



DATA ANALYTIC SERVICES - TRAINING

DATA NARRATIVES

Pivot Tables

Intro to Statistics

Data Narratives

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Previously in Data Analytics

Data Analytic Summary
Iseries Options Source
Validating Data
Understanding your data

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DATA ANALYTICS

PIVOT TABLE DEMO

DATA ANALYTICS

INTRO TO STATISTICS

Basic Stats

Describe, Categorize, Interpret Data

Data

Personal budgets
Events in town
Likes Dislikes
Home or Office inventories
Diet & Exercise
Etc.



Basic Stats

Data Set

Observational Units
Variables

Dimensions
Measures



Basic Stats

Data Set

Population
Sample



STATISTICS

Collecting Analyzing Interpreting

Descriptive



Know all the data

Inferential



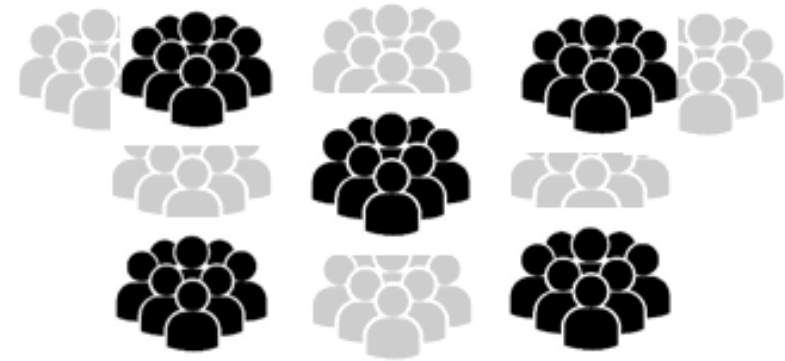
Use a Sample of Data
to make guesses about
all the data

Descriptive



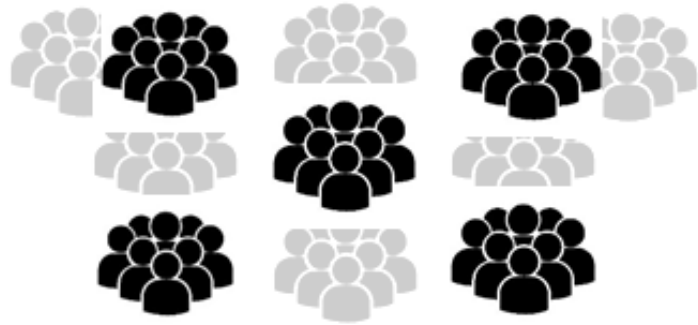
Count: 40
Karaoke: 30
Bowling: 10
Karaoke: 75%
Bowling: 25%

Inferential



Count: 210
Karaoke: 141
Bowling: 69
Karaoke: 67%
Bowling: 33%

Inferential



Count: 210

Karaoke: 141

Bowling: 69

Karaoke: 67%

Bowling: 33%

How close?

Karaoke: 67% + 3%

70% \longleftrightarrow 64%

How confident?

95%

"95% certainty that Karaoke has an approval rating among students of 67% plus or minus 3% "

Basic Stats

MEAN (average) add up all the numbers and divide by the number of numbers you added up. 1,3,3,5
 $(1+3+3+5)/4 = 12/4=3$

MEDIAN (middle) sort numbers highest to lowest. Then take the middle number as the Median

