

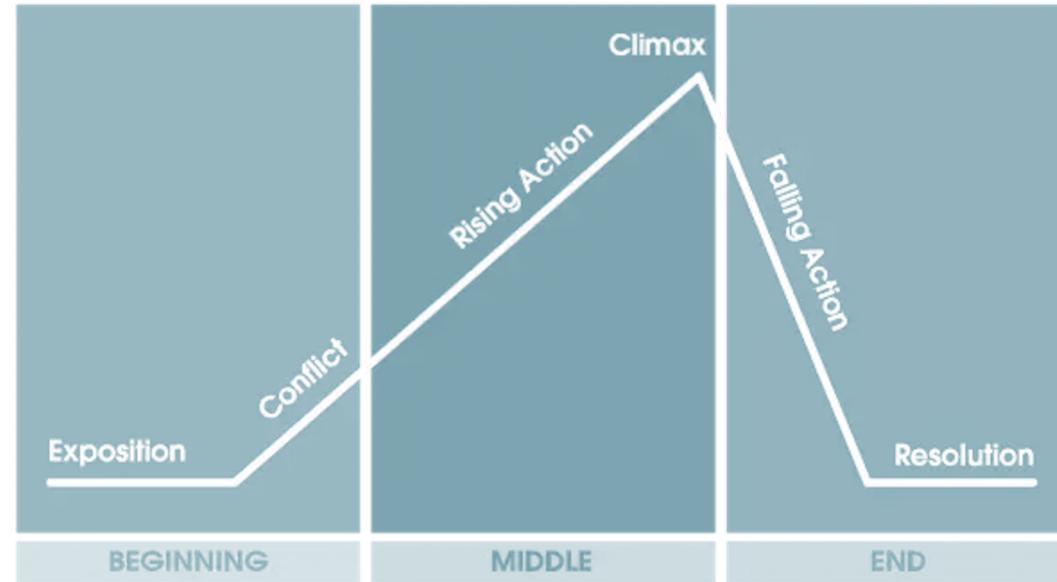
# Story-Telling I

Carolina A. de Lima Salge  
Assistant Professor  
Terry College of Business  
University of Georgia

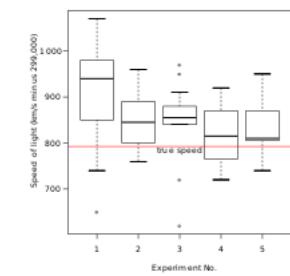
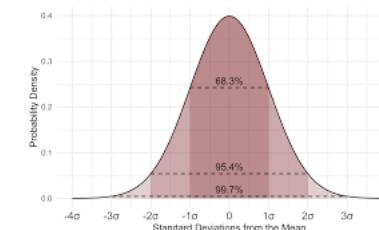
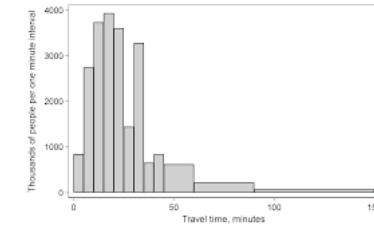
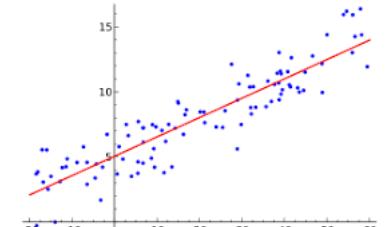
*Business Intelligence*  
Spring 2021



