

DATA STORY CREATIVE PROCESS

DATA PREP CHECKLIST

When starting the **data** prep process, the following should be considered as part of the process. Make sure to identify the right data, group it accordingly, and create the dataset that best empowers a **data** story.

RETRIEVE

Create a data structure or infrastructure (ie. cloud) for the data to be stored so that it is accessible and changes can be easily logged.

GROUP

Select the right time and group structure for your data. Should the data be at the individual or organizational level? Is it per transaction, daily, monthly?

RELABEL

Labels can have messy names. Relabel categorical names and fix incorrect spellings or designations. (ie. misspellings for city names.)

MISSING

What to do with missing data? You can delete the row, delete the column, or fill in the missing values with a value or average.

RECODE

Convert labels to numbers. Categorical data (ie. male/female), convert to a numerical value or dummy variables to include in models or certain visualizations.

OUTLIERS

Outliers can negatively effect models and visuals. Therefore, finding outliers and determining if they are mistakes or if they should be included.

ENHANCE

Feature engineering allows for new calculated fields, bucketing your data, and other enhancements to indicate relationships, differences, etc.

TRANSFORM

Make your data normally distributed. Data can be more helpful if transformed using normal distribution, min/max scalar or other statistical methods to smooth out.

AUTOMATE

Use techniques that are repeatable. **AVOID EXCEL to clean data** if possible and use scripting languages (R, Python) so that the steps are repeatable with a new dataset.

BUSINESS PERSPECTIVE

Continual review of variables to determine if the data is feasible from a business perspective. Things to consider include relevancy, ability to retrieve updates, the cost to retrieve, and any politics or ethical issues with using the data.

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VISUALIZATION CHECKLIST

When creating visualizations for insights, follow this checklist to convey the right message and to create a compelling **data** story. Use the white squares to check off compliance to compelling visualizations.

SIMPLE

Simplest chart. Choose a type of chart that most directly expresses the important message of the data.

GRIDLINES

Only show gridlines that are essential for users to understand relative values in the chart.

PRECISION

Data precision. Format data to balance necessary precision with efficient user of visual space.

COLORS

Use as few colors as possible. When using different colors, they should express meaning relevant to the data.

CONTRAST

Use higher contrast to highlight the most important information. Avoid low contrast which can be difficult to read.

DE-EMPHASIZE

You should de-emphasize (smaller, less contrast) information that is less critical (e.g. notes).

FONTS

Use a small number of font types and sizes and apply them consistently.

LANGUAGE

Titles and descriptions should be easily understood by beginner-level people and accurately reflect the content of your chart.

LABELS

Labels and legend. Where possible, **labels should be close to the associated chart elements.** Legends should be concise and simple.

OTHER DISTRACTING ELEMENTS

Keep distracting elements to a minimum. It is rare to need 3-dimensional graphics, shadows, background fill colors, or patterns. Keep the extra graphics to a minimum, flat instead of 3-D, muted instead of bright colors. Final note: No exploding segments (see pie chart).



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STORY CHECKLIST

Evaluate the design of your **data** story using the following checklist to ensure that the story meets its goals and objectives, and leads to a compelling message actionable next steps.

STRUCTURE

Does your data story have a **logical flow** that sets up the context and ends with actionable insights.

DATA

Data is only one ingredient. Words and images are the glue that holds your story together. Have you connected your data using a narrative flow?

METRICS

Pick the right metrics. Metrics are the characters of your story. Make sure it is measurable and an indication of the expected message.

CHARTS

Pick the right charts. Picking the right chart requires understanding your data and what you want to emphasize to support your message.

DESIGN

Make good visual design choices. Your data story should try to be as clear and simple as possible to let your message come through without distraction.

LESS IS MORE

Strive for less. It is important to appreciate the limited attention your audience will have for your data story.

TEACH

Teach once, use often. Each visualization asks your audience to learn how to interpret the data.

RELATABLE

Make your data relatable. Connecting to people requires connecting to things they can relate to.

EMPHASIZE

Summarize and emphasize key points. **Your data story needs to include the takeaways.** Look for sound-bites that will help your audience carry your message for you.

COMPELLING AND ACTIONABLE

Does the story compel the audience to action? Make sure that the message of story leads to the expected story and message. **Data tells - Stories sell!**