Data Storytelling

3) Eliminate clutter

Prof. Dr. Jan Kirenz
HdM Stuttgart

6 Lessons in data storytelling

1. Understand the context
2. Choose an appropriate visual display
3. **Eliminate clutter**
4. Focus attention where you want it
5. Think like a designer
6. Tell a story

Source: Nussbaumer Knaflic (2015)

VISUAL ELEMENTS that TAKE UP SPACE
and DON'T AID our UNDERSTANDING

Source: Nussbaumer Knaflic (2020)

COGNITIVE LOAD

The MENTAL EFFORT that's REQUIRED to LEARN NEW INFORMATION

Every element we put on a page or screen puts cognitive burden on our audience...

So we should take care not to include things that aren't adding information

Source: Nussbaumer Knaflic (2020)

Cognitive load

Intrinsic load

- is what people have to keep in mind in order to absorb new material.

Germane Load

- is the (desirable) mental effort required to link new information to old, which is one of the things that distinguishes learning from memorization.

Extraneous Load

- Is anything that distracts from learning

Source: Wilson (2019) https://teachtogether.tech/en/#s:architecture-load

Lack of visual order

Source: Nussbaumer Knaflic (2020)

Non strategic use of contrast

CLEAR CONTRAST is a SIGNAL, INDICATING WHERE to LOOK

Don't make too many things different, or key points will get lost

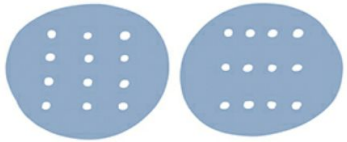
Source: Nussbaumer Knaflic (2020)

GESTALT PRINCIPLES

DESCRIBE HOW we SUBCONSCIOUSLY ORDER what we SEE in the WORLD

We can use this understanding of how people see to help identify & eliminate **CLUTTER**

