



DATAVIZ

**Como evidenciar o
que realmente
importa?**

Quem sou eu...



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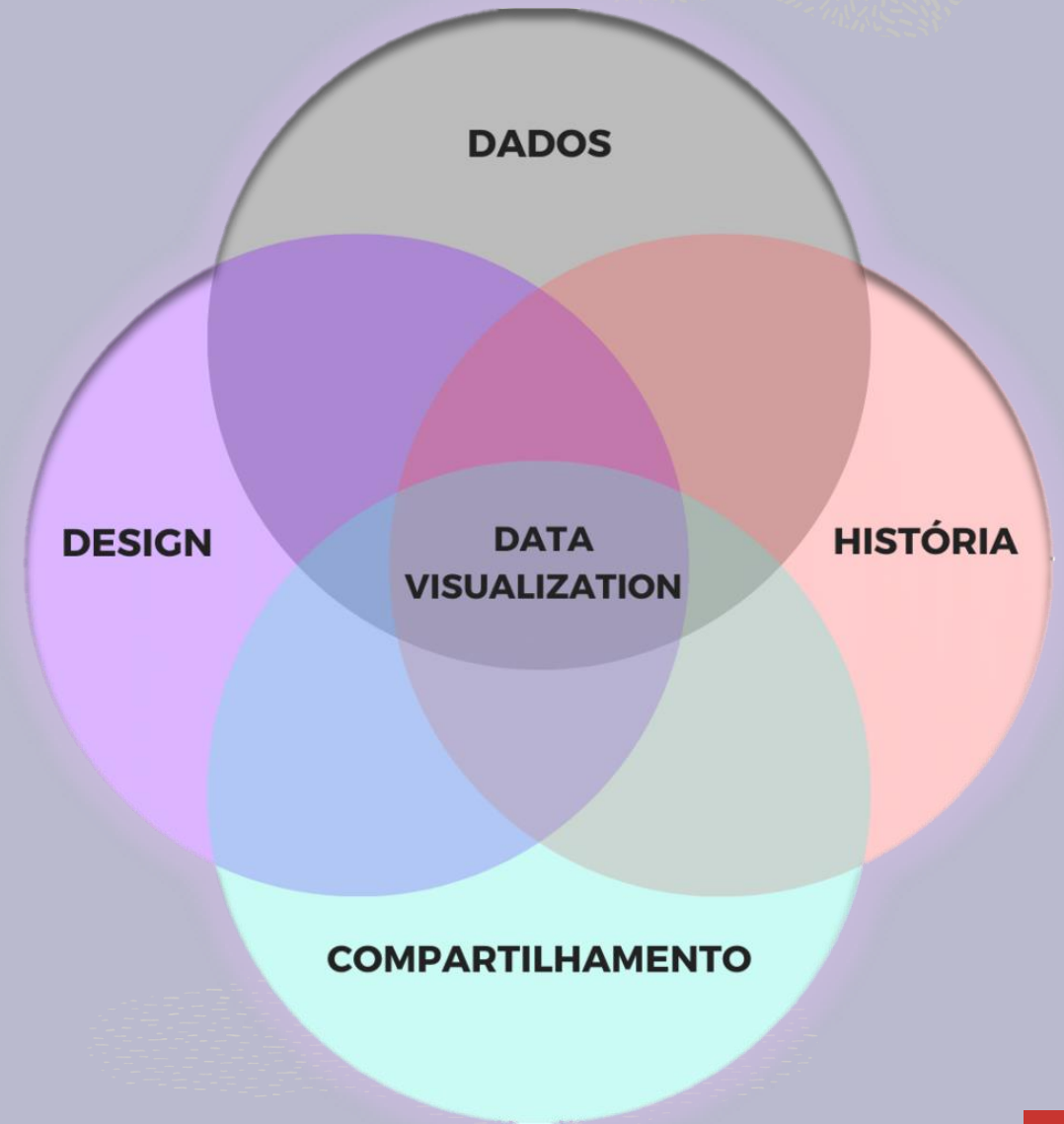
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O que é?

Data Visualization, ou Data Viz, é o nome dado a uma representação gráfica de um conjunto de dados.

O objetivo da Data Visualization é tornar a interpretação desses dados mais clara e objetiva.



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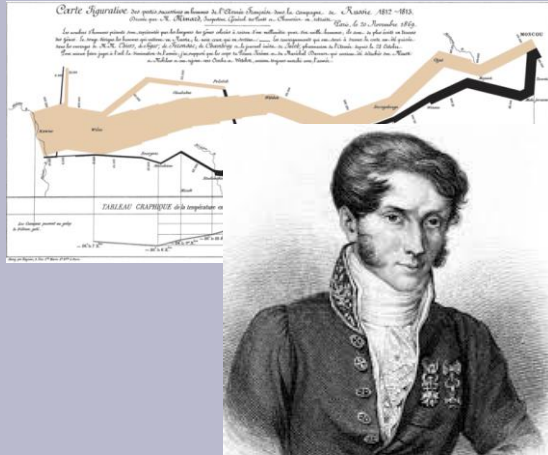
História



William Playfair
"pai da estatística"

1700

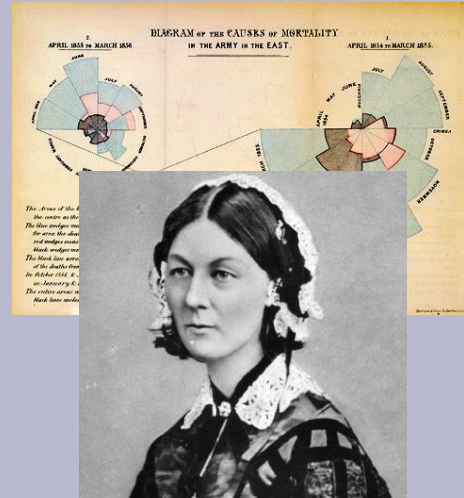
Acredita-se que a Playfair tenha inventado a linha, a barra e o gráfico que usamos muitas vezes hoje.



Charles Joseph Minard
Engenheiro Civil

1812

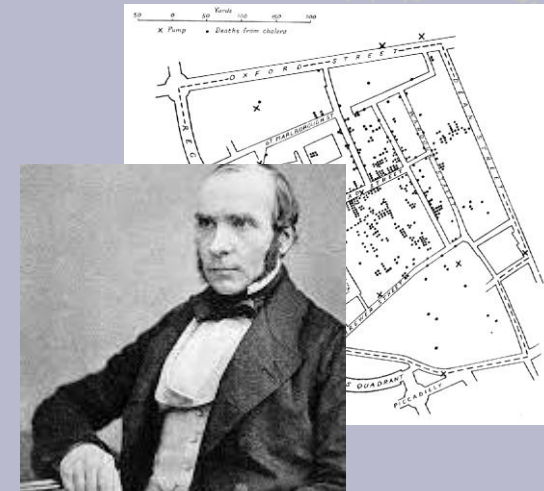
O mapa da campanha russa de Napoleão mostrando a perda dramática de seu exército sobre o avanço em Moscou e o seguinte retiro.



Florence Nightingale
Enfermeira e Jornalista

1854

Conhecida por seus diagramas "coxcomb" ou "rose", atuou na guerra da crimeia. Esses gráficos revolucionários ajudaram a lutar por melhores condições hospitalares, salvando as vidas dos soldados.