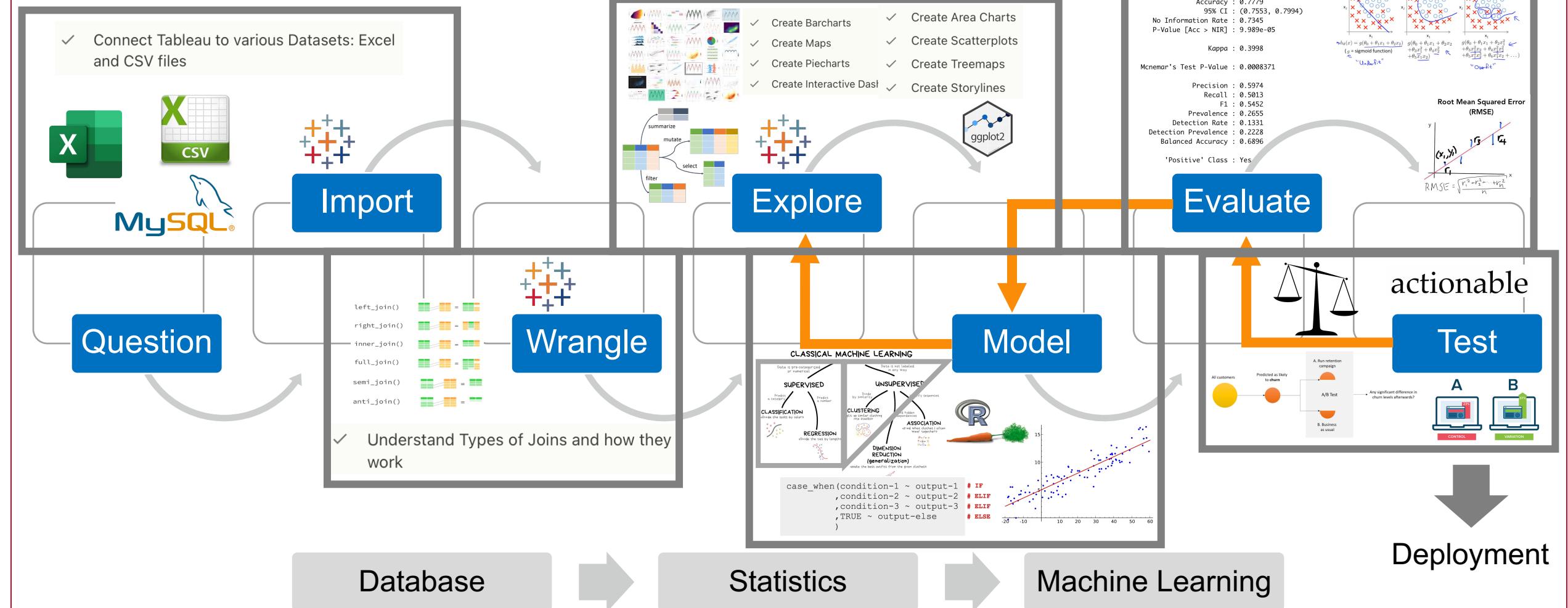
Terry College of Business  
UNIVERSITY OF GEORGIA



© 2018 Clever Prototypes, LLC

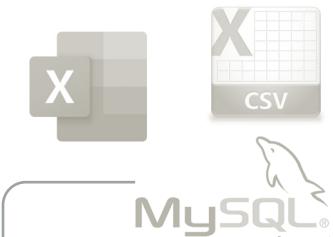


# Where We Are



# Where We Are

- ✓ Connect Tableau to various Datasets: Excel and CSV files



Question

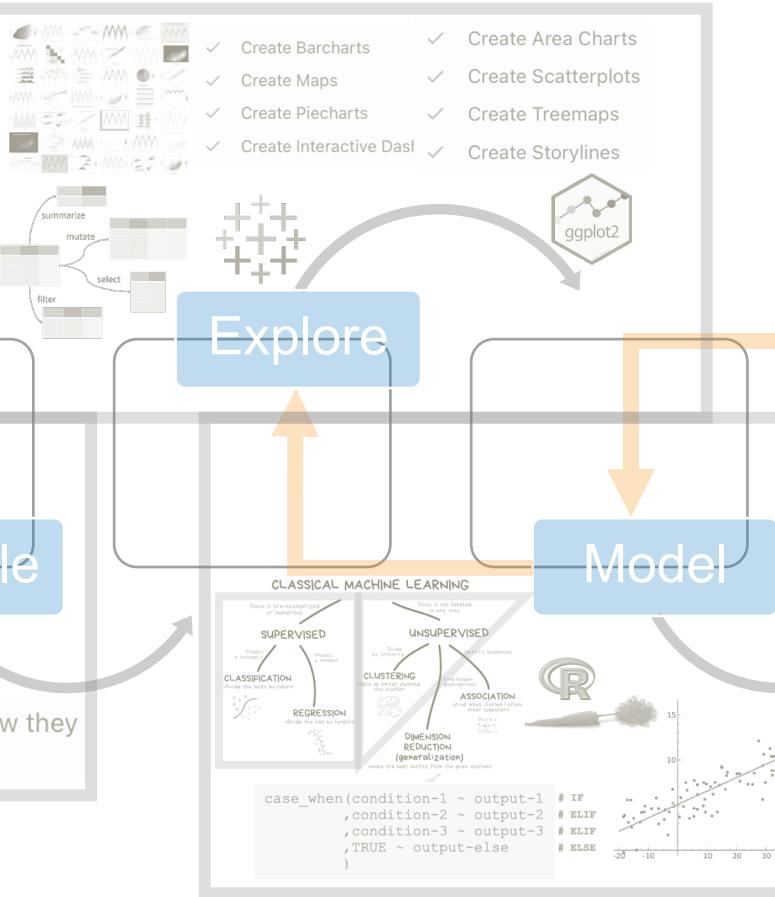
Import

`left_join()  
right_join()  
inner_join()  
full_join()  
semi_join()  
anti_join()`