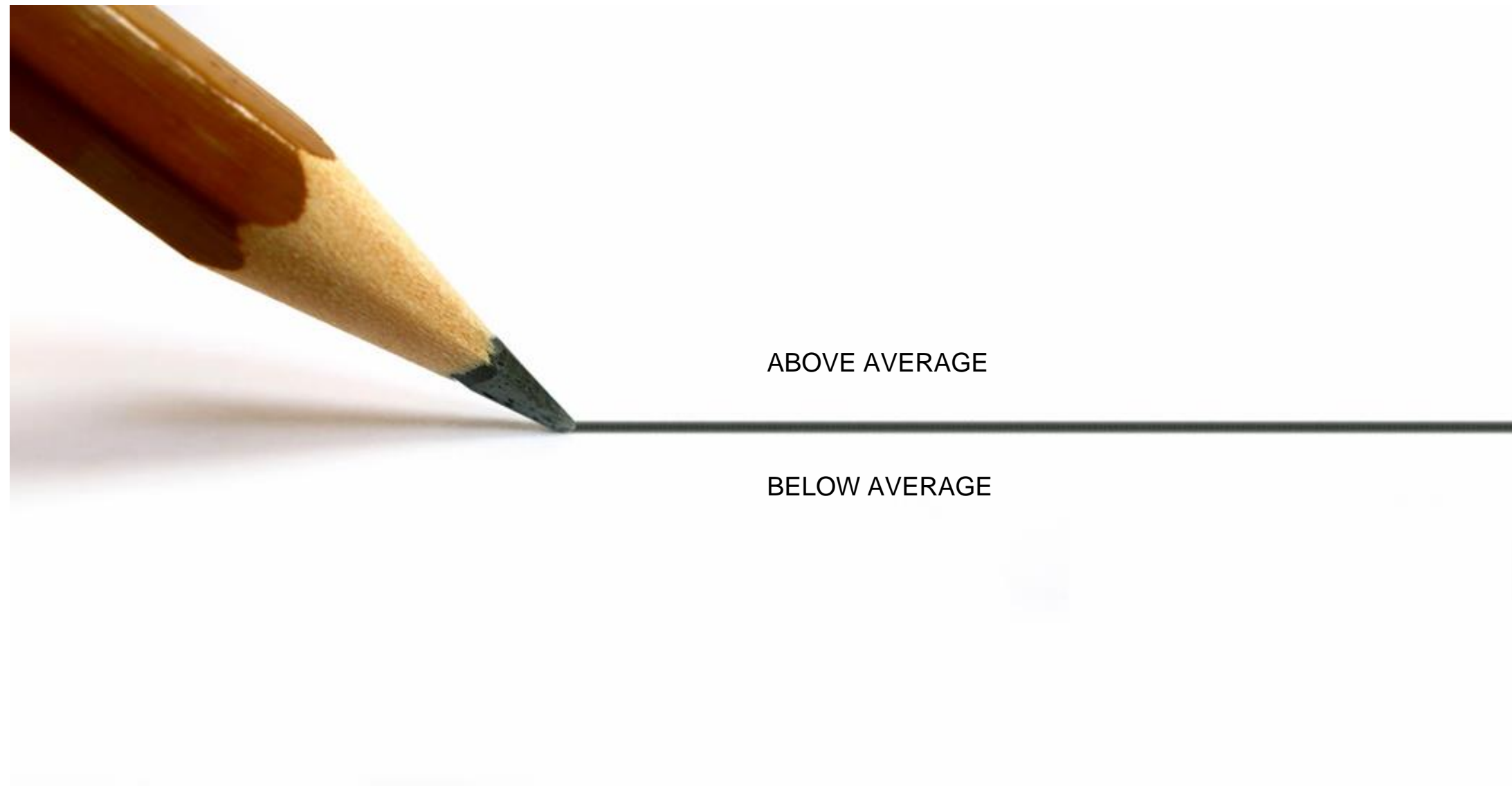
Odd Numbers 1,2,5,7,8

Even Numbers - Take the average of the two middle numbers 1,2,5,7,8,10
 $(5+7)/2 = 12/2=6$

MODE (most often) count the number that appears most often. If there are no repeats, there is no mode.

13, 18, 13, 14, 16, 13, 20, 15, 18, 13 The mode = 13

Basic Stats



Data Distribution

		FREQUENCY			
Score Bins	TALLY	FREQUENCY	RELATIVE FREQUENCY	CUMULATIVE FREQUENCY	RELATIVE AND CUMULATIVE FREQUENCY
90-99	IIII	4	$4/20=20\%$	4	$4/20 = 20\%$
80-89	IIII	5	$5/20=25\%$	9	$9/20 = 45\%$
70-79	IIII I	6	$6/20=30\%$	15	$15/20 = 75\%$
60-69	IIII	4	$4/20=20\%$	19	$19/20 = 95\%$
50-59	I	1	$1/20=5\%$	20	$20/20 = 100\%$

Basic Stats

Install a Roof Costs

LOCATION: NATIONAL [Change Location](#)

[Embed this graph >](#)

AVERAGE REPORTED COSTS

\$6,838

based on 21,552 cost profiles

LOW COST

\$2,000

MOST HOMEOWNERS
SPENT BETWEEN

\$4,687 - \$9,014

HIGH COST

\$25,000

Cost data is based on actual project costs as reported by HomeAdvisor members.