John Snow
Médico

Utilizou a análise espacial em 1854 para reverter o surto de cólera vivido no bairro Soho, na Inglaterra



Otto Schulze
Engenheiro

1902

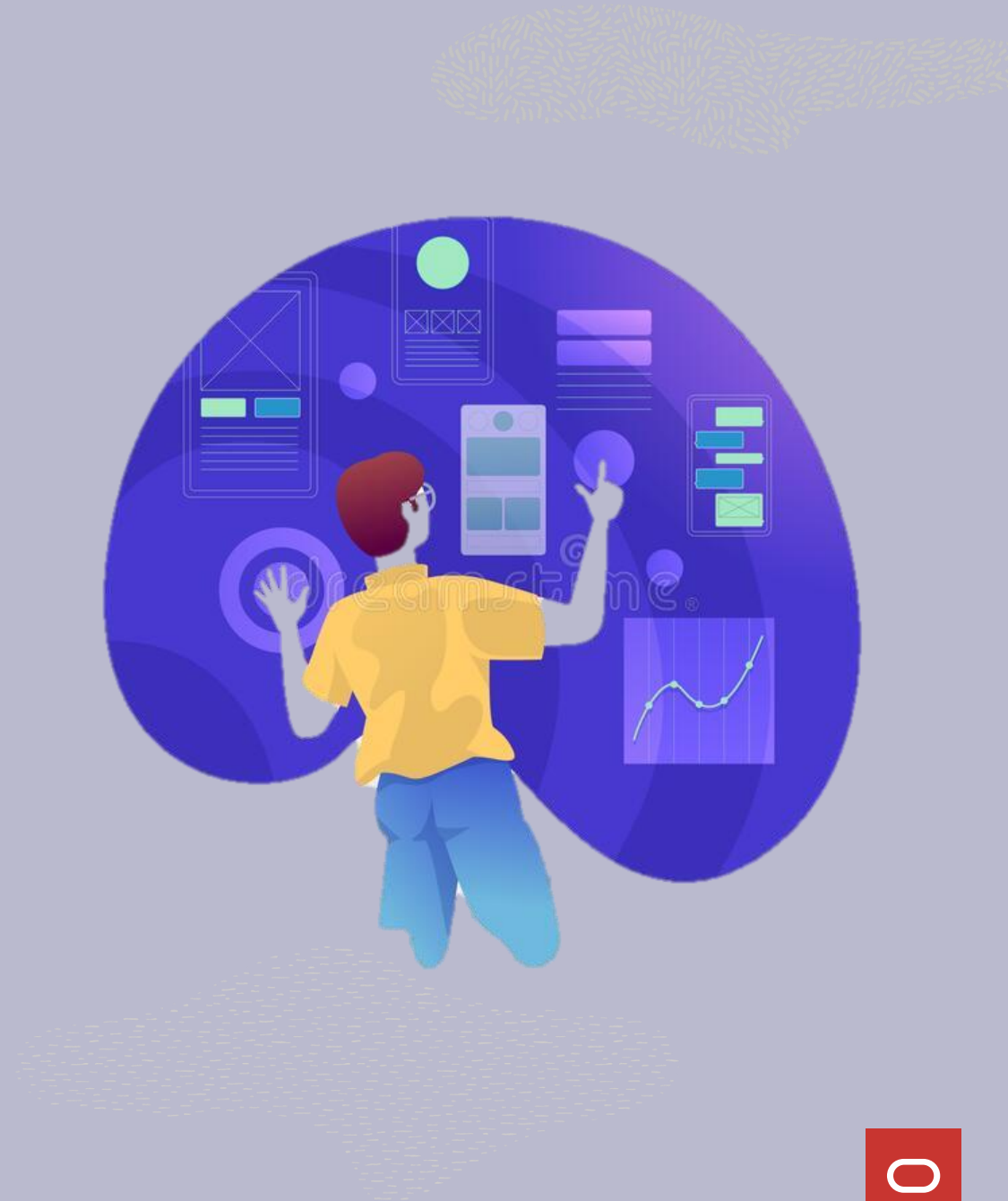
Foi o primeiro instrumento de interface homem/carro de que se tem notícia, para informar ao motorista a velocidade de veículos que, na época, mal passavam dos 30 km/h.

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O que é um Dashboard?

A palavra *dashboard* significa “Painel” em português. Sendo assim, pode-se definir esse instrumento como um painel que reúne as métricas de indicadores importantes na tomada de decisões em um determinado processo.

Isto é, o dashboard é uma tela que traz as métricas e indicadores do processo de maneira clara e sucinta visualmente.



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Benefícios de usar Dashboards

Aumenta a Eficiência

Torna os dados mais acessíveis

Simplifica a tomada de decisões

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Tipos de Dashboard

Estratégico

Operacional

Tático

Dados



**Visualmente
Apresentável**



Classificado



Contextualizado



Organizado



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Princípios Básicos

Exato

Útil

Escalável



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07 erros comuns

1

Excesso de informações

2

Cores sem sentido

3

Imagem desconfortável
aos olhos

4

Figuras desnecessárias

5

Barra de Rolagem

6

Público errado

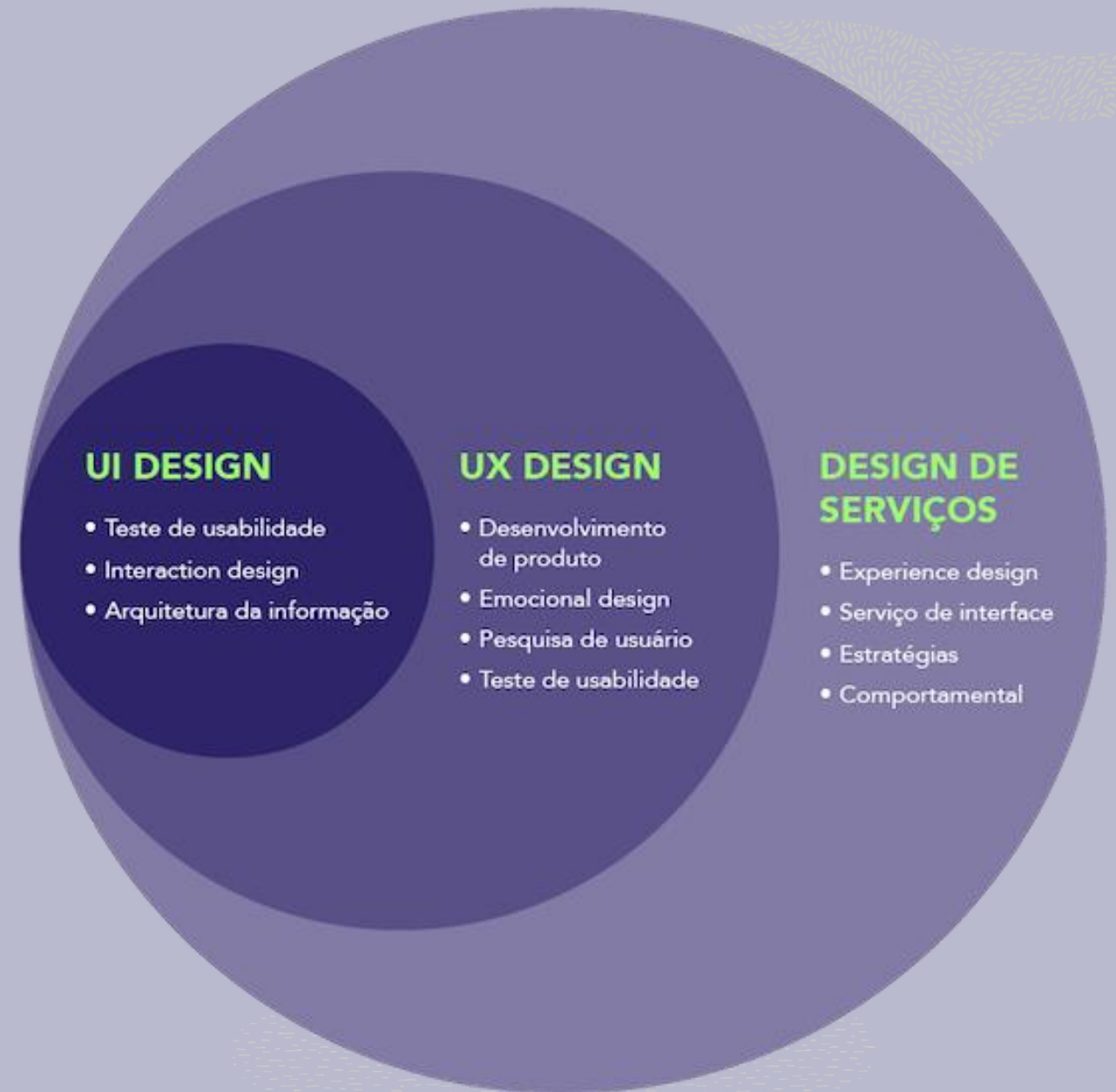
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Centralizado

