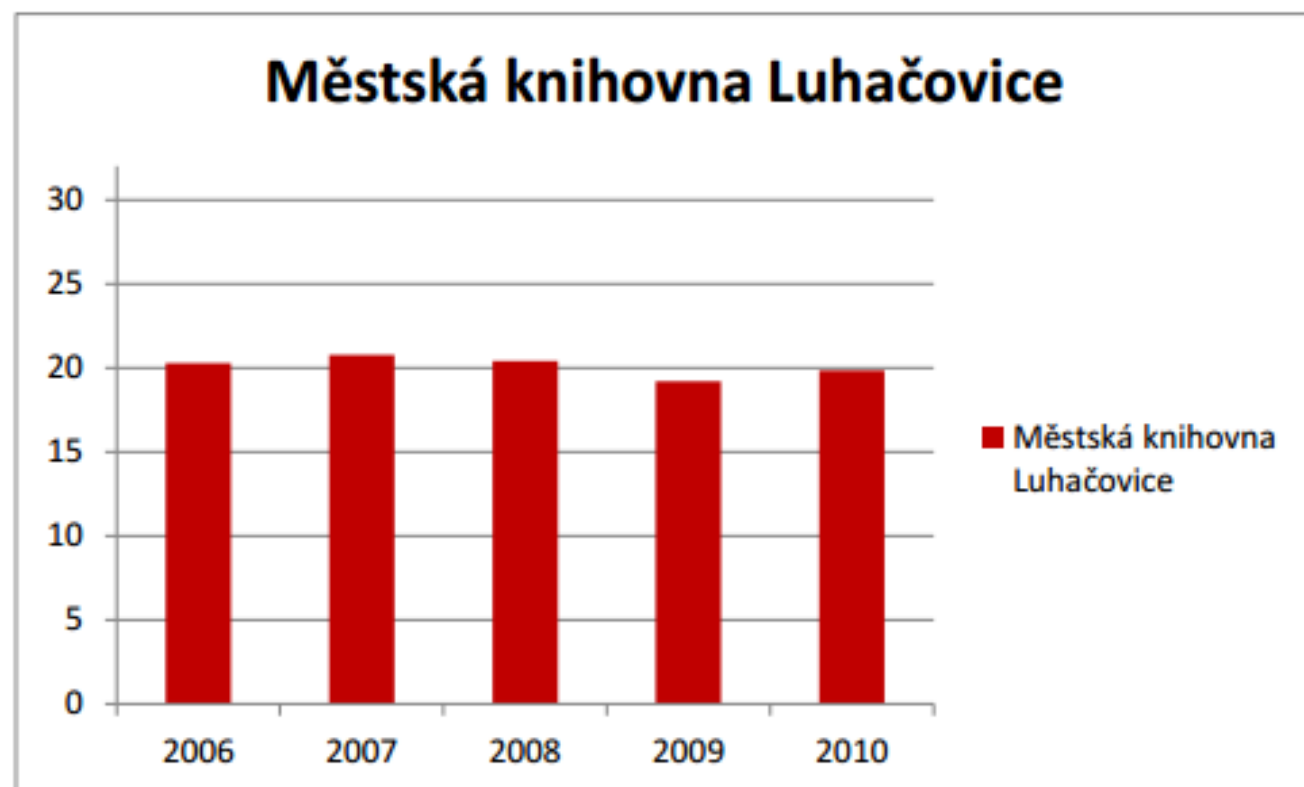


MORTON TROKOL, INC.
Watch Operations

* No Erosion

INFORMATION ON THIS PAGE WAS PREPARED TO SUPPORT AN ORAL PRESENTATION AND CANNOT BE CONSIDERED COMPLETE WITHOUT THE ORAL DISCUSSION





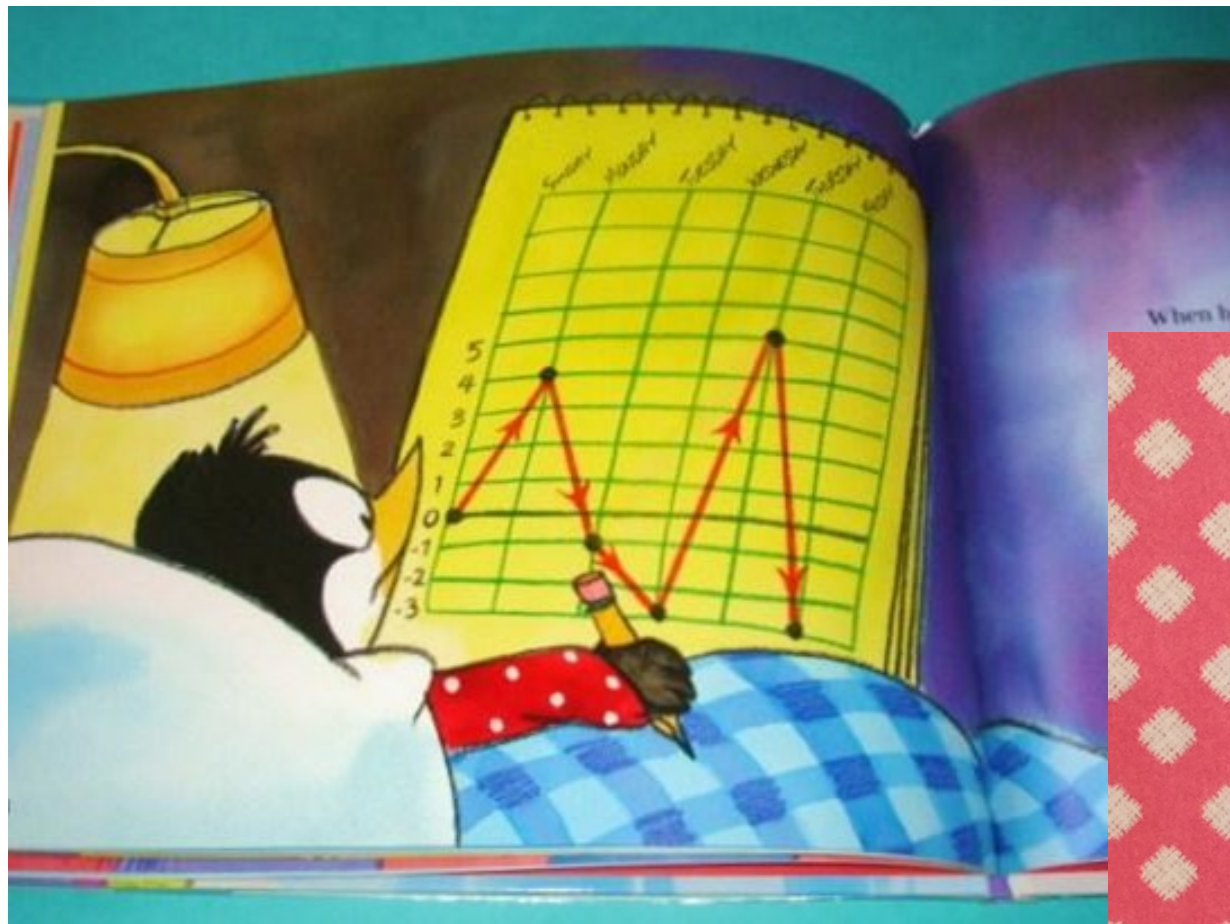
Graf 2: Registrovaní čtenáři MěK Luhačovice

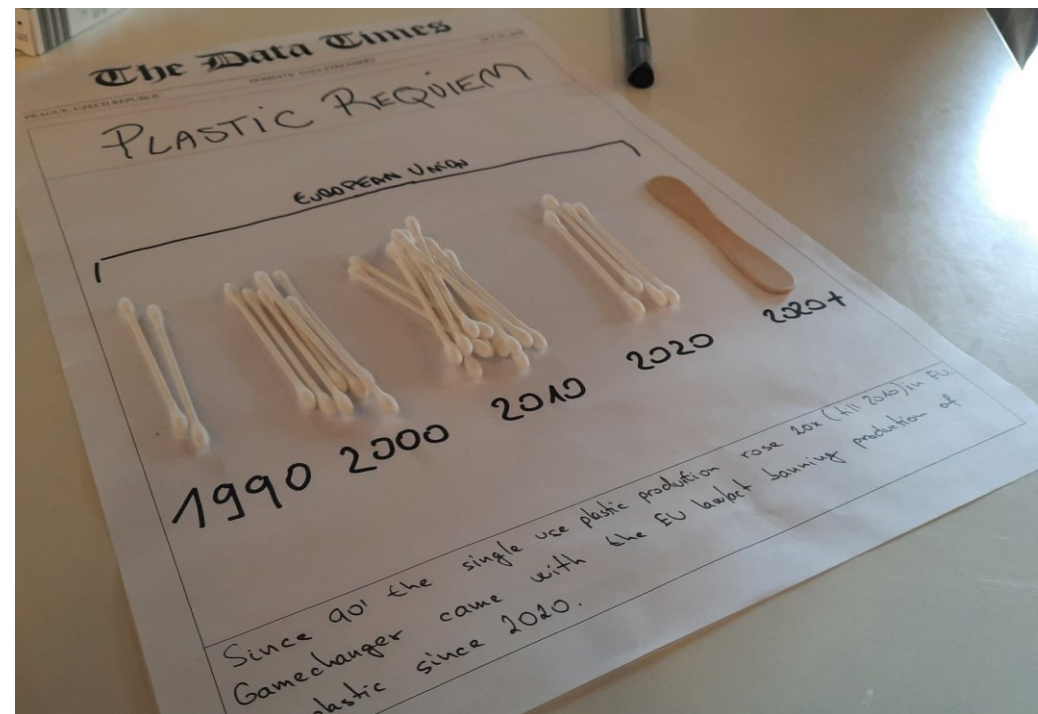
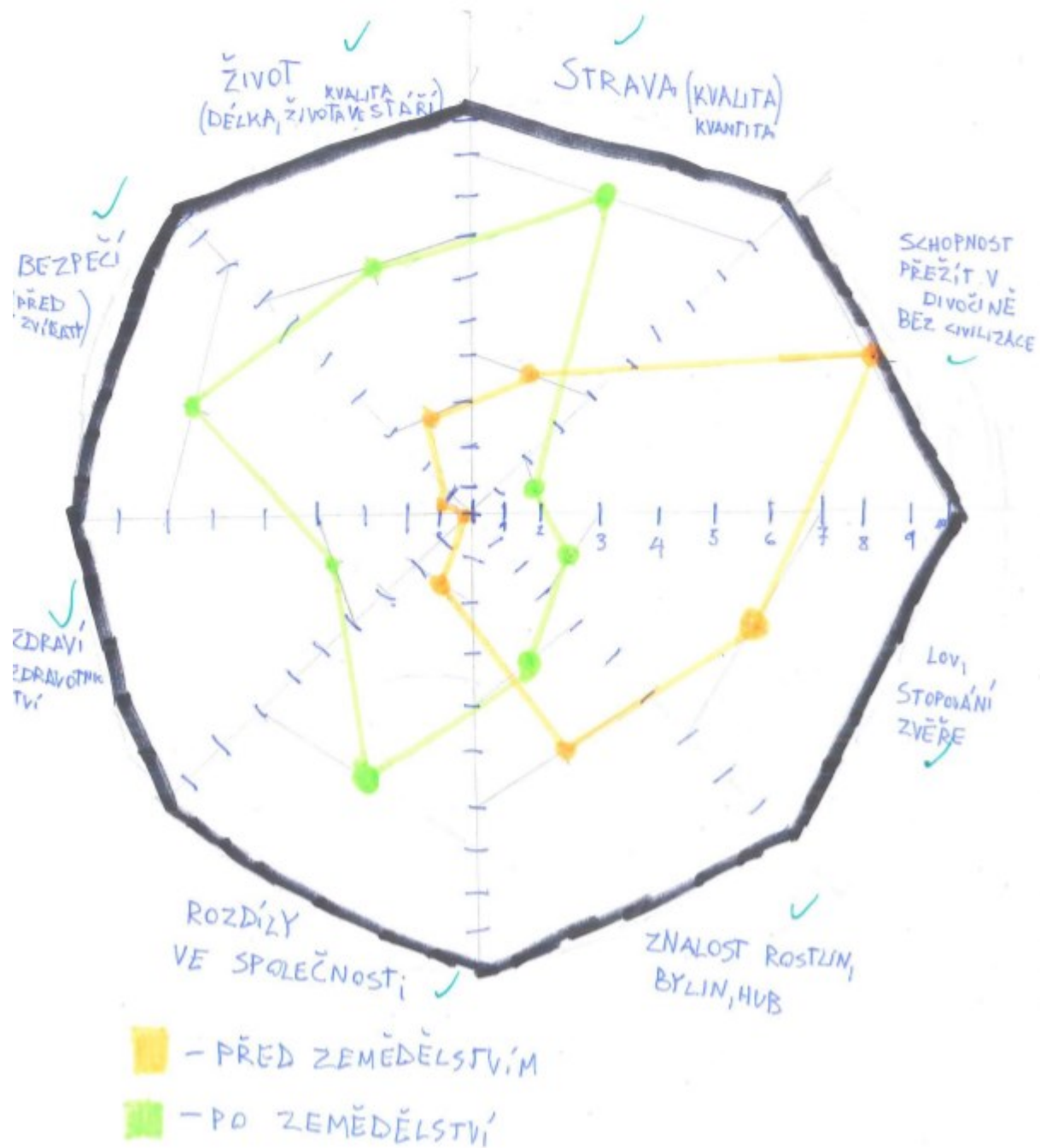
Unlike, say, language arts, the subject of information graphics is rarely taught in schools, nor is it part of on-the-job training. This leaves professionals in every industry scrambling to express themselves graphically.

Dona M. Wong

Absolute frequencies of types and subtypes by grades (G) and relative frequency by all types

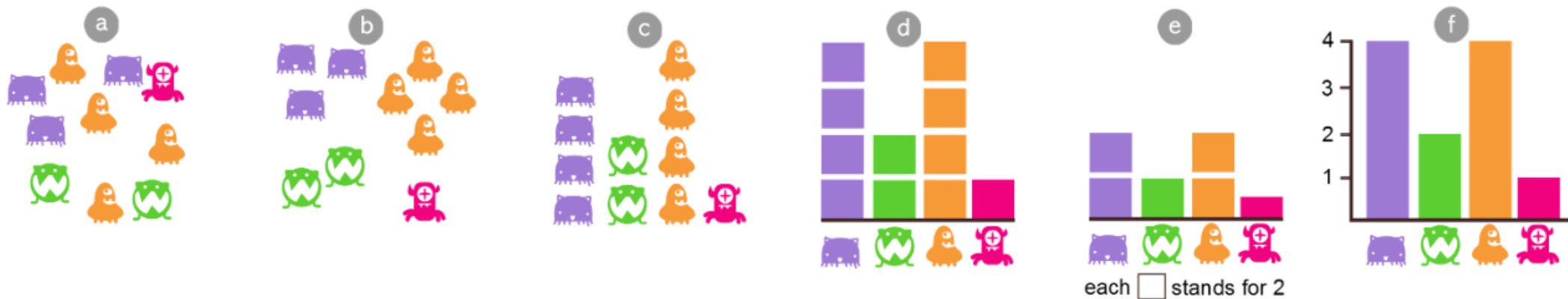
| Types and subtypes | G1 | G2 | G3 | G4 | G5 | Total of types | % from all |
|-------------------------------|-----------|-----------|-----------|-----------|-----------|-----------------------|-------------------|
| Pictorial units | 635 | 353 | 177 | 116 | 48 | 1329 | 48.15% |
| <i>Free-form pictographs</i> | 331 | 122 | 26 | 29 | 9 | 517 | 18.73% |
| <i>Structured pictographs</i> | 304 | 230 | 125 | 81 | 29 | 769 | 27.86% |
| <i>Abacus pictographs</i> | | 1 | 26 | 6 | 10 | 43 | 1.56% |
| Numbered lines | 111 | 150 | 193 | 98 | 124 | 676 | 24.49% |
| <i>Regular numbered lines</i> | 110 | 148 | 191 | 96 | 121 | 666 | 24.13% |
| <i>Thermometers</i> | 1 | 2 | 2 | 2 | 3 | 10 | 0.36% |
| Part-whole (PW) graphics | 50 | 143 | 92 | 125 | 116 | 526 | 19.06% |
| <i>Regular PW graphic</i> | 50 | 132 | 38 | 45 | 58 | 323 | 11.70% |
| <i>Bar models</i> | | 1 | 18 | 9 | 9 | 37 | 1.34% |
| <i>Pie graphs</i> | | 10 | 36 | 71 | 49 | 166 | 6.01% |
| Bar graphs | 2 | 35 | 11 | 19 | 67 | 134 | 4.86% |
| <i>Regular bar graph</i> | 2 | 35 | 9 | 17 | 67 | 130 | 4.71% |
| <i>Histogram</i> | | | 2 | 2 | | 4 | 0.14% |
| Line graphs | | 1 | 2 | 6 | 40 | 49 | 1.78% |
| Point graphs | | 1 | 4 | 9 | 31 | 45 | 1.63% |
| <i>Dot plots</i> | | 1 | | 1 | 8 | 10 | 0.36% |
| <i>Scatterplots</i> | | | 4 | 8 | 23 | 35 | 1.27% |
| Specific types | | 1 | | | | 1 | 0.04% |
| <i>Gauge graph</i> | | 1 | | | | 1 | 0.04% |
| Totals | 798 | 684 | 479 | 373 | 426 | 2760 | 100.00% |





<https://twitter.com/PanUcitel89/status/1448346256921833478>

<https://twitter.com/dvoriik/status/1452976359693762572>



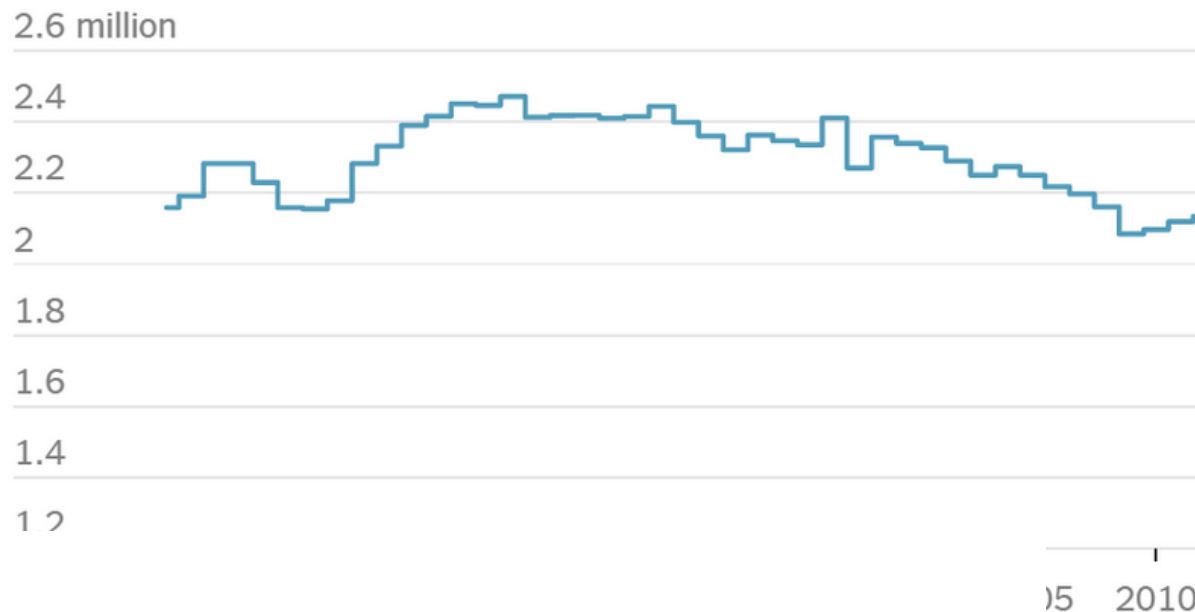
ALPER, Basak, Nathalie Henry RICHE, Fanny CHEVALIER, Jeremy BOY a Metin SEZGIN. Visualization Literacy at Elementary School. In: *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems* [online]. New York: ACM, 2017, 5485-5497 [cit. 2021-01-20]. ISBN 9781450346559. Dostupné z: doi:10.1145/3025453.3025877

BISHOP, Fearn, Johannes ZAGERMANN, Ulrike PFEIL, Gemma SANDERSON, Harald REITERER a Uta HINRICHS. Construct-A-Vis: Exploring the Free-Form Visualization Processes of Children. *IEEE Transactions on Visualization and Computer Graphics* [online]. 2019, 451-460 [cit. 2021-01-20]. ISSN 1077-2626. Dostupné z: doi:10.1109/TVCG.2019.2934804

HUYNH, Elaine, Angela NYHOUT, Patricia GANEA a Fanny CHEVALIER. Designing Narrative-Focused Role-Playing Games for Visualization Literacy in Young Children. *IEEE Transactions on Visualization and Computer Graphics* [online]. 2020 [cit. 2021-01-18]. ISSN 1077-2626. Dostupné z: doi:10.1109/TVCG.2020.3030464



Weddings in the United States by Year



THE LEARNING NETWORK

What's Going On in This Graph?

Graphs, maps and charts from The Times -- and an invitation to students to discuss them live.

How has the pandemic affected the wedding business?

February 17, 2022 · By THE LEARNING NETWORK

Introduction to 'What's Going On in This Graph?'



Want to learn more about this feature? Watch this short introduction video and start using New York Times graphs in your classroom.

August 2, 2021 · By THE LEARNING NETWORK

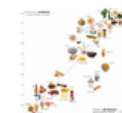
Teach About Inequality With These 28 New York Times Graphs



Graphs about income, education, health care and the pandemic can help students think critically about stubborn and growing inequalities in American society.

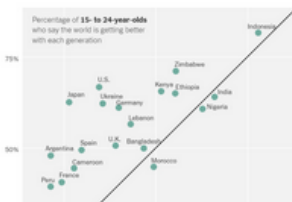
May 11, 2021 · By MICHAEL GONCHAR

Over 60 New York Times Graphs for Students to Analyze

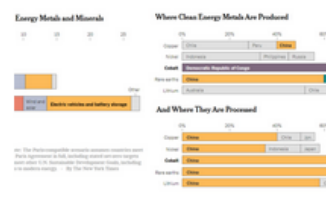


A collection of graphs, maps and charts organized by topic and graph type from three years of "What's Going On in This Graph?"