PROXIMITY



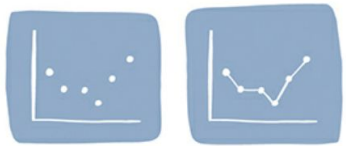
SIMILARITY

ENCLOSURE

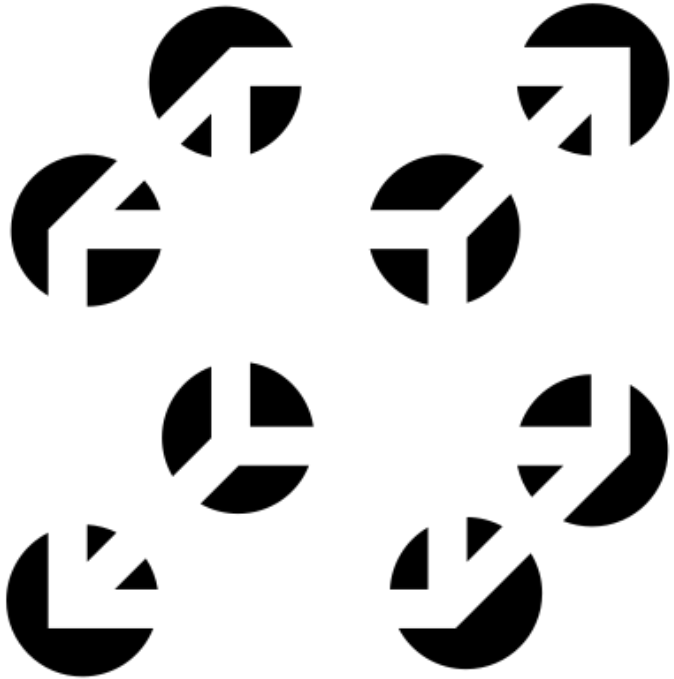
CLOSURE

CONTINUITY

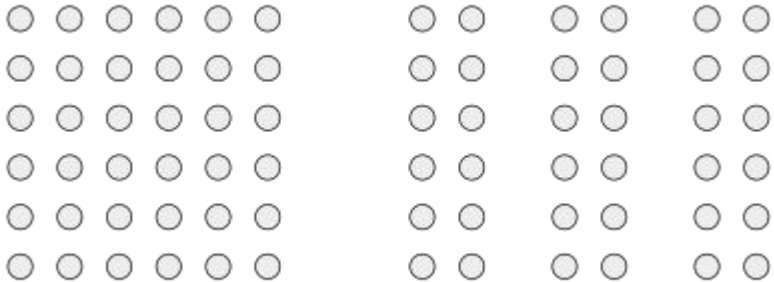
CONNECTION



Source: Nussbaumer Knaflic (2020)



Source: Wikipedia



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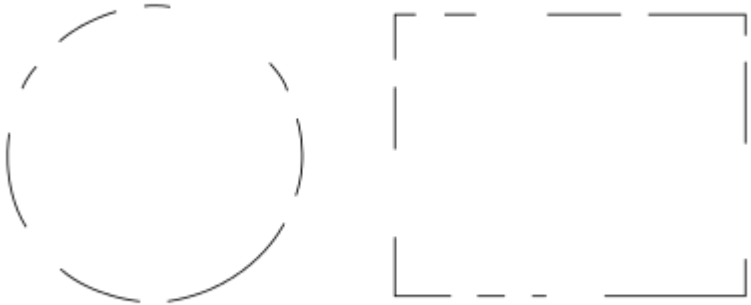

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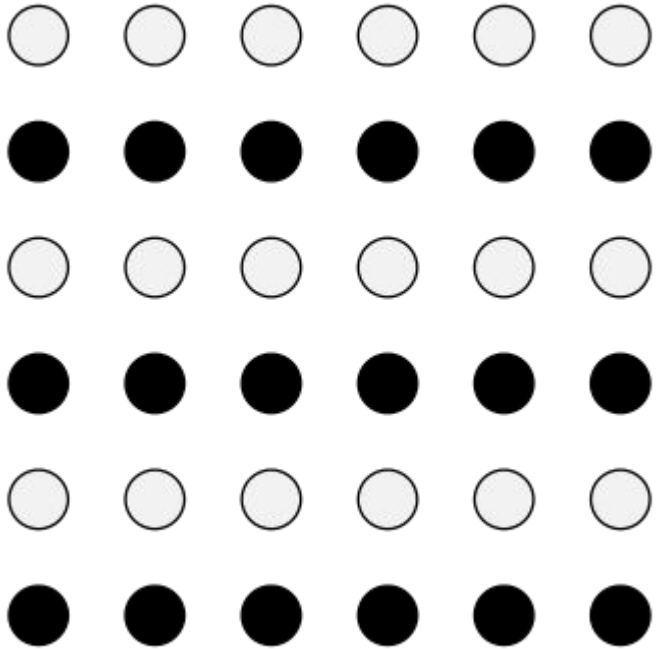

