

Data Analytics for Managers

Follow along at: <http://bit.ly/data-driven-gov>

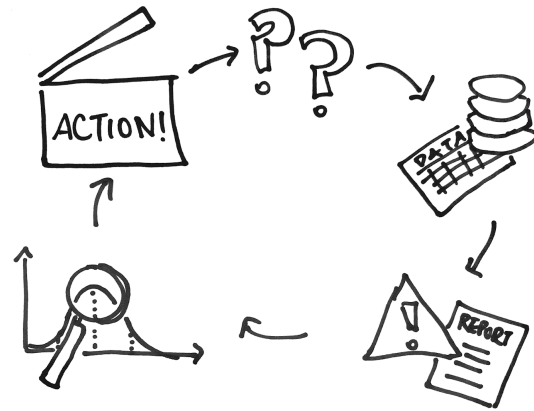
See the code at: <http://bit.ly/data-driven-gov-code>

Key Questions for the Morning

- What is the value of data?
- What is analysis?
- What does it mean to be data-driven?

The Analytics Value Chain

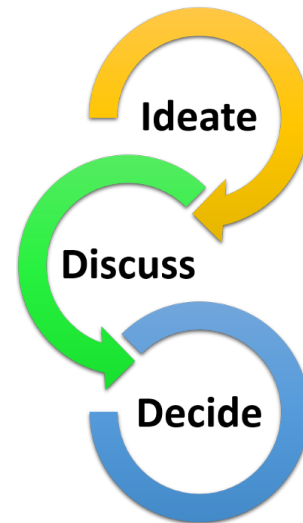
- What are the key steps?



- What are the key things to keep in mind?

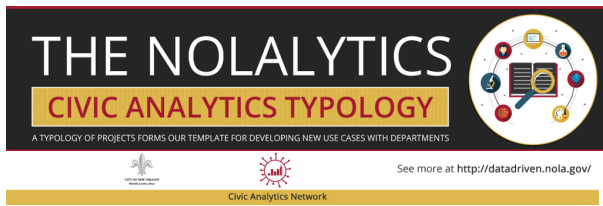
Problem Scoping

- **Ideate:** On your own, generate at least 3 ideas (ideally more), each on their own Post-It Note
- **Discuss:** Review the ideas generated
- **Decide:** Come to a consensus as a group



Process Mapping Steps

- Identify the key problem/question
- Identify the desired outcome
- Identify key outcome measures (**How do we know we've got it right?**)
- Identify the key inputs (data)
- Identify the key steps to use inputs to achieve the outcome



Based on the work of the [City of New Orleans, Office of Performance and Accountability](#)
Graphics: Copyright © [Harvard University Ash Center](#) (Used with Permission)



4 Concerns to Be Mindful Of

1. Technical

2. Legal

3. Cultural

4. Political

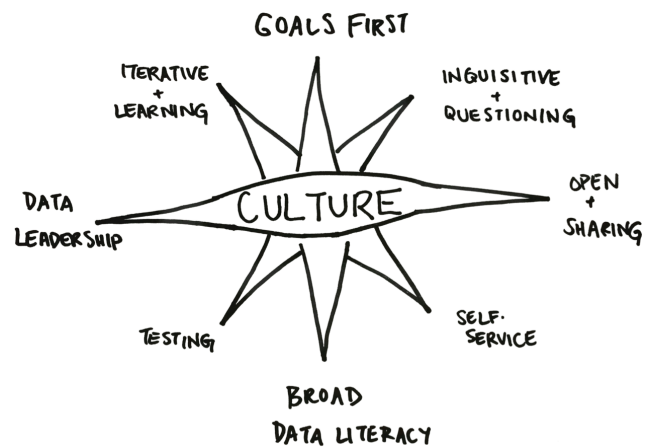
Key Benefits of Good Analysis

Key Questions for the Afternoon

- What is open data?
- What are the benefits of open data?
- What are some of the concerns with open data?

-
- What is exploratory data analysis? Why is it important?

- What is a data-driven culture?



- How do we create it in our organization?

Data Exercise

Filter

Filter this dataset based on contents.

