



- Why
- What
- How
- Polls
- Final Thoughts



# Why is Data Visualization Important?

Hänover



Apple Sells More iPhones Each Day Than There Are Babies Born

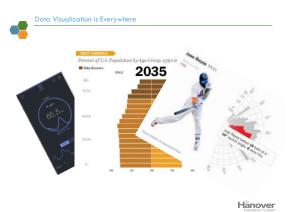


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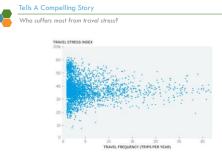


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mage Source: newvorktimes.com: Pew Research Center : Christian Zibreg





"The greatest value of a picture is when it forces us to notice what we never expected to see." – John Tukey

– John Tukey		roup=
	ex Research (2013) 7	

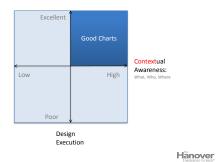


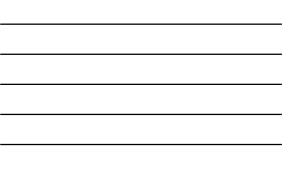
# What is a Good Chart?

Sales Report



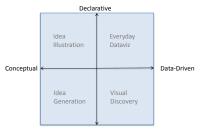








4 Types of Visualization - 2 Questions
1. Is the information conceptual or data-driven?
2. Am I declaring something or exploring something?

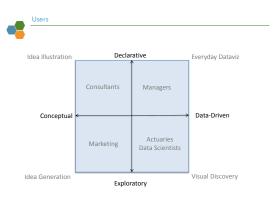


Exploratory

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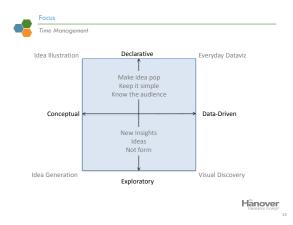
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Image Source: Good Charts by Scott Berinato 11

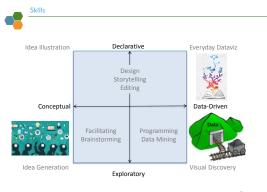


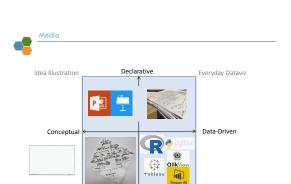
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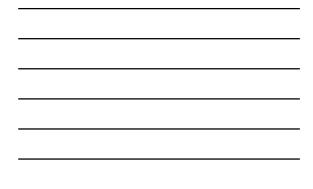


Idea Generation

Exploratory

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Image Source: gamestorming.com, sg.carousell.com



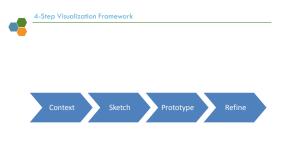


How to Create a Successful Visualization

How to Create a Successful Visualization?

- 4-Step Visualization Framework
- Best Practice at Consulting Firms
- Overview of Visualization Tools
- Interactive Visualizations

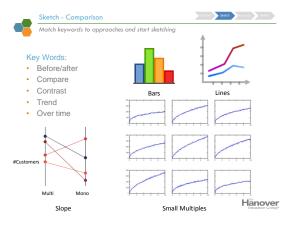
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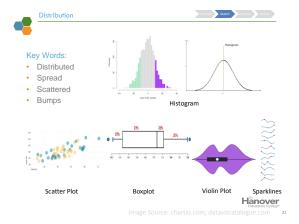
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Context	Context Skatch Prozonye Rafine		
Questions:			
What is the issue?			
What am I trying to say?			
Why?			
Actions:			
Discuss with clients			
Brainstorm			
Notes with keywords			
Revisit			

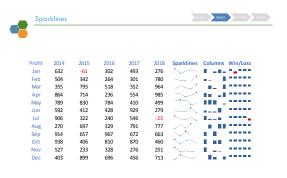
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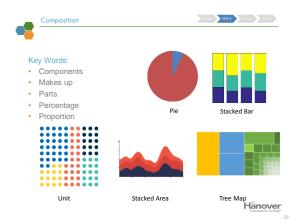








Source: https://www.goodly.co.in/sparklines-in-excel/ 22





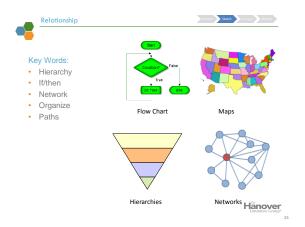
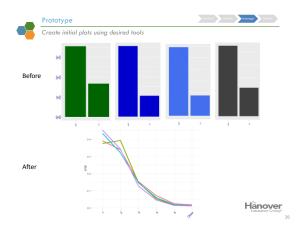


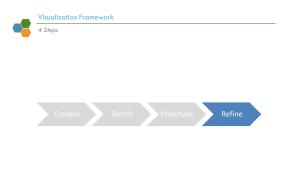


Chart Type Summary	Context Sketch Prozenuse Refine
	Pie
Flow Chart Bars Lines Slope	Multiples
Comparison	Stacked Bar
Maps Relationship What would you like to show?	Composition - Unit
Distribution	Stacked Area
Hierarchies	Stacked Area
	Tree Map
Networks Histogram Scatter Boxplot	Violin Spark
Histogram Scatter Boxplot Plot Plot	Plot -lines Hanover
https://github.com/microsoft/SandDance	Insurance Group* 25











Simple & Distinctive



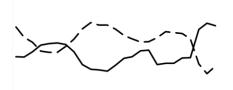
In animation, a common feature of the best characters designs is their ability to be identified by silhouette. This derives from two primary features: simplicity and distinctiveness.

