Creating Dashboards and Storyboard with Tableau

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INTRODUCTION

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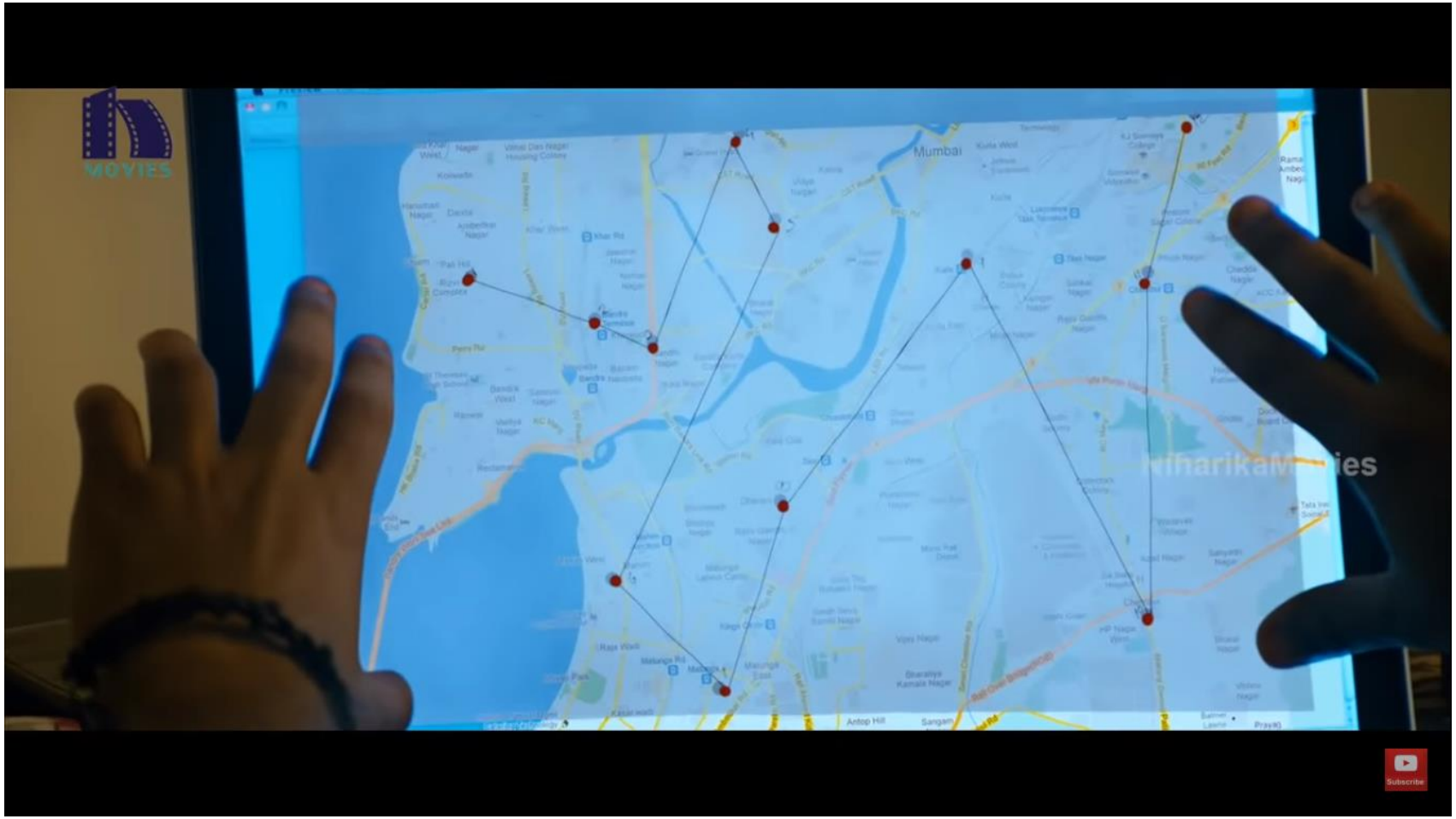
TYPES OF VISUALIZATION - EXPLORATORY – LOOK AT THE DATA FROM VARIOUS PERCEPTIONS



