Seneca | SDDS

Business Analytics

Introduction to Data Visualization

BAN140 - Section NBB /NCC

Mufleh Al-Shatnawi, Ph.D., P.Eng.,

Week 5

Week Topics

Previous Week
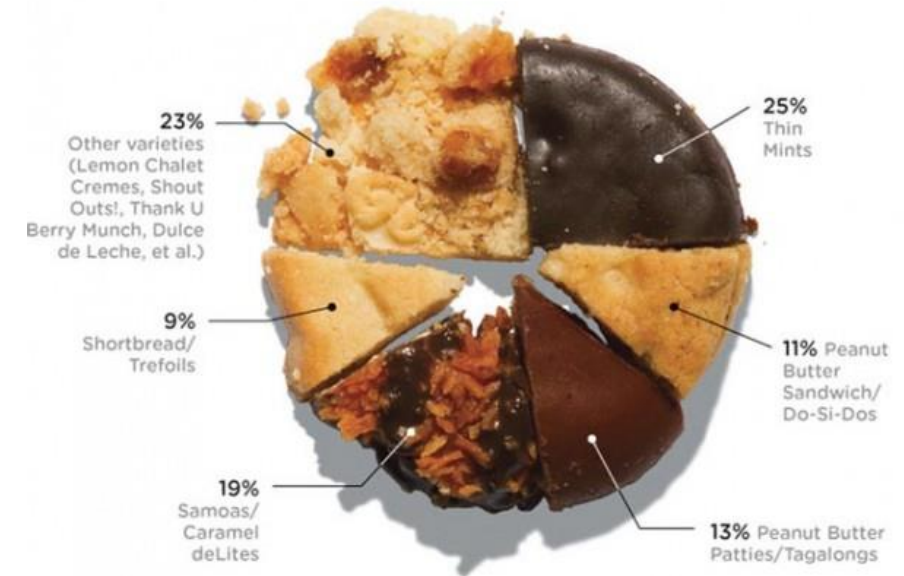- ➢ Tableau different Join
- ➢ Type of Visuals

Current Week
- ➢ Finding the Most Important Thing

Introduction

➢Before creating a data visualization or **communication**, **<u>attention and time</u>** should be paid to understanding the **data context**.

➢*Think about data visualization as a medium, rather than a tool.*

   ➢*What is exploratory* analysis

   ➢*What is explanatory* analysis

Exploratory Analysis

➢ **Exploratory** analysis: what you do to understand data **[Exploratory data analysis (EDA)]**

➢ get to know your data!
  ➢ Trying different graphs
  ➢ Looking for relationships between variables
  ➢ Looking for something noteworthy or interesting

25% Thin Mints

23% Other varieties (Lemon Chalet Cremes, Shout Outs!, Thank U Berry Munch, Dulce de Leche, et al.)

11% Peanut Butter Sandwich/Do-Si-Dos

9% Shortbread/Trefoils

19% Samoas/Caramel deLites

13% Peanut Butter Patties/Tagalongs

Explanatory analysis

➢ **Explanatory** analysis: what you do to explain information

➢ Have a story to tell

➢ *If you are the one analyzing and communicating the data, you likely know it best*

➢ *How can you use data to help make your point?*

➢ *What do you need your audience to know or do?*

➢ Have an audience

➢ *Create different communications for different audiences.*

Importance of Context

Chapter One: the importance of context From Storytelling with Data: A Data Visualization Guide for Business Professionals, Wiley, 2017