- ✓ Understand Types of Joins and how they work

Database

Wrangle



```
> # how did we do with test set? confusion matrix
> confusionMatrix(data = churn_test$pred_churn,
+   reference = churn_test$Churn,
+   mode = "prec_recall",
+   positive = "Yes")
Confusion Matrix and Statistics
```

Reference  
Prediction  
No Yes  
No 906 186  
Yes 126 187

```
Accuracy : 0.7779
95% CI : (0.7553, 0.7994)
No Information Rate : 0.7345
P-Value [Acc > NIR] : 9.389e-05
Kappa : 0.3998
McNemar's Test P-Value : 0.0008371
```

```
Precision : 0.5974
Recall : 0.5013
F1 : 0.5452
Prevalence : 0.2655
Detection Rate : 0.1331
Detection Prevalence : 0.2228
Balanced Accuracy : 0.6896
```

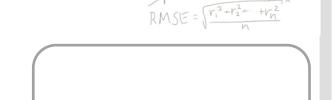
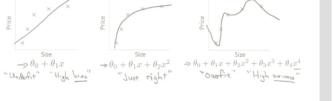
'Positive' Class : Yes

Explore

Model

Present

Deployment



# Presentation

All about communication

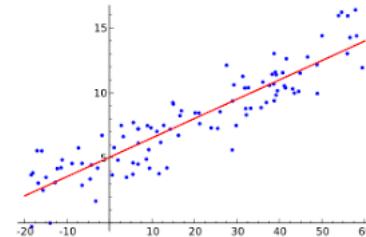
- Overlooked, but one of the most important aspects of a project
- If not well communicated, your insights won't be put to good use
- The objective is to **“persuade the audience”**



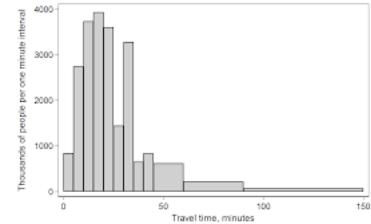
# Two Ways to Persuade People

## Conventional Rhetoric

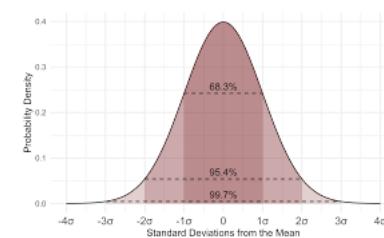
- Slides (or reports) filled with facts and statistics
- An intellectual process, but problematic...
  - ... you are trying to persuade your audience, but they are arguing with you in their heads



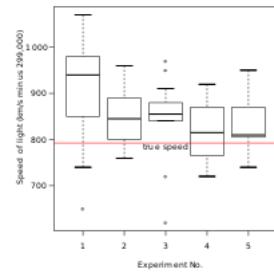
[https://en.wikipedia.org/wiki/Mathematical\\_statistics#/media/File:Linear\\_regression.svg](https://en.wikipedia.org/wiki/Mathematical_statistics#/media/File:Linear_regression.svg)



[https://en.wikipedia.org/wiki/Frequency\\_\(statistics\)#/media/File:Travel\\_time\\_histogram\\_total\\_n\\_Stata.png](https://en.wikipedia.org/wiki/Frequency_(statistics)#/media/File:Travel_time_histogram_total_n_Stata.png)



[https://en.wikipedia.org/wiki/Statistics#/media/File:Standard\\_Normal\\_Distribution.png](https://en.wikipedia.org/wiki/Statistics#/media/File:Standard_Normal_Distribution.png)



[https://en.wikipedia.org/wiki/Summary\\_statistics#/media/File:Michelsonmorley-boxplot.svg](https://en.wikipedia.org/wiki/Summary_statistics#/media/File:Michelsonmorley-boxplot.svg)



“If you do succeed in persuading them, you’ve only done so on an *intellectual basis*. That’s not good enough, because **people are not inspired to act by reason alone**”