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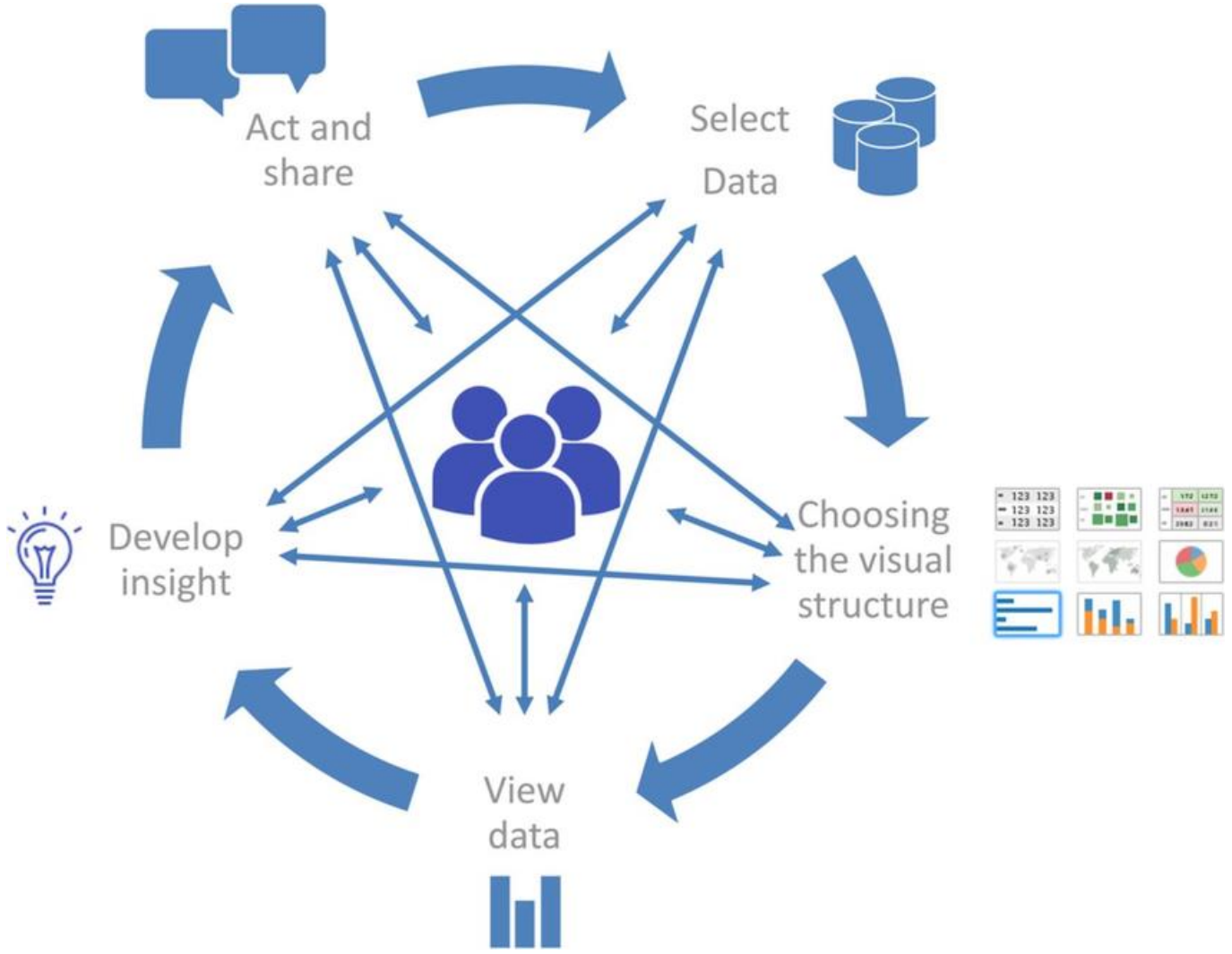
EXPLANATORY – FIRST FIND OUT WHO IS THE AUDIENCE AND CREATE VISUALS ACCORDINGLY.

DATA VISUALIZATION – LIFE CYCLE



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VISUAL ANALYTICS (1/2)

- Understand Cognitive perception
  - ➢ Leverage strengths of our brain
- Eliminate visual clutter
  - ➢ Focus on the business insight
- Choose appropriate display mechanism
  - ➢ Graph types to match the message
- Design dashboards
  - ➢ Solve business question easily

VISUAL ANALYTICS (2/2)