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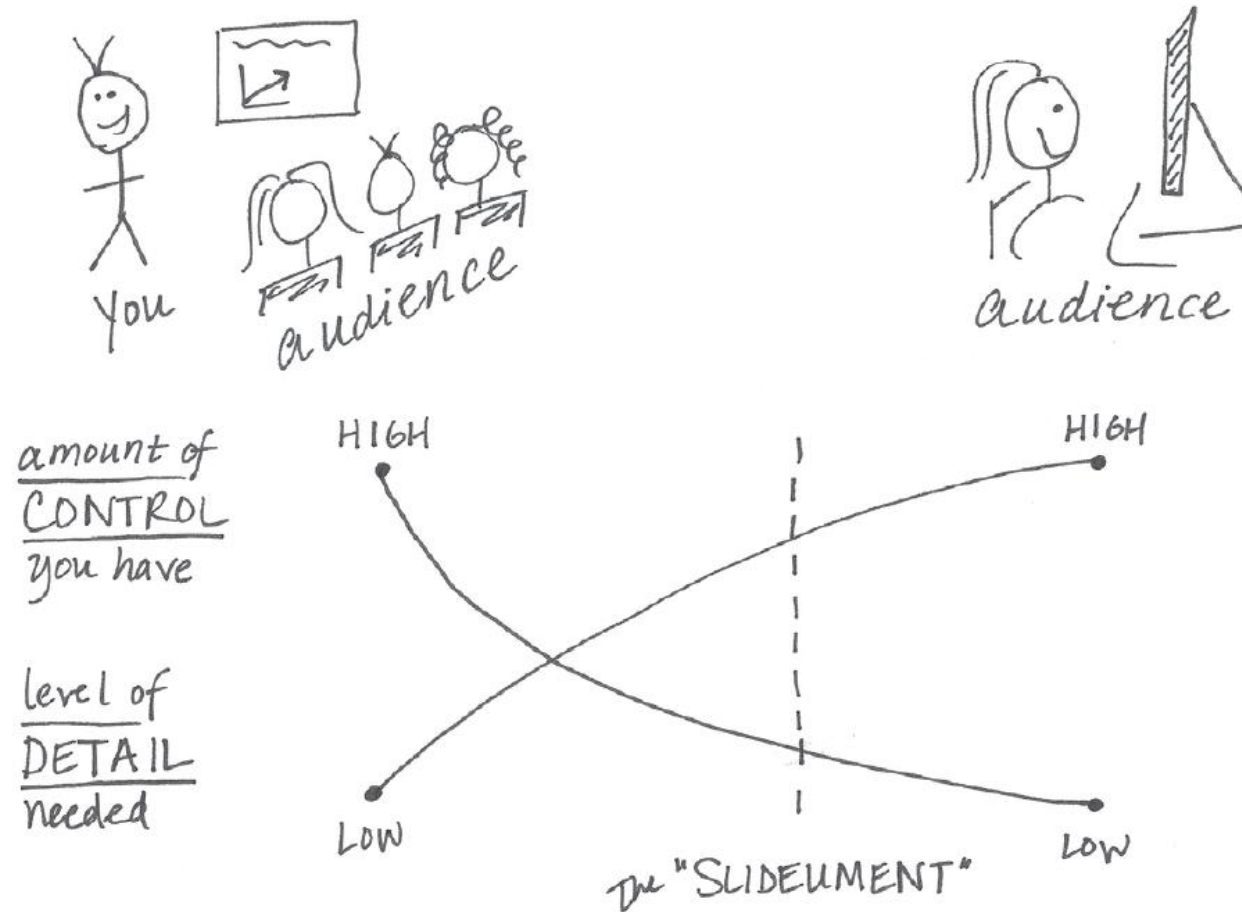
Who, what, and how

➢ **Who** are you communicating to?
  - ➢ Identify the decision maker
  - ➢ Establish your credibility

➢ **What** do you need your audience to know or do?
  - ➢ Why should they care?
  - ➢ Recommend an action, or suggest possible next steps
  - ➢ Use action words

➢ **How** will you communicate?
  - ➢ Is supporting data available?
  - ➢ Live presentation, written document, email or slideument

Communication Mechanism

Live presentation vs. Written document

➢ Live presentation
  ➢ High level of control, Low level of details
  ➢ Keep your slides sparse (not speaking notes!)

➢ Written document or email
  ➢ Low level of control, High level of detail

➢ Slideument:
  ➢ Slides and document
  ➢ a compromise between the above

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Supporting data

➢Two components in your presentation/ document:
  ➢ Your story
  ➢ Supporting evidence for your story
    ➢ Data!

➢Visualize this data!
  ➢People understand pictures better than straight numbers!

➢But don't ignore non-supporting data

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Storyboarding

➢A *visual outline* of the content you plan to create

➢Start low tech; use whiteboard, post-it notes, or plain paper

➢Big Idea at the end; or if appropriate, at the beginning

References and Resources

➢[Knaflic] Cole Nussbaumer Knaflic, **Storytelling with Data: A Data Visualization Guide for Business Professionals**, Wiley, 2017
  ➢ Available online through Seneca Libraries: https://senecacollege-primo.hosted.exlibrisgroup.com/permalink/f/t3376v/01SENC_ALMA5146374280003226

➢ [Ryan] Lindy Ryan, **Visual Data Storytelling with Tableau**, Pearson Addison-Wesley, 2018
  ➢ Available online through Seneca Libraries: https://senecacollege-primo.hosted.exlibrisgroup.com/permalink/f/t3376v/01SENC_ALMA5167006190003226

➢ [Healy] Kieran Healy, **Data Visualization: A Practical Introduction**, Princeton University Press, 2018.
  ➢ Available (hardcopy) at Seneca Libraries: https://senecacollege-primo.hosted.exlibrisgroup.com/permalink/f/t3376v/01SENC_ALMA2172469250003226

➢**A Reader on Data Visualization:** https://mschermann.github.io/data_viz_reader/

➢**Data visualization:** https://en.wikipedia.org/wiki/Data_visualization

➢**Section 5: Data concepts** https://www.statcan.gc.ca/eng/dli/guide/section5