Created Date ▼ is between ▼

☒ 01/01/2016 12:00:00 AM and
04/01/2016 12:00:00 AM

☐ and

Complaint Type ▼ contains ▼

☒ noise

Download

Download a copy of this dataset in a static format

Download As

CSV

CSV for Excel

JSON

RDF

RSS

TSV for Excel

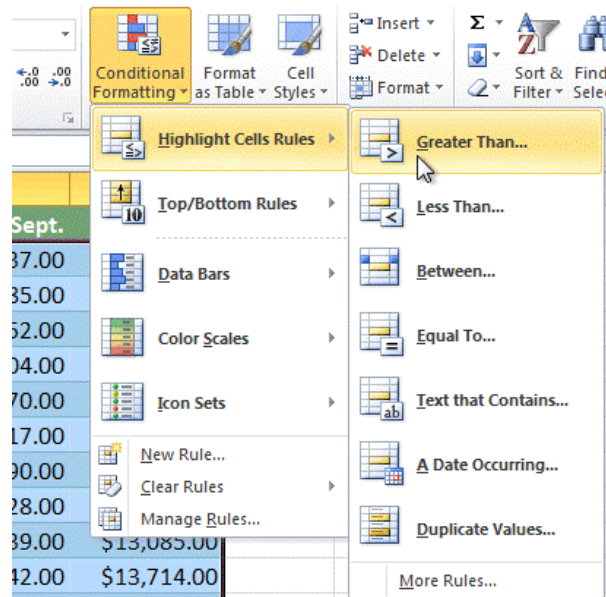
XML

Filtering

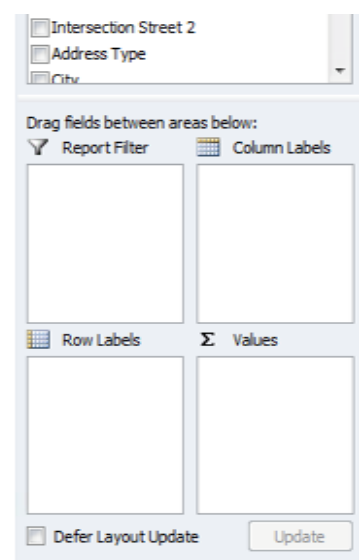
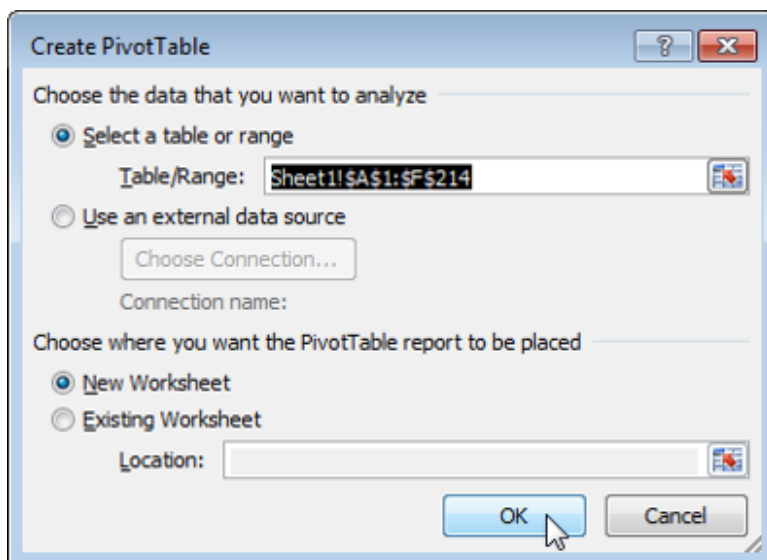
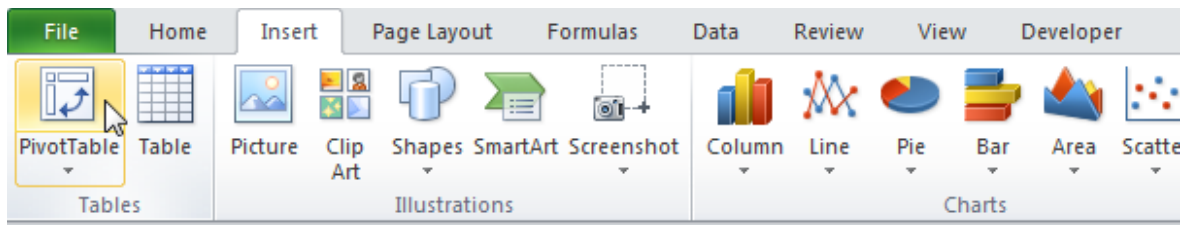
The screenshot shows the Microsoft Excel interface. The 'Data' tab is selected in the ribbon, and the 'Filter' button (represented by a funnel icon) is highlighted. A tooltip for the 'Filter' button is displayed, explaining that it enables filtering of selected cells and that users should click the arrow in the column header to choose a filter. Below the ribbon, a data table is visible with columns A through F. The 'Complaint Type' column (F) has a small downward-pointing arrow (filter icon) on its header, which is highlighted with a red box.

	A	B	C	D	E	F
1	Unique Ki	Created Date	Closed Date	Agent	Agency Name	Complaint Type

Conditional Formatting



PivotTables



Useful Functions in Excel

- =**SUM()**: Calculates the sum for a range of numbers
- =**COUNT()**: Counts the number of cells containing numbers in a range
- =**COUNTA()**: Counts the number of non-blank cells in a range
- =**HOUR()**: Extracts the hour from a timestamp
- =**WEEKDAY()**: Extracts the day of the week from a timestamp
- =**CHOOSE()**: Uses an index number to return a result from an ordered list of values

Technical Support

- Microsoft Office Support <http://office.microsoft.com/en-us/support>
- Data Science Cheatsheet <https://github.com/govex/Data-Science>
- Open Data Handbook <http://opendatahandbook.org>

Resources

- Data Driven New Orleans <https://datadriven.nola.gov>
- Harvard Government Performance Lab <https://govlab.hks.harvard.edu>
- Carl Anderson **Creating a Data-Driven Organization**
- DJ Patil & Hilary Mason **Data Driven: Creating a Data Culture** <https://www.oreilly.com/ideas/data-driven>
- Datapolitan training classes <http://training.datapolitan.com/>

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Website: <http://www.datapolitan.com>

Your Notes