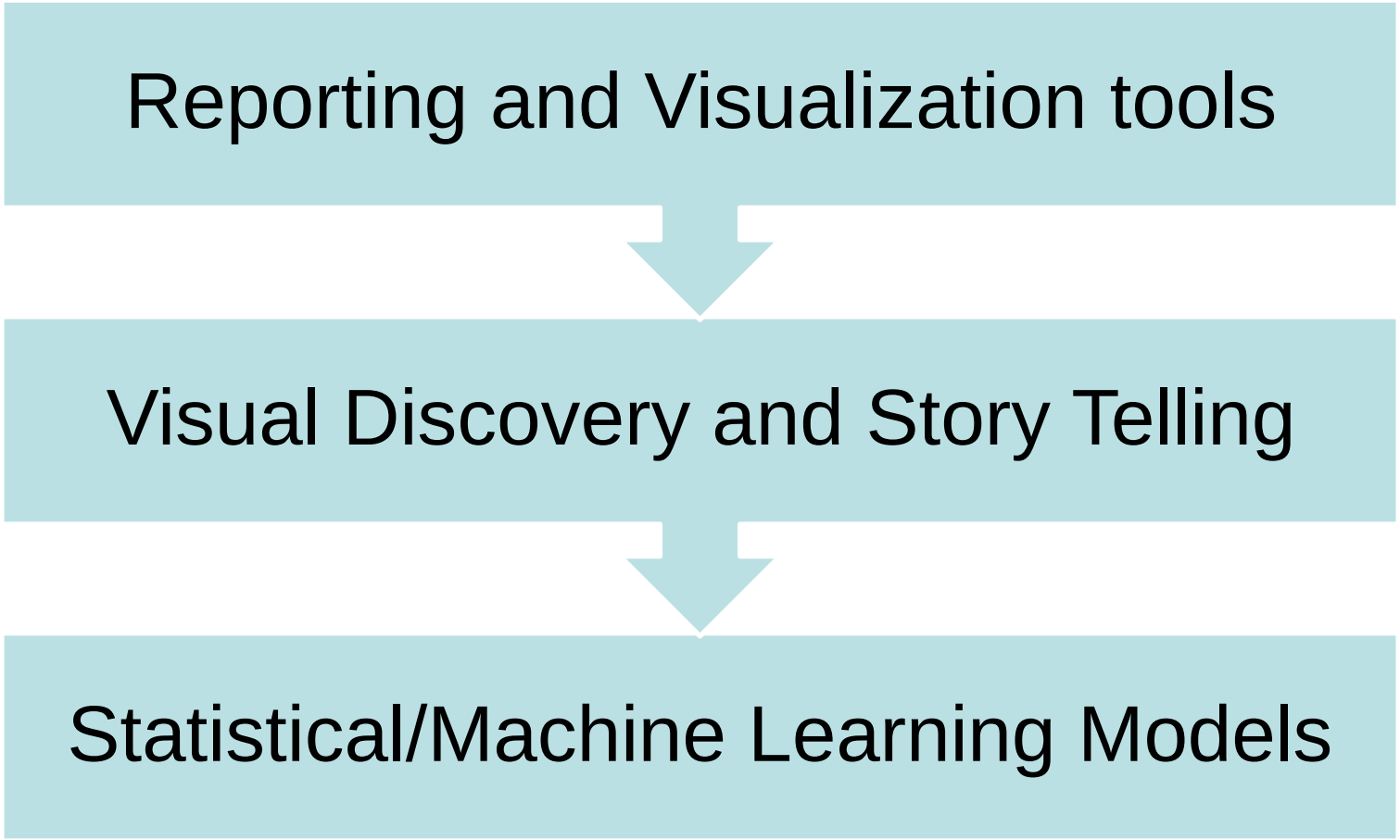
- Explore visually
  - ➢ Systematic process to generate insights
- Analyze visually
  - ➢ Techniques to extract meaning from large data sets
- Create storyboards
  - ➢ Transform complex data into information

DATA VISUALIZATION AND INSIGHTS

- **Visualization**
  - ➢ is the representation and presentation of data that exploits our visual perception abilities in order to amplify cognition.

- **Insights**
  - ➢ is the discovery of non-trivial, complex, deep, unexpected or relevant truths about information.

ANALYST… WHO?

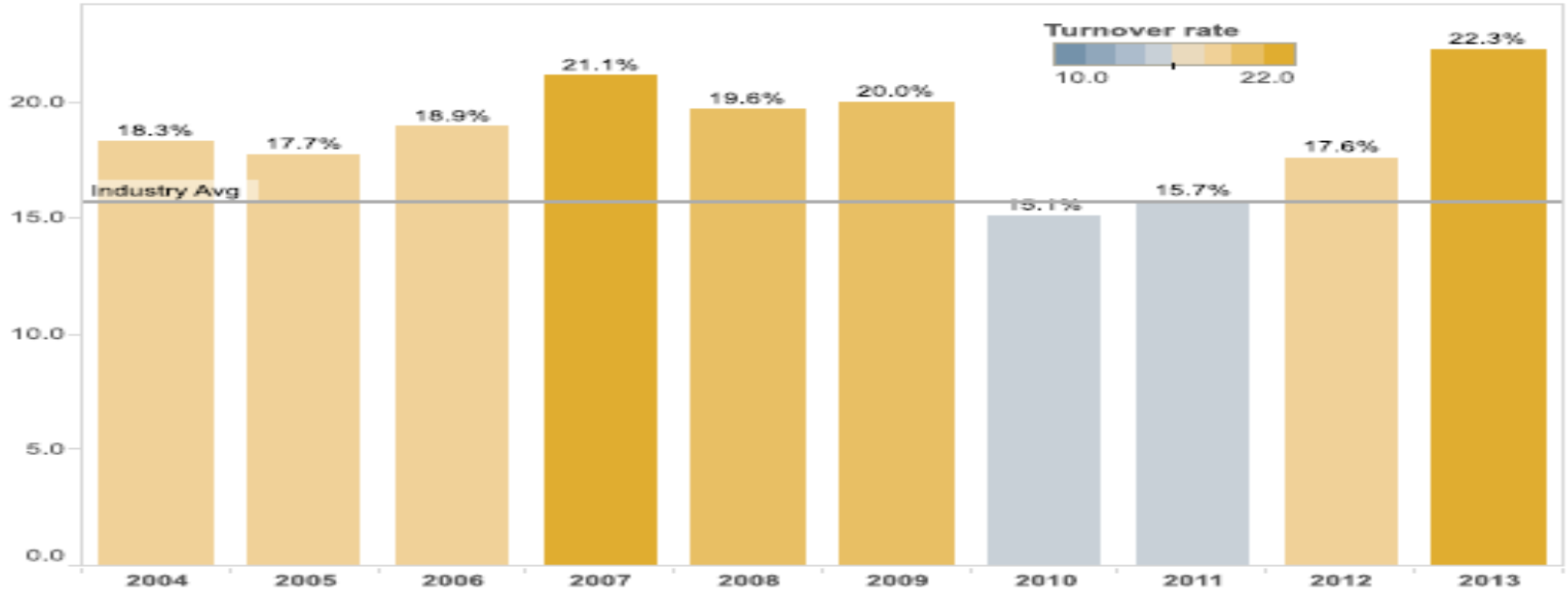

Reporting and Visualization tools
Visual Discovery and Story Telling
Statistical/Machine Learning Models

STORY EXAMPLE

Employee Retention Problem

Many Departments are struggling to hold onto employees, despite a huge initiative to improve employee engagement.