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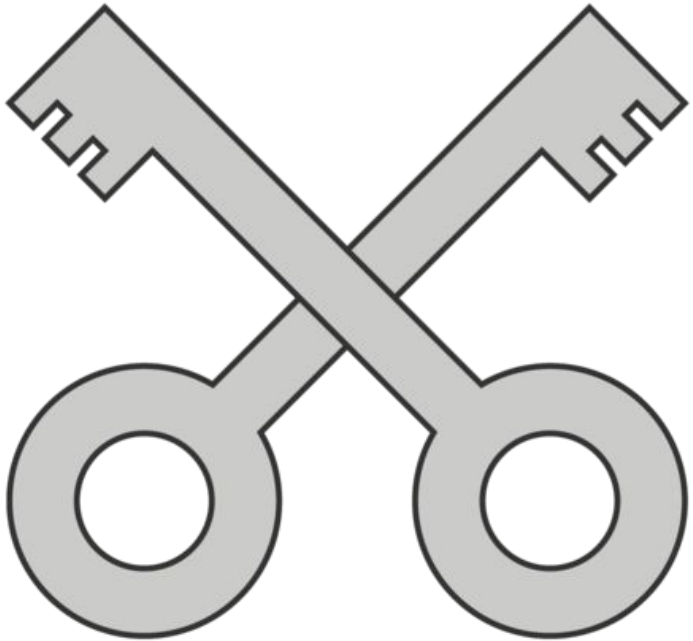
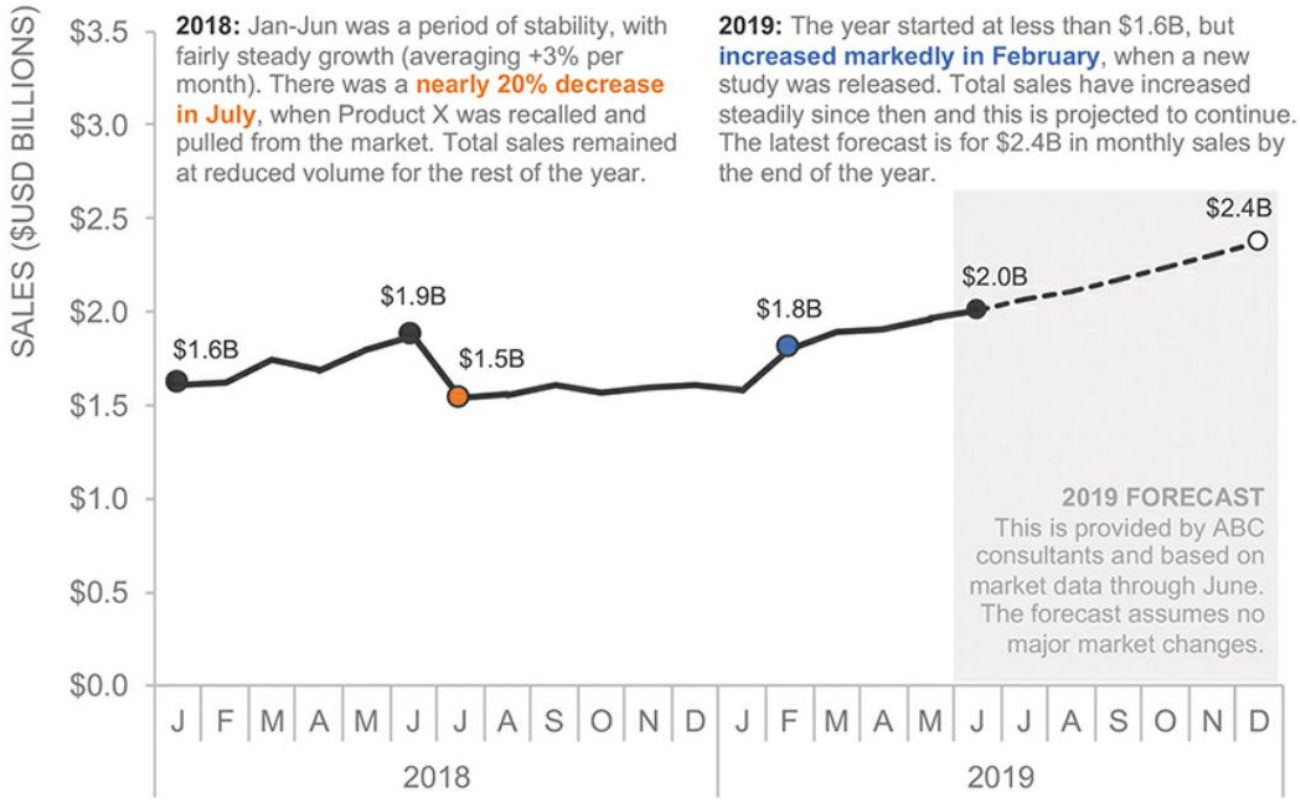