October 23, 2020 · By THE LEARNING NETWORK



What's Going On in This Graph? | International Optimism



What's Going On in This Graph? | Clean Energy Metals



What's Going On in This Graph? | U.S. Asian Population

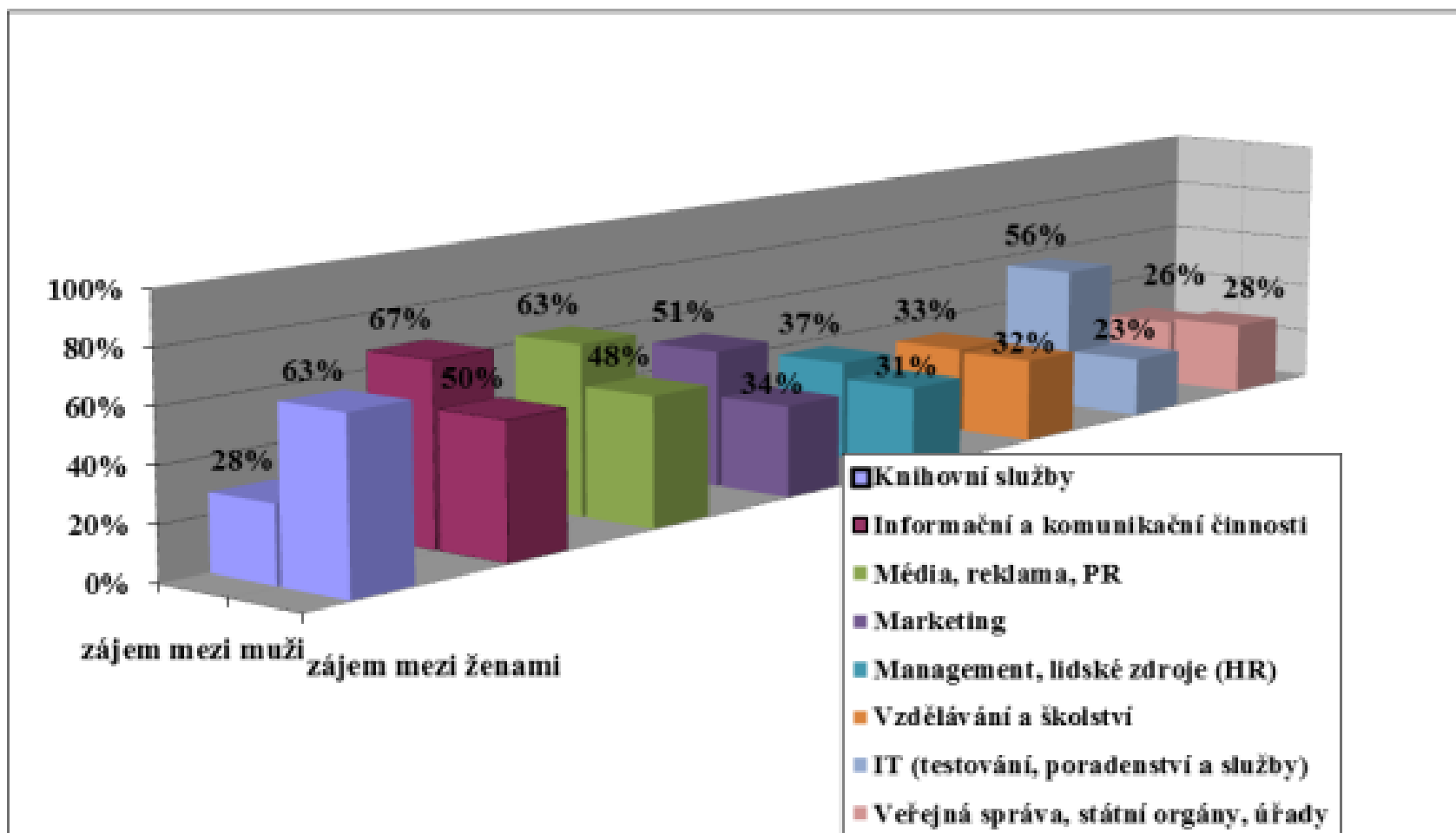


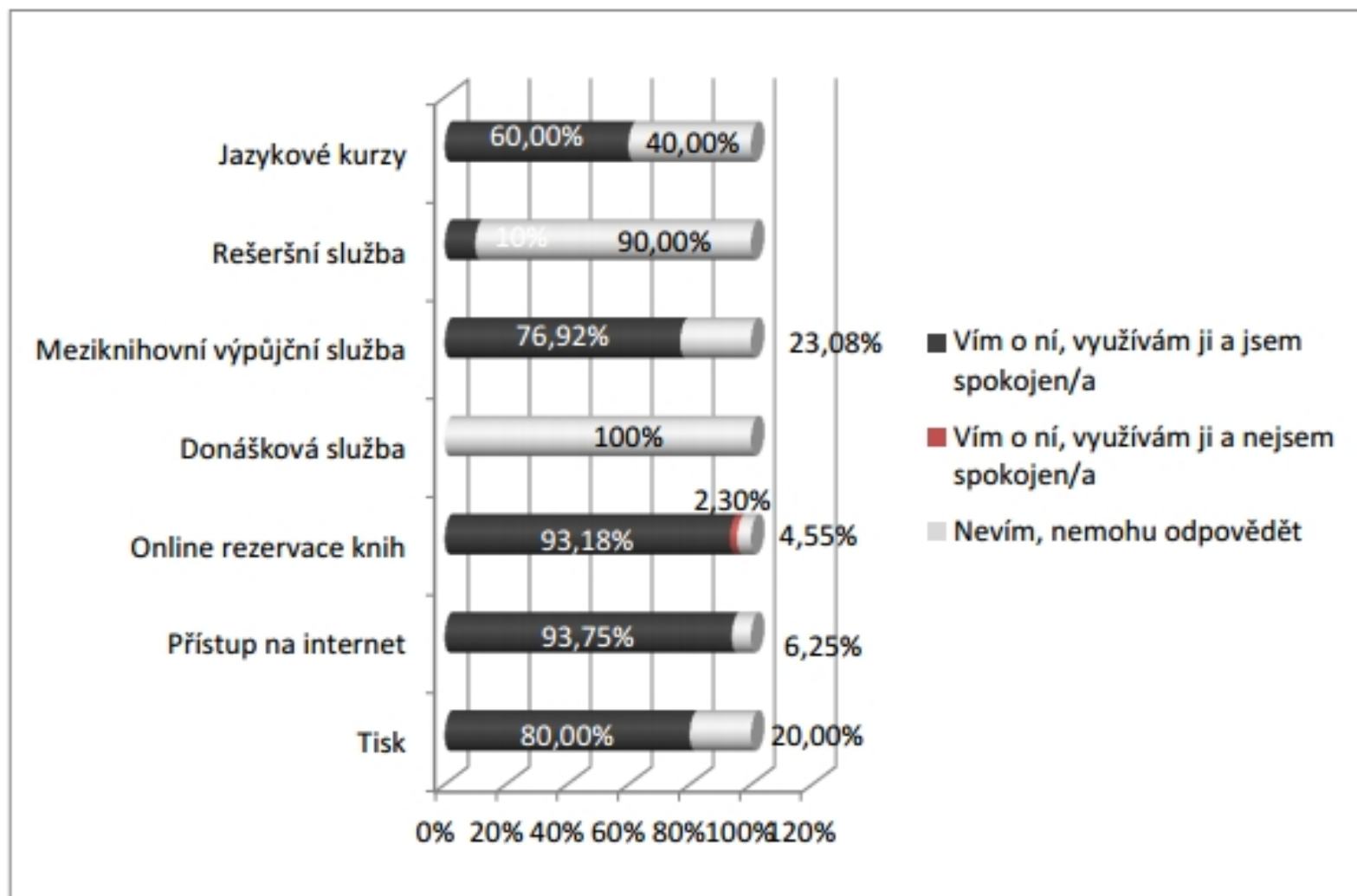
What's Going On in This Graph? | U.S. Population Diversity Shift



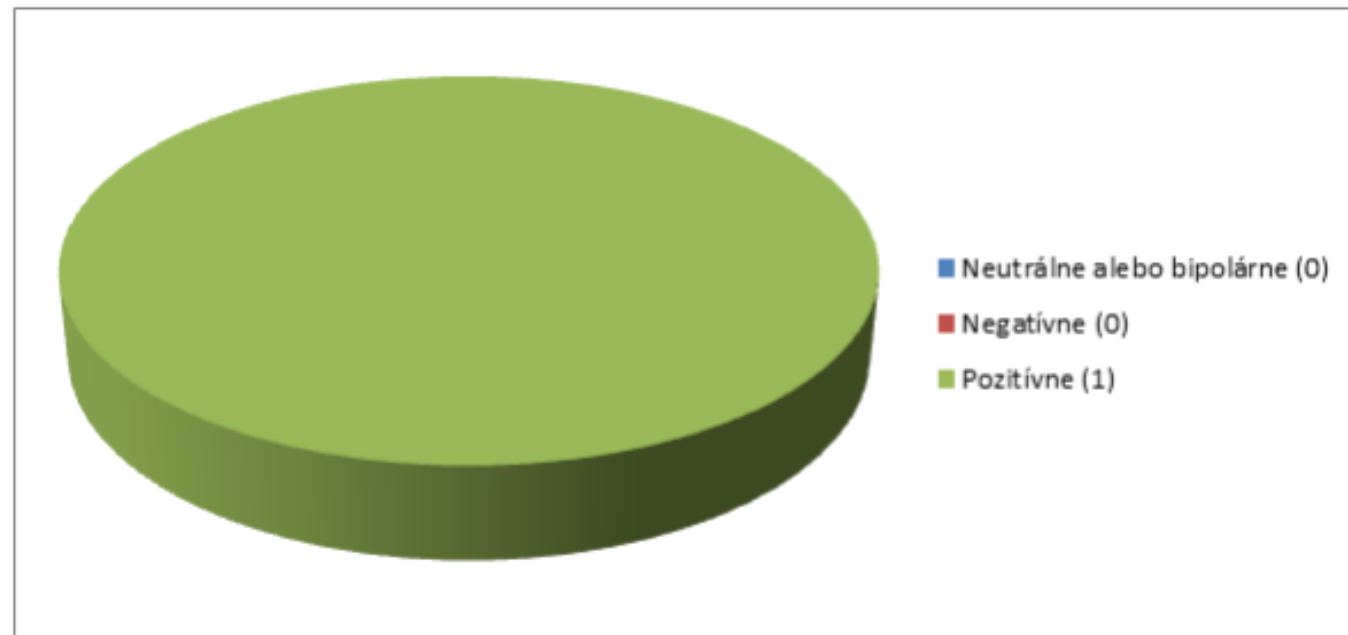
What's Going On in This Graph? | Vaccination by Country

diplomky na KISKu

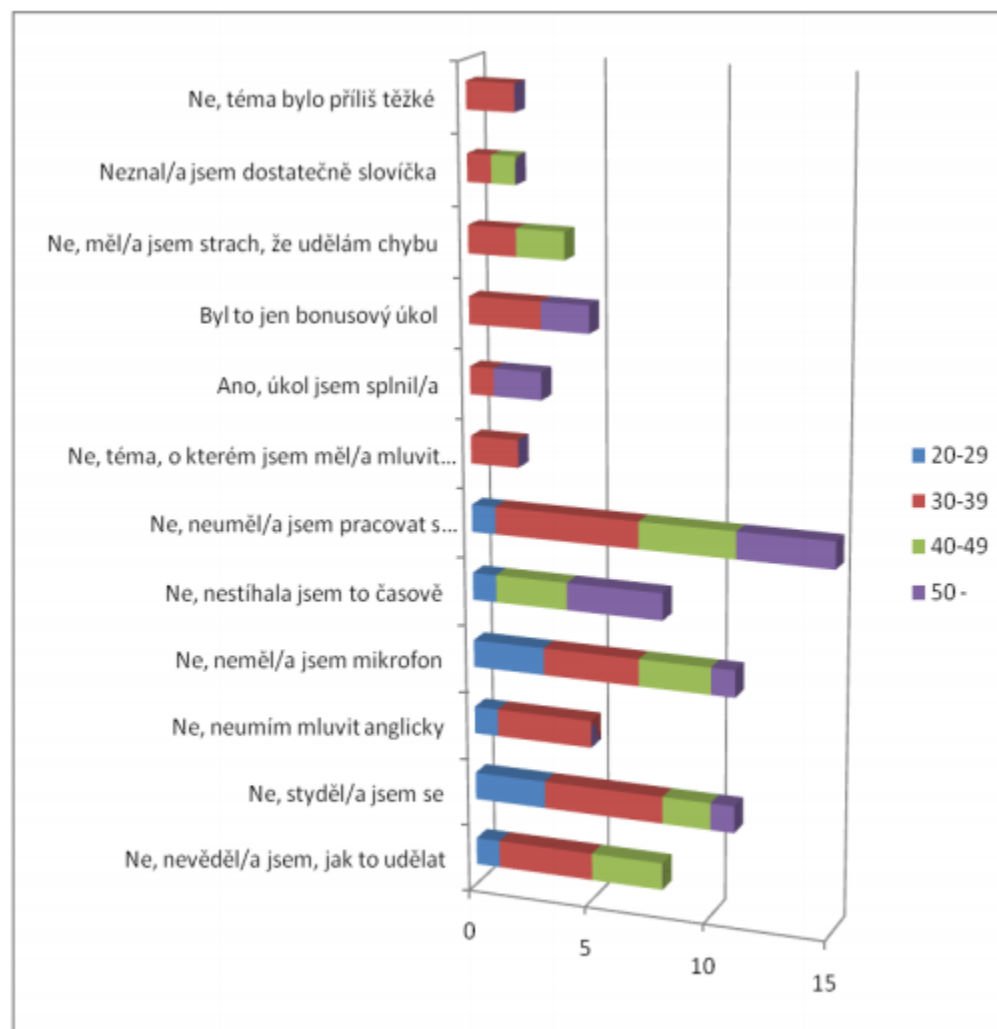




Graf 12: Ostatní služby



Obrázok 9 – Graf analýzy komentárov spotu *S námi chybu neuděláte*



GRAF 27 – Bonusový úkol odeslání audionahrávky.

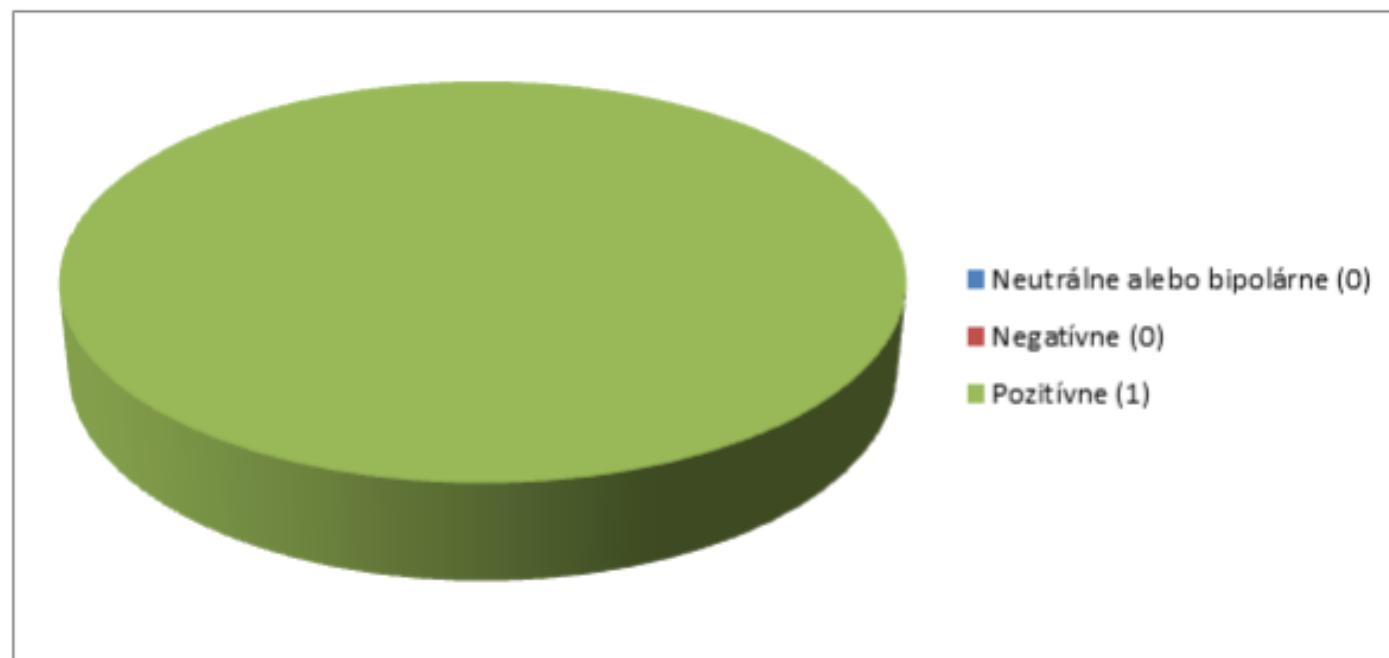
Základní koncepty funkční vizualizace

smysl vizualizace

The purpose of visualization is insight,
not pictures.

Ben Shneiderman

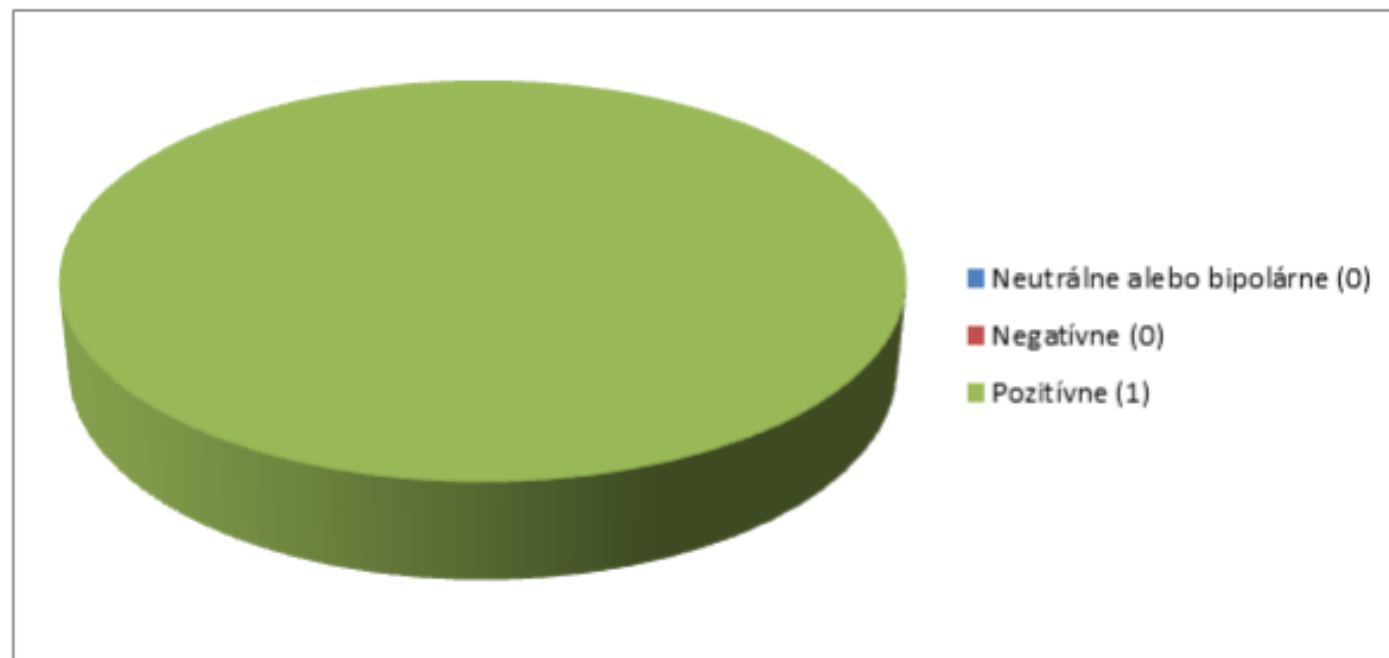
vizualizace není povinnost



Obrázok 9 – Graf analýzy komentárov spotu *S námi chybu neuděláte*

vizualizace není povinnost

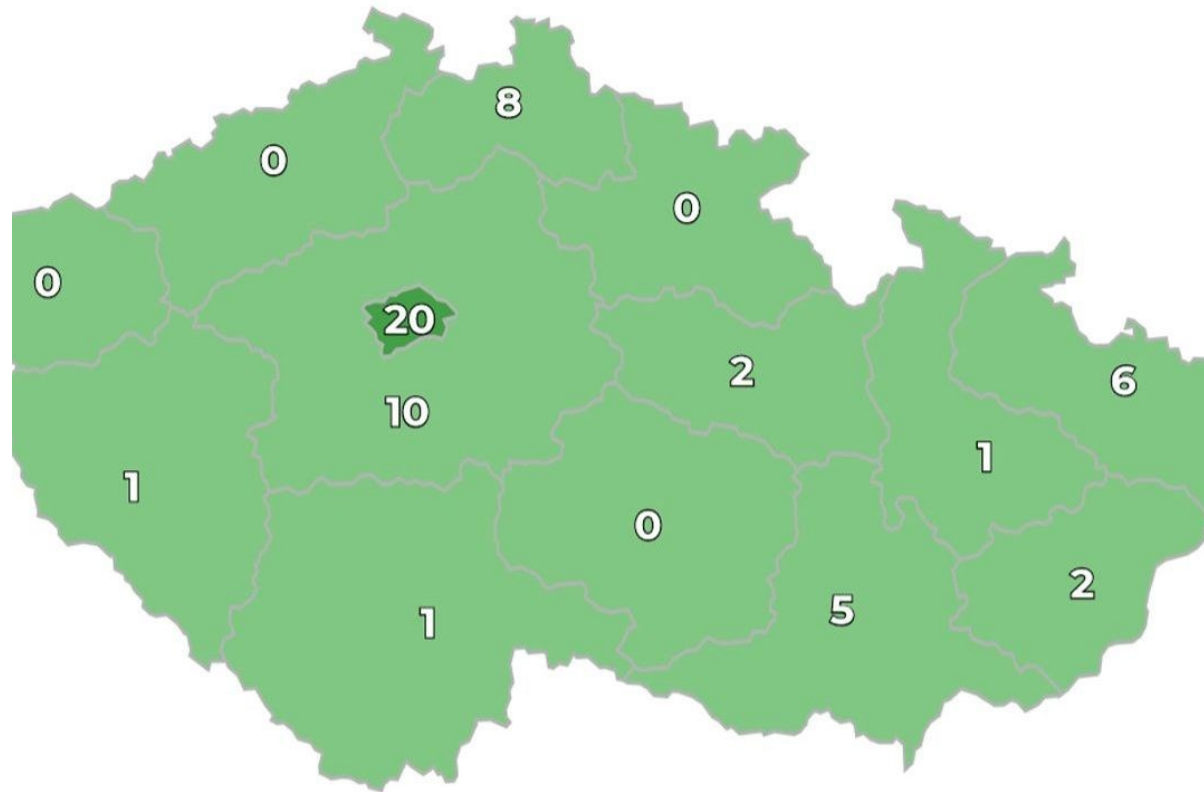
$$\text{data density} = \frac{\text{number of entries in data matrix}}{\text{area of data graphic}}$$



Obrázok 9 – Graf analýzy komentárov spotu *S námi chybu neuděláte*

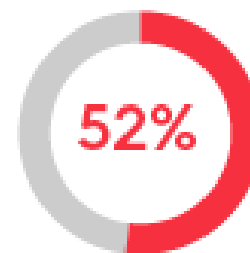
Klesající trend covidu-19 se v Praze zastavil. Metropole vykazuje nejvíce případů v Česku

Domácí

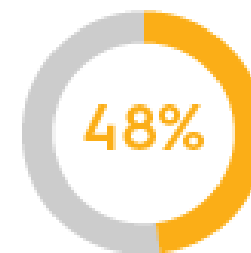


cíle určují formu

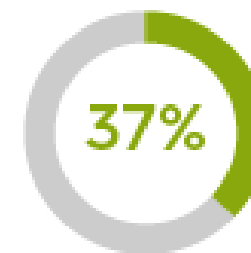
What do Facebook users want from brands?