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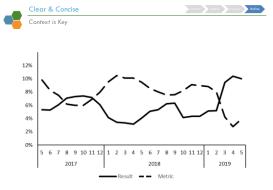
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Context Sketch Protonys Refine

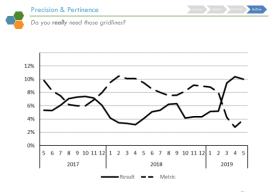




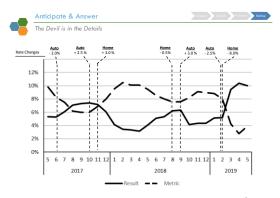
Use the most basic design elements of your visual (shape, scaling, positioning, white space) to clearly communicate your story. Hanover



Use axis labels, titles, legends and other text to clearly communicate necessary information. Clearly establish context so that necessary details are easily available.



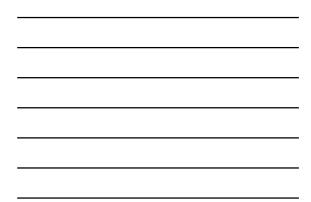
Include a level of detail necessary to the information being communicated. Some visuals are required to offer more precision than others.



Add relevant details if they help tell your story. Anticipate questions from the audience and try to provide them directly in the visual.

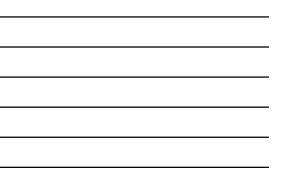
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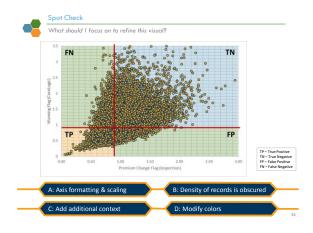
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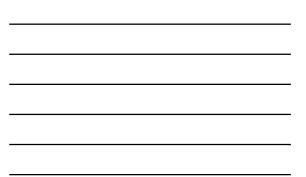




Use color and contrast to add visual clarity to your visual. Visually pleasing aesthetics will also increase audience engagement with the visual.







How to Create a Successful Visualization?

4-Step Visualization Framework

#### Best Practice at Consulting Firms

Overview of Visualization Tools

Interactive Visualizations

### Analyzing the "Art of Storytelling"

### Adapting Hans Rosling's method to the ever changing consulting world





# Thought Leadership approval process in Consulting

As consultants, we need to go through a stringent approval of all published material to manage risk and protect EY. There are 5 levels of approval:



The better the questions, the better the answers

#### Always keep in mind:

Know your audience

Be clear on the goal
You need a compelling story



**Communication Style** Interaction Limited Outcome

Reader Driven Extensive Speed and Decision Understanding

#### While crafting the message:

- Begin with a question
  Find appropriate techniques to display data
  Define what needs to be highlighted

How to Create a Successful Visualization?

#### Overview of Visualization Tools

Statistical analytics vs. Visual analytics				
		🤌 🥷 .	TIBC® Spotfire	
		Statistical analytics	Visual analytics	
	en should it be nsidered?	<ul> <li>Significant data preparation</li> <li>Specialized analysis approach needed (e.g. statistical modeling)</li> </ul>	<ul> <li>Ad-hoc analysis</li> <li>Flexibility and speed of analysis is important</li> </ul>	
	Pros	Solutions are fully customizable     Can connect to most data repositories	<ul> <li>Easy-to-use by business owners</li> <li>Out of the box visualization capability</li> </ul>	
	Cons	Substantial coding     Customizable entails longer change cycles	Data volume is constrained     Tools do not come with pre-package     solutions unlike Traditional BI	

# Visual analytics: Tableau vs Spotfire





Visual analytics: Comparison of features			
		Assessment Key: Basic Average Good Excellent	
	Tableau	Spotfire	
Data Analytics	Connects with over 40 data sources     Won't do complicated calculations	<ul> <li>Built-in competences for statistical analysis</li> <li>Can run MATLAB, SAS, R or S+ functions directly</li> </ul>	
Visualiza- tion	<ul> <li>Can import and visualize large sets of data</li> </ul>	More dated interface     Less sophisticated visualizations	
Customer Support	<ul> <li>Non-critical problems (e.g. software defects)</li> <li>Elite program (e.g. includes a technical account manager)</li> </ul>	<ul> <li>Support Central portal to submit requests</li> <li>Troubleshooting guides</li> <li>Spotfire Community forum</li> </ul>	

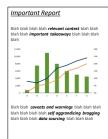






Incorporating Narrative Visually Letting the Visuals Speak for Themselves

How to Create a Successful Visualization?



... or provided in text by documentation or a report narrative.

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... so all relevant context, takeaways, and narrative must be included directly.

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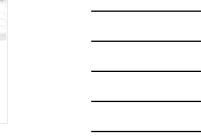




Users not as familiar with the data may not realize if a bucket doesn't have enough data for significant results.

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Warn users in cases of data limitations and/or cases of insignificant data.

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<figure>













Visual Design Language of Interaction

Visually Convey Interactive Elements



Users should be able to identify interactive elements visually. Hover-over color changes encourage clicking for example.

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Visual Design Language of Interaction

Cause-and-Effect of Clicking



When an interactive element is clicked, the effect should be immediately clear and evident...

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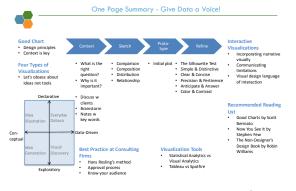


# Visual Design Language of Interaction Cause-and-Effect of Clicking



... otherwise the result may not associate clearly with the cause (clicking) and may cause a more difficult learning curve.

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# **Final Thoughts**



# Questions?

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