Robert McKee, award-winning writer and director



# Two Ways to Persuade People

## Story

- Grabs the attention
- Takes the reader to a journey
- Evokes emotional response
- Keeps engagement
- Makes it memorable



<https://bbogady.com/the-5-ways-of-storytelling-in-marketing/>



Harder than conventional rhetoric because it requires *creativity* – but worth it because **we can use stories to engage people emotionally in a way that goes beyond what facts can do**



# Story-telling with words (reports)

1

Find a topic you care about

2

Keep it simple

3

Edit ruthlessly

4

Be authentic

5

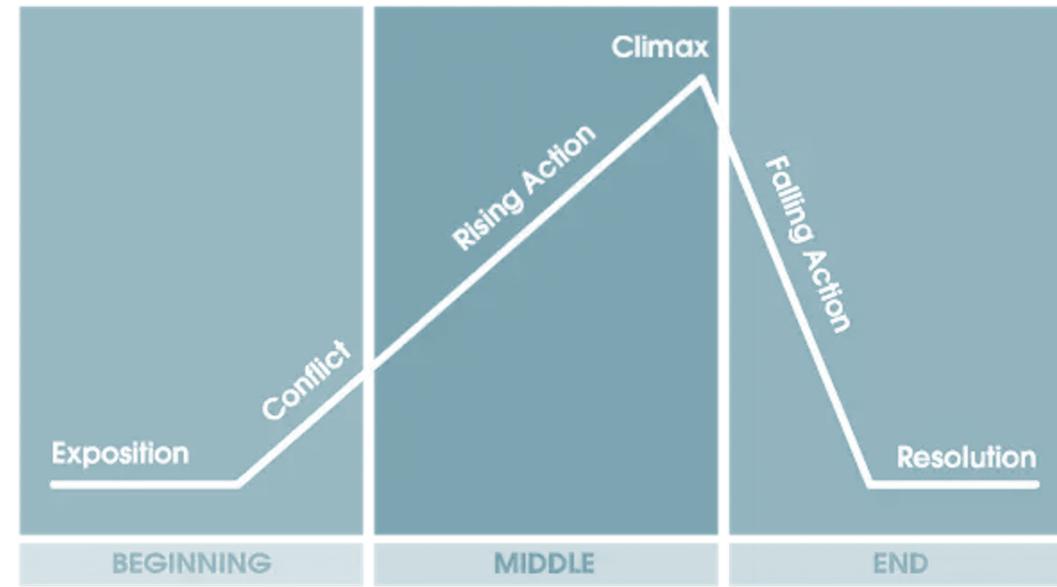
Don't communicate for yourself, but rather for your audience



# Constructing the Story

Every story has a beginning, middle, and end

Commonly referred to as **setup, conflict, resolution**



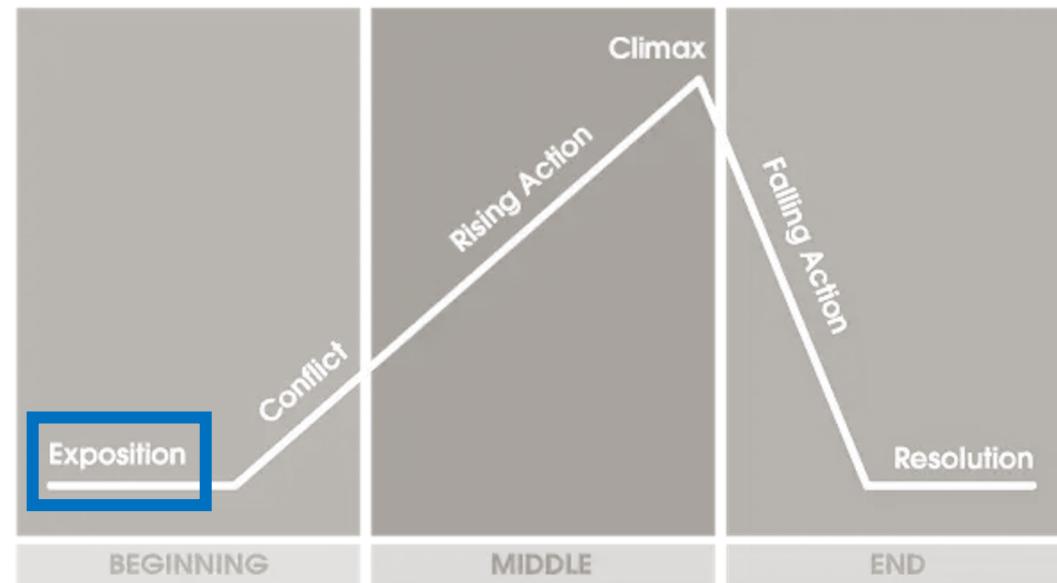
<https://www.storyboardthat.com/articles/e/plot-diagram>



# Beginning

Introduce the plot, *building context* for the audience

- When and where does the story take place?
- Who is driving the action?