Our performance is worse than the industry average.	Employee turnover is a company-wide problem.	The problem is particularly acute at some locations.	And city-wide, the problem isn't getting better.



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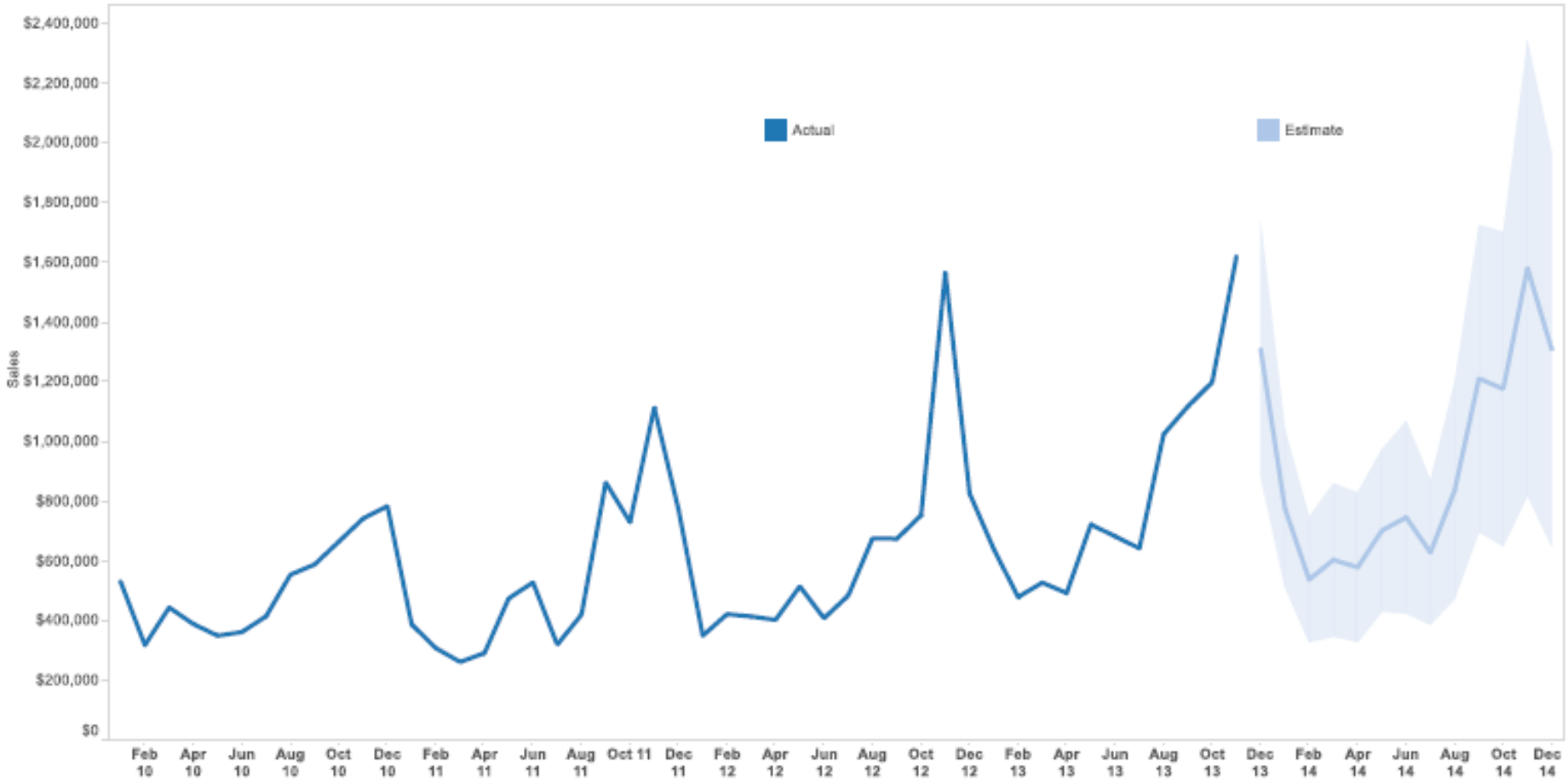
STATISTICAL/ML TECHNIQUES