[How do we get this data?](#)

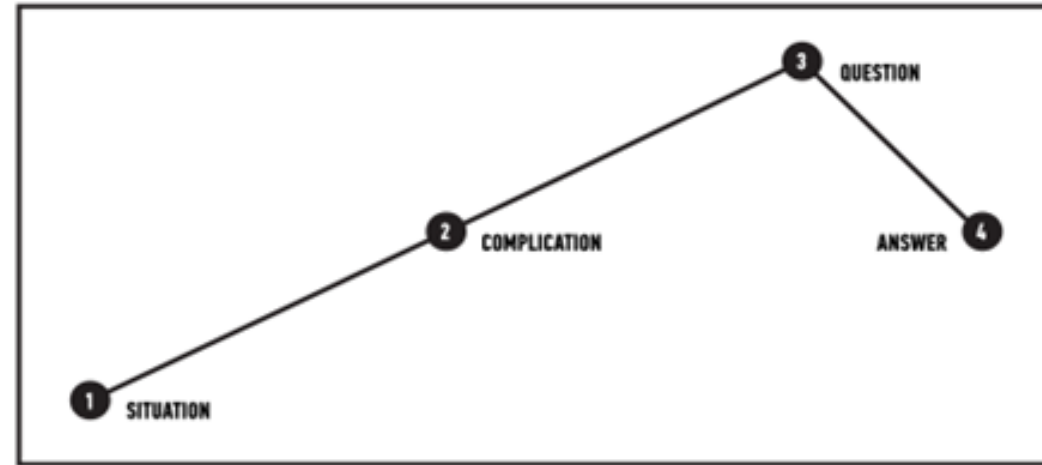
FUNDAMENTALS OF DATA AND EXCEL

DATA NARRATIVES

Data Narrative

The traditional narrative arc is a linear story, consisting of four elements:

Situation	Complication	Question	Answer
Explains where we are now.	Creates tension in the story you're telling; triggers the Question you will ask.	Asks what we should do now given the Complication.	The Answer to the Question is the substance of your presentation.



- As you can see, this pattern maps pretty closely to our Story Map:
 - Situation to setting
 - Complication to problem
 - Answer to resolution

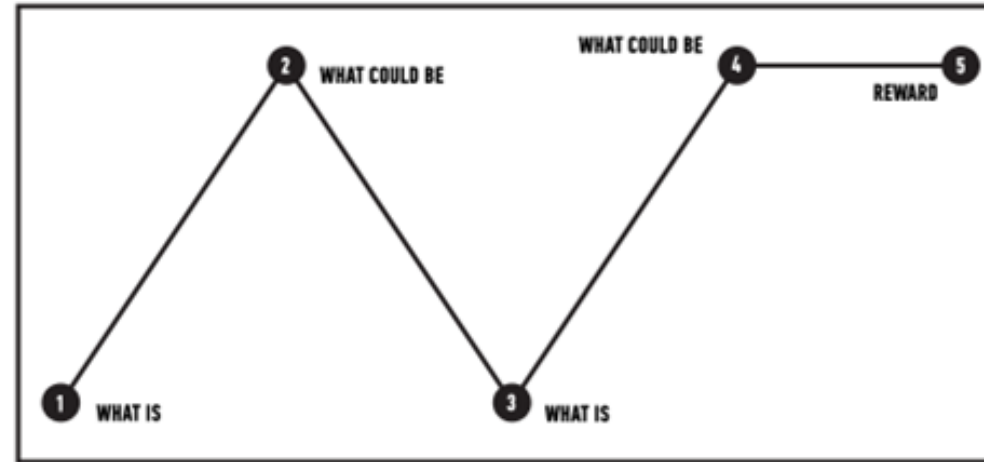
Data Narrative



Data Narrative

The "What is vs. What could be" is a non-linear story, consisting of three elements:

What Is	What Could Be	Reward
The current undesirable situation.	A utopian future where the original problem of "what is" no longer exists.	The future situation that could exist if we all believe in it. This is your call to action.