Entertainment



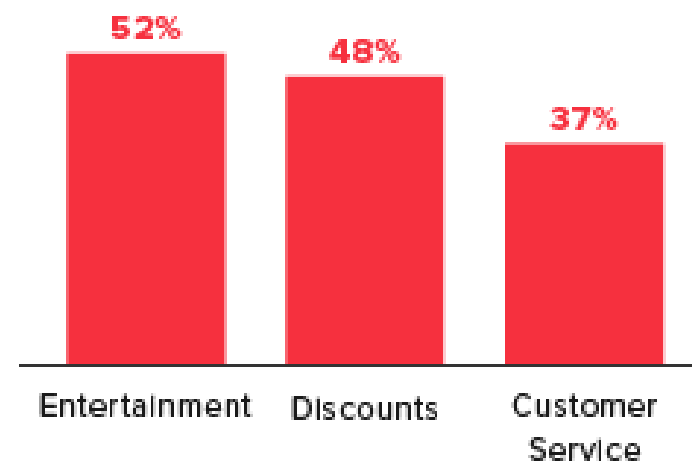
Discounts



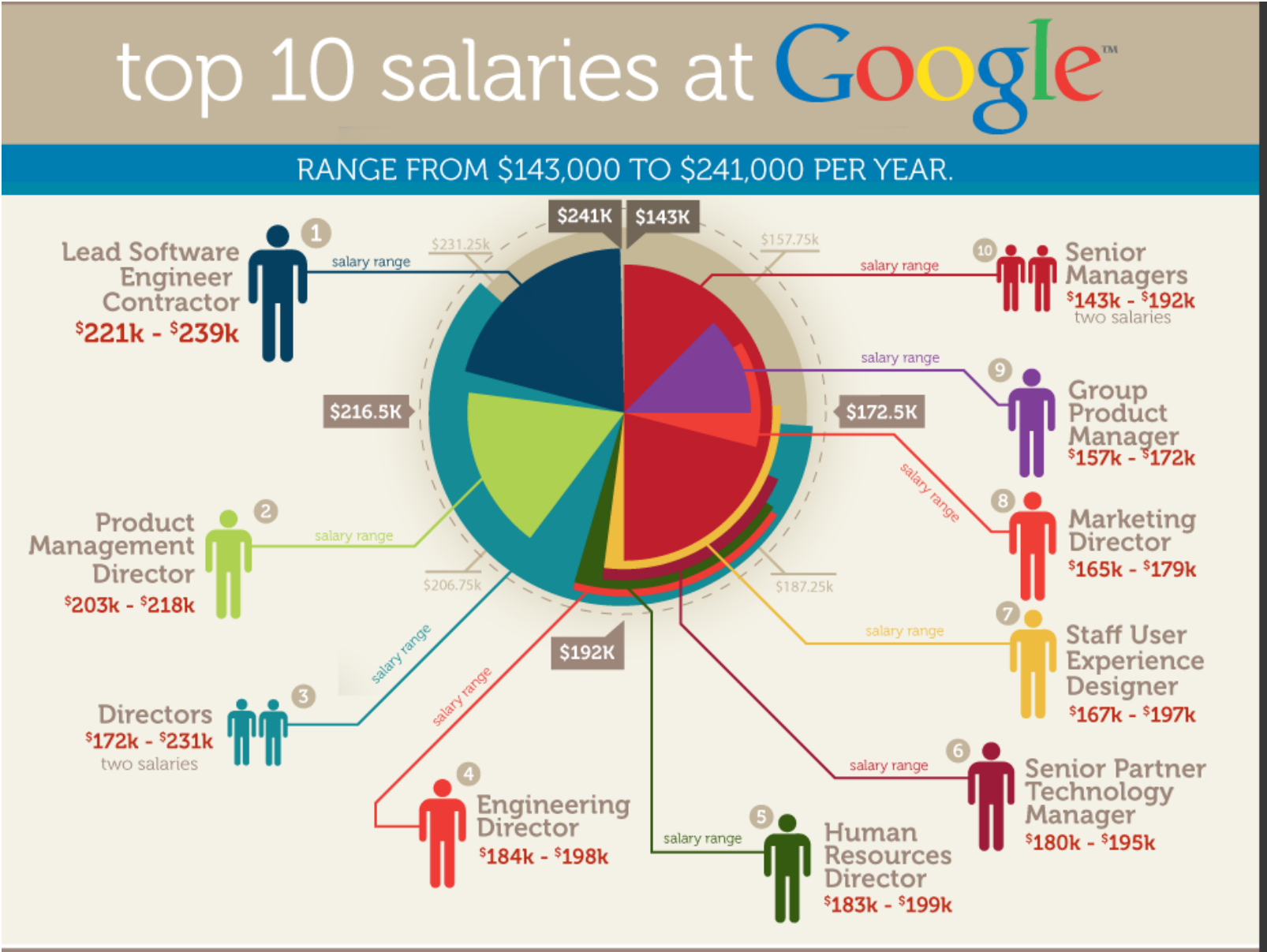
Customer Service

cíle určují formu

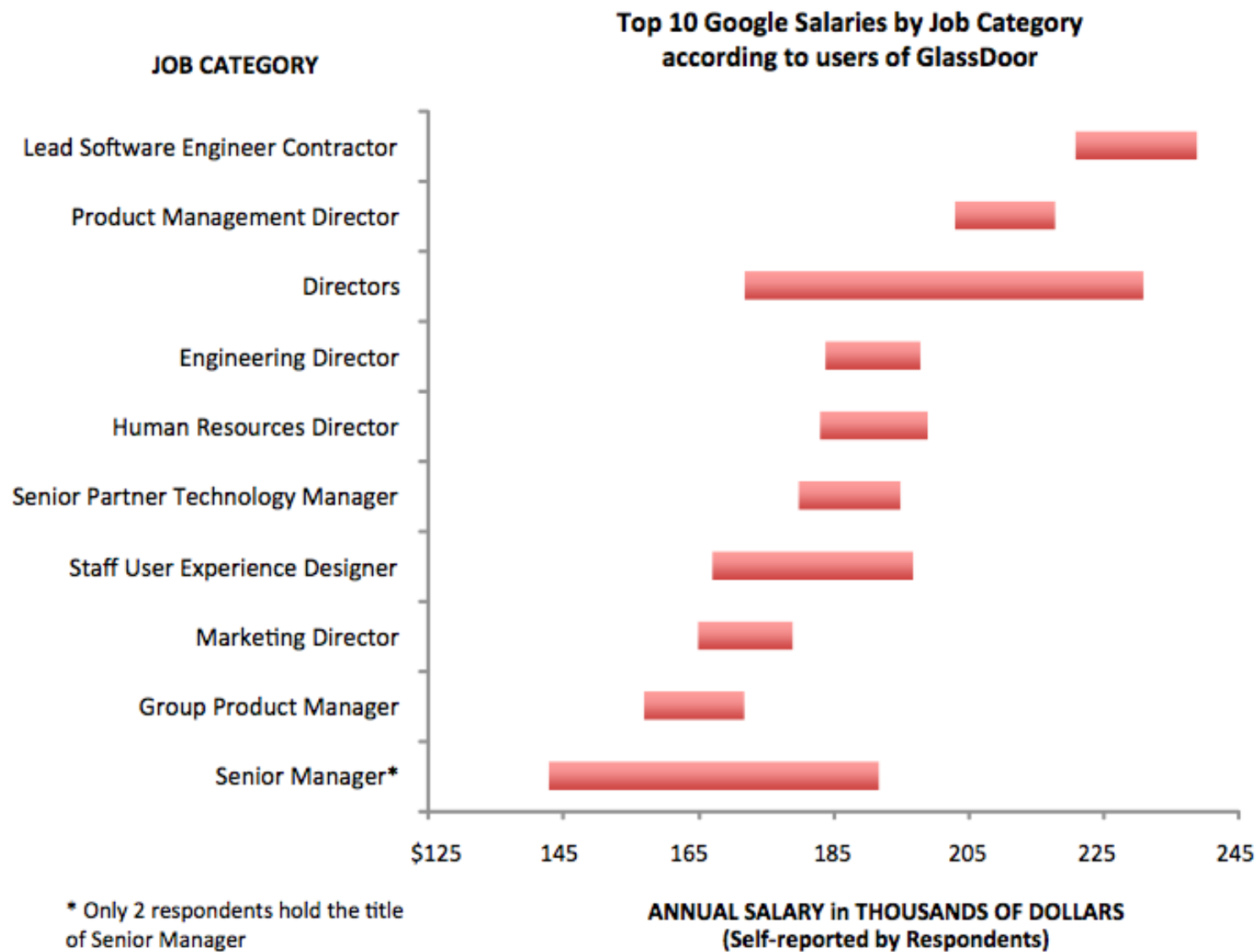
What do Facebook users want from brands?



cíle určují formu

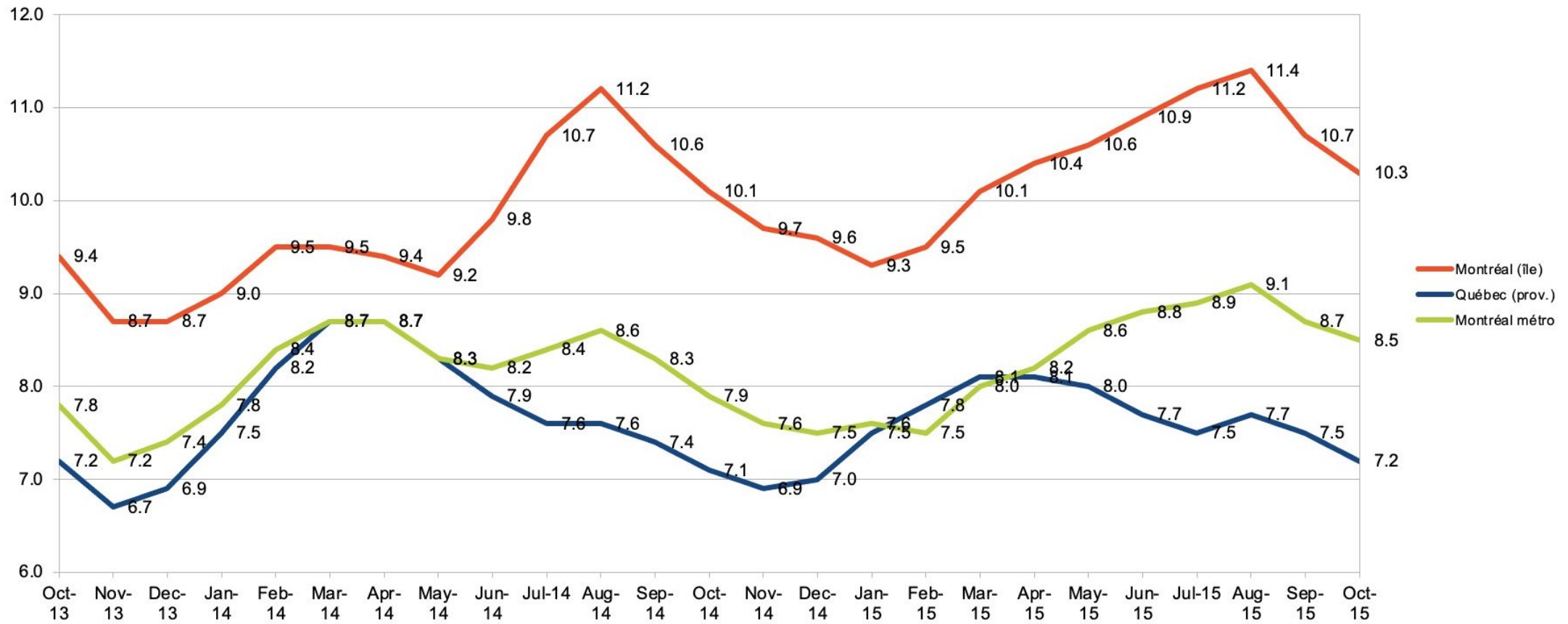


cíle určují formu



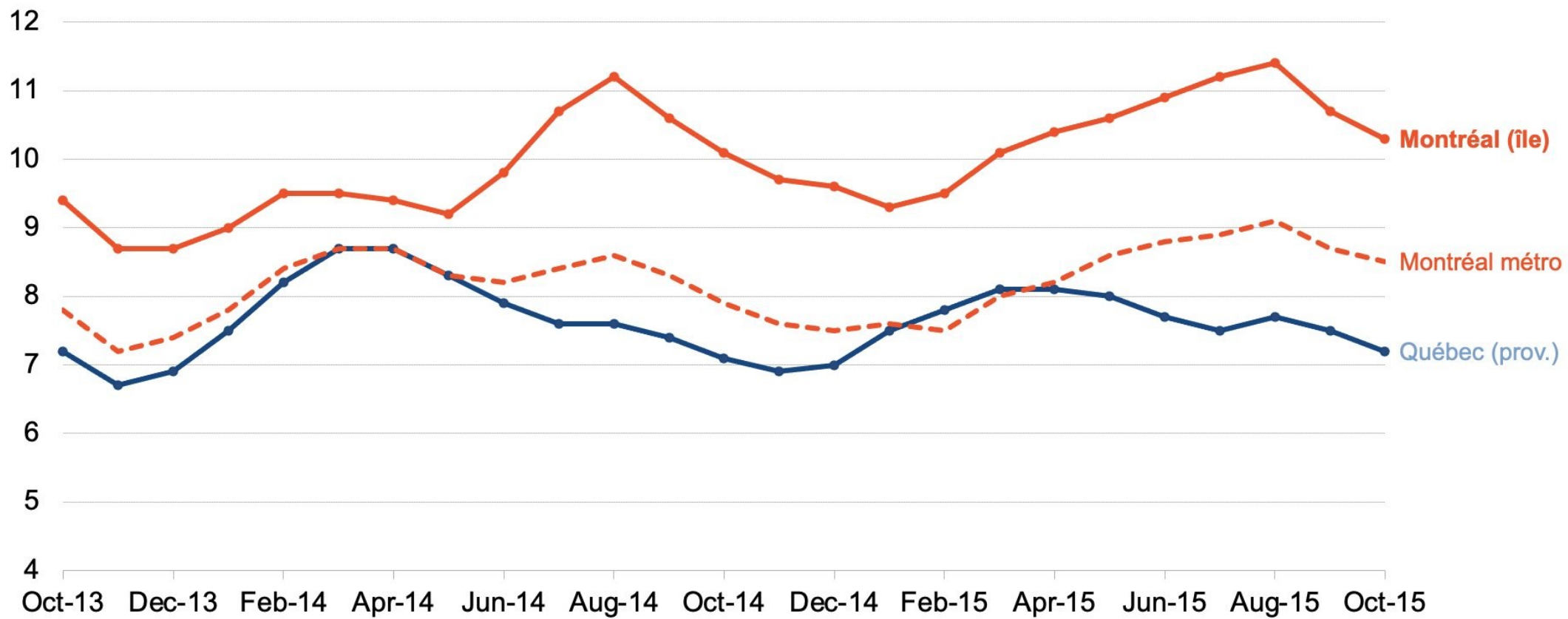
cíle určují formu

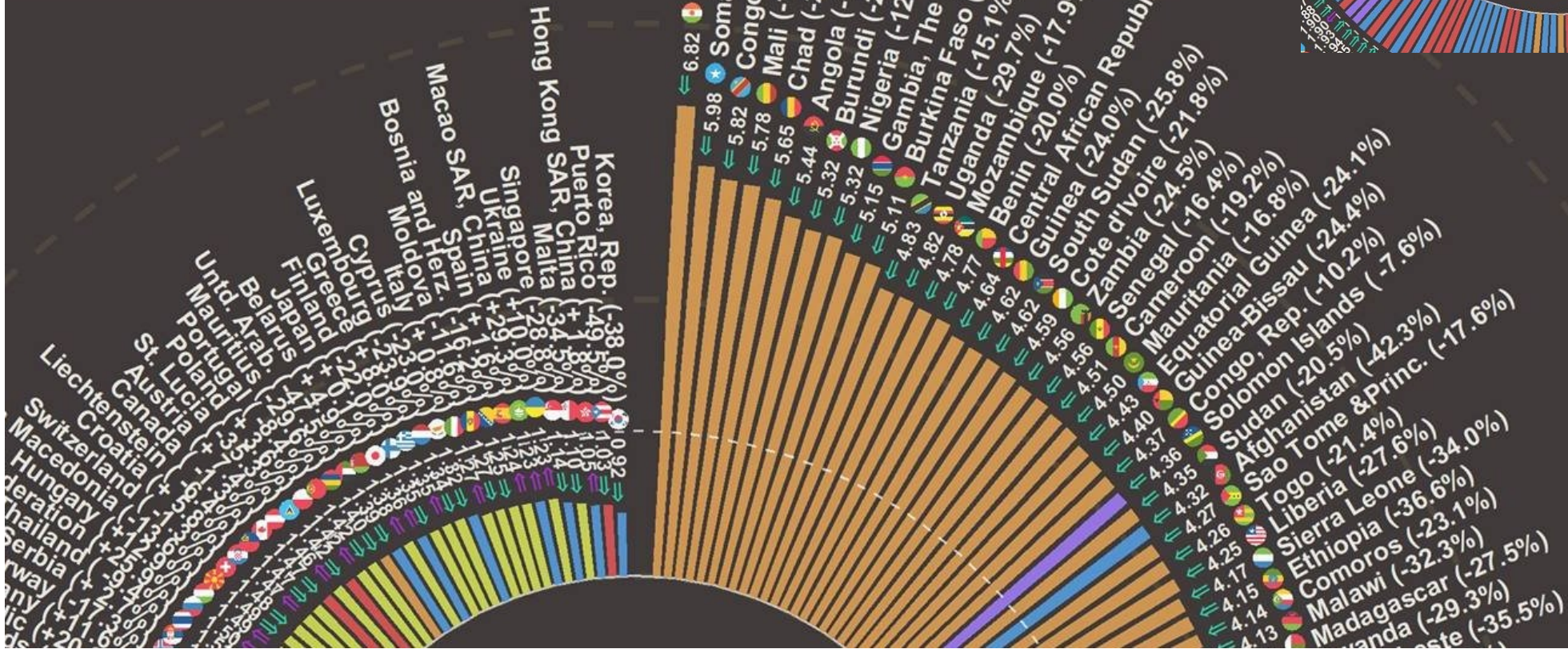
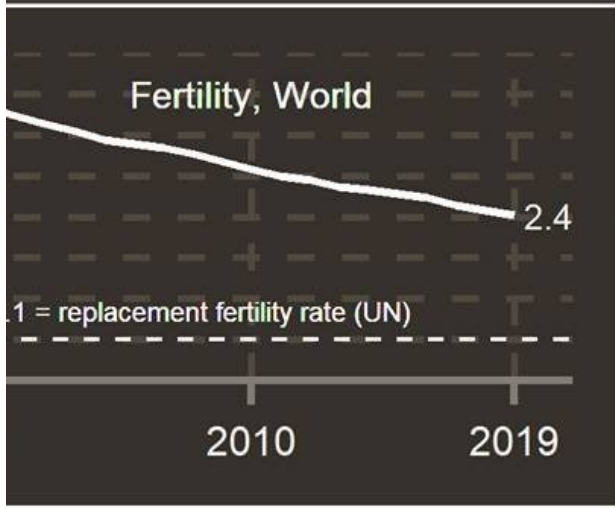
Taux de chômage, octobre 2013-octobre 2015