Source: Wikipedia

Example 3.1

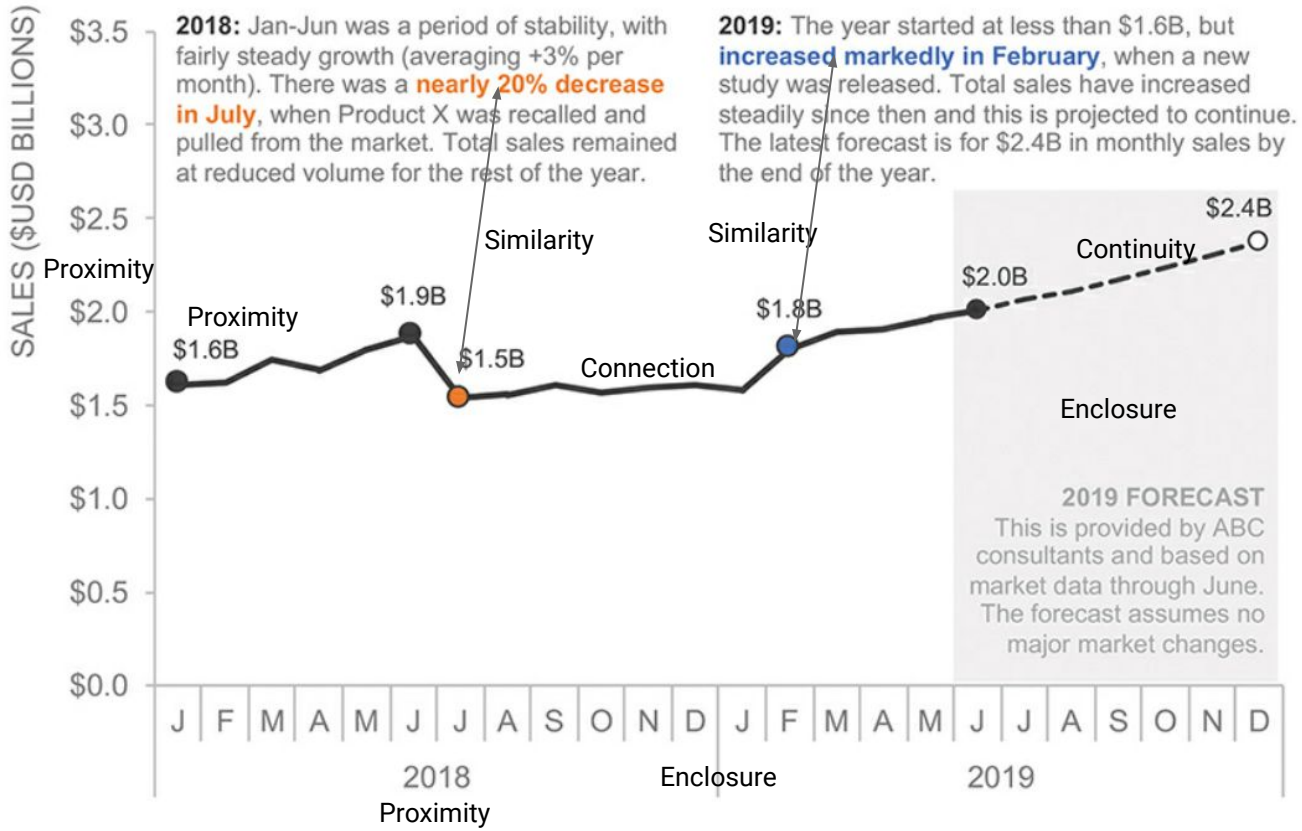
Market size over time



Source: Nussbaumer Knaflic (2020); Proximity

Market size over time