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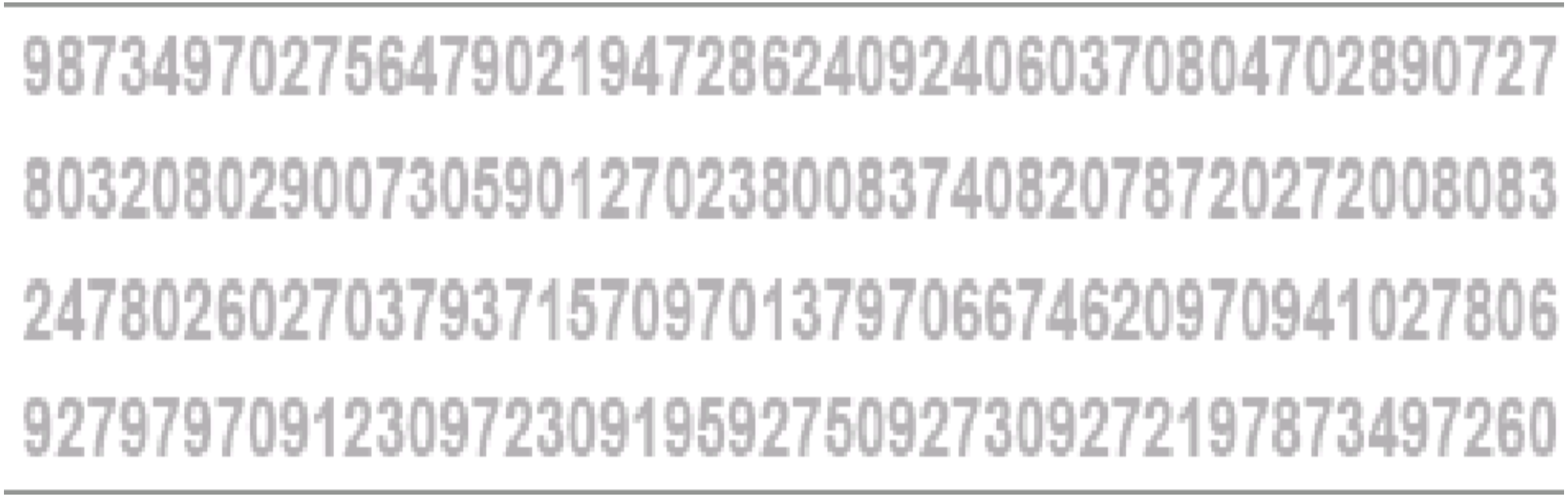
WHAT CAN YOU SEE?

COUNT THE NUMBER OF 5S



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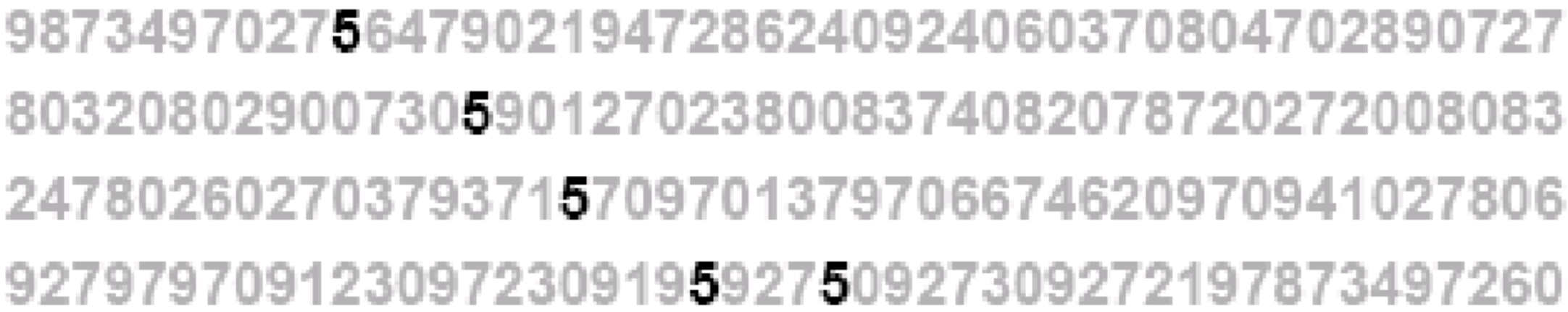
HIGHLIGHTING



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FedEx
Express

FedEx
Express

WEST
12
60
FAMILY DOLLAR
GARAGE SALE
Perennial Sale
GARAGE SALE
GARAGE SALE
GARAGE SALE
SALE!
CLOTHES, TOOLS, TOYS & ELECTRONICS
& MORE!!!
FRI-TUE
683 9TH Street
GARAGE SALE
175
157 · 5TH
SALE TODAY
MOVING SALE
GARAGE SALE