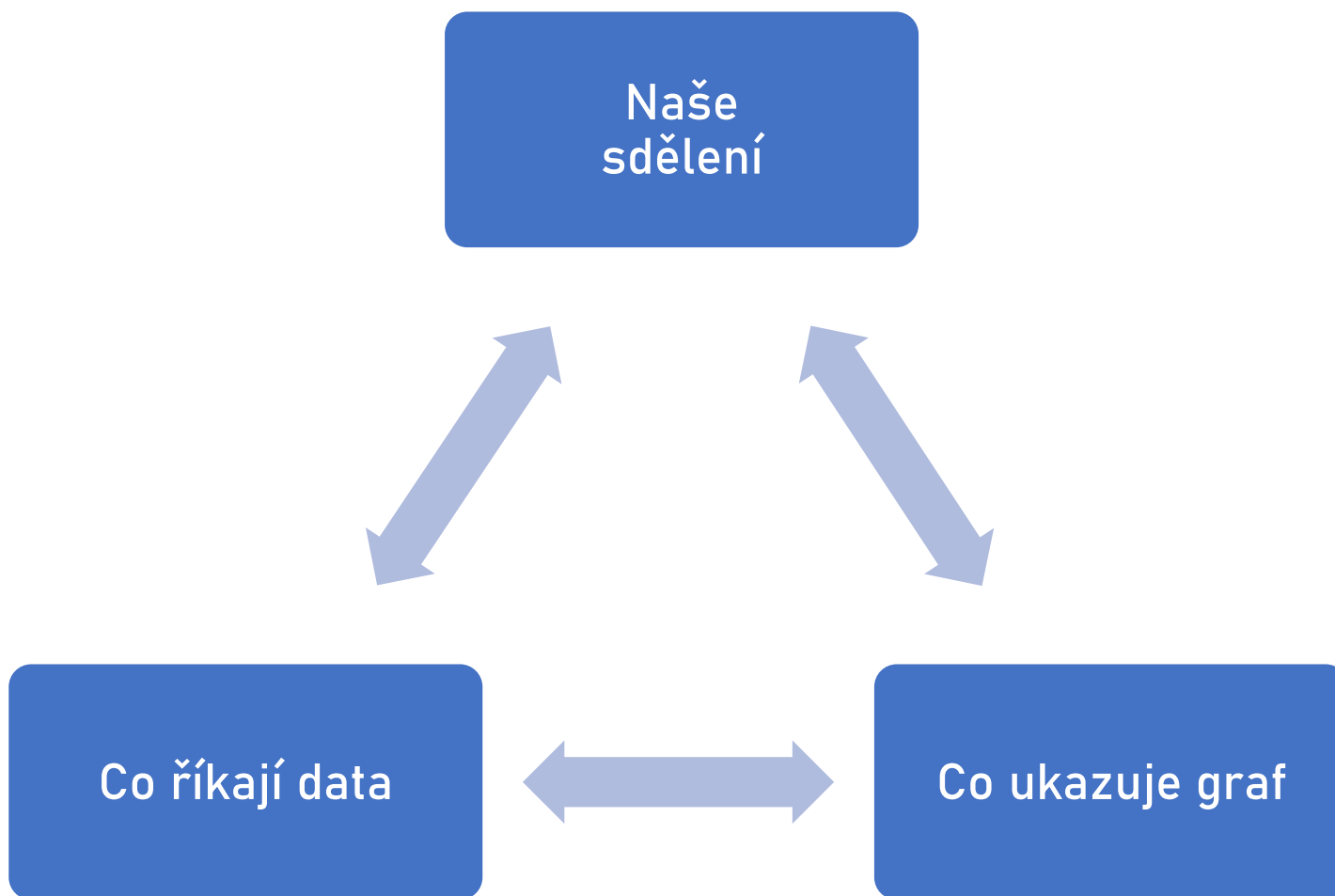
cíle určují formu

Taux de chômage (%), octobre 2013-octobre 2015





cíle určují formu





Arc Diagram



Area Graph



Bar Chart



Box & Whisker Plot



Brainstorm



Bubble Chart



Bubble Map



Bullet Graph



Calendar



Candlestick Chart



Chord Diagram



Choropleth Map



Circle Packing



Connection Map



Density Plot



Donut Chart



Dot Map



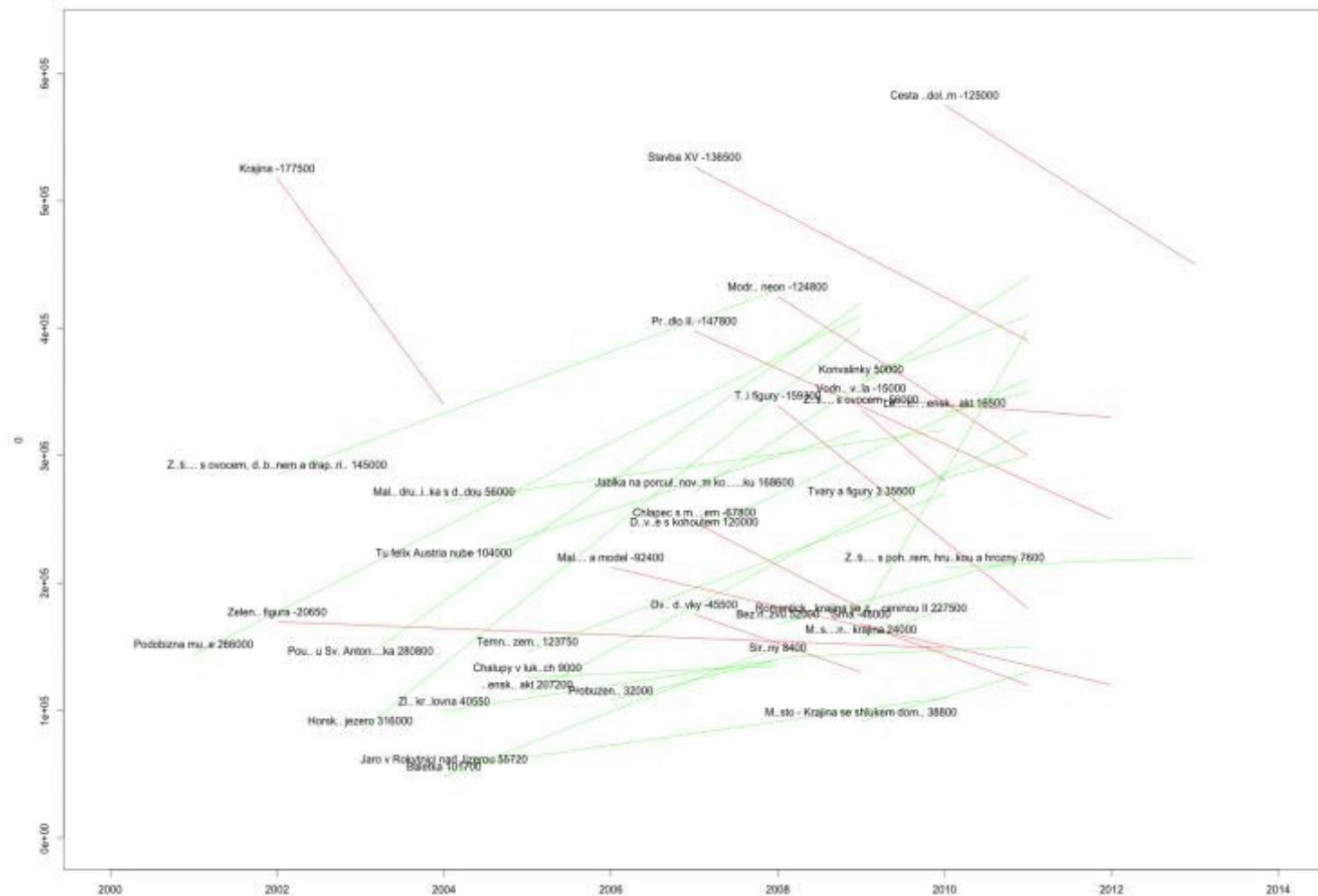
Dot Matrix Chart

<https://datavizcatalogue.com/>

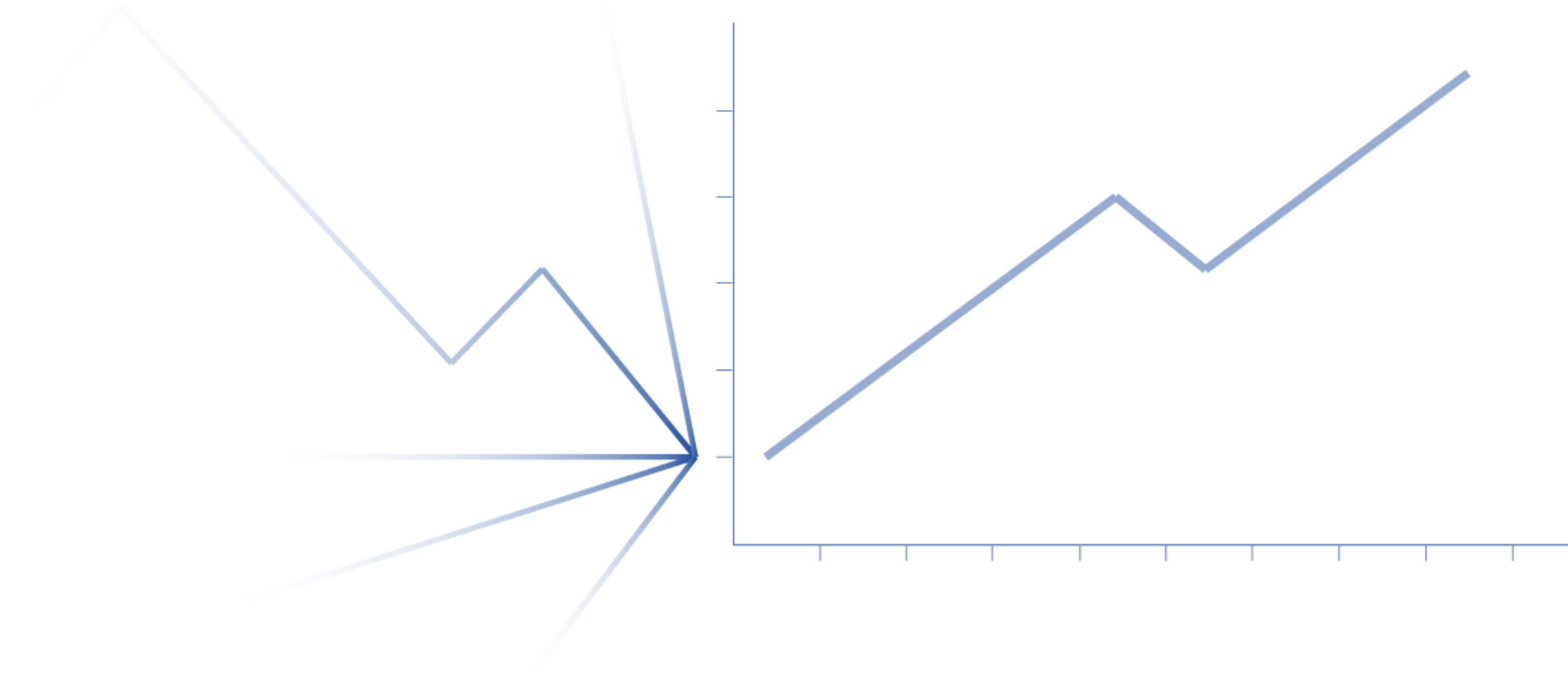
explorace - komunikace

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | |
|----|--------------|-------------------|---------------------|-------|-------|---------|---------|-------|-------------------|-----------------|---------|------------|------------|-----------|---------|------------|---|
| 1 | Nazev | Autor | Vytvoreno | Sirka | Vyska | Hloubka | Polomer | Tech | Signovano | Aukcni_sin | Misto_p | Datum_pro | Vyvolavaci | Konecna_c | Provize | Poznamk | Obrazek |
| 2 | | | | | | | | | | | | | | | | | |
| 3 | Myslivci | Anderlová Alena | 2009-07-01 16:48:37 | 55.0 | 45.0 | 0.0 | 0.0 | Olej | sign_ na rubu | Prague Auctions | Praha | 2003-09-28 | 6000.00 | 0.00 | 15.00 | | http://www.artplus.c |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | Svatý | Balcar Martin | 2009-07-01 16:48:37 | 80.0 | 120.0 | 0.0 | 0.0 | Olej | signováno | Prague Auctions | Praha | 2003-09-28 | 25000.00 | 0.00 | 15.00 | | http://www.artplus.c |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | Pláštěnky | Anderlová Alena | 2009-07-01 16:48:37 | 40.0 | 30.0 | 0.0 | 0.0 | Olej | sign_ na rubu | Prague Auctions | Praha | 2003-09-28 | 5000.00 | 5000.00 | 15.00 | | http://www.artplus.c |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | Na třešních | Bím Tomáš | 2009-07-01 16:48:37 | 50.0 | 60.0 | 0.0 | 0.0 | Akryl | | Prague Auctions | Praha | 2003-09-28 | 50000.00 | 50000.00 | 15.00 | | http://www.artplus.c |
| 10 | | | | | | | | | | | | | | | | | |
| 11 | Insinuace | Istler Josef | 2009-07-01 16:48:38 | 44.0 | 58.0 | 0.0 | 0.0 | NULL | signováno | Dorotheum Praha | Praha | 2008-11-29 | 15000.00 | 0.00 | 20.00 | | http://www.artplus.c |
| 12 | | | | | | | | | | | | | | | | | |
| 13 | Sv. Lukáš n | NULL | 2009-07-01 16:48:38 | 74.0 | 88.0 | 0.0 | 0.0 | Olej | nesignováno | Dorotheum Praha | Praha | 2008-11-29 | 60000.00 | 0.00 | 20.00 | Autorství: | http://www.artplus.c |
| 14 | | | | | | | | | | | | | | | | | |
| 15 | Kuřák | David Teniers ml. | 2009-07-01 16:48:38 | 29.5 | 39.0 | 0.0 | 0.0 | NULL | nesignováno | Dorotheum Praha | Praha | 2008-11-29 | 70000.00 | 0.00 | 20.00 | | http://www.artplus.c |
| 16 | | | | | | | | | | | | | | | | | |
| 17 | Rybáři | NULL | 2009-07-01 16:48:38 | 32.0 | 22.0 | 0.0 | 0.0 | NULL | nesignováno | Dorotheum Praha | Praha | 2008-11-29 | 50000.00 | 60000.00 | 20.00 | Autorství: | http://www.artplus.c |
| 18 | | | | | | | | | | | | | | | | | |
| 19 | Na dvoře | Hondecoeter Melo | 2009-07-01 16:48:38 | 74.0 | 85.0 | 0.0 | 0.0 | Olej | nesignováno | Dorotheum Praha | Praha | 2008-11-29 | 70000.00 | 0.00 | 20.00 | | http://www.artplus.c |
| 20 | | | | | | | | | | | | | | | | | |
| 21 | Noční setká | NULL | 2009-07-01 16:48:38 | 36.5 | 45.0 | 0.0 | 0.0 | NULL | nesignováno | Dorotheum Praha | Praha | 2008-11-29 | 150000.00 | 0.00 | 20.00 | Autorství: | http://www.artplus.c |
| 22 | | | | | | | | | | | | | | | | | |
| 23 | Lovecké zát | NULL | 2009-07-01 16:48:38 | 16.0 | 21.0 | 0.0 | 0.0 | NULL | vpravo dole WIBF | Dorotheum Praha | Praha | 2008-11-29 | 30000.00 | 0.00 | 20.00 | Autorství: | http://www.artplus.c |
| 24 | | | | | | | | | | | | | | | | | |
| 25 | Kytice ve vá | NULL | 2009-07-01 16:48:38 | 17.5 | 26.5 | 0.0 | 0.0 | NULL | nesignováno | Dorotheum Praha | Praha | 2008-11-29 | 80000.00 | 80000.00 | 20.00 | Autorství: | http://www.artplus.c |
| 26 | | | | | | | | | | | | | | | | | |
| 27 | Zátiší s ovo | Hohenberger Fran | 2009-07-01 16:48:38 | 55.0 | 68.0 | 0.0 | 0.0 | Olej | vpravo dole Hoher | Dorotheum Praha | Praha | 2008-11-29 | 50000.00 | 0.00 | 20.00 | | http://www.artplus.c |
| 28 | | | | | | | | | | | | | | | | | |
| 29 | Sv. Františe | neznámý | 2009-07-01 16:48:38 | 67.0 | 123.0 | 0.0 | 0.0 | Malba | nesignováno | Dorotheum Praha | Praha | 2008-11-29 | 180000.00 | 180000.00 | 20.00 | Autorství: | http://www.artplus.c |
| 30 | | | | | | | | | | | | | | | | | |
| 31 | Krajina s ho | neznámý | 2009-07-01 16:48:38 | 68.0 | 55.0 | 0.0 | 0.0 | Olej | nesignováno | Dorotheum Praha | Praha | 2008-11-29 | 28000.00 | 0.00 | 20.00 | Autorství: | http://www.artplus.c |

explorace - komunikace

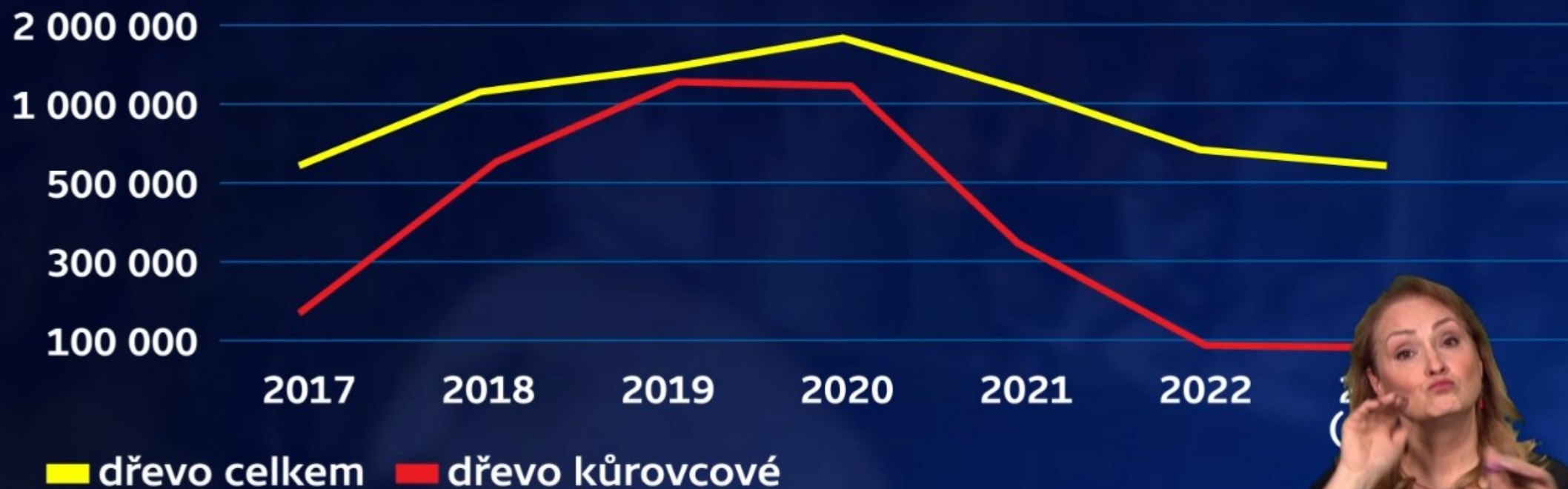


rozsah na vstupu
je vědomá volba



Těžba dřeva v Jihomoravském kraji

(m³)



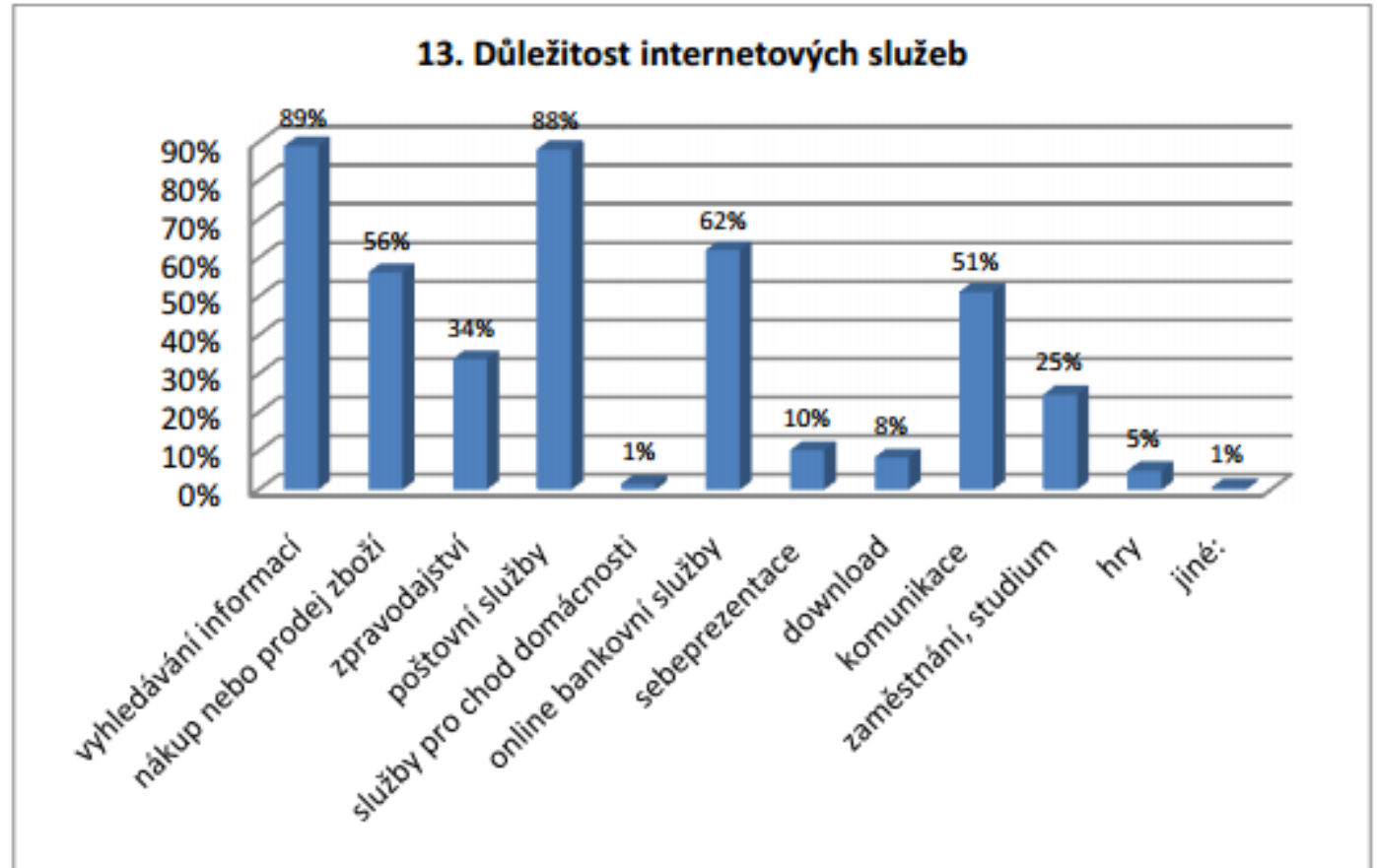
Zdroj: Lesy ČR



GI = GO

blbá data

blbá vizoška



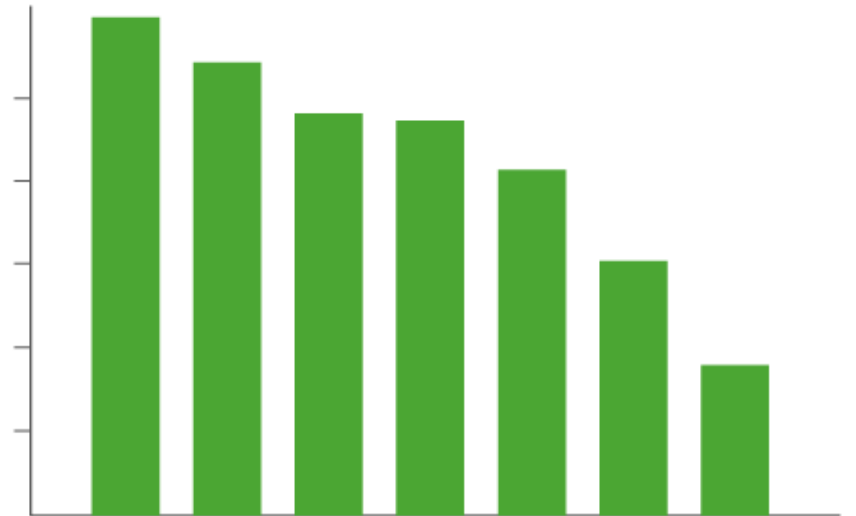
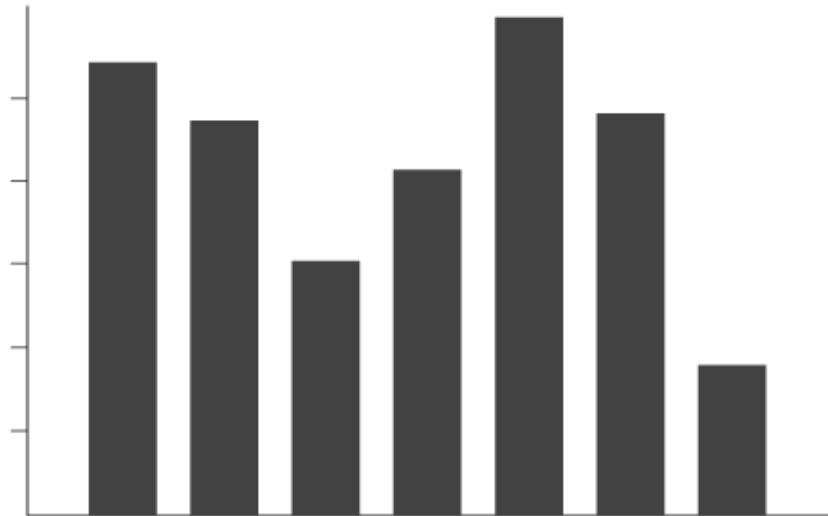
Graf 16: Které služby byste se nejhůře vzdávala?

