Intro to Data Analysis Tools:

Power BI & Tableau

July 11th, 2018

AGENDA

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1. Introductions   5 mins

2. Intro to Data Analysis   30 mins

3. Interactive Demo   60 mins

4. Break   5 mins

5. Viz-Off Team Activity   75 mins

6. Wrap-up/Conclusion   5 mins

INTRODUCTIONS

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Name:	Sean Mitchell
Career Track:	Business Analyst
Current Client:	Cargill
Fun Fact:	Played chess and once beat a grandmaster in 6th grade.

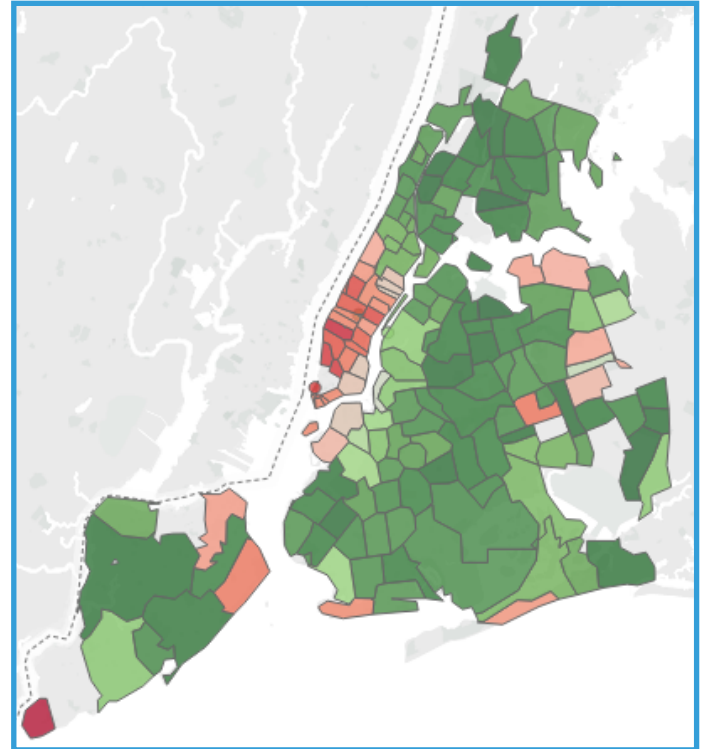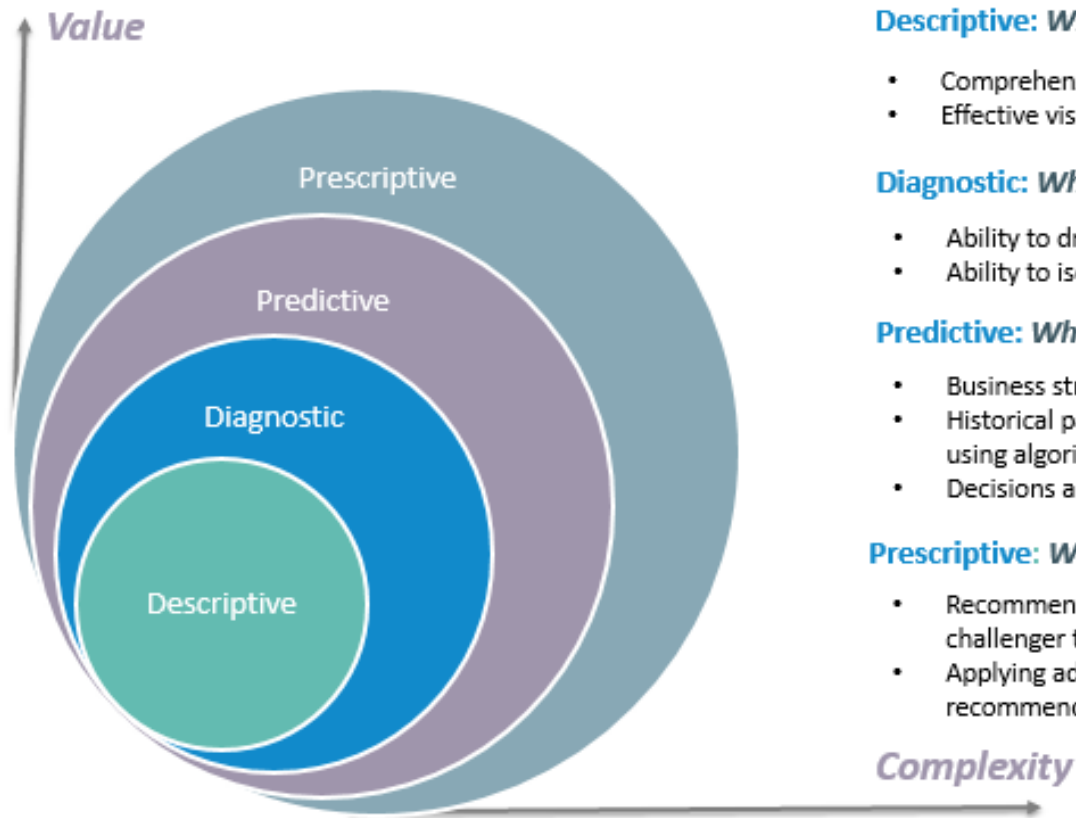| Name:	Alex Sorenson
Career Track:	Technical Analyst
Current Client:	LiftPoint Consulting
Fun Fact:	Captained a Robotics Team that got an 'Innovation Award' for adding broom to the bot.