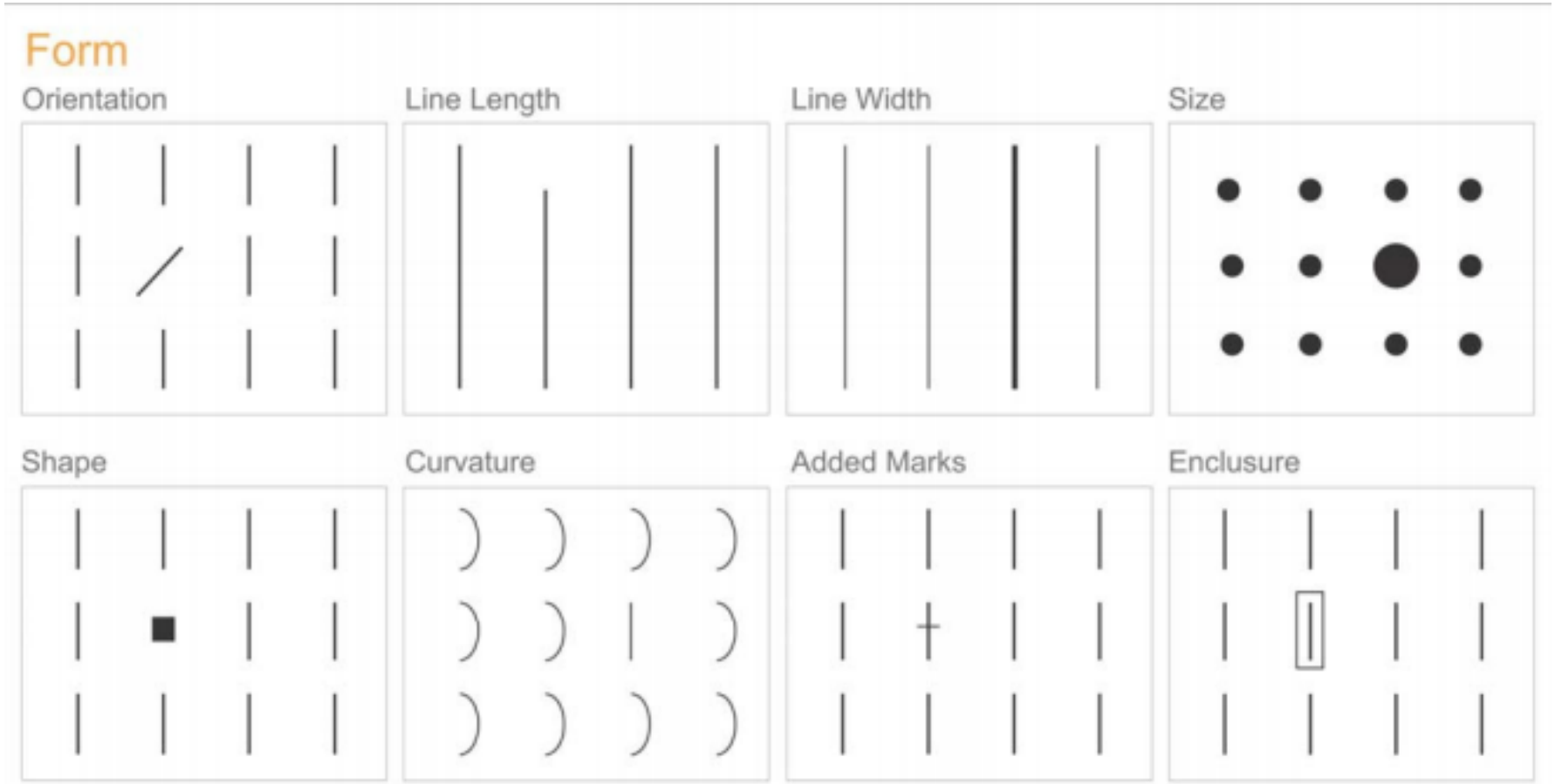
5 QUESTIONS TO ASK YOURSELF BEFORE STARTING TO VISUALIZE

- Who is my audience?
- What is the main idea I need to convey to my audience
- What is the story of my report
- Am I using my audience's language
- What output is right for my audience