© 2018 Clever Prototypes, LLC

<https://www.storyboardthat.com/articles/e/plot-diagram>



Terry College of Business  
UNIVERSITY OF GEORGIA

Knaflic, C. G. (2015). [Storytelling with Data](#)

# Beginning

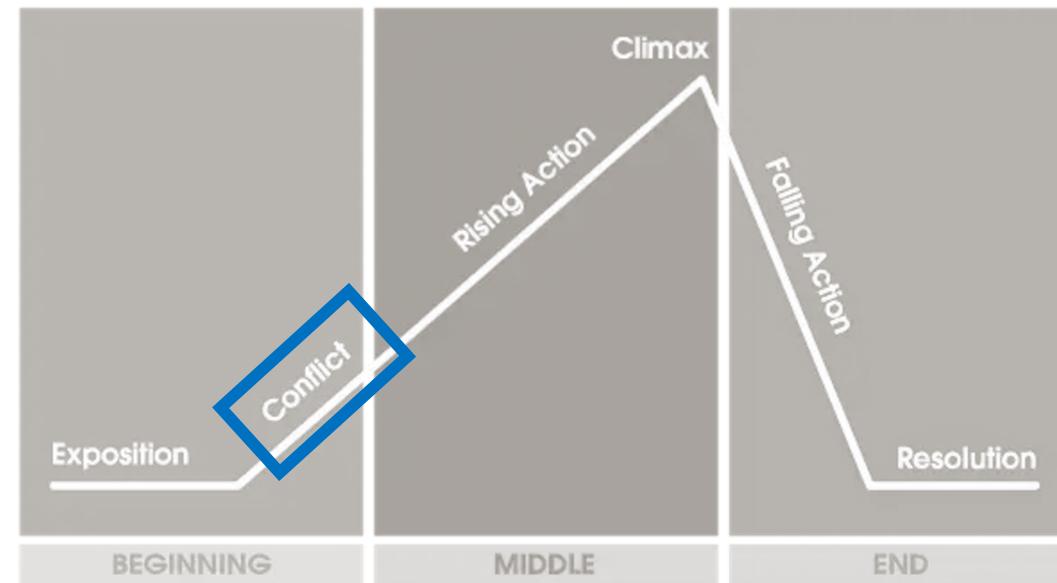
Introduce the plot, *building context* for the audience

- **What is the unresolved situation?**
- **What is the opportunity (or desired outcome)?**

*Why is the unresolved situation problematic? What has changed?*

*What do you want to happen? How will you bring about the changes?*

*Why should I pay attention? What is in it for me?*



© 2018 Clever Prototypes, LLC  
<https://www.storyboardthat.com/articles/e/plot-diagram>