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Usando UX e UI

“Design de serviço é aquilo que faz você entrar em uma cafeteria, não em outra, quando elas estão lado a lado, vendendo o mesmo café, ao mesmo preço”

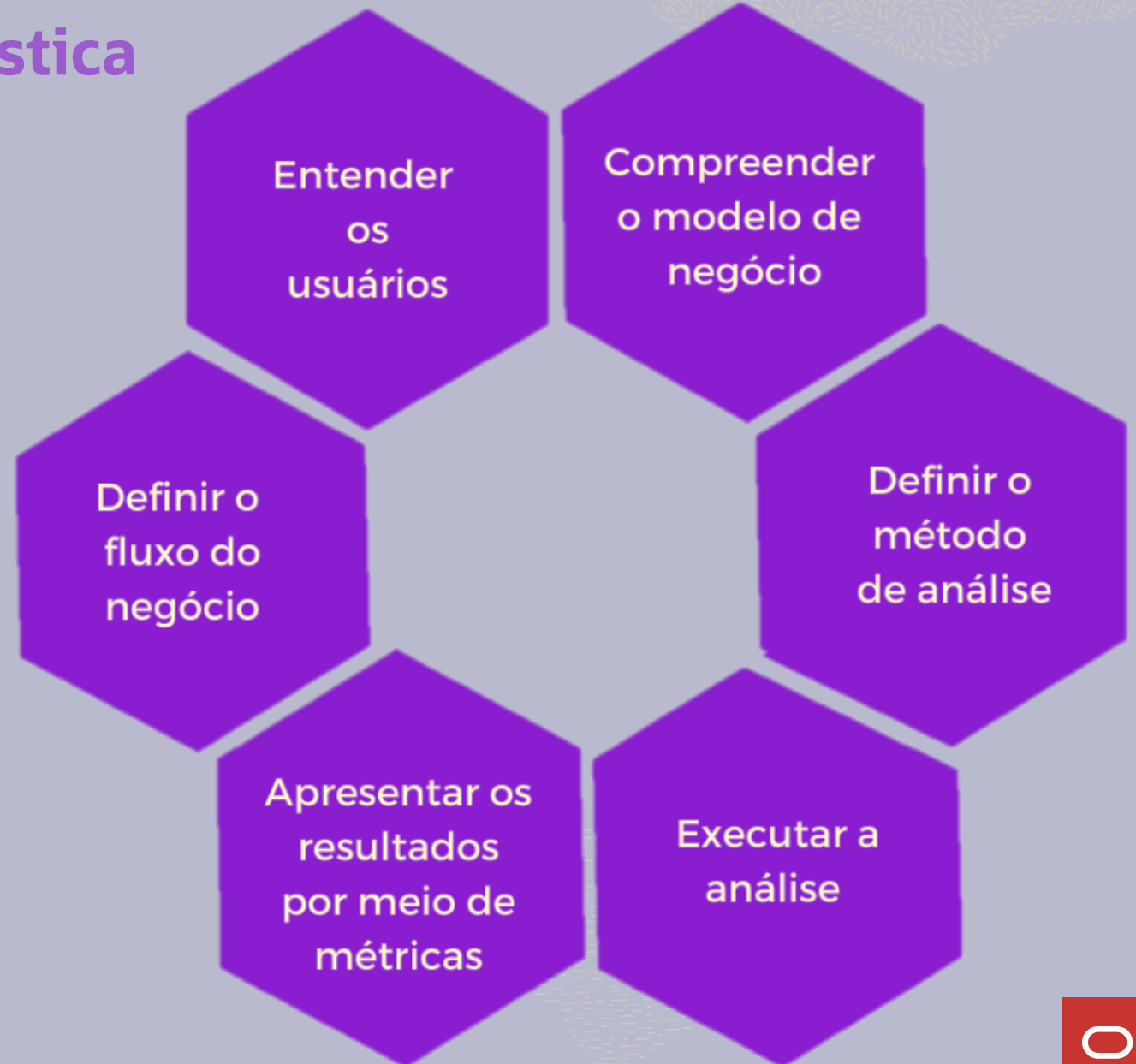


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Usando UX e UI – Análise Heurística

O trabalho de análise de dados tem a função também de dar relevância às informações abordadas, pondo-as na perspectiva de demandas empresariais específicas.

A análise heurística é uma espécie de “inspeção” de usabilidade. Consiste em avaliar uma interface para determinar se obedece a princípios pré-determinados



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Usando UX e UI - Experiências