INTRO TO DATA ANALYSIS

WHY ANALYZE DATA?

Zipcode	Beds	Number Of Reviews	Price
11249	1	0	145
11206	1	1	37
10032	1	1	28
10024	3	0	199
10036	3	39	549
11222	1	4	149
10004	1	9	250
11201	1	80	90
10009	2	95	270
10009	2	23	290
11221	2	14	170
10026	2	120	59
10026	2	81	49

4 types of Data Analytics

Value

Prescriptive

Predictive

Diagnostic

Descriptive

Complexity

What is the data telling you?

Descriptive: *What's happening in my business?*

- Comprehensive, accurate and live data
- Effective visualisation

Diagnostic: *Why is it happening?*

- Ability to drill down to the root-cause
- Ability to isolate all confounding information

Predictive: *What's likely to happen?*

- Business strategies have remained fairly consistent over time
- Historical patterns being used to predict specific outcomes using algorithms
- Decisions are automated using algorithms and technology
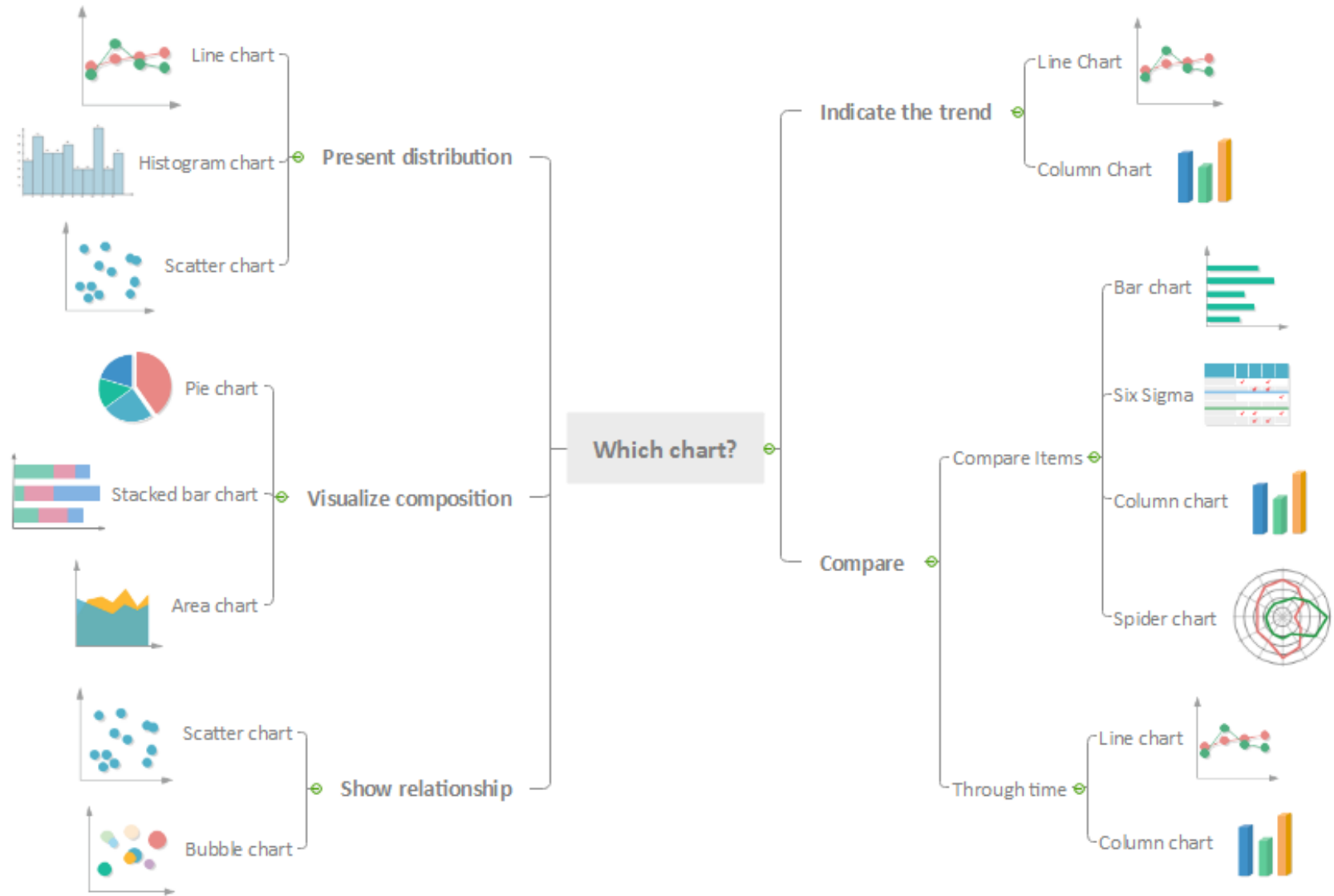
Prescriptive: *What do I need to do?*