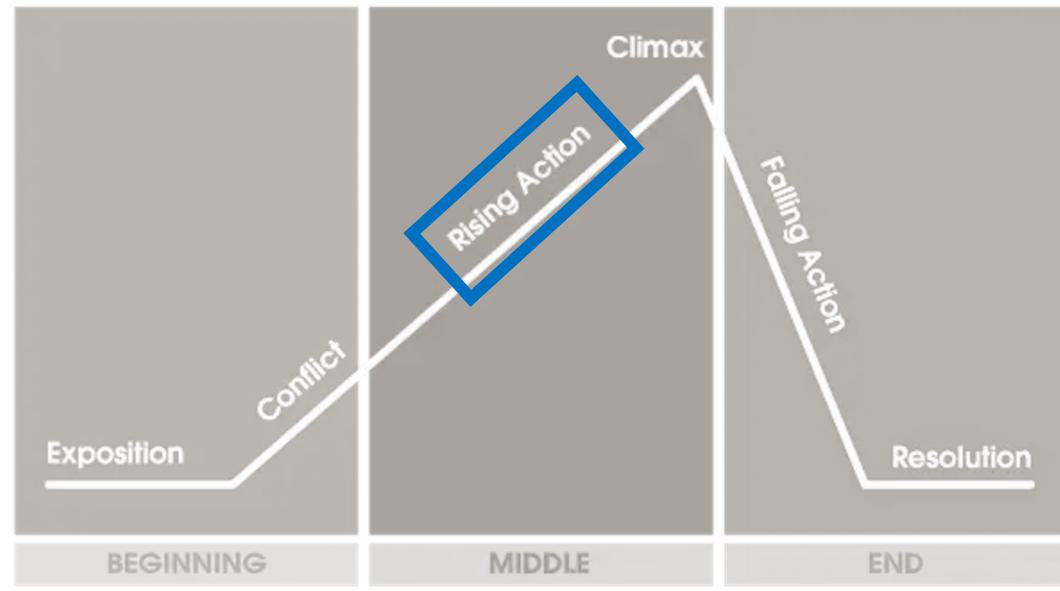
# Middle

How to solve the problem introduced - the action!

- **Develop the situation by covering relevant background**
- **Add external context and data supporting the problem**

*What will happen if the problem situation remains unresolved?*

*What are the potential options for addressing the situation?*



<https://www.storyboardthat.com/articles/e/plot-diagram>



Terry College of Business  
UNIVERSITY OF GEORGIA

Knaflic, C. G. (2015). Storytelling with Data

# Middle

How to solve the problem introduced - the action!

- Introduce and highlight the rigor of your approach
- Illustrate the actionability of your proposed solution

*How good is the performance of your model?*

*What is the treatment proposed, and does it work in real life?*



© 2018 Clever Prototypes, LLC

<https://www.storyboardthat.com/articles/e/plot-diagram>



Terry College of Business  
UNIVERSITY OF GEORGIA

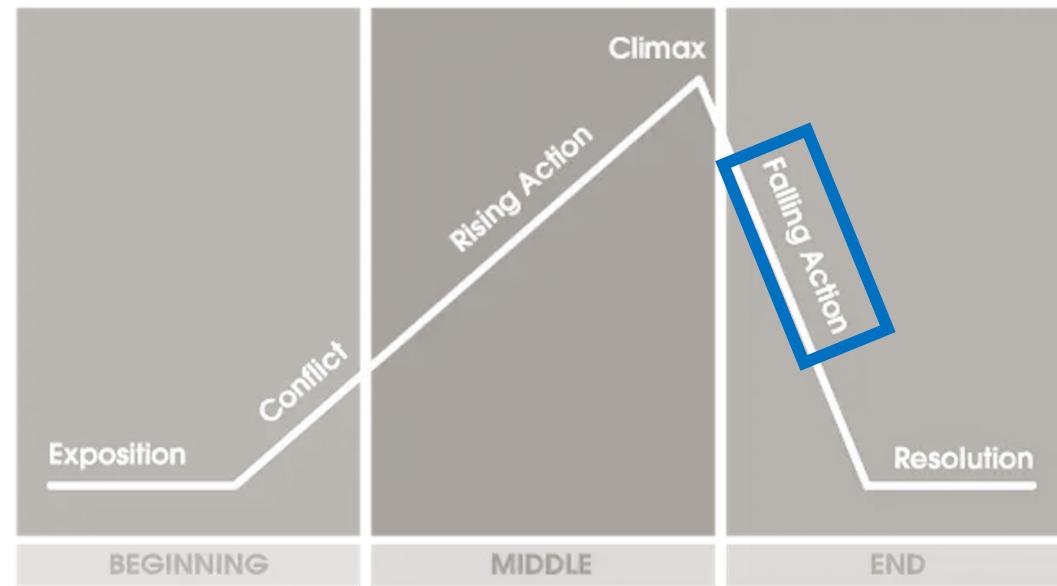
# End

Convince the audience why they should accept your solution

- **Show the value of your proposed solution to the firm**
- **Articulate why it makes sense to move forward**

*What are the potential costs and benefits of deploying your solution?*

*Why do the benefits outweigh the costs, making your solution a good investment?*