GI = GO

blbá data

blbá vizoška

diplomky: nebát se interpretace



konzultace je radost



Graphic Design
is máj Passion

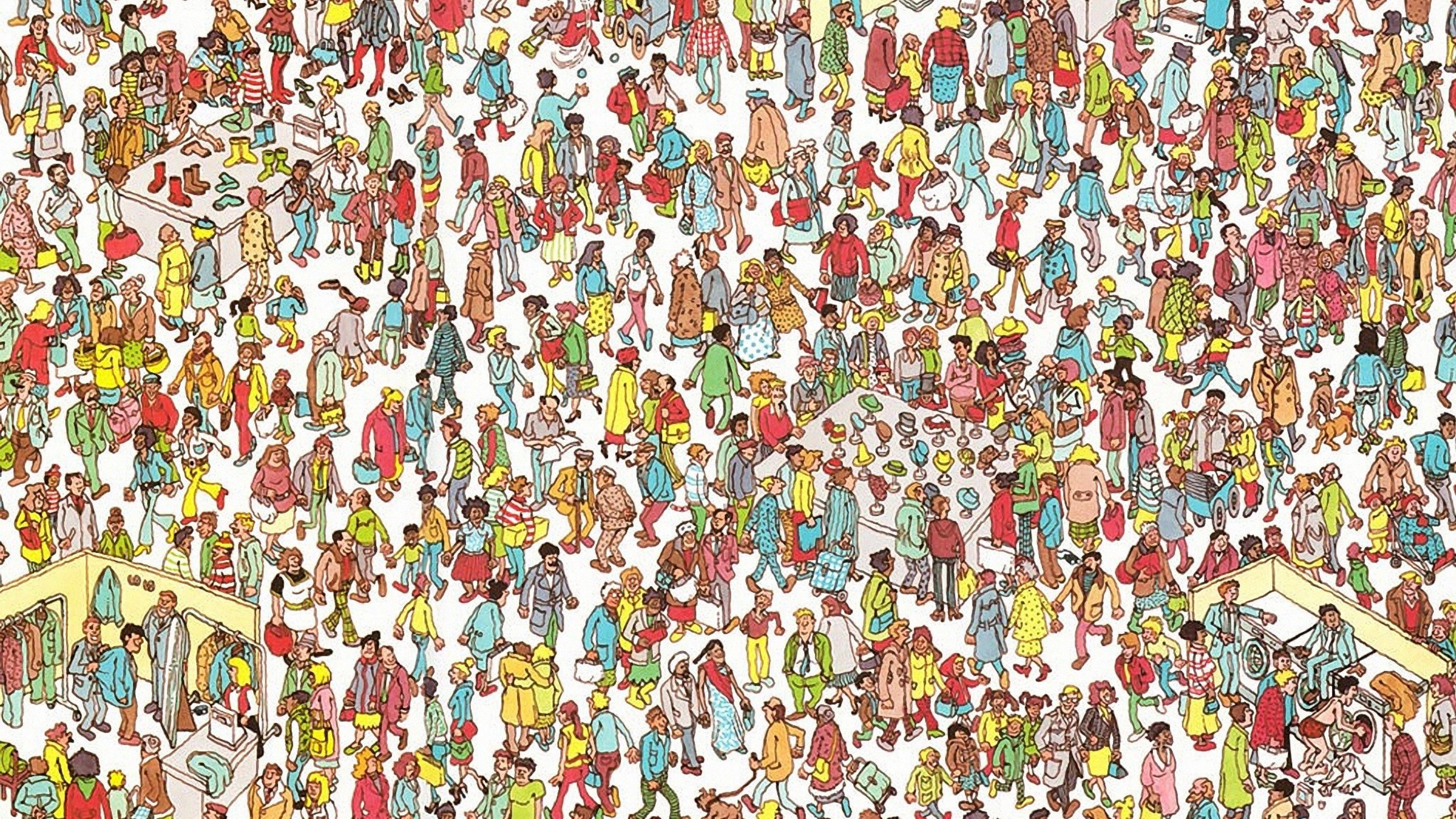


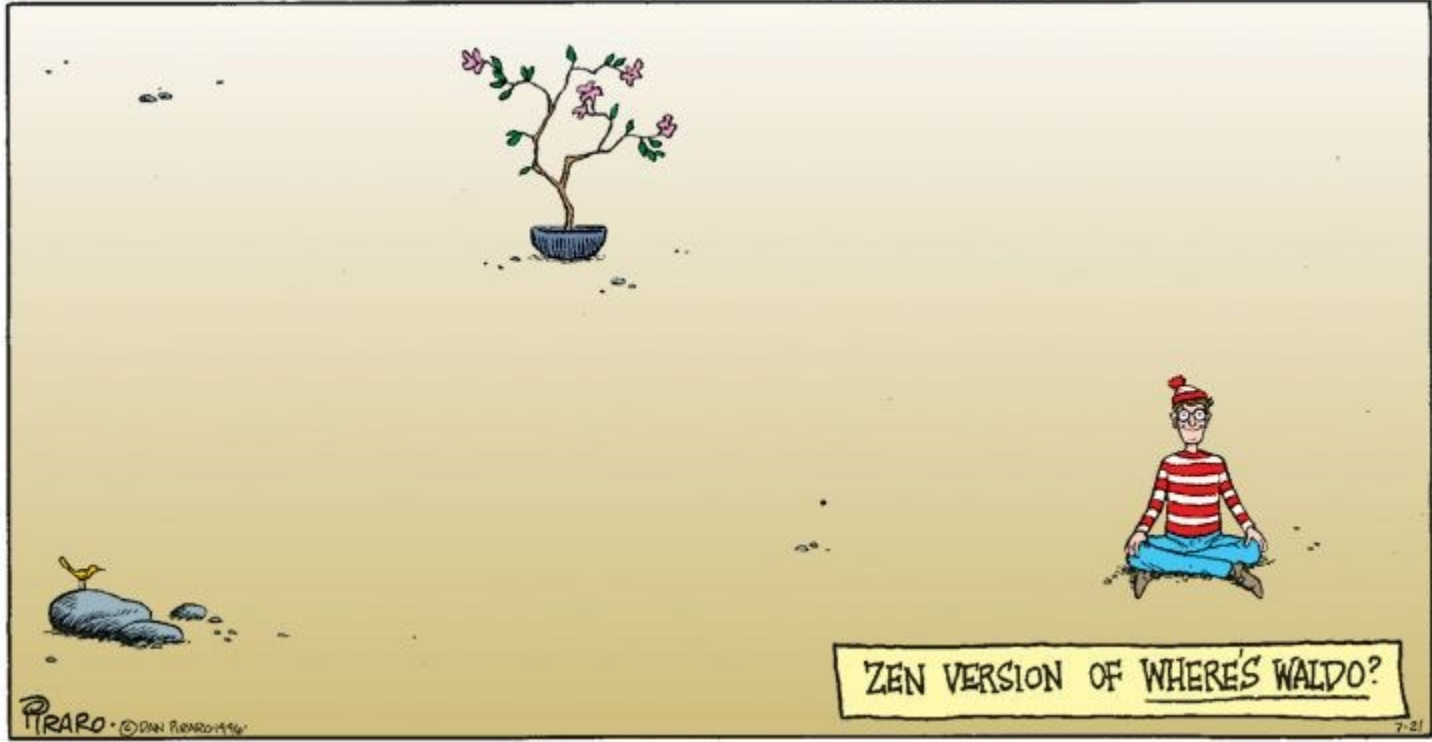
Estetika vizualizace



estetika vizualizace







ZEN VERSION OF WHERE'S WALDO?

PRARO © DAN PERROTTI

7-21

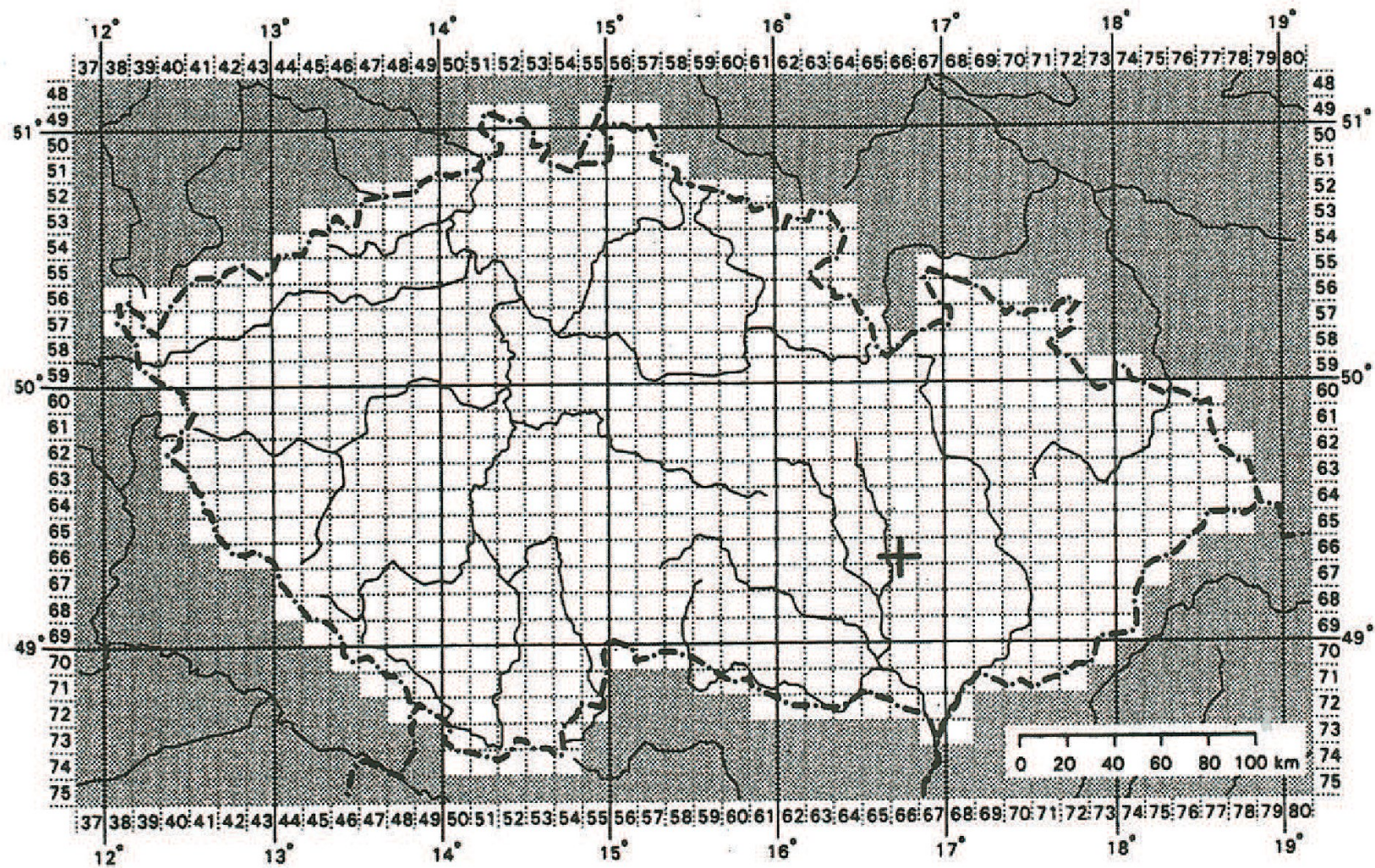


Fig. 1. Location map of the Barová Cave (South Moravia, Czech Republic) – black cross.

data-ink ratio

$$\text{data-ink ratio} = \frac{\text{datový inkoust}}{\text{veškerý inkoust}}$$

„Maximize the data-ink ratio, within reason.“

Edward Tufte

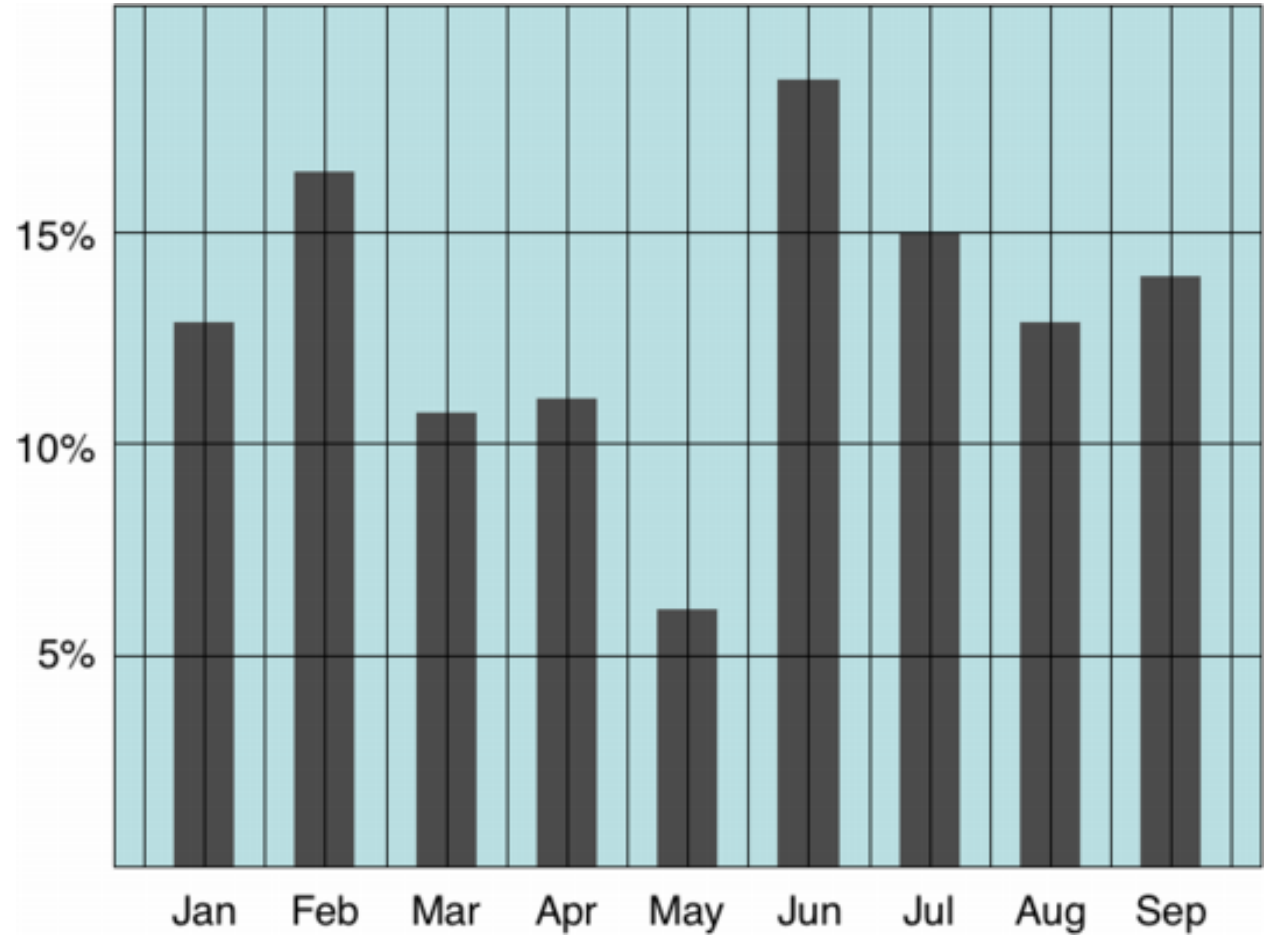
data-ink ratio



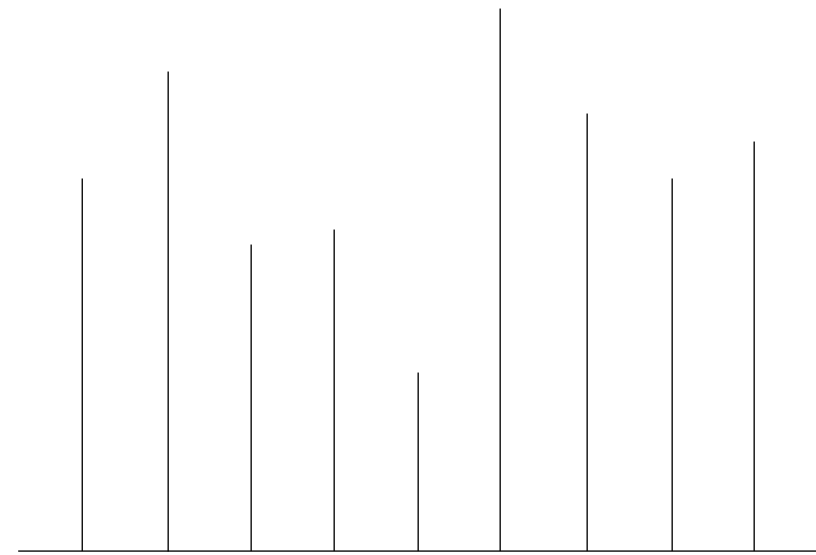
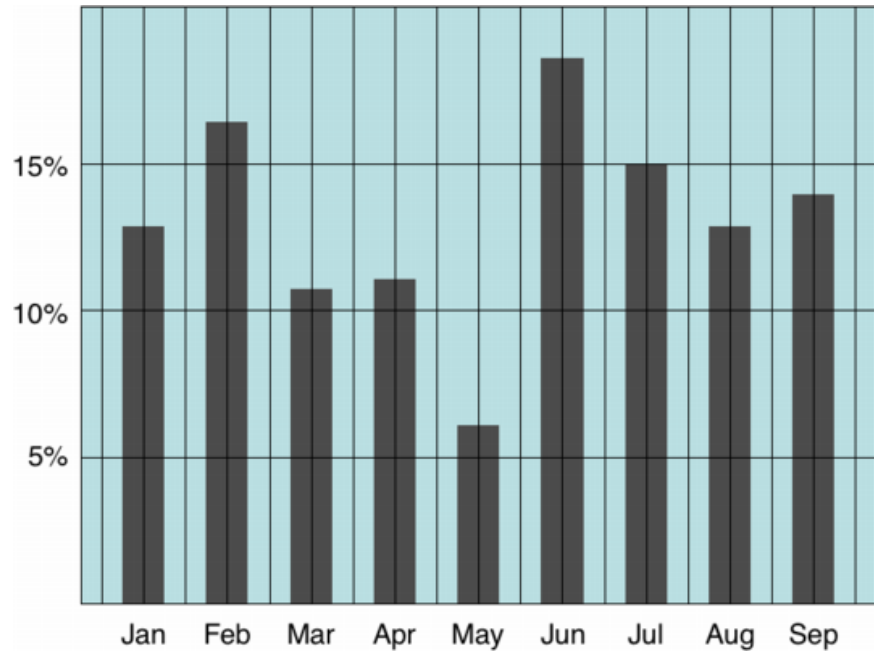
„Erase non-data-ink, within reason.“

„Erase redundant data-ink, within reason.“

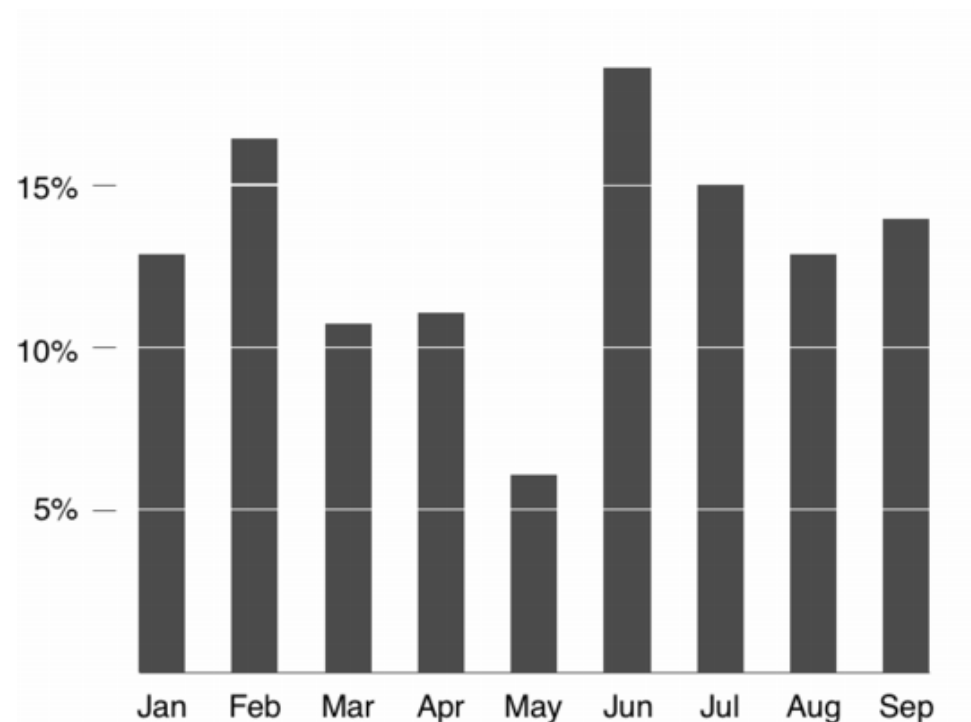
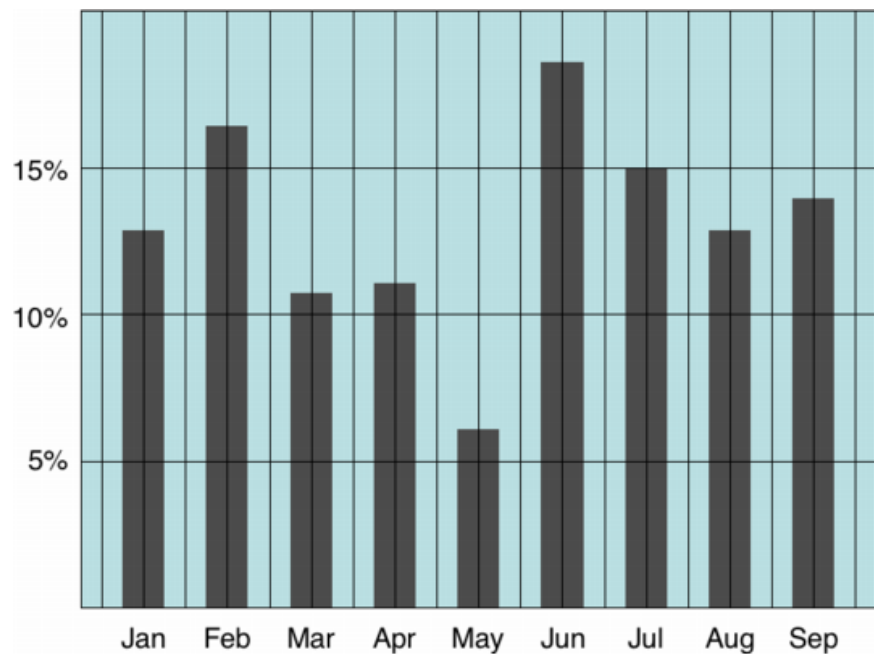
Edward Tufte



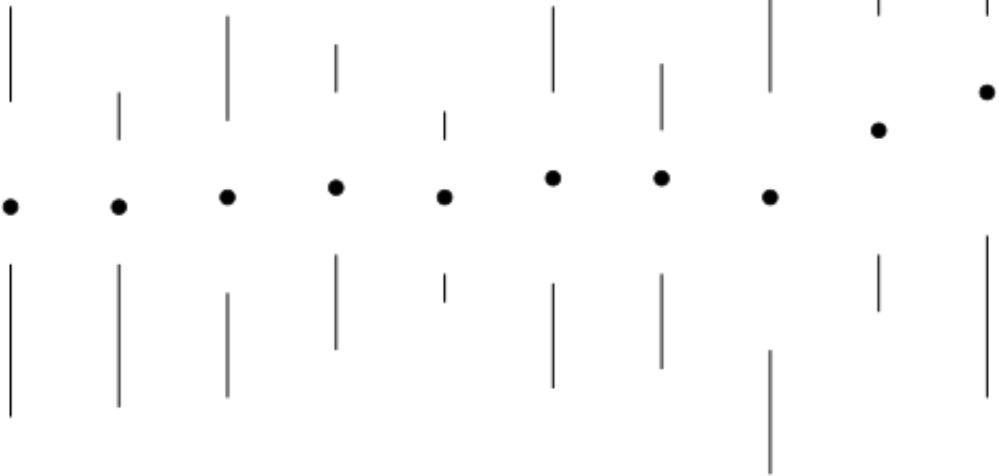
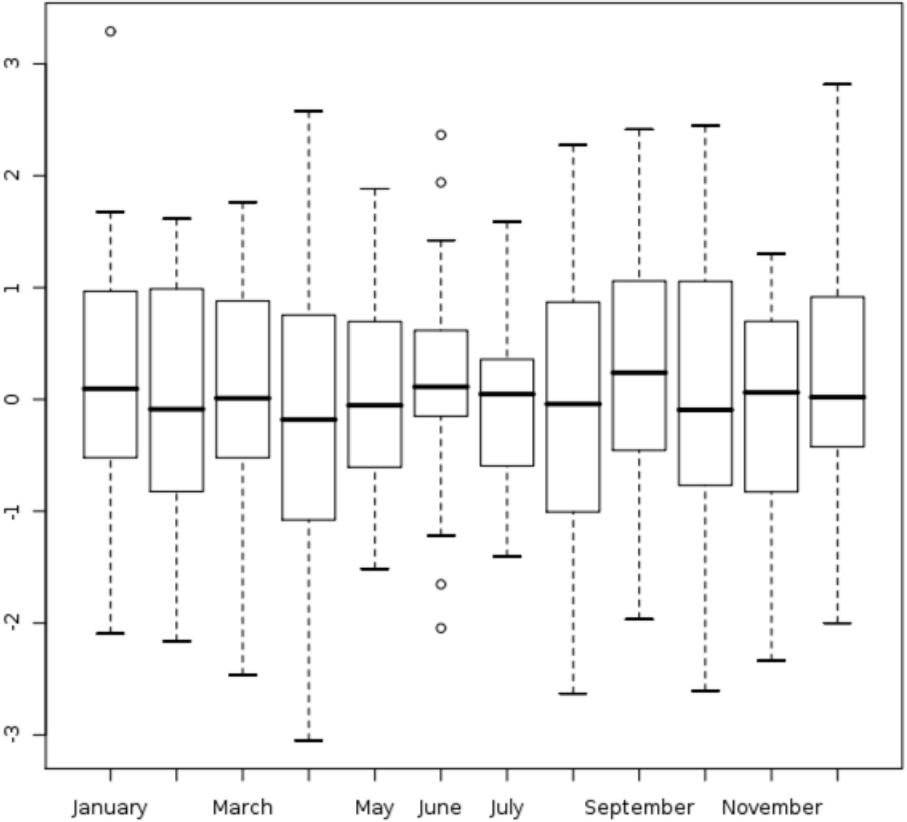
limity minimalismu