- Here your findings identify “What Is.”
- Your motivation, and your selling point to your audience, is “What Could Be.”
- Your next steps will allow the “What Could Be”
 - to become a reality, leading to this “Reward.”

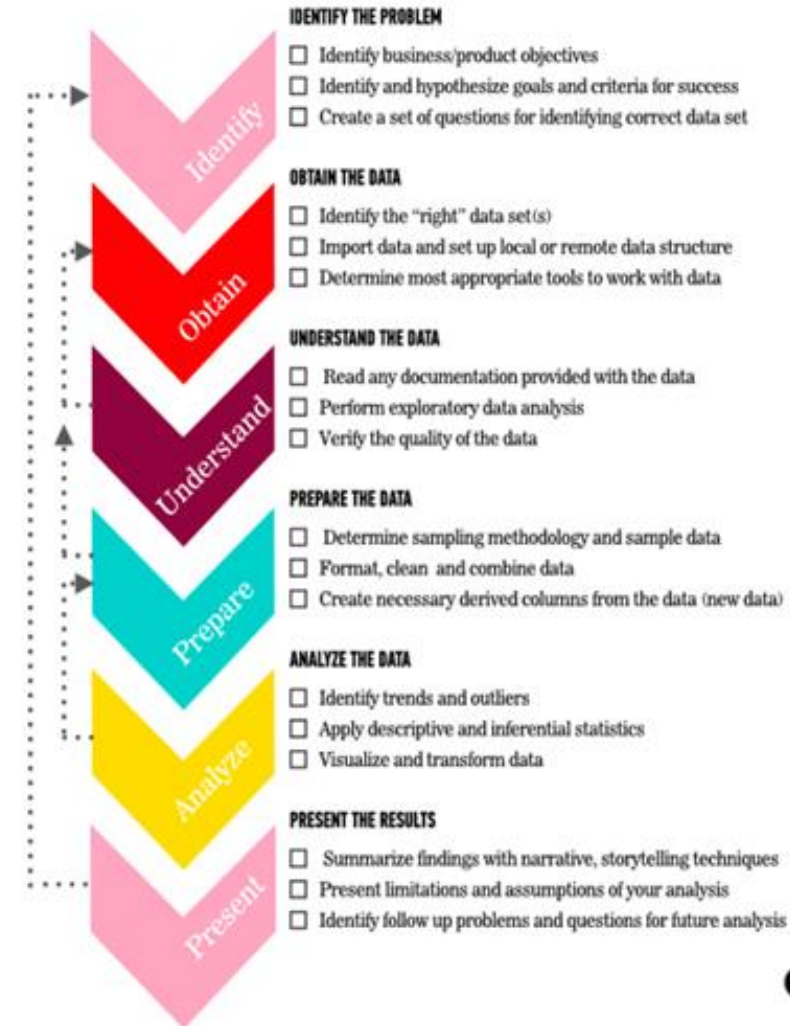
Data Analyst

PROBLEM

APPROACH

SOLUTION/NEXT STEPS

ANALYTICS WORKFLOW



Data Analyst

PRESENTATION OBJECTIVES What does your presentation need to accomplish?		PRESENTATION CONTENT How will your presentation fit both needs?
AUDIENCE SEGMENTS What describes your audience & their enrollment?	AUDIENCE OBJECTIVES What does your audience need from your presentation?	



Q & A

*“The goal is to turn data into information, and
information into insight.”*

-Carly Fiorina, prior CEO of Hewlett-Packard

Conclusion

- Identifying a problem will dictate the value of the answer
- Just cleaning data and creating percentages can add immense value to a dataset.
- Prepping data is a major part of data analytics.

FEEDBACK FORM

CLASS : DATA NARRATIVES

QUESTION: What are the steps of the Data Analytics Workflow?