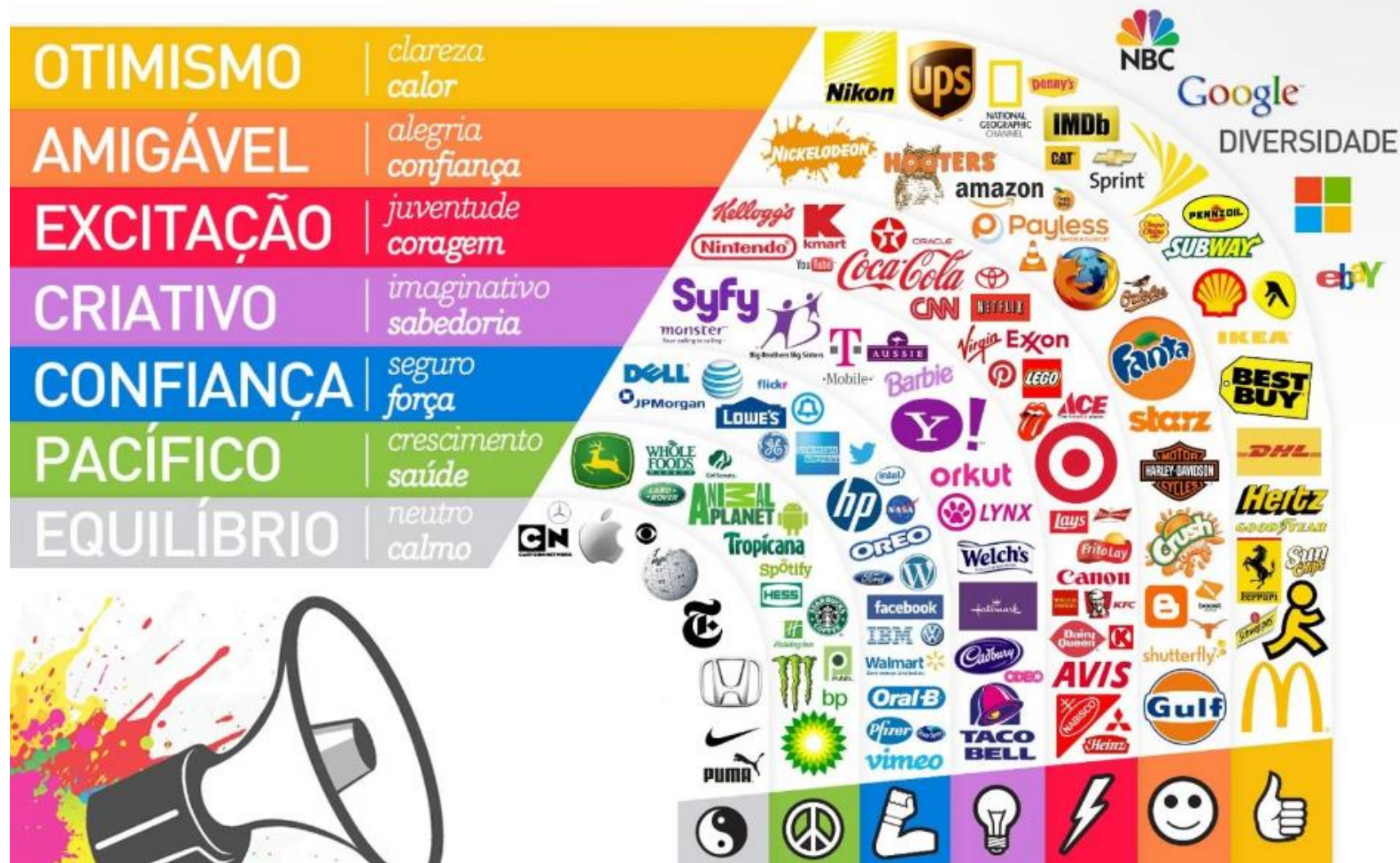


INFLUÊNCIA DAS CORES

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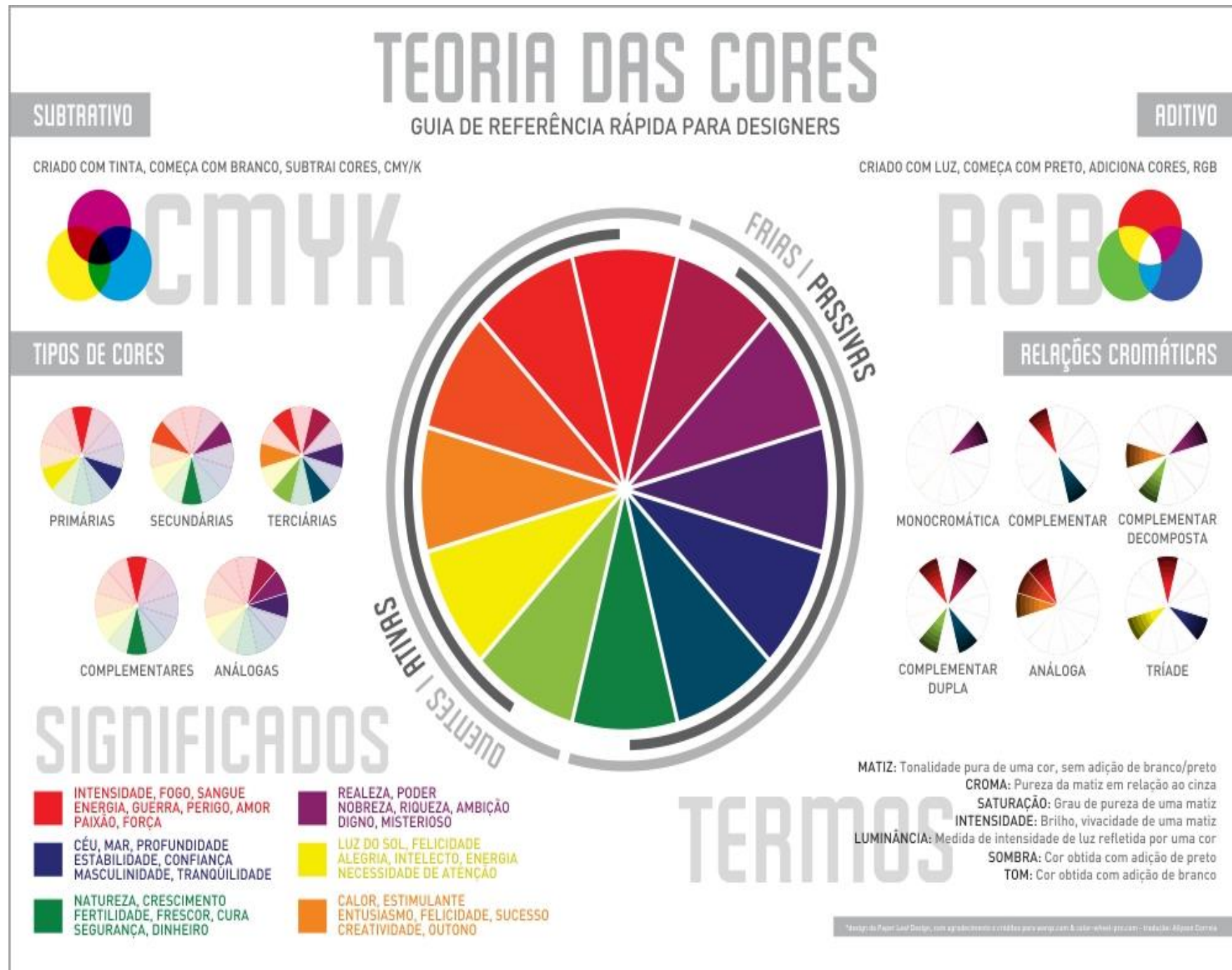
Papel das Cores