- Recommended actions and strategies based on champion / challenger testing strategy outcomes
- Applying advanced analytical techniques to make specific recommendations

Principa
www.principa.co.za

TYPES OF DATA VARIABLES

Data Type	Description	Example
STRING	Any sequence of zero or more characters. They are enclosed within single quotes. The quote itself can be included in a string by writing it twice.	Suitcase' 'Under Utilized' 'Unknown Category'
NUMBER	These are either integers or floating points. It is advised to round the floating point numbers while using them in calculations.	3 142.58
BOOLEAN	They are logical values.	TRUE FALSE
DATE & DATETIME	Any format of a date an time	02/01/2015 #3 March 1982 2015-02-25 22:35:13
Location	Any data that identifies a location. This could be a street, city, state, country, zip code, latitude, longitude, etc.	Minneapolis, MN 55426 44.9778° N, 93.2650° W

DATA ANALYTIC TOOLS

CHALLENGERS | LEADERS

- Tableau
- Qlik
- Birst
- Microsoft
- Logi Analytics
- MicroStrategy
- SAS
- Information Builders
- Oracle
- IBM
- SAP
- Tibco Software
- GoodData
- Prognoz
- Alteryx
- Pyramid Analytics
- Targit
- Pentaho
- Board International
- Yellowfin
- Datawatch
- Panorama Software
- Salient Management Company
- OpenText (Actuate)

ABILITY TO EXECUTE

NICHE PLAYERS | VISIONARIES

COMPLETENESS OF VISION

As of February 2015

pentaho
A Hitachi Group Company

ORACLE

IBM

alteryx

tableau
SOFTWARE

Power BI

Qlik Q

sas
THE POWER TO KNOW.

INTERACTIVE DEMO

DEMO

Things to think about

What do you want to know about the data?

What hypothesis do you have about the data?

What visualizations can you use with this data?

Datasets

Survey Data
- **South vs. Midwest**
  - How do people identify states in the South vs. Midwest
- **Food World Cup**
  - How much people like food of different ethnicities
- **Flying Etiquette**
  - What is acceptable while flying?
- **Oxford Comma**
  - What's the appropriate way to use an Oxford Comma?

Business Data
- **AirBnB**
  - Review scores, Prices, Beds, and House Types for AirBnBs in NYC
- **Movie Review Comparisons**
  - Review scores for Fandango, Rotten Tomatoes, and IMDb
- **Biopics**
  - Demographic information about subject along with Box Office results
- **Daily Show Guests**
  - Daily Show guests by show

Public Safety / Sector Data
- **Police Killings**
  - Demographic information about who police have killed
- **Hate Crimes**
  - Hate crime frequency per state
- **Car crashes and Insurance Premiums**
  - Car crashes (w/ reason) and premiums by state
- **Airline Safety**
  - Incidents / Fatalities by airline over time
- **College Majors and Incomes**
  - College majors, Gender make-up, and income figures
- **Births by day**
  - Births by day from 1994 to 2014
- **Washington Post Unsolved Homicide**
  - Homicide Rate vs. Arrest Rate for Top 50 Cities

BREAK

VIZ-OFF TEAM ACTIVITY

VIZ-OFF

a. Split up into sets of 2 teams
- i. Different dataset per set of 2 teams
- ii. 1 team uses Tableau, the other uses Power BI

b. Team report building
- i. **Executive Summary:** Few KPIs / graphics for the dataset. Might have a higher text to graphic ratio.
- ii. **In-Depth but Static:** Single focus per screen. More graphics than Executive.
- iii. **Interactive Graphs:** Similar to In-Depth but also have sliders / slicers

c. Team Presentations
- i. Showcase design
- ii. What they learned about the data
- iii. Challenges / Likes / Dislikes of the tool and dataset used

WRAP-UP/CONCLUSION

WRAP-UP/CONCLUSION

1) What we learned

2) Likes and Dislikes

3) Things to keep in mind

4) Tips & Tricks

5) Any other questions