<https://www.storyboardthat.com/articles/e/plot-diagram>



Terry College of Business  
UNIVERSITY OF GEORGIA

Knafllic, C. G. (2015). Storytelling with Data

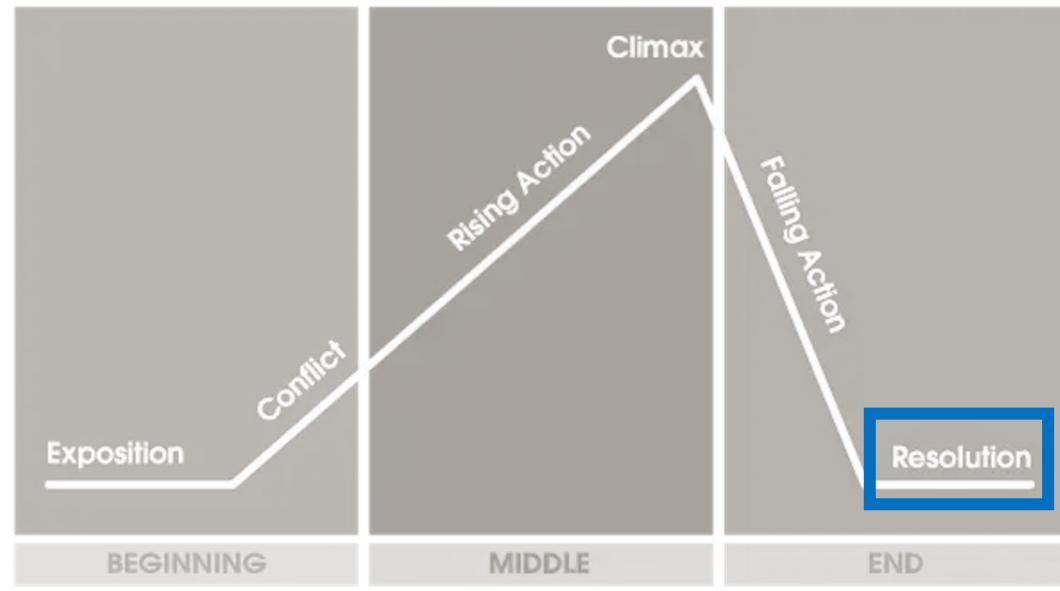
# End

Convince the audience why they should accept your solution

- **End with a call to action**
- **Tie it back to the beginning**

*What do you need the audience to do in terms of next steps?*

*Why are these important first steps for addressing the situation?*



<https://www.storyboardthat.com/articles/e/plot-diagram>

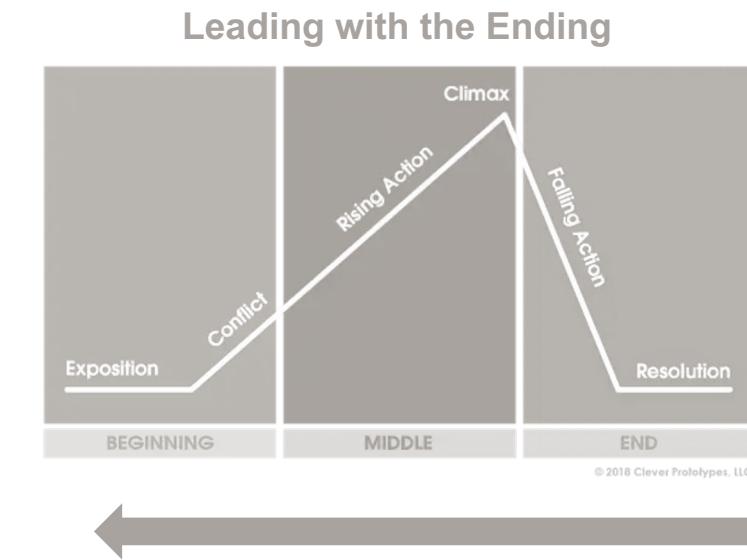
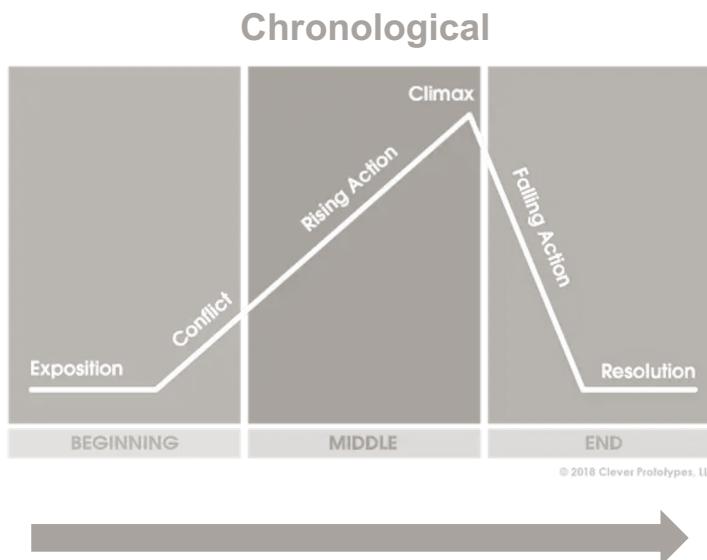