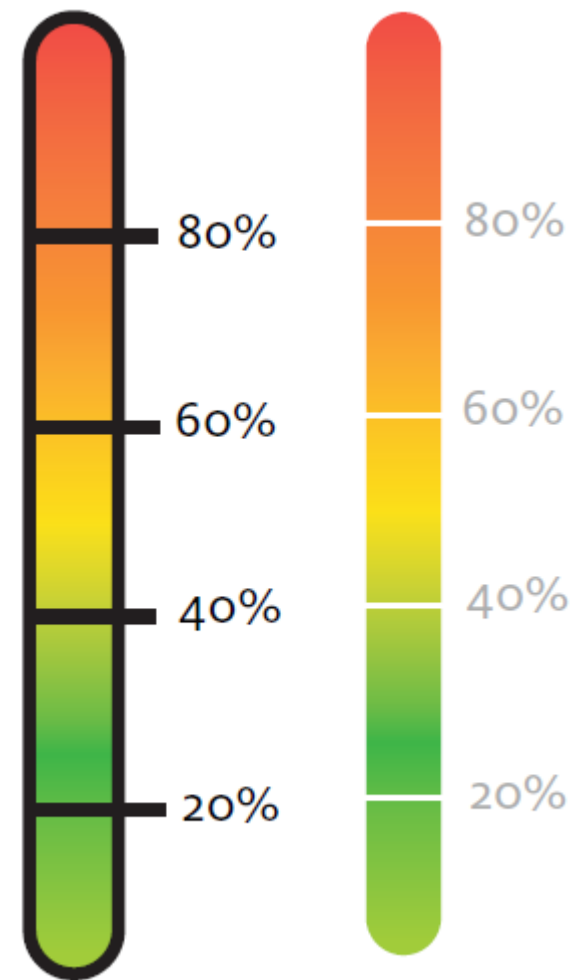
limity minimalismu | MAYA



limity minimalismu



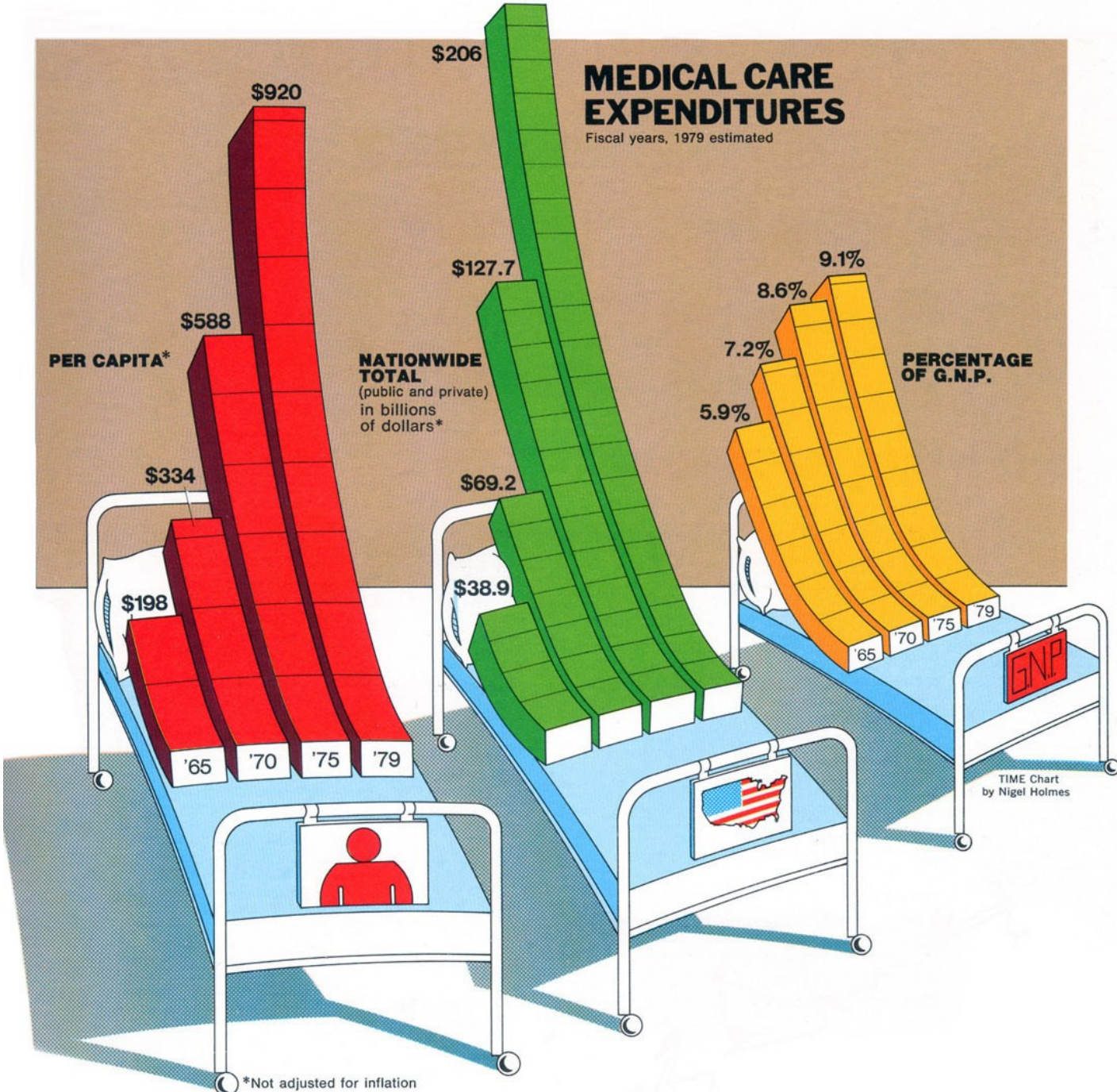
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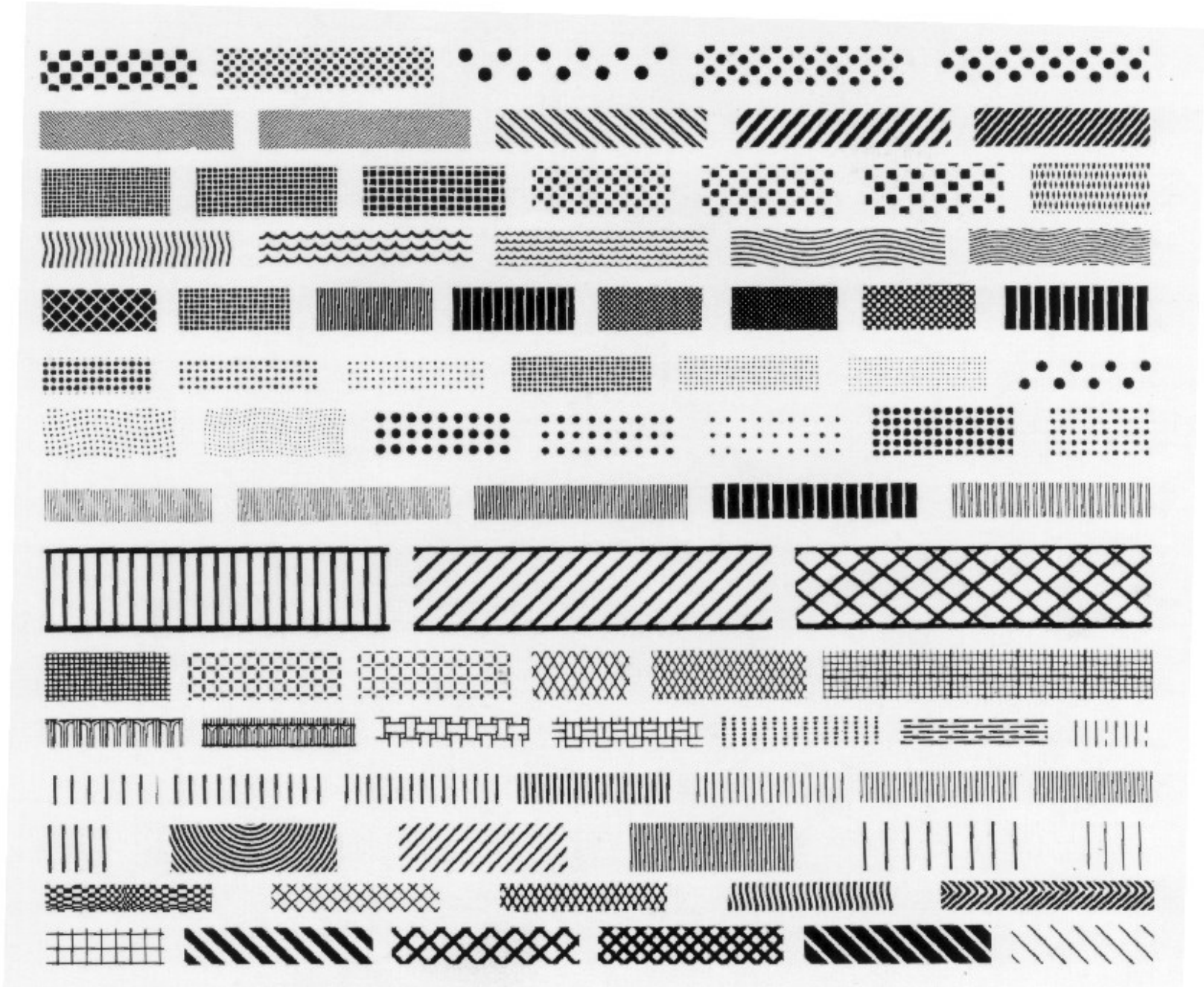
chartjunk



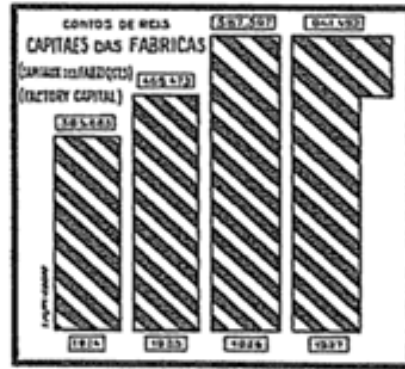
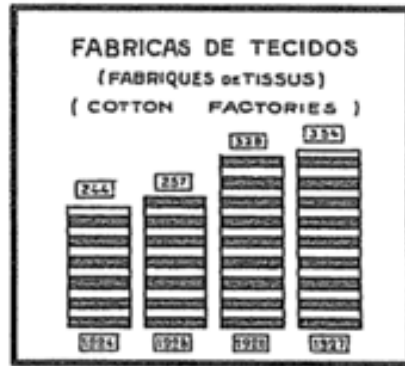
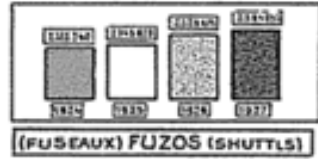
Nigel Holmes



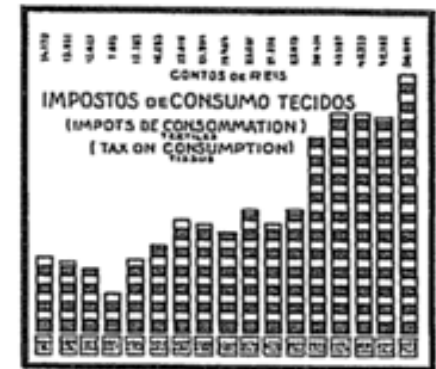
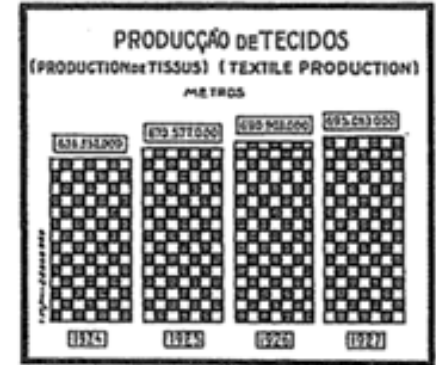
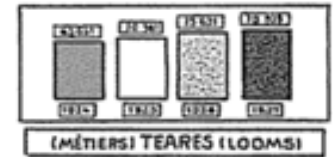
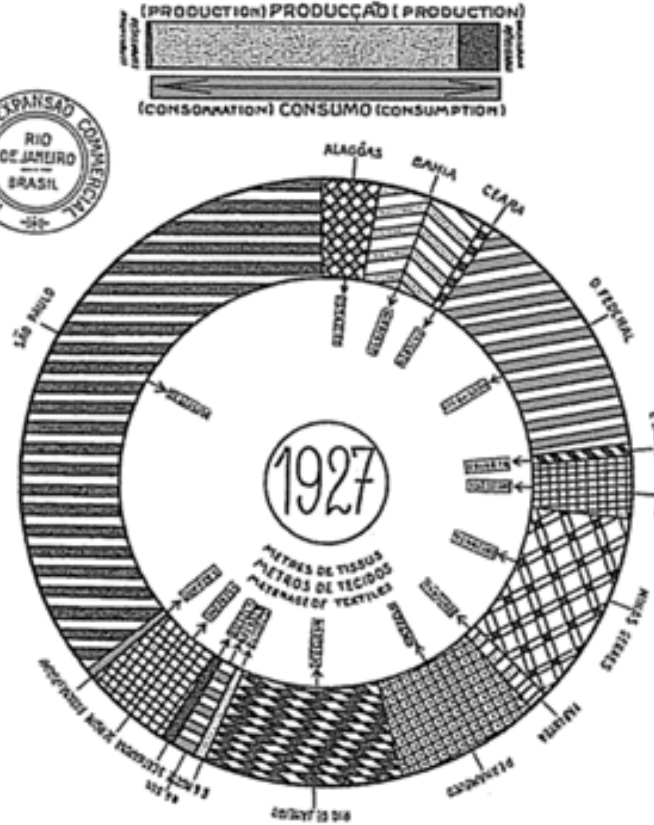
chartjunk



chartjunk



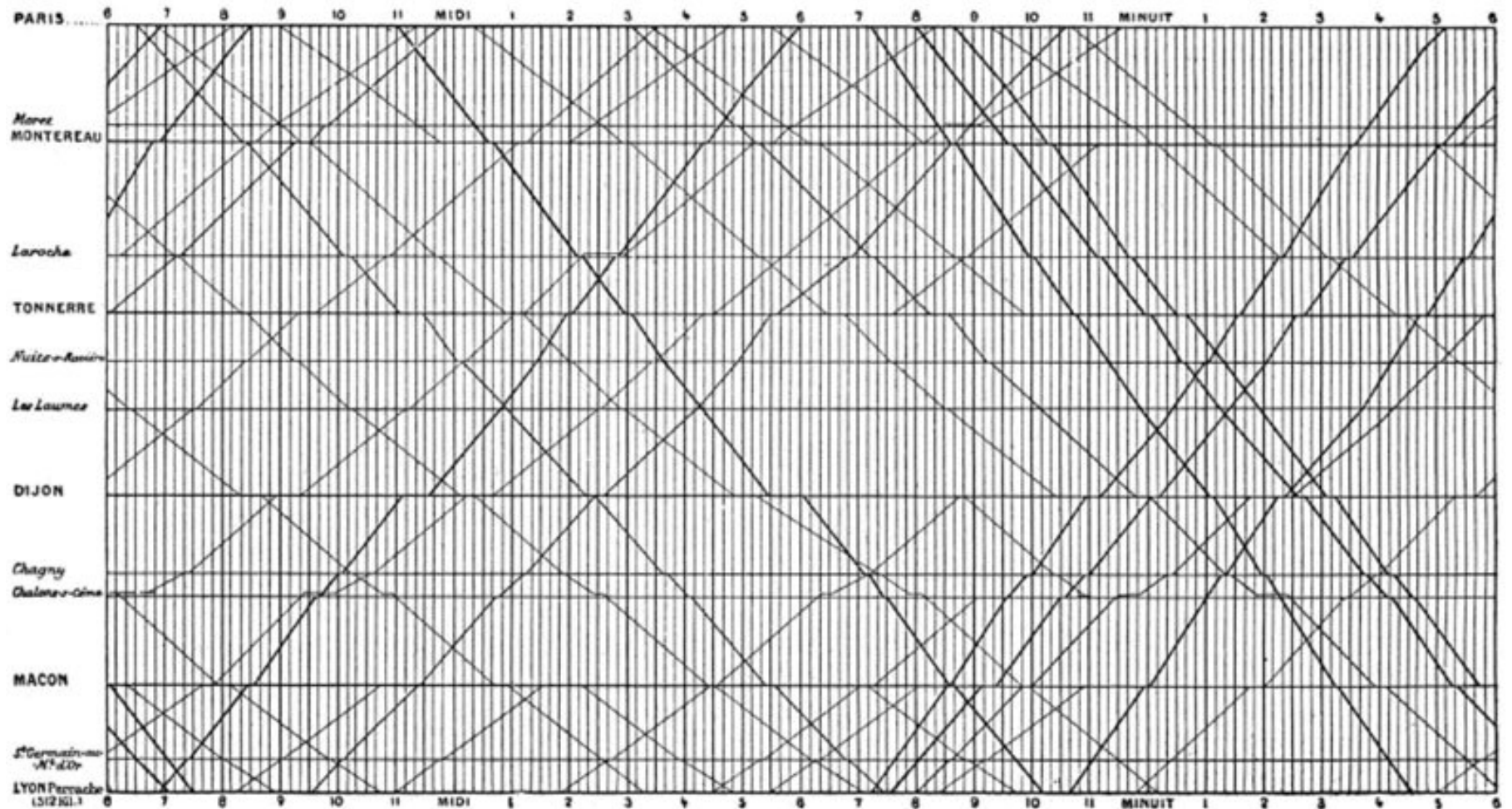
TECIDOS DE ALGODÃO (COTONNADES) (COTTON TEXTILES)



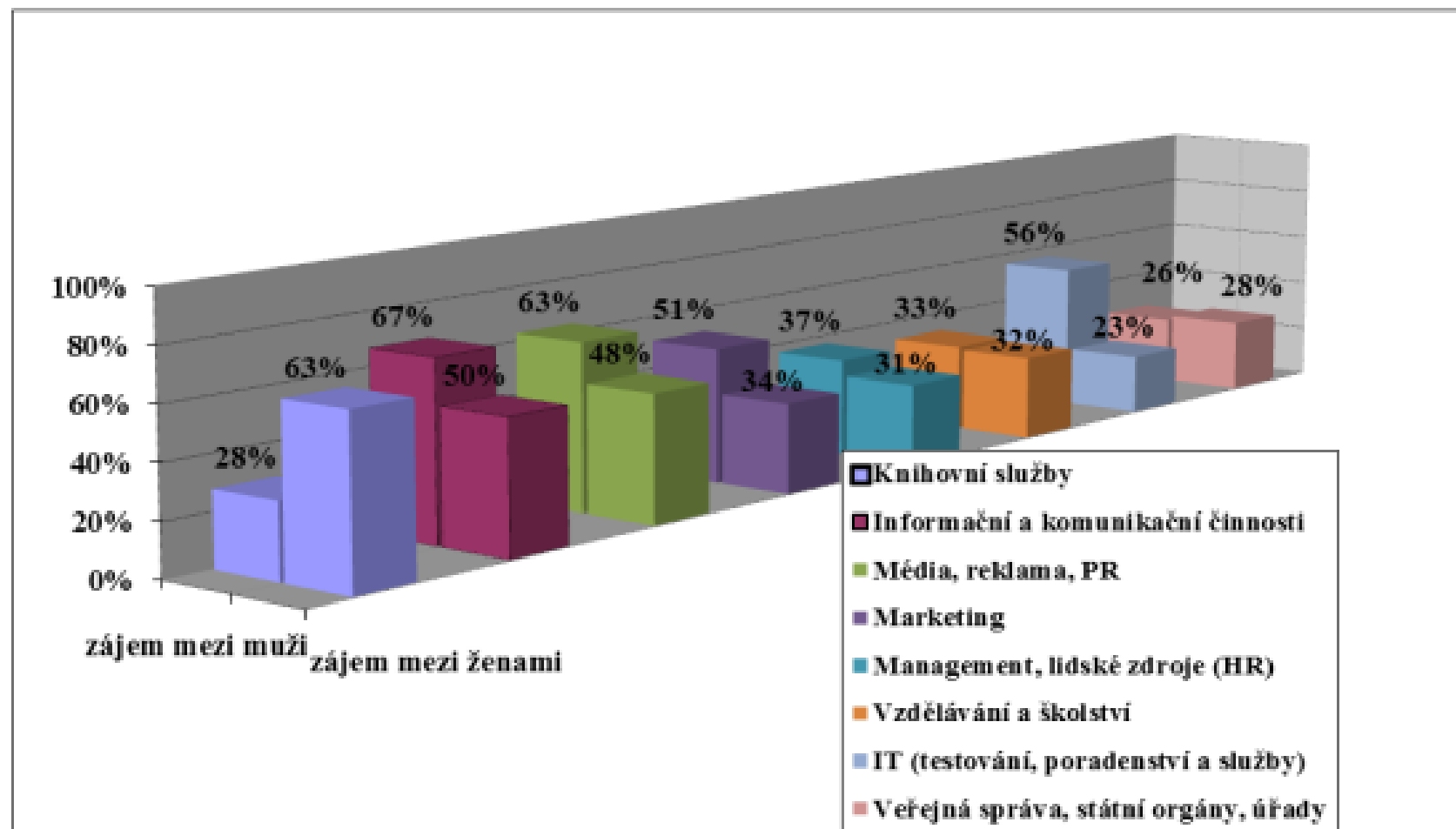
(IMPORTATION) IMPORTAÇÃO



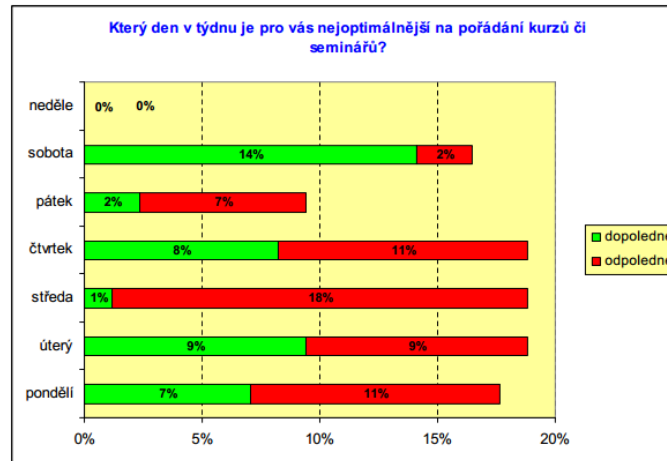
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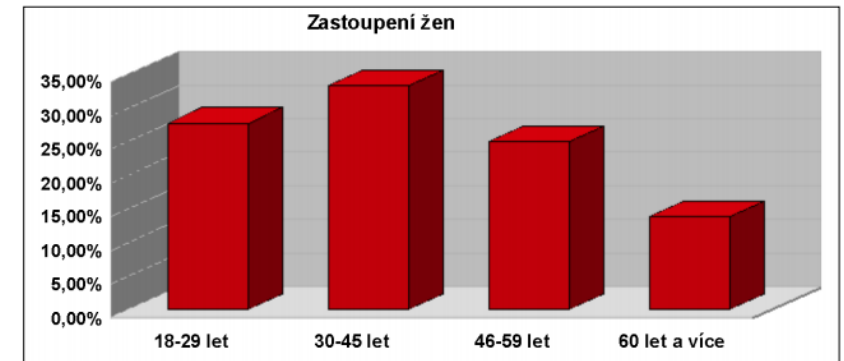
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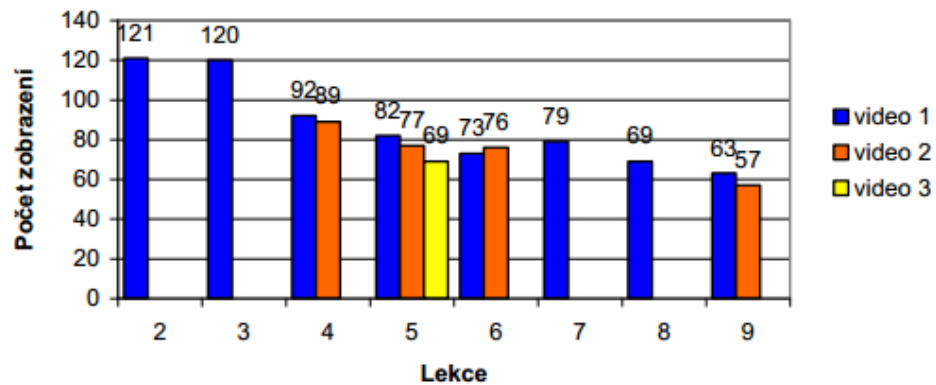
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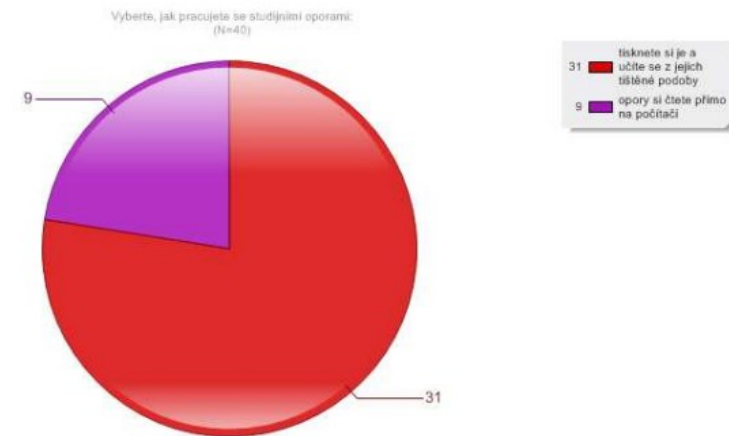
Graf 1



Výuková videa



Graf č. 7: Počet zobrazení výukových videí v prvním běhu kurzu.