GUIA EMOCIONAL DAS CORES



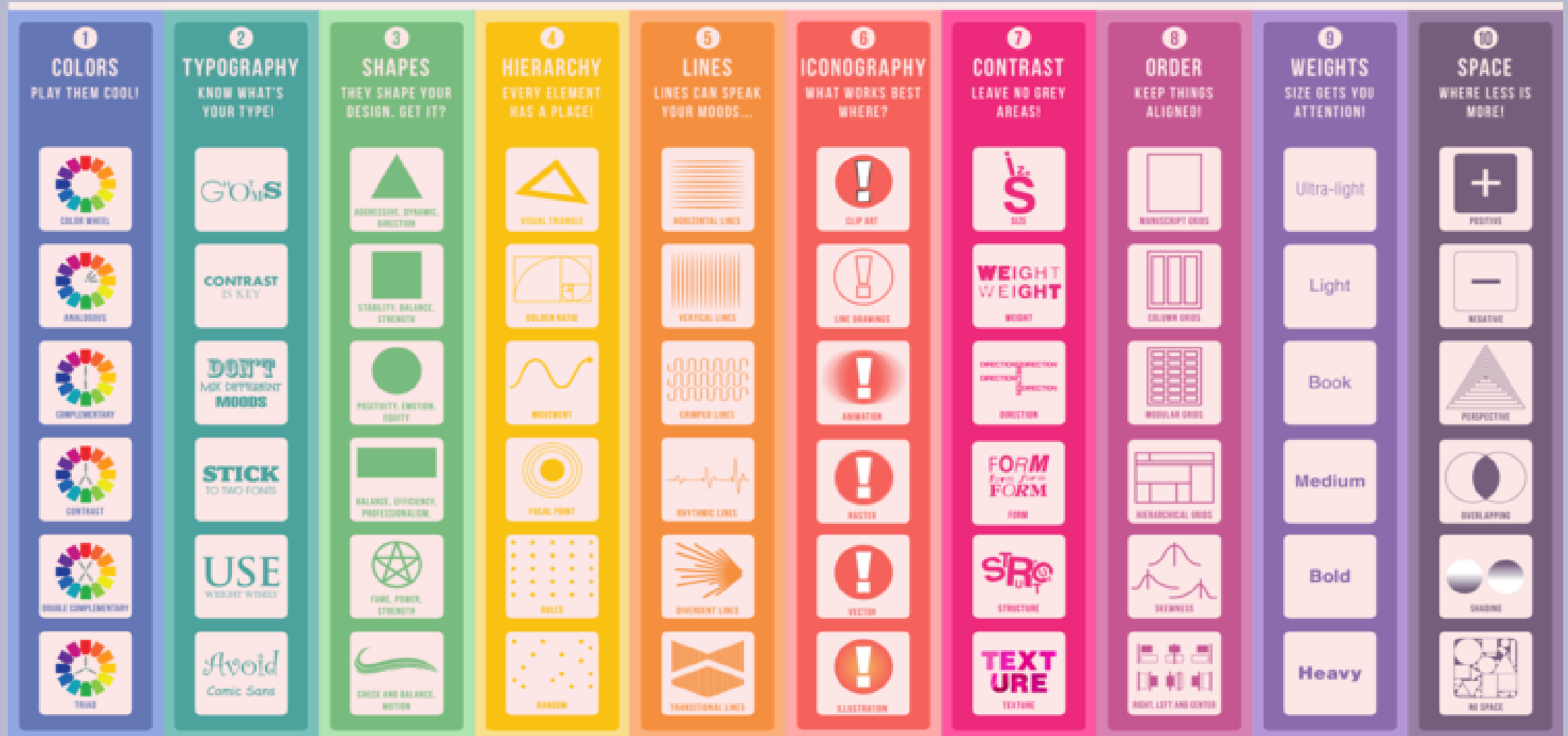
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Papel das Cores



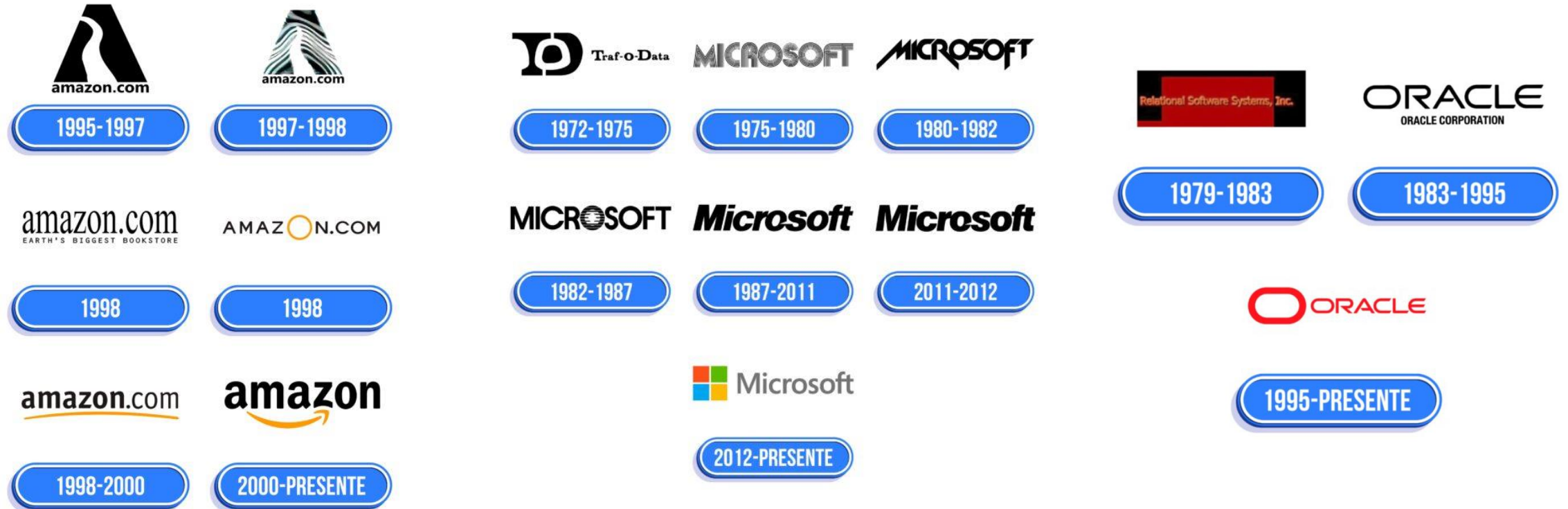
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10 mandamentos da comunicação visual



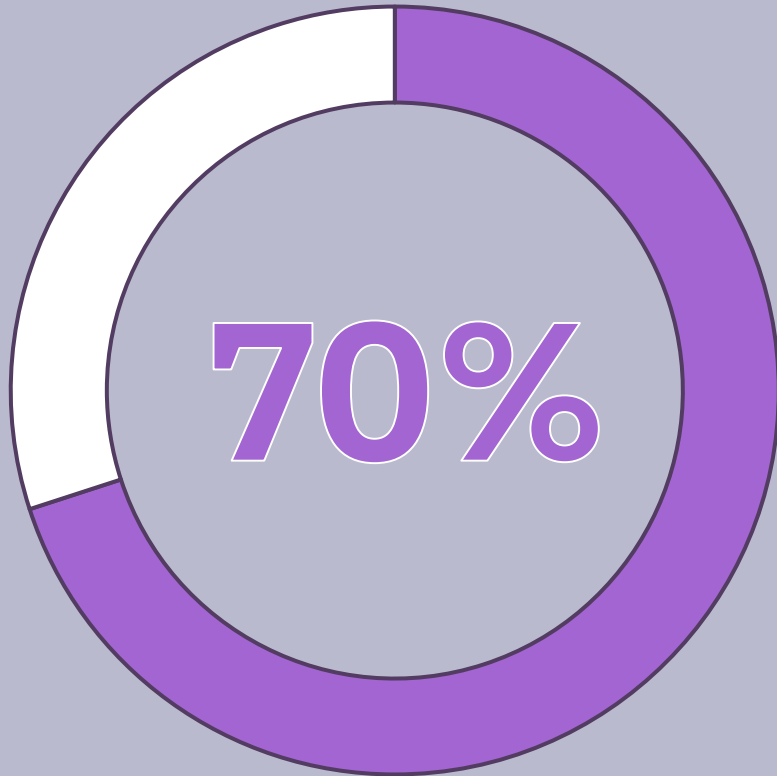
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Tipografia Importa?