Terry College of Business  
UNIVERSITY OF GEORGIA

Knaflic, C. G. (2015). *Storytelling with Data*

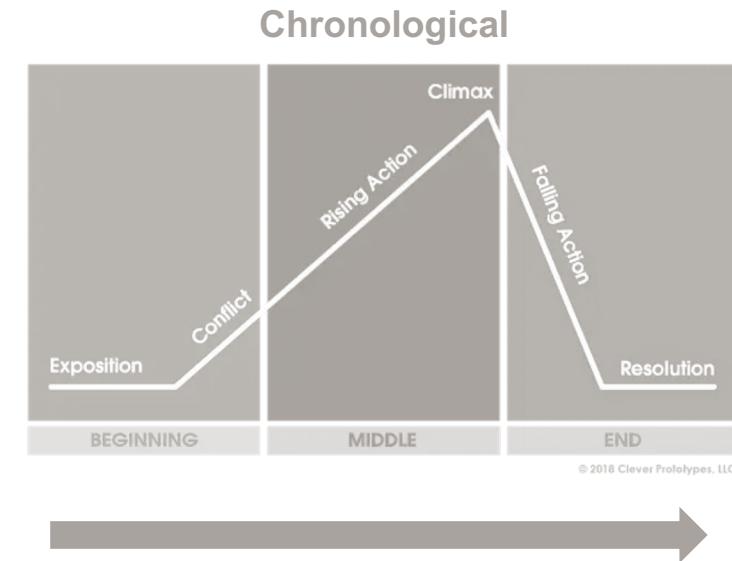
# After the Story, Comes the Narrative Structure

Have a solid understanding of your story before crafting the presentation – only then you can start to think about what narrative flow makes sense and how to organize your work



# After the Story, Comes the Narrative Structure

Identify a problem  
Gather and wrangle data  
Explore the data  
Build, evaluate, and test model  
Emerge with a solution  
Recommend action

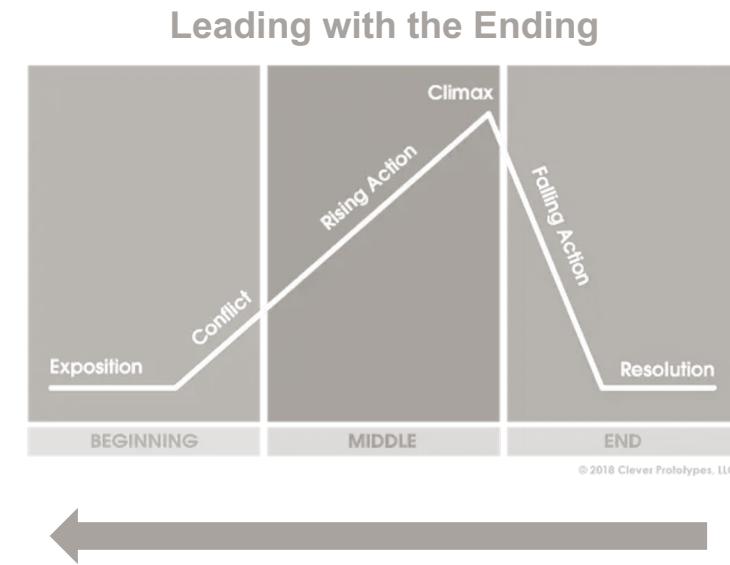


# After the Story, Comes the Narrative Structure

Start with call to action

Back up into critical pieces of the story in order to support it

Works well if you have already established trust with audience and/or if the audience is more interested in the “so what”



# Summary

Presenting the results of your project is almost as important as your project

- If you do a great job, your insights will be put to good use!
- If you do not do a great job, your insights will likely be ignored ...

Story-telling is one way to present your results in a persuasive manner!

- It is gaining traction in business data science
- Provides solid foundation to build upon (beginning, middle, end)
- More effective (if well executed) but also more difficult (requires creativity) than conventional rhetoric

*Narrative structure determines what comes first and why (audience, audience, audience ...)*



# *Thank You!*



Terry College of Business  
UNIVERSITY OF GEORGIA