Obrázek č.: Grafické znázornění preferencí uživatelů při práci se studijními oporami (zdroj: evaluace druhého běhu kurzu)

Kouření je významný rizikový faktor

zdroj: FNUSA/Kardiovize



→ srdečního infarktu a cévní mozkové příhody



→ nádorových onemocnění

→ nemoci plic

→ cukrovky



→ nemoci trávicího traktu

→ poruch spánku

Průměrný počet cigaret za den

65 let a více



56-64 let



46-55 let



36-45 let



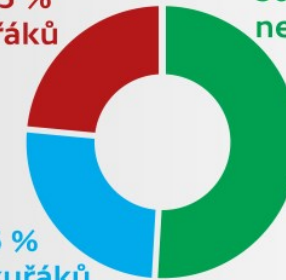
25-35 let



Podíl kuřáků a nekuřáků

23,5 %
kuřáků

50,9 %
nekuřáků



25,6 %
ex-kuřáků

18% kuřáků užívá také ostatní tabákové výrobky



Valor Especial Planos de saúde



Cuidados múltiplos

Empresas reforçam a adoção de planos coletivos para atendimento médico como instrumento para atrair profissionais e puxam crescimento do setor que faturou R\$ 70 bilhões em 2010. Por Luiz Sérgio Guimarães, para o **Valor**, de São Paulo

No final do ano passado, Márcio Coriolano, presidente da Bradesco Saúde, foi pessoalmente visitar um pequeno empresário do ramo de pizzarias que acabara de negociar com a seguradora um sofisticado plano de saúde para os seus 20 funcionários. Coriolano queria saber os motivos da decisão aparentemente peraltária. "Se eu não der o melhor para os meus empregados, meu concorrente vai acabar levando colaboradores que eu gastei muito tempo para treinar e que não será fácil repor", explicou o comerciante. Pró-feticlo, o setor dos planos privados de saúde foi favorecido em 2010 pelo acelerado crescimento da economia brasileira. O número de beneficiários cresceu cerca de 8,5% e a receita média das 1.060 operadoras deu um salto de 9,4%.

O diretor-executivo da FenaSaúde, José Gechin, acredita que o plano de saúde das empresas, os planos de saúde foram expostos na porção mais vivida da viragem de benefícios montada pelas empresas em geral para atrair novos funcionários e manter os atuais. A empresa precisa se adaptar ao funcionamento de um plano de saúde mais atraente e completo do que o oferecido pelo concorrente. E isso vale para qualquer tamanho de empresa", diz o executivo da Bradesco Saúde, empresário líder do setor entre as seguradoras, só superada, no ranking geral, pela Amil.

Esta é a principal razão de os planos corporativos, que integram o segmento chamado de coletivo, terem decolado nos indivíduos. Dominam hoje o setor. Das 44,8 milhões de usuários de planos de assistência médica (sem as odontológicas), 75% vinculam-se a planos coletivos. O trabalhador quer o carimbo em sua carteira

Vida das pequenas operadoras ficou mais complicada com a exigência de reservas de garantia, afirma Arlindo de Almeida F3



profissional não só por causa do FGTS no 13º salário. O precário sistema público de saúde torna o plano privado a segunda maior aspiração do brasileiro, vindo depois do sonho da casa própria. E trata-se de desejo satisfeito por 13,9%: mesmo depois do boom recente, só 23,4% da população brasileira estão filiados em um plano. Segundo razão é que a função reguladora da Agência Nacional de Saúde Suplementar (ANS) torna-se menos rigorosa quando a negociação é travada entre duas empresas. Juridicamente em pé de igualdade, ambas as partes podem buscar um acordo mutuamente vantajoso. Os planos coletivos são negociados em nome de grandes empresas. Juridicamente em pé de igualdade, ambas as partes podem buscar um acordo mutuamente vantajoso. Os planos coletivos são negociados em nome de grandes empresas. Juridicamente em pé de igualdade, ambas as partes podem buscar um acordo mutuamente vantajoso.

Quando os dois lados querem reduzir custos, sem perder qualidade, é esse ideal dualmente é alcançado nos planos individuais. Para o superintendente-executivo do Instituto de Estudos de Saúde Suplementar (IESS), Luiz Augusto Carneiro, o marco divisor do setor foi estabelecido pela Lei 9.656/98. Antes dela, a liberdade era total, incluindo abusos e distorções. Depois dela, o passar dos anos as normas tornaram-se excessivas. "O mercado foi engessado. Já é hora de pensar quando feita 'em casa' pelo pessoal próprio. A verticalização só não é completa porque falta a ponta da onerosa indústria de insumos hospitalares. Mas o ganho é perceptível quando se observa a taxa de sinistralidade do setor."

Os dados mais recentes da ANS, do terceiro trimestre de 2010, mostram que enquanto os planos empresariais apresentaram a maior taxa de crescimento (3,3%), os individuais se expandiram 1,7%. Já as apólices coletivas por adesão, fechadas com entidades de classe e categorias profissionais, sofreram redução de 0,4%. Em setembro, o presidente da Associação de Medicina de Medicina de Grupo (Abramed), Arlindo de Almeida, estima que a lateralização do setor esteja situada em termos médios entre 2% e 3%. A taxa de sinistralidade consolidada pela ANS para janeiro a setembro de 2010 foi de 51,1%, bem inferior à de 2009, ano em que os consumidores, por medo de perder o emprego e, seu plano de saúde se desmanchou exageradamente os serviços médicos.

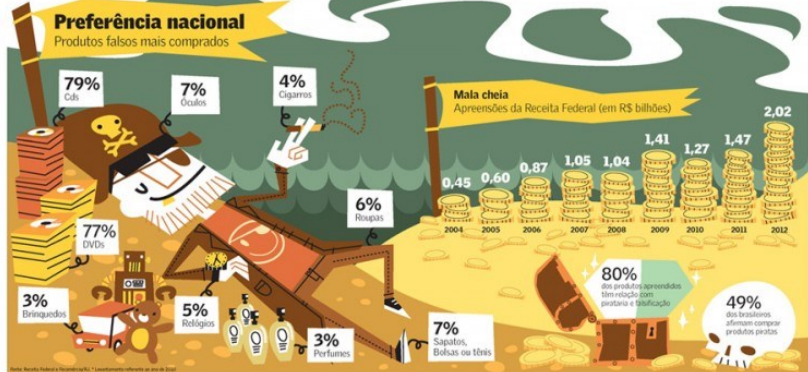
bra que os contratos assinados antes da vigência da Lei 9.656/98 não são regulados pela ANS. Neles vale juridicamente o teor impresso. É por isso que os "antigos" são os planos que concentram a maior parte dos conflitos e demandas judiciais. Ele defende a revisão da metodologia que define o ajuste anual dos planos individuais. A agência, segundo ele, trata igualmente os desequilíbrios, aplicando o percentual médio independentemente das peculiaridades de cada plano. O índice de aumento é calculado tendo como base o ajuste feito pelos planos coletivos.

A capacidade de reduzir os custos presentes e minimizar os riscos futuros está proporcionalmente condicionada ao poder de fogo cubido na mesa onde sentam para negociar operadoras, médicos, laboratórios e hospitais. Um dos setores presentes e minimizar os riscos futuros está proporcionalmente condicionada ao poder de fogo cubido na mesa onde sentam para negociar operadoras, médicos, laboratórios e hospitais. Um dos setores presentes e minimizar os riscos futuros está proporcionalmente condicionada ao poder de fogo cubido na mesa onde sentam para negociar operadoras, médicos, laboratórios e hospitais.

Elá é a maior entre todos os ramos de seguro. Em média, atinge 50%: apenas metade da receita proporcionada pelos prêmios é destinada ao pagamento de sinistros. A segunda cobre despesas administrativas, pagamento de tributos e agentes de comercialização. É também daí que sai o lucro. A realidade para o setor de saúde é outra. O presidente da Associação de Medicina de Medicina de Grupo (Abramed), Arlindo de Almeida, estima que a lateralização do setor esteja situada em termos médios entre 2% e 3%. A taxa de sinistralidade consolidada pela ANS para janeiro a setembro de 2010 foi de 51,1%, bem inferior à de 2009, ano em que os consumidores, por medo de perder o emprego e, seu plano de saúde se desmanchou exageradamente os serviços médicos.

Um amplo estudo sobre pirataria publicado em 2011 pelo Conselho Nacional de Combate à Pirataria, afirma que os produtos falsificados representam 77% dos produtos falsificados no Brasil. Outros produtos falsificados incluem brinquedos (3%), óculos (7%), cigarros (4%), roupas (6%), perfumes (3%), sapatos (7%) e brinquedos (3%).

Valor Especial Pirataria



Pirataria busca verdadeira dimensão dos produtos falsificados na economia. Por Yan Boechat, para o Valor, de São Paulo

Terceiro trimestre de 2010, o país que mais pressiona o governo a adotar medidas mais duras no combate à pirataria, o Brasil tem um comércio exterior em crescimento de 10,5%. Mas a própria Receita não sabe exatamente o quanto destes números se referem às falsificações ou cópias ilegais, já que as apreensões são referentes a contrabando, desmancha e pirataria, sem a discriminação de cada item.

Tal se deu em algo como R\$ 40 bilhões apenas em prejuízos fiscais, mas a verdade é que esse número ainda é incerto", diz Edson Luís Vismara, presidente do Fórum Nacional de Combate à Pirataria, uma entidade financiada por empresas vítimas de falsificação, como Adidas, HP e Sonda Cruz, para fazer lobby de sua causa junto ao governo, o Congresso e a opinião pública. Por conta desse apelo de dados, o governo decidiu que uma das principais prioridades no 3º

Plano Nacional de Combate à Pirataria, que está em seus primeiros meses de gestão, será, finalmente, descobrir a verdadeira dimensão dos produtos falsificados na economia brasileira. Por meio do CNCP, o órgão ligado ao Ministério da Justiça que conta com a participação da indústria e da academia, uma ampla pesquisa será produzida. A ideia é atacar em duas frentes. Uma ampla pesquisa será produzida. A ideia é atacar em duas frentes. Uma ampla pesquisa será produzida. A ideia é atacar em duas frentes.

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Preços altos impulsionam demanda por cópias ilegais

Preços altos impulsionam demanda por cópias ilegais

Preços altos impulsionam demanda por cópias ilegais

Fabricantes de softwares exploram mercado externo, diz Dinkelmann F4

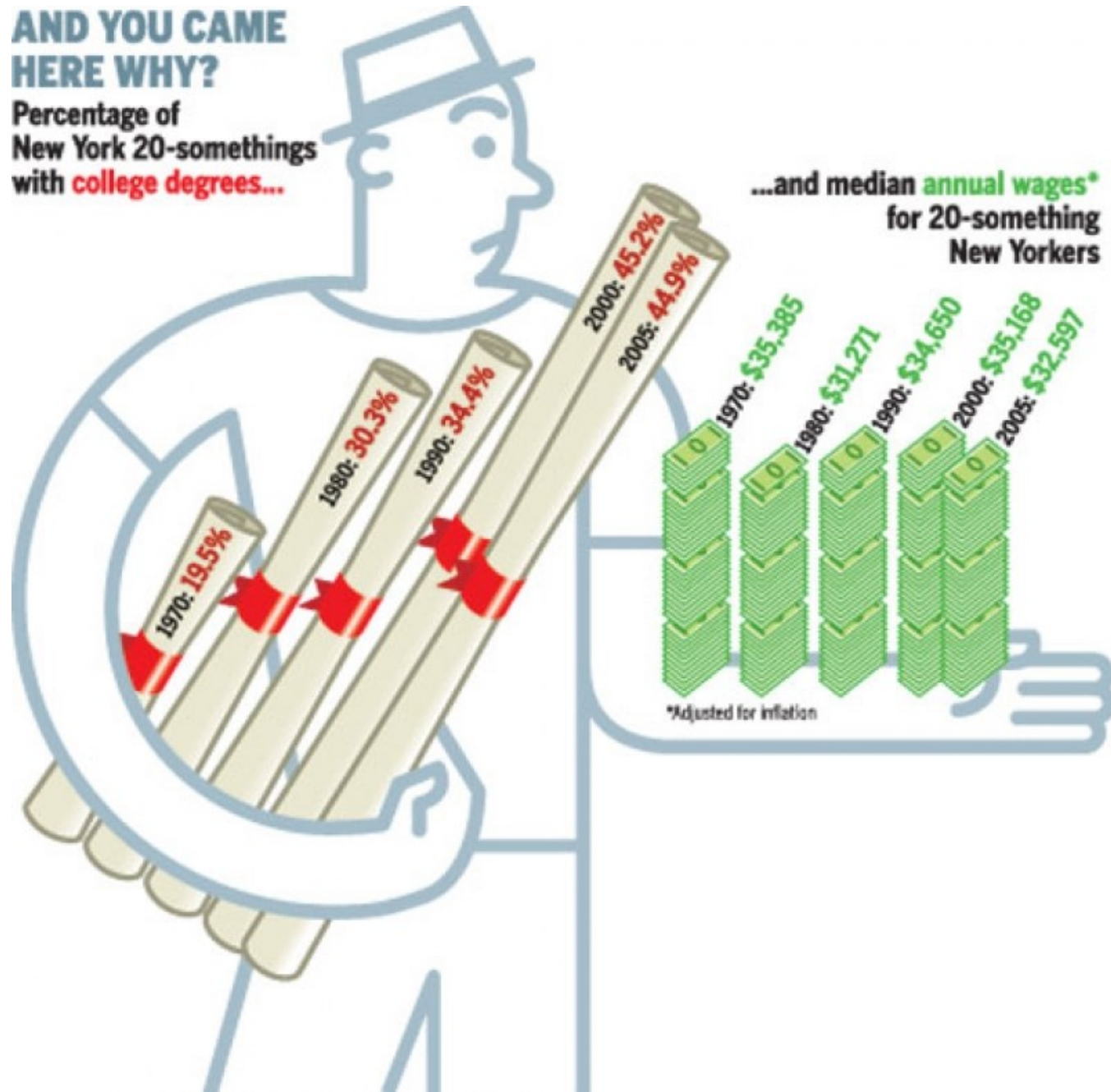


Os preços altos impulsionam a demanda por cópias ilegais. Os preços altos impulsionam a demanda por cópias ilegais. Os preços altos impulsionam a demanda por cópias ilegais.

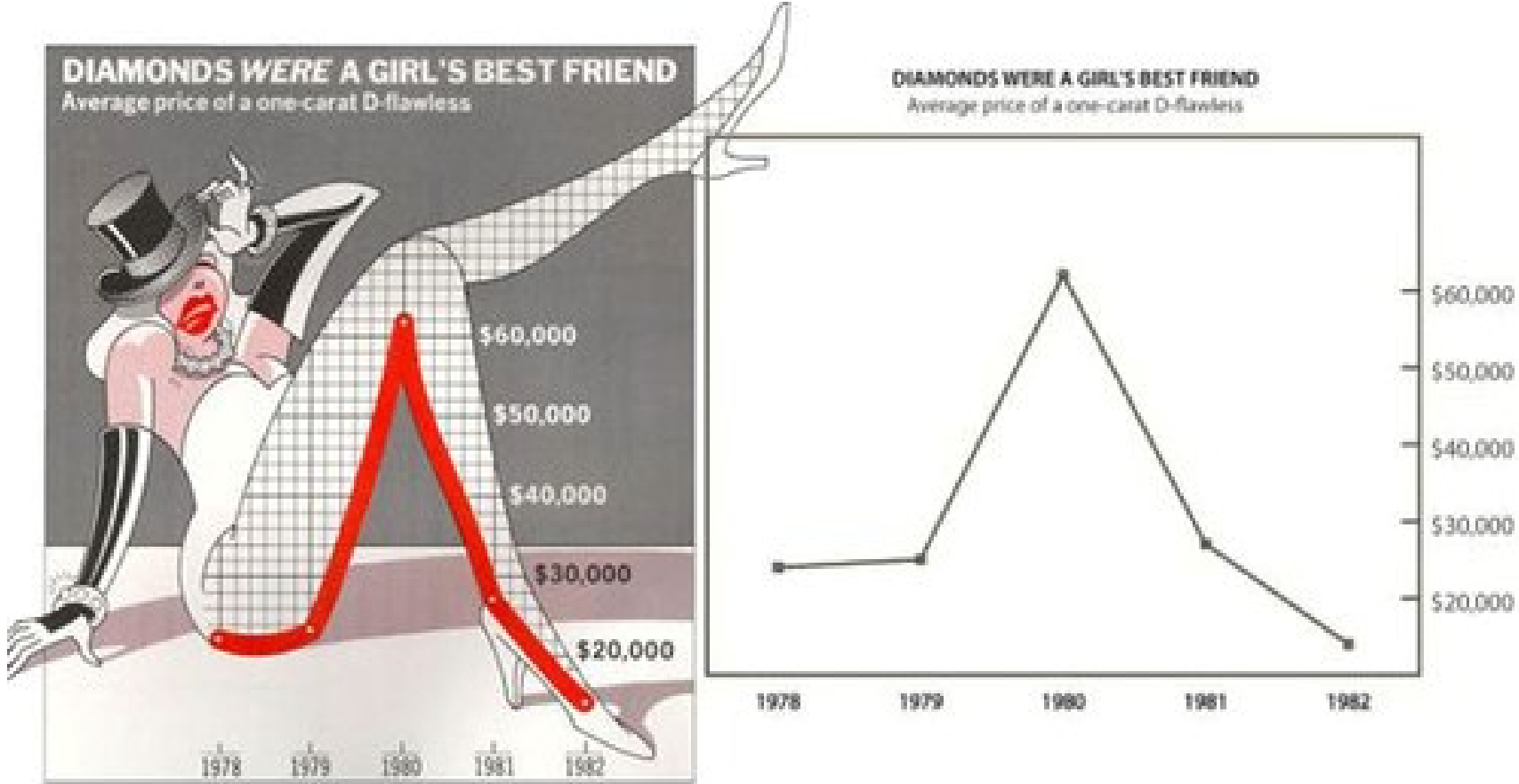
Os preços altos impulsionam a demanda por cópias ilegais. Os preços altos impulsionam a demanda por cópias ilegais. Os preços altos impulsionam a demanda por cópias ilegais.

AND YOU CAME HERE WHY?

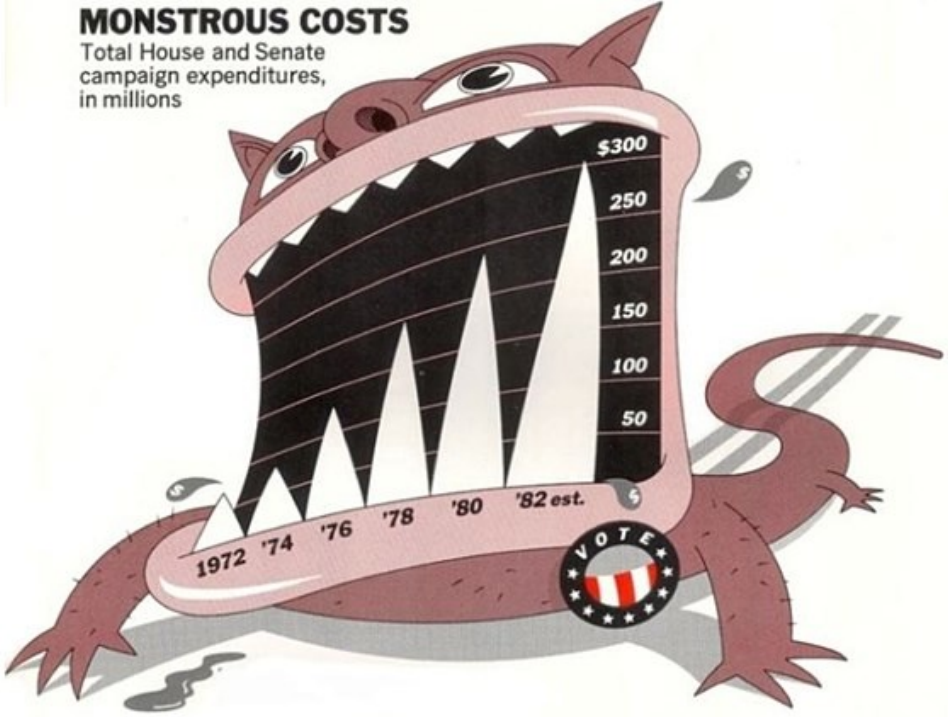
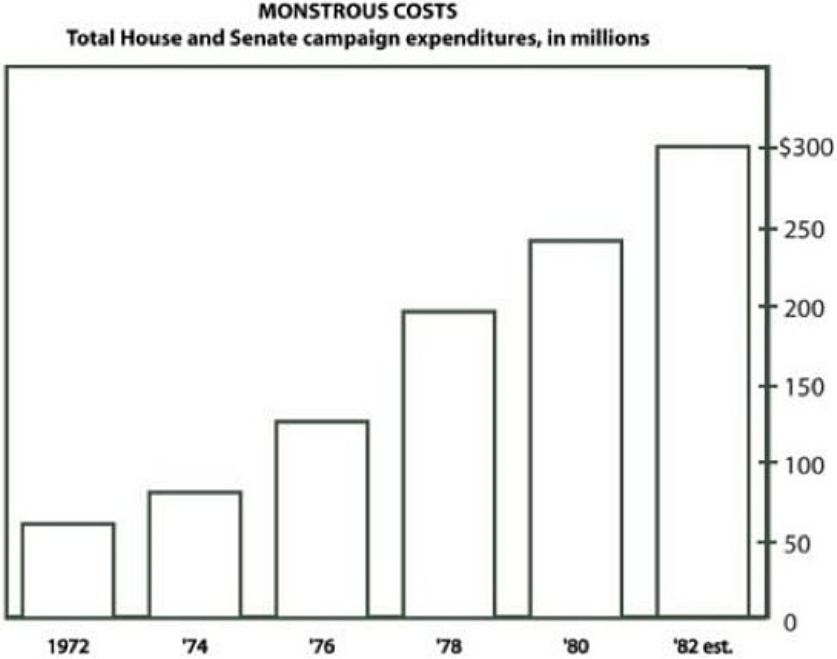
Percentage of
New York 20-somethings
with college degrees...