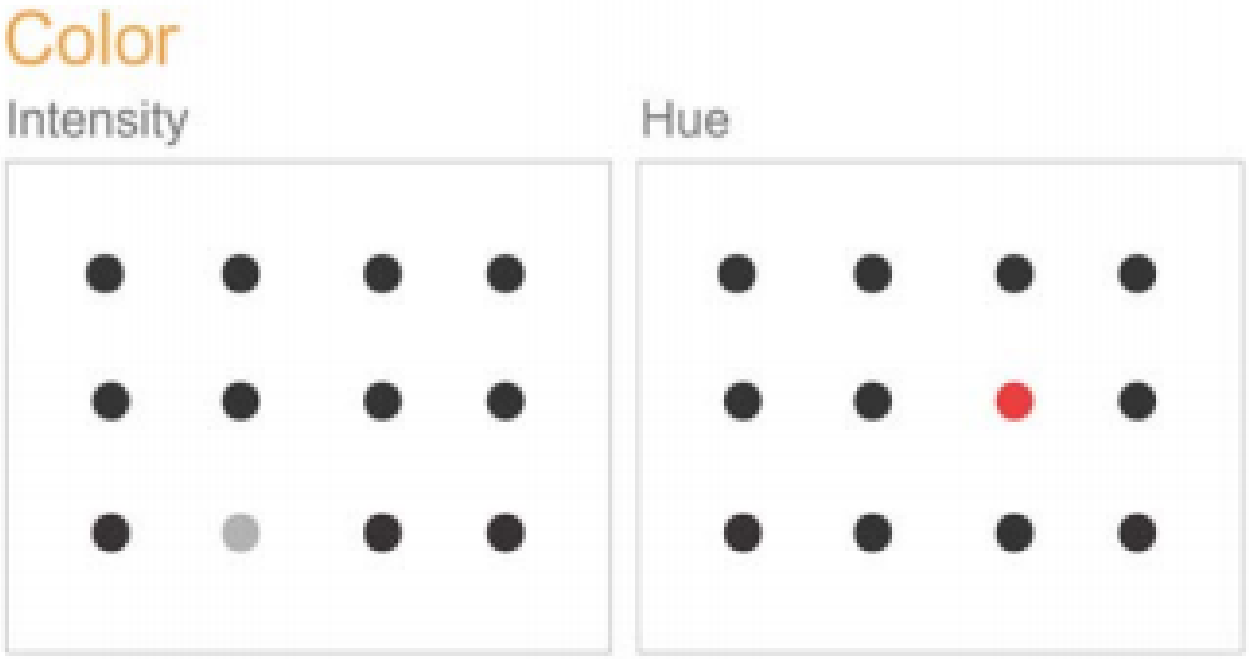
PRE-ATTENTIVE ATTRIBUTES

- Pre-attentive attributes are those which determine what information captures users' attention.
- Pre-attentive processing occurs without our consciousness at an extremely high speed. It is tuned to detect a specific set of visual attributes.
- There are 4 categories of pre-attentive visual attributes:
  - Form
  - Colour
  - Spatial Position
  - Movement

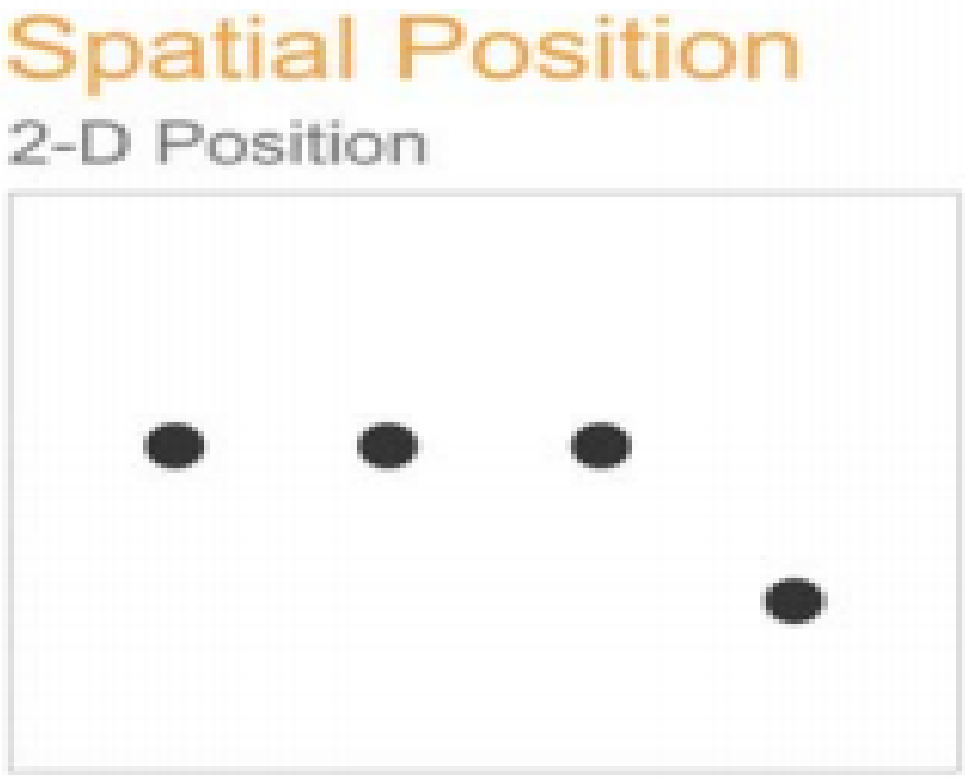
FORM


Form
Orientation
Line Length
Line Width
Size
Shape
Curvature
Added Marks
Enclosure

COLOR



SPATIAL POSITION



DESCRIPTIVE DATA

Which product / region shows higher sales but low profitability

		Region							
		Central		East		South		West	
Category	Sub-Category	Profit	Sales	Profit	Sales	Profit	Sales	Profit	Sales
Furniture	Bookcases	($22,399)	$258,919	($14,607)	$145,816	$3,599	$171,504	($175)	$246,411
	Chairs & Chairmats	$51,534	$651,654	$54,181	$469,652	$14,988	$292,478	$28,947	$348,052
	Office Furnishings	$30,852	$259,389	$20,645	$149,828	$21,865	$129,434	$27,068	$159,443
	Tables	($27,545)	$471,751	($65,504)	$652,965	$887	$316,405	($6,902)	$454,887
Office Supplies	Appliances	$49,445	$317,079	$17,556	$136,944	$17,732	$149,023	$12,425	$133,946
	Binders and Binder Accessories	$90,004	$309,262	$94,617	$294,907	$61,612	$214,942	$61,180	$203,847
	Envelopes	$12,794	$47,531	$11,162	$43,691	$9,715	$33,256	$14,512	$49,608
	Labels	$4,733	$14,062	$2,253	$6,298	$4,067	$10,930	$2,624	$7,692
	Paper	$19,509	$150,710	$10,723	$96,958	$8,307	$100,210	$6,725	$98,576
	Pens & Art Supplies	$1,927	$45,807	$2,578	$42,908	$1,620	$35,768	$1,448	$42,625
	Rubber Bands	$173	$5,815	($167)	$3,089	$57	$2,687	($165)	$3,416
	Scissors, Rulers and Trimmers	($4,406)	$36,376	($1,229)	$4,729	($1,865)	$9,315	($299)	$30,577
	Storage & Organization	($11,358)	$299,116	$630	$280,367	$12,072	$263,166	$5,320	$227,534
Technology	Computer Peripherals	$27,675	$250,718	$23,452	$198,649	$25,461	$195,535	$17,700	$150,974
	Copiers and Fax	$44,542	$404,175	$41,350	$173,833	$22,403	$209,237	$59,066	$343,117
	Office Machines	$108,471	$563,395	$55,305	$321,105	$155,488	$610,807	($11,551)	$673,390
	Telephones and Communication	$105,941	$613,410	$64,906	$394,726	$64,500	$405,524	$61,604	$475,653