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Engajamento

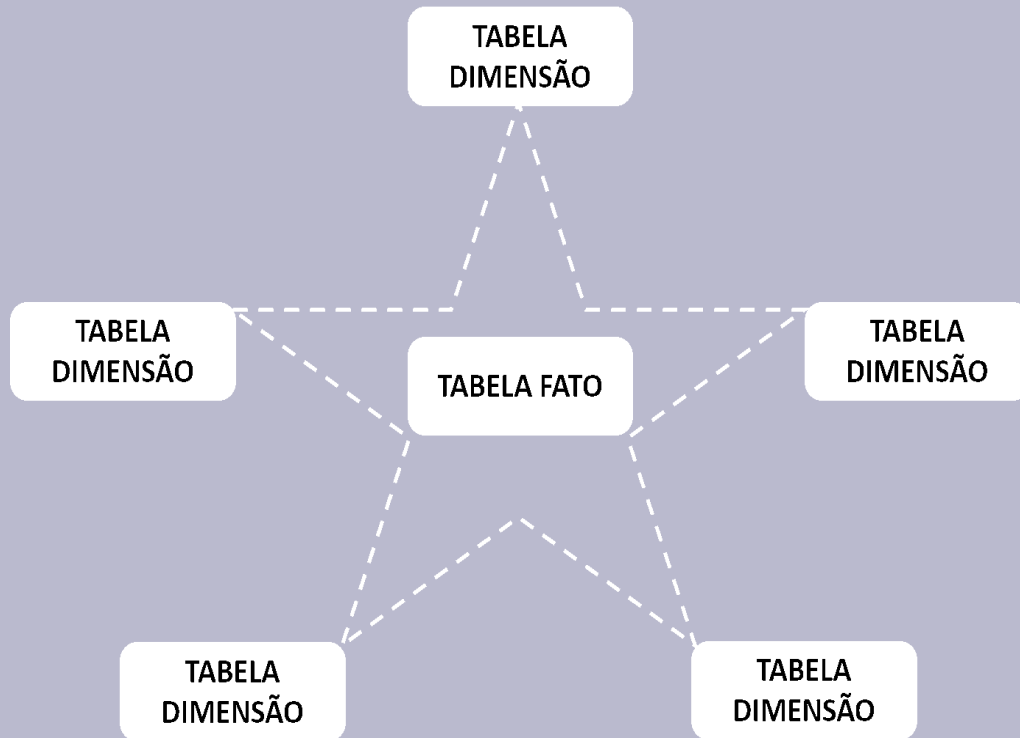




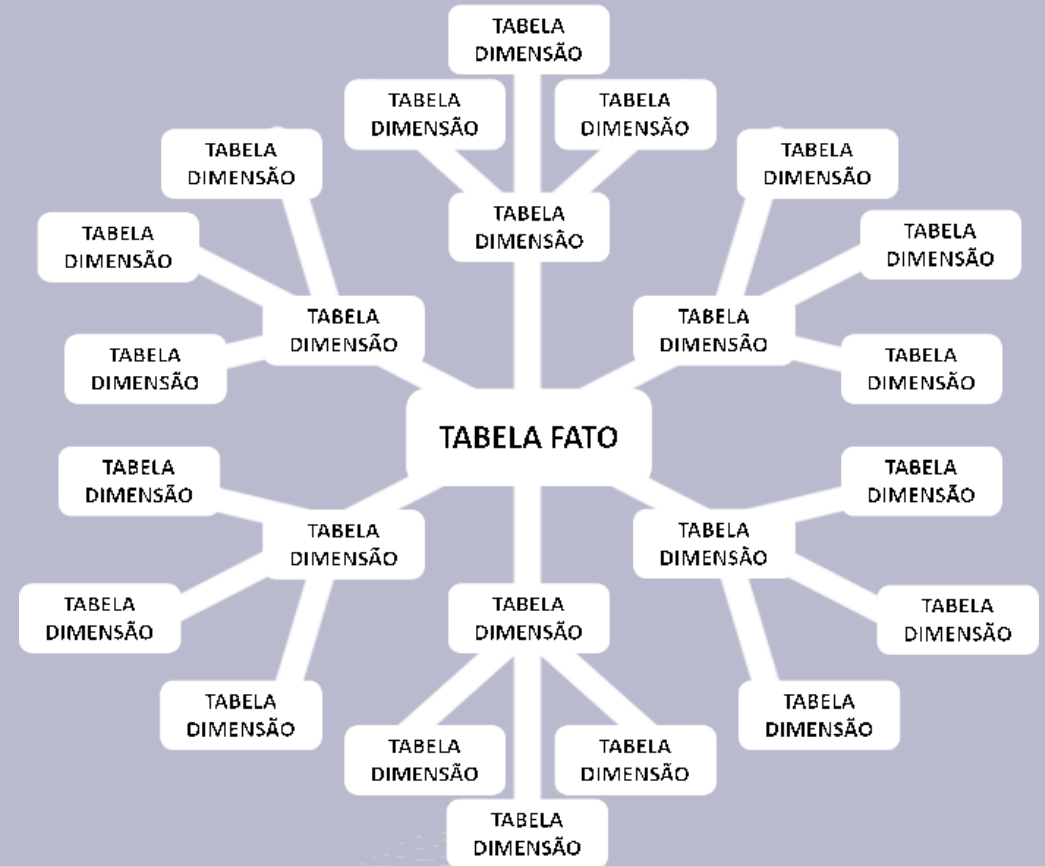
Como Construir visões atrativas?

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A Modelagem de Dados importa