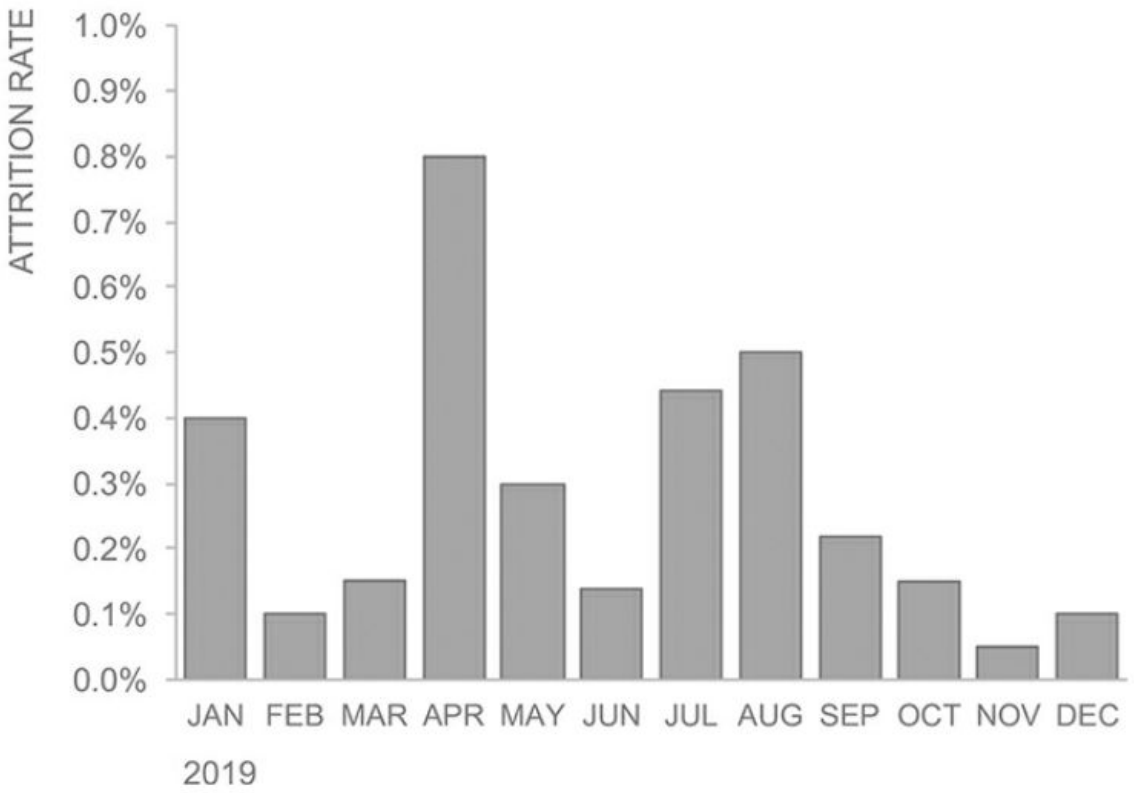
Closure



Source: Nussbaumer Knaflic (2020)

Example 3.2

2019 monthly voluntary attrition rate



Highlights:

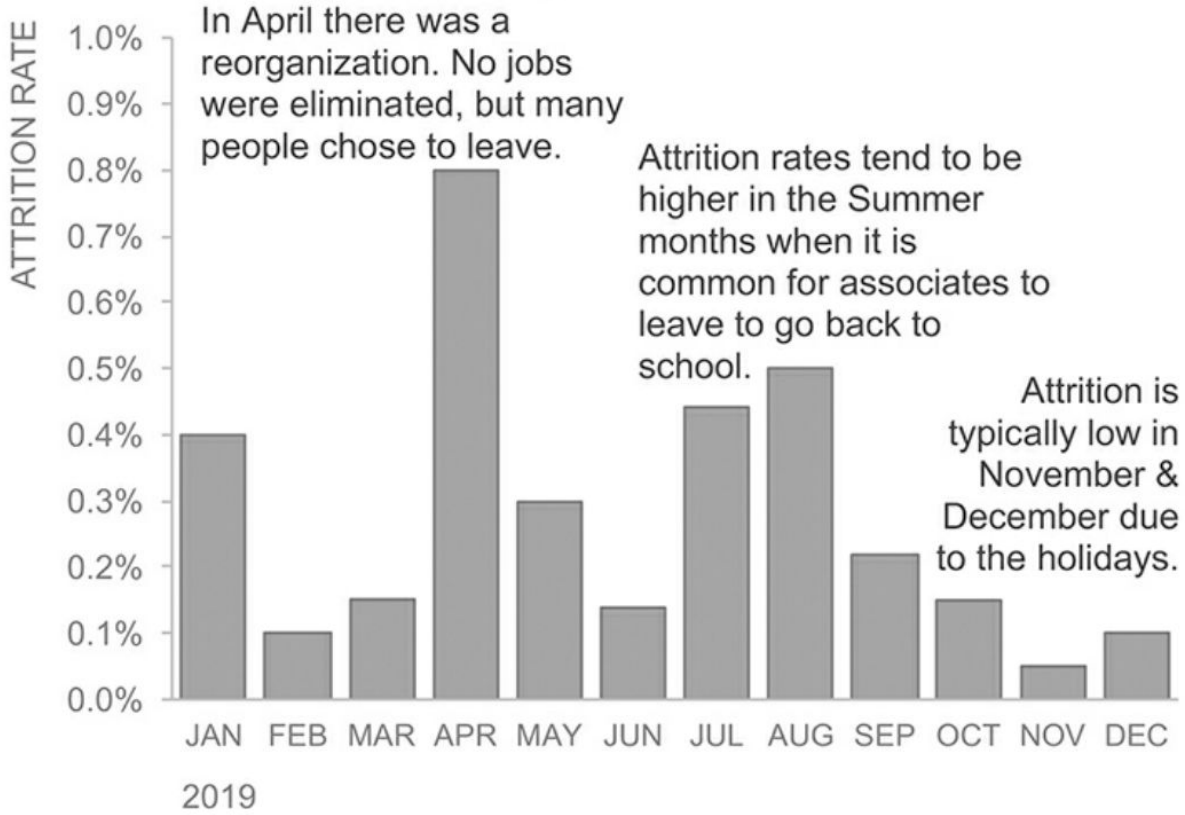
In April there was a reorganization. No jobs were eliminated, but many people chose to leave.

Attrition rates tend to be higher in the Summer months when it is common for associates to leave to go back to school.

Attrition is typically low in November and December due to the holidays.

Source: Nussbaumer Knaflic (2020); How can we visually tie the words to the graph?