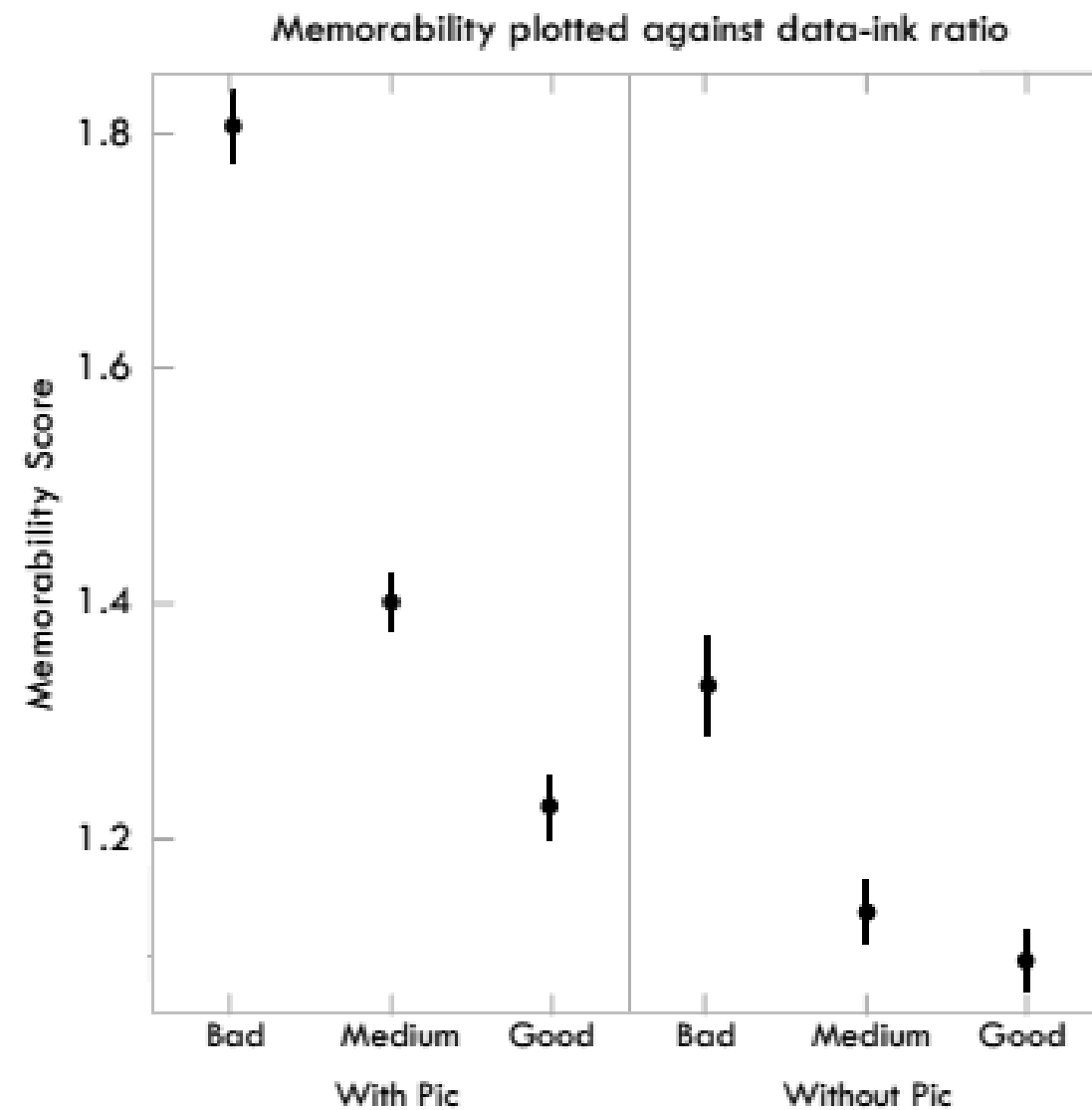
memorability X přesnost



memorability X přesnost



memorability X přesnost



„[...] we compared interpretation accuracy and long-term recall for plain and Holmes-style‘ charts. We found that people’s accuracy in describing the embellished charts was no worse than for plain charts, and that their recall after a two-to-three week gap was significantly better. In addition, participants preferred the embellished charts.“

Useful Junk? The Effects of Visual Embellishment on Comprehension and Memorability of Charts

Scott Bateman, Regan L. Mandryk, Carl Gutwin,
Aaron Genest, David McDine, Christopher Brooks

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scott.bateman@usask.ca, regan@cs.usask.ca, gutwin@cs.usask.ca,
aaron.genest@usask.ca, dam085@mail.usask.ca, cab938@mail.usask.ca

ABSTRACT

Guidelines for designing information charts often state that the presentation should reduce ‘chart junk’ – visual embellishments that are not essential to understanding the data. In contrast, some popular chart designers wrap the presented data in detailed and elaborate imagery, raising the questions of whether this imagery is really as detrimental to understanding as has been proposed, and whether the visual embellishment may have other benefits. To investigate these issues, we conducted an experiment that compared embellished charts with plain ones, and measured both interpretation accuracy and long-term recall. We found that people’s accuracy in describing the embellished charts was no worse than for plain charts, and that their recall after a two-to-three-week gap was significantly better. Although we are cautious about recommending that all charts be produced in this style, our results question some of the premises of the minimalist approach to chart design.

Author Keywords

Charts, information visualization, imagery, memorability.

ACM Classification Keywords

H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

General Terms

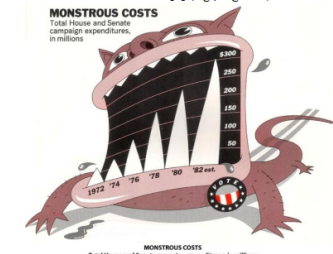
Design, Human Factors

INTRODUCTION

Many experts in the area of chart design, such as Edward Tufte criticize the inclusion of visual embellishment in

data-ink – or the ink in the chart used to represent data.

Despite these minimalist guidelines, many designers include a wide variety of visual embellishments in their charts, from small decorations to large images and visual backgrounds. One well-known proponent of visual embellishment in charts is the graphic artist Nigel Holmes, whose work regularly incorporates strong visual imagery into the fabric of the chart [7] (e.g., Figure 1).



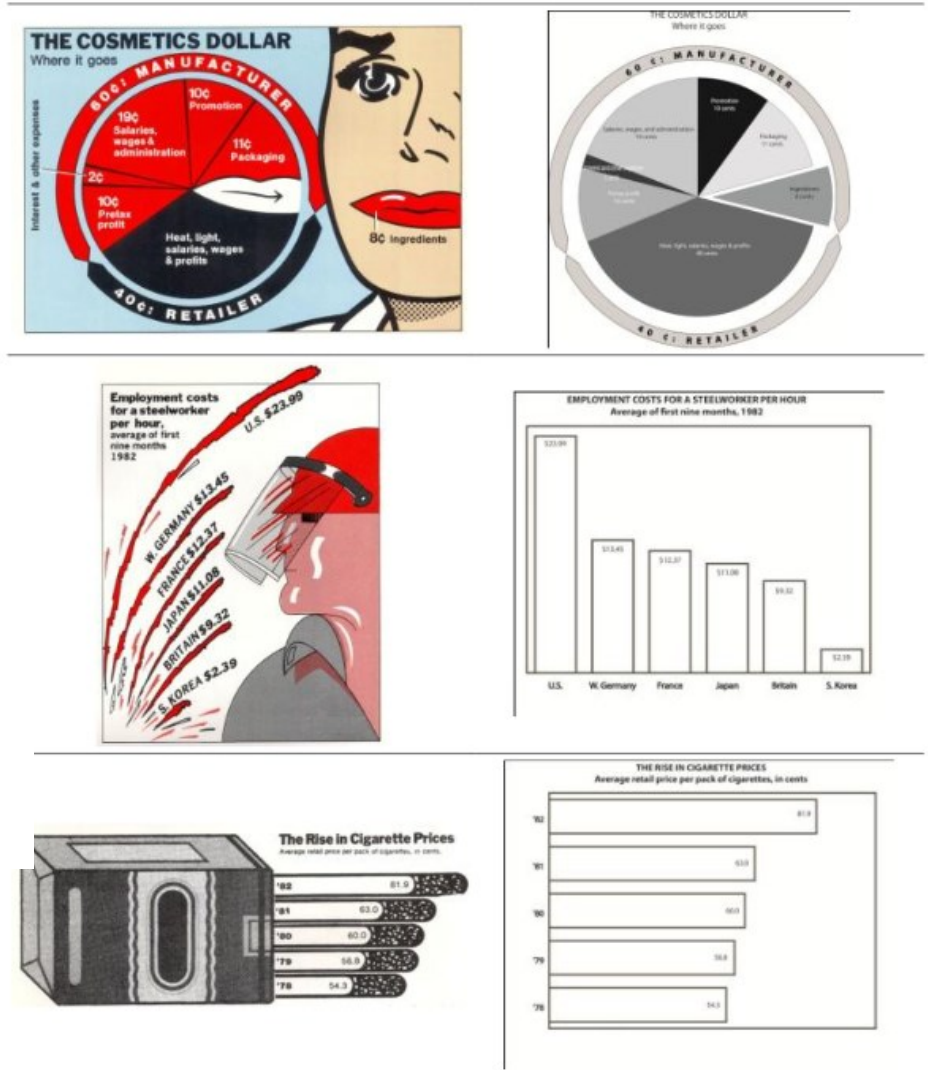
Potíže s metodologií

- [Stephen Few](#)
- [Kaiser Fung](#)

Participants and Apparatus

Twenty participants (9 male, 11 female), aged between 18 and 40 were recruited from a local university (7 graduate, 13 undergraduate). Of the 20 participants, 17 said they at least occasionally created charts and 19 said they at least occasionally read or interpreted charts.

WEIRD bias





McKinsey & Company ✓
@McKinsey

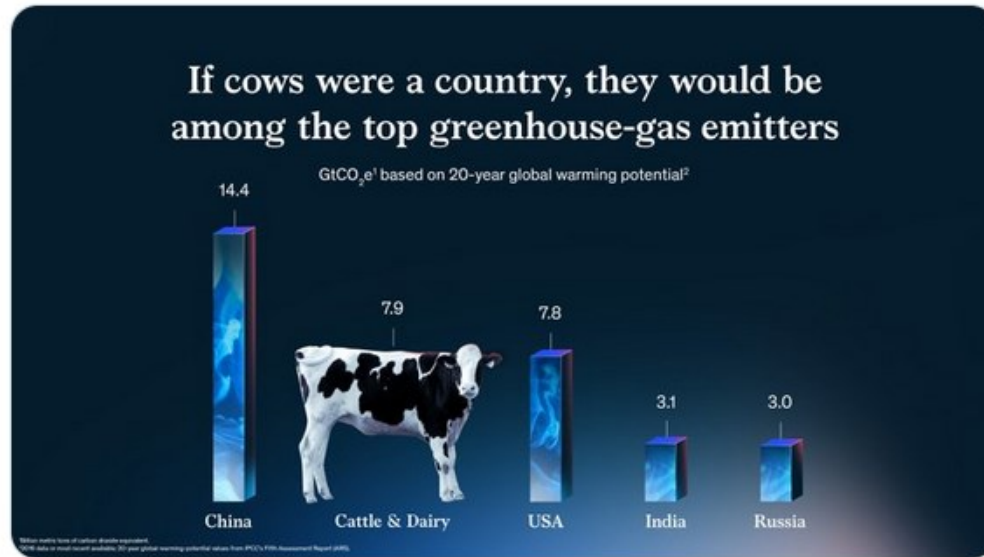


If cows were a country, they would be among the top greenhouse-gas emitters 🐄

Holding global warming to 1.5°C will require major reforms for the food and forestry industries.

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mck.co/3C4wAqH

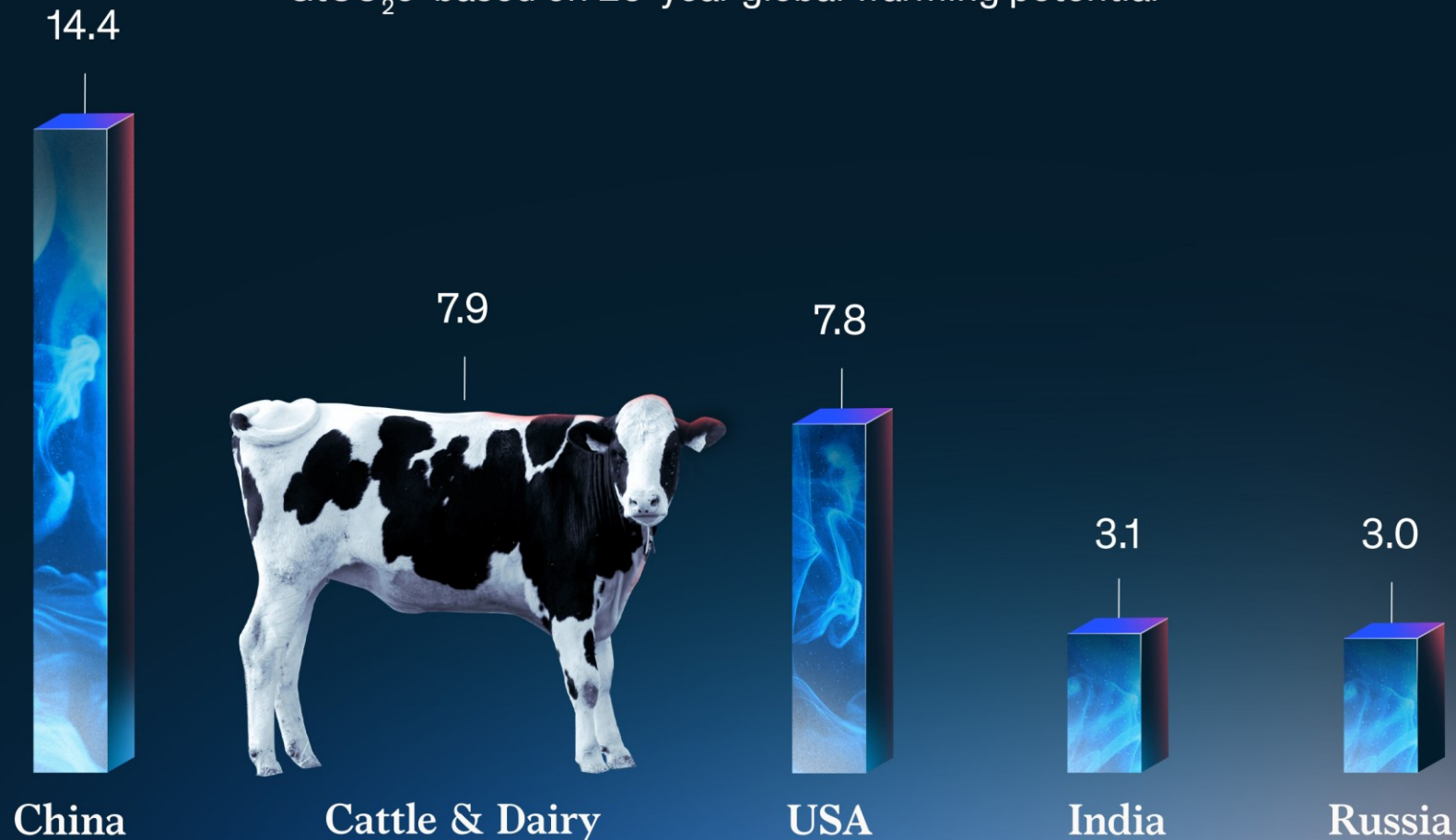
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5:00 dop. · 11. 11. 2021 · Sprinklr

If cows were a country, they would be among the top greenhouse-gas emitters

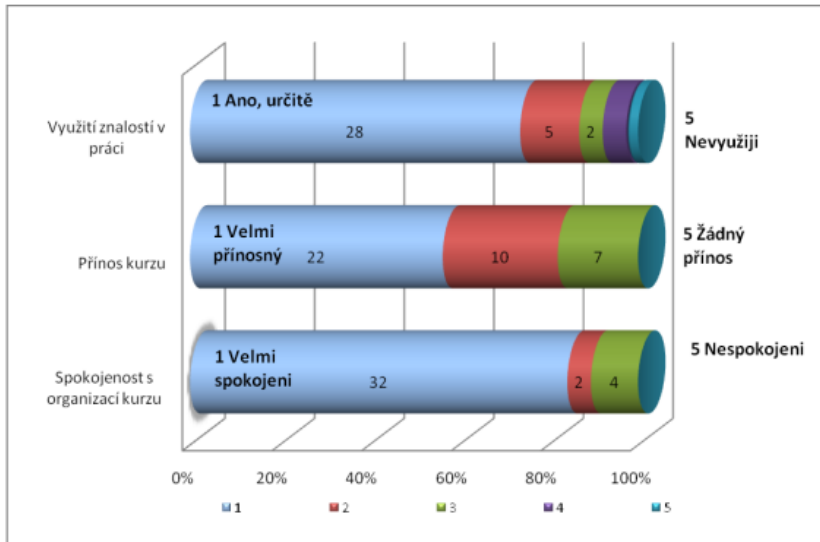
GtCO₂e¹ based on 20-year global warming potential²



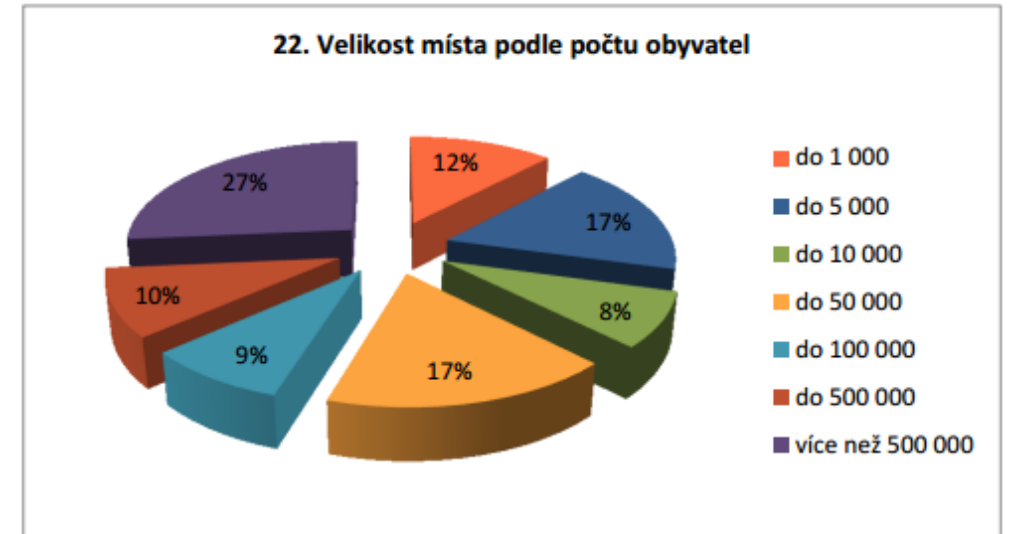
¹Billion metric tons of carbon dioxide equivalent.

²2016 data or most recent available; 20-year global-warming-potential values from IPCC's Fifth Assessment Report (AR5).

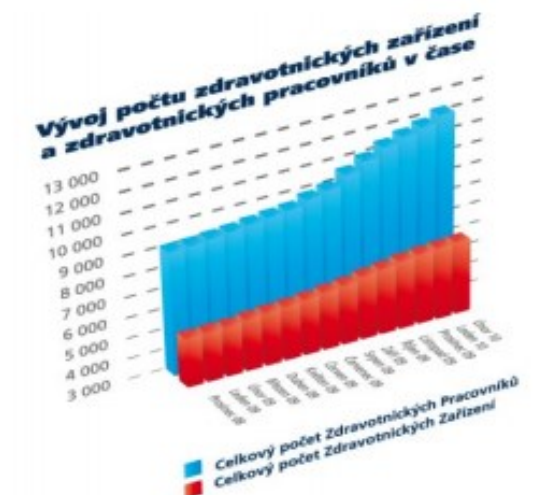
3D chartjunk



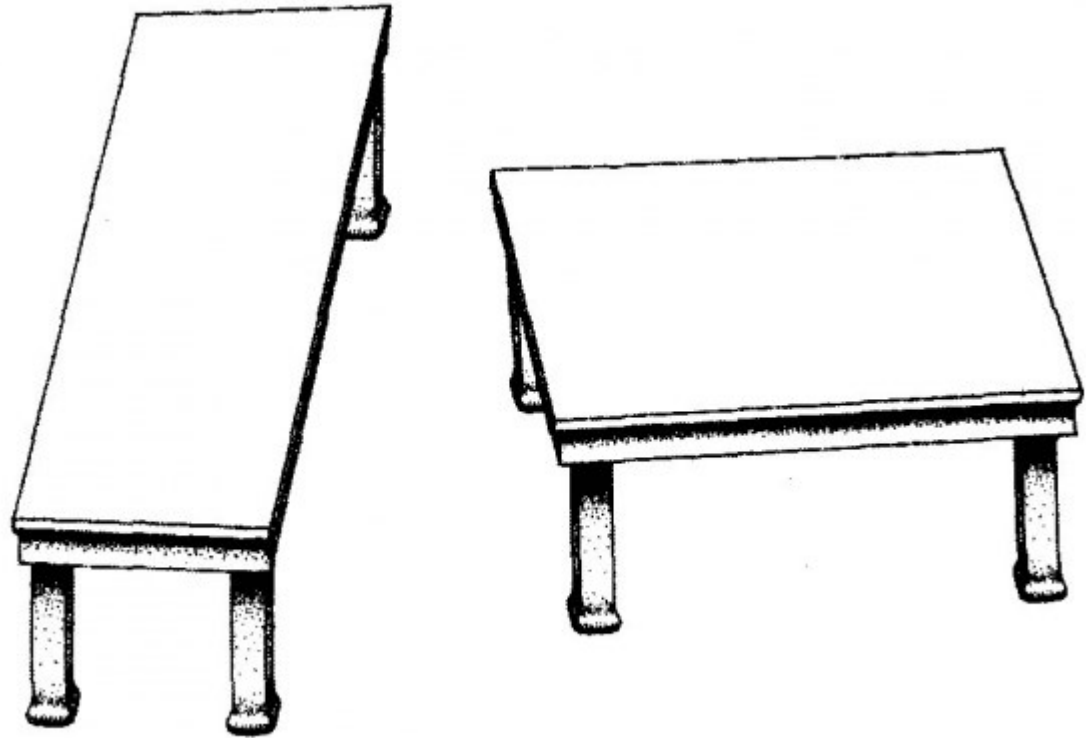
GRAF 2 – Využití znalostí, přínos, organizace kurzu.



Graf 5: Místo, kde žijete, má zhruba počet obyvatel?



Shepard's table



viz.wtf

junkcharts.typepad.com