Star Schema



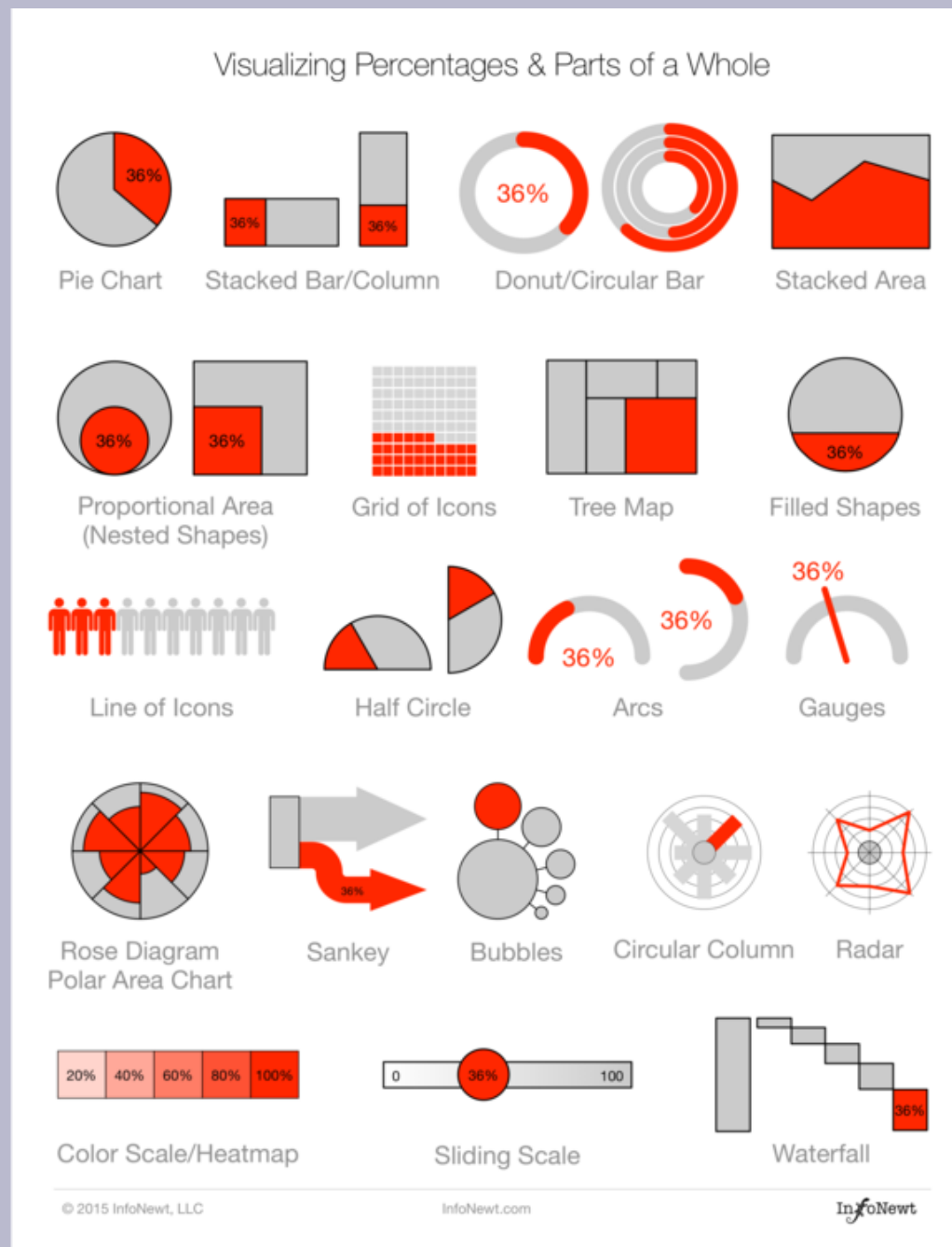
Snowflake Schema

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Tipos de Gráfico com Percentual

Uma das partes mais desafiadoras do design de visualizações de dados é criar novas maneiras de visualizar seus dados.

Quando falamos de porcentagem, podemos usar varios tipos de gráficos e não apenas o de pizza.



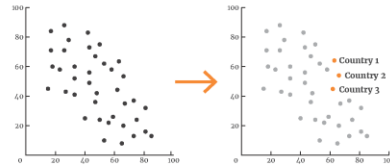
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Core Principles

Core Principles of Data Visualization

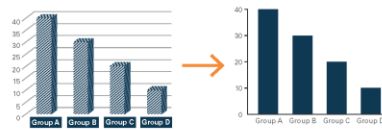
Show the data

People read graphs in a research report, article, or blog to understand the story being told. The data is the most important part of the graph and should be presented in the clearest way possible. But that does not mean that all of the data must be shown—indeed, many graphs show too much.



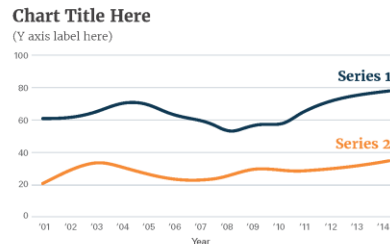
Reduce the clutter

Chart clutter, those unnecessary or distracting visual elements, will tend to reduce effectiveness. Clutter comes in the form of dark or heavy gridlines; unnecessary tick marks, labels, or text; unnecessary icons or pictures; ornamental shading and gradients; and unnecessary dimensions. Too often graphs use textured or filled gradients.



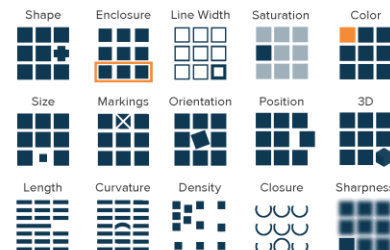
Integrate the text and the graph

Standard research reports often suffer from the **slideshow effect**, in which the writer narrates the text elements that appear in the graph. A better model is one in which visualizations are constructed to complement the text and at the same time to contain enough information to stand alone. As a simple example, legends that define or explain a line, bar, or point are often placed far from the content of the graph—off to the right or below the graph. Integrated legends—right below the title, directly on the chart, or at the end of a line—are more accessible.



Preattentive Processing

Effective data visualization taps into the brain's **preattentive visual processing**. Because our eyes detect a limited set of visual characteristics (such as shape and contrast), we combine various characteristics of an object and unconsciously perceive them as comprising an image. Preattentive processing refers to the cognitive operations that can be performed prior to focusing attention on any particular region of an image. In other words, it's the stuff you notice right away.



Core Principles of Data Visualization

Audience



Always consider your audience—whether they need a short, written report, a more in-depth paper, or an online exploratory data tool.

Use pie charts with care



We are not very good at discerning quantities from the slices of the pie chart. Other chart types—for example, bars, stacked bars, treemaps, or slope charts—may be a better choice.

Start bar and column charts at zero



Bar and column charts that do not start at zero overemphasize the differences between the values. For small changes in quantities, consider visualizing the difference or the change in the values.

Try small multiples



Breaking up a complicated chart into smaller chunks can be an effective way to visualize your data.

Color and font considerations



Avoid default colors and fonts—they all look the same and don't stand out.



Consider color blindness—about 10% of people (mostly men) have some form of color blindness.



Avoid the rainbow color palette—it doesn't map to our number system and there is no logical ordering.

Include annotation



Add explanatory text to help the reader understand how to read or use the visualization (if necessary) and also to guide them through the content.

Avoid 3D



Using 3D when you don't have a third variable will usually distort the perception of the data and should thus be avoided.

Make labels easy to read



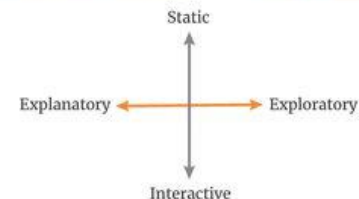
When applicable, rotate bar and column charts to make the labels horizontal. If possible, make vertical axis labels horizontal, possibly below the title. In general, make labels clear, concise, and easy for your reader to understand.

Use maps carefully



Use maps carefully, always being sure it is the geographic point you are trying to make. Column and bar charts, for example, are often better at enabling comparisons between geographic units.

Visualization Mapping: Form and Function



HOW TO CHOOSE YOUR CHARTS



Dashboards

Data visualization is about communicating the meaning behind the metrics. The charts you choose should facilitate the story you're trying to tell with your data.

There are four main categories charts fall into:

- DISTRIBUTION**
Over a continuous set of data points, where do your values fall? Are there outliers?
- RELATIONSHIP**
How do these variables relate to one another?
- COMPOSITION**
What parts make up the whole?
- COMPARISON**
How are these values similar or different?

DATAVIZ

Como escolher?

There are four main categories charts fall into:

DISTRIBUTION

Over a continuous set of data points, where do your values fall? Are there outliers?