2019 monthly voluntary attrition rate



Source: Nussbaumer Knaflic (2020); Proximity

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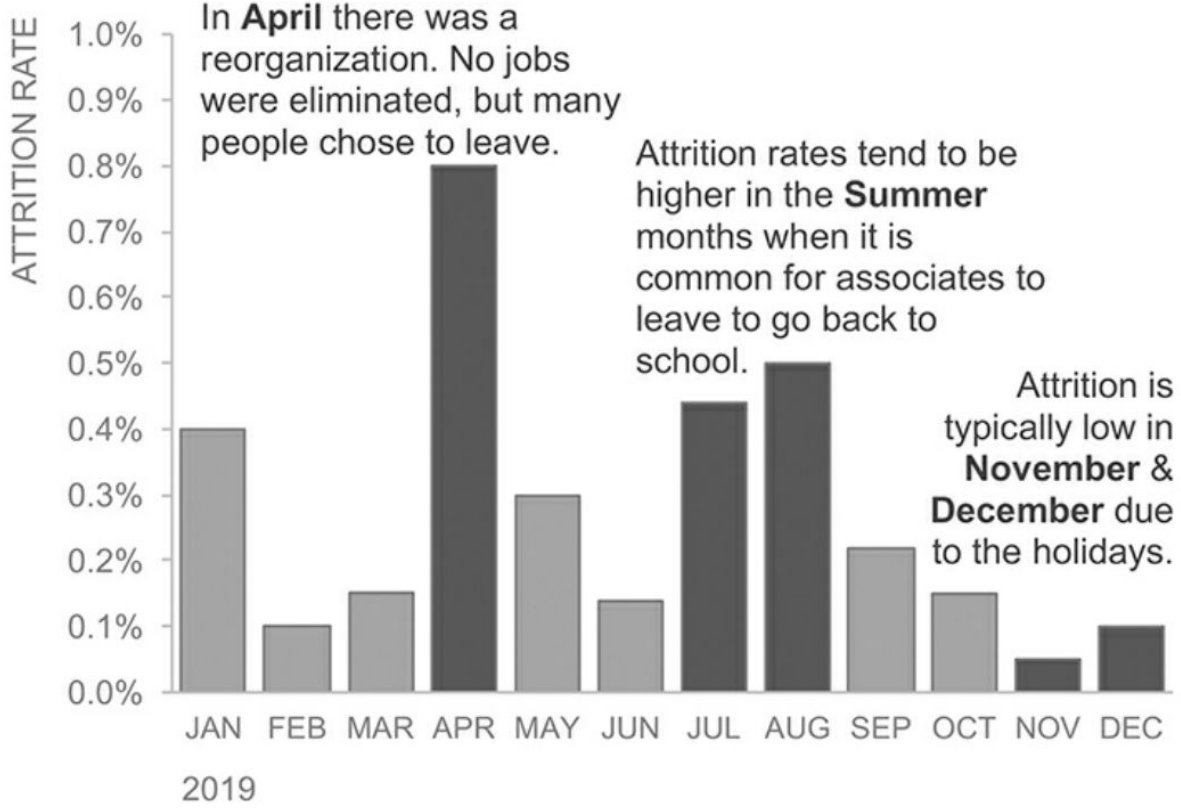
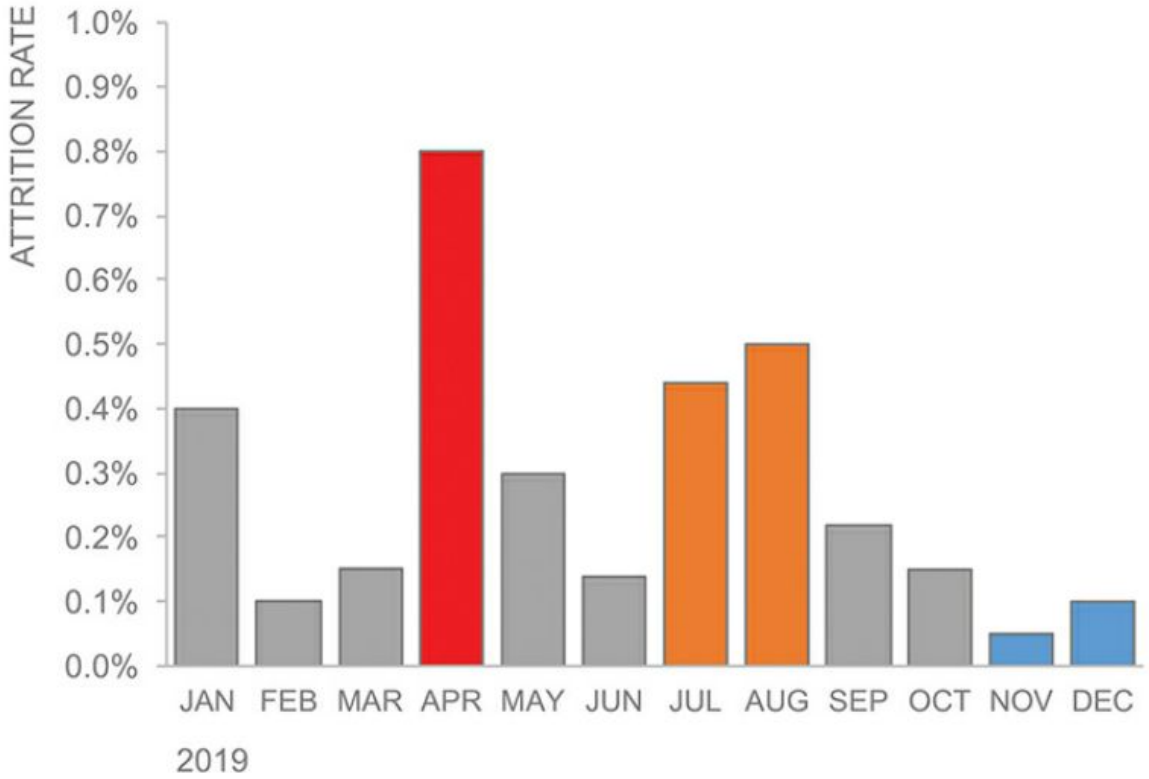