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USING THE PRE-ATTENTIVE ATTRIBUTES

Now answer the same question using this visual

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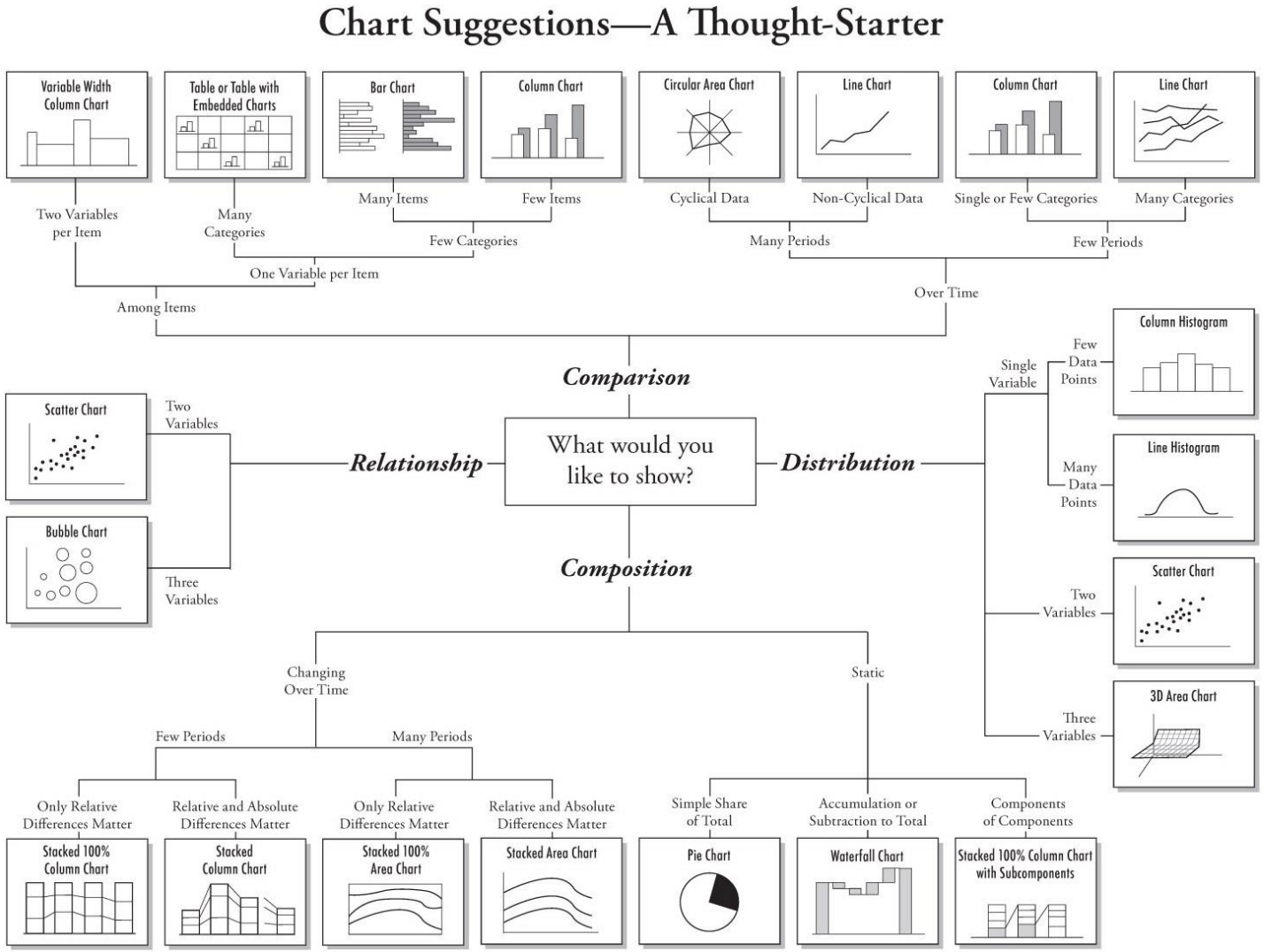
CHART SELECTIONS



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INTRODUCTION TO TABLEAU

- Products available:
  - Tableau Desktop
  - Tableau Server
  - Tableau Online
  - Tableau Prep
  - Tableau Public (Free)