RELATIONSHIP

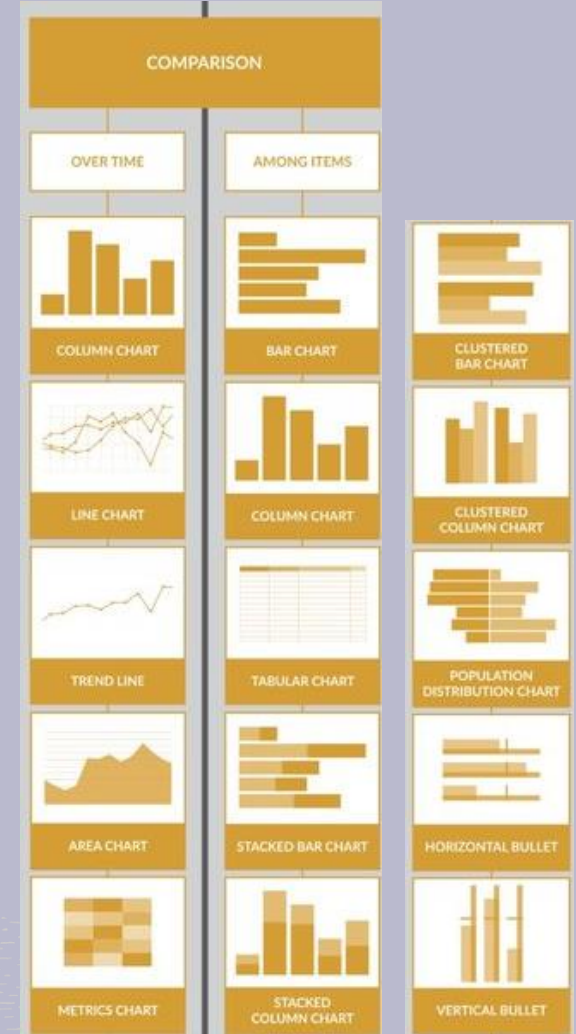
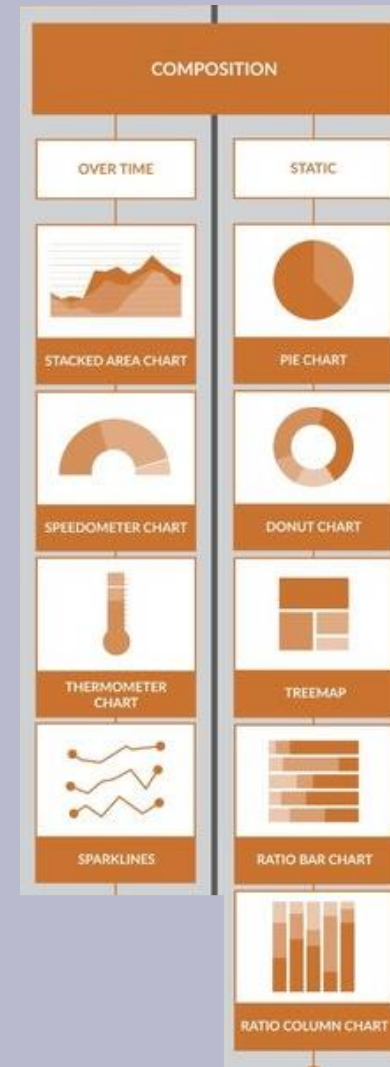
How do these variables relate to one another?

COMPOSITION

What parts make up the whole?

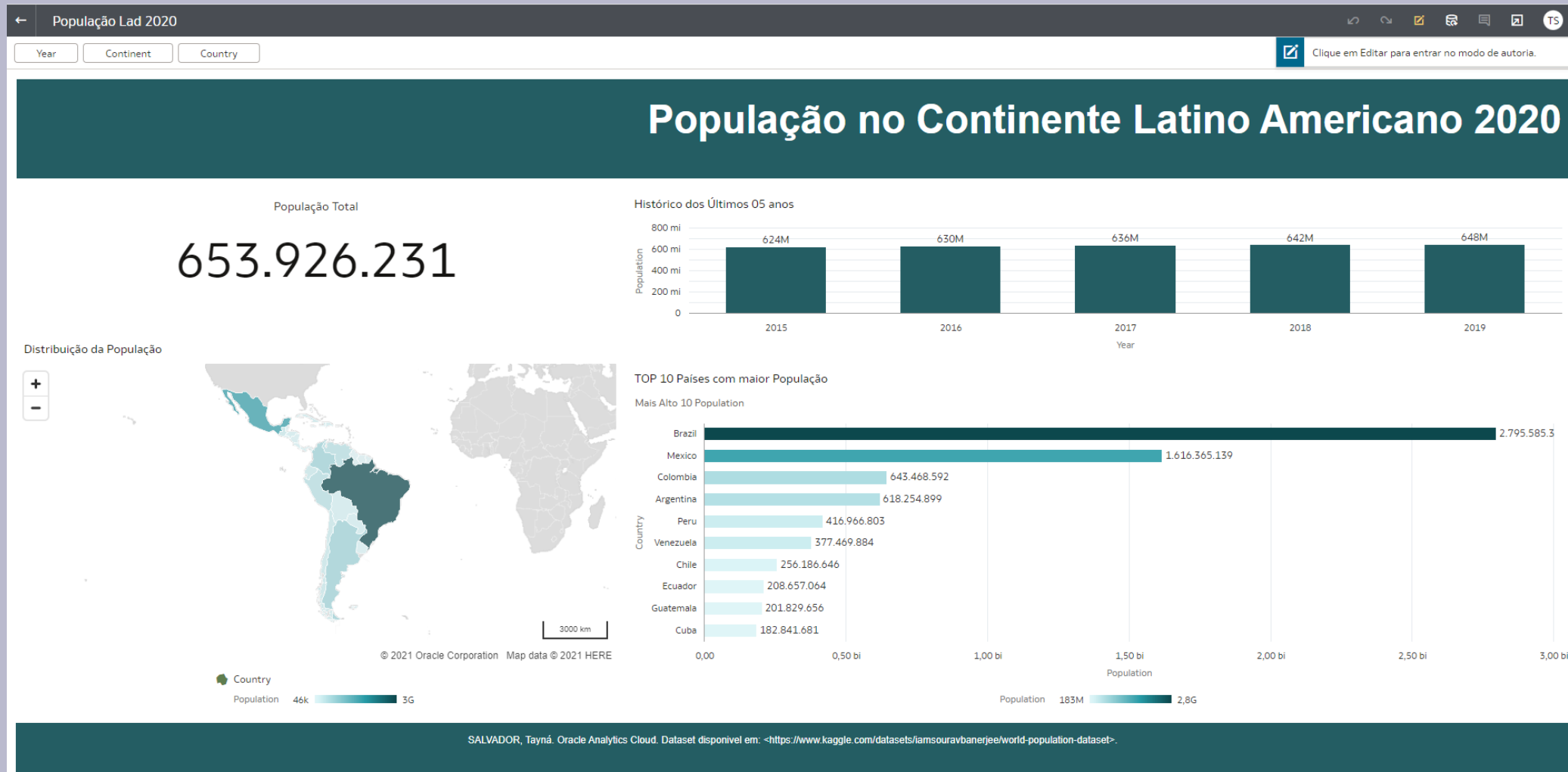
COMPARISON

How are these values similar or different?



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Oracle Analytics Cloud



DICA DE LEITURA

Da Tay ;)



ORACLE