Source: Nussbaumer Knaflic (2020); Proximity with emphasis

2019 monthly voluntary attrition rate



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Source: Nussbaumer Knaflic (2020); Similarity

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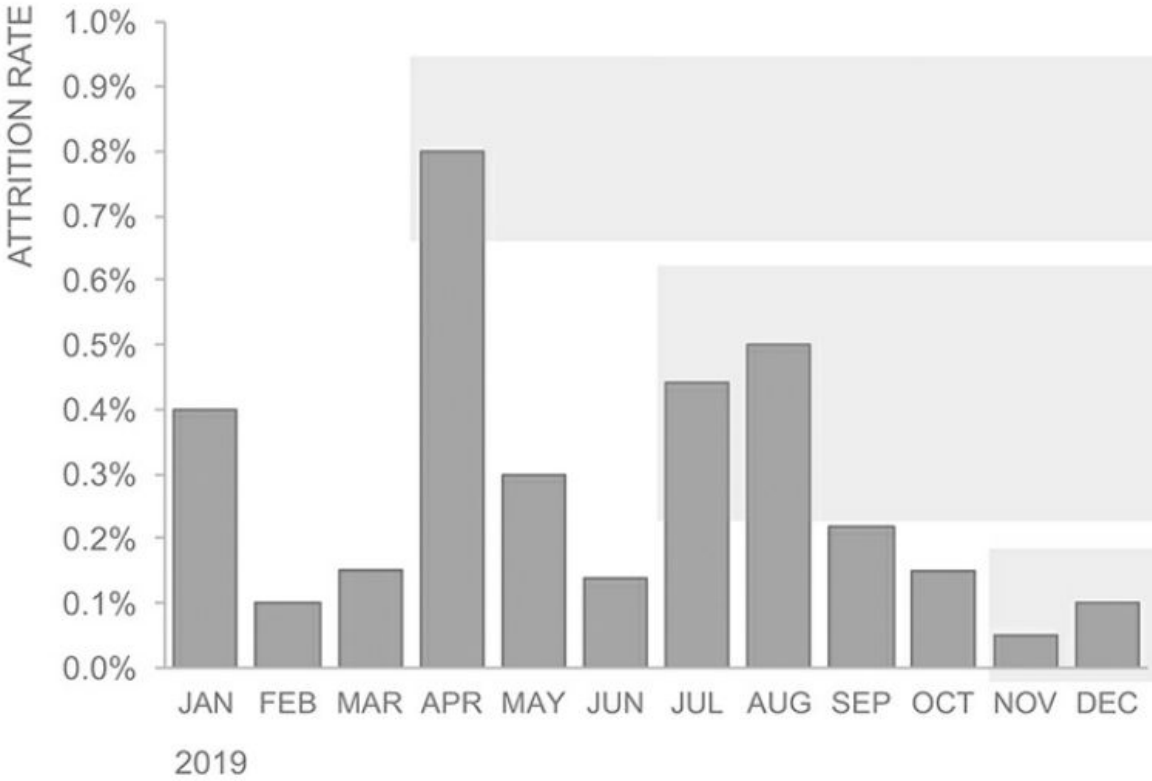

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Source: Nussbaumer Knaflic (2020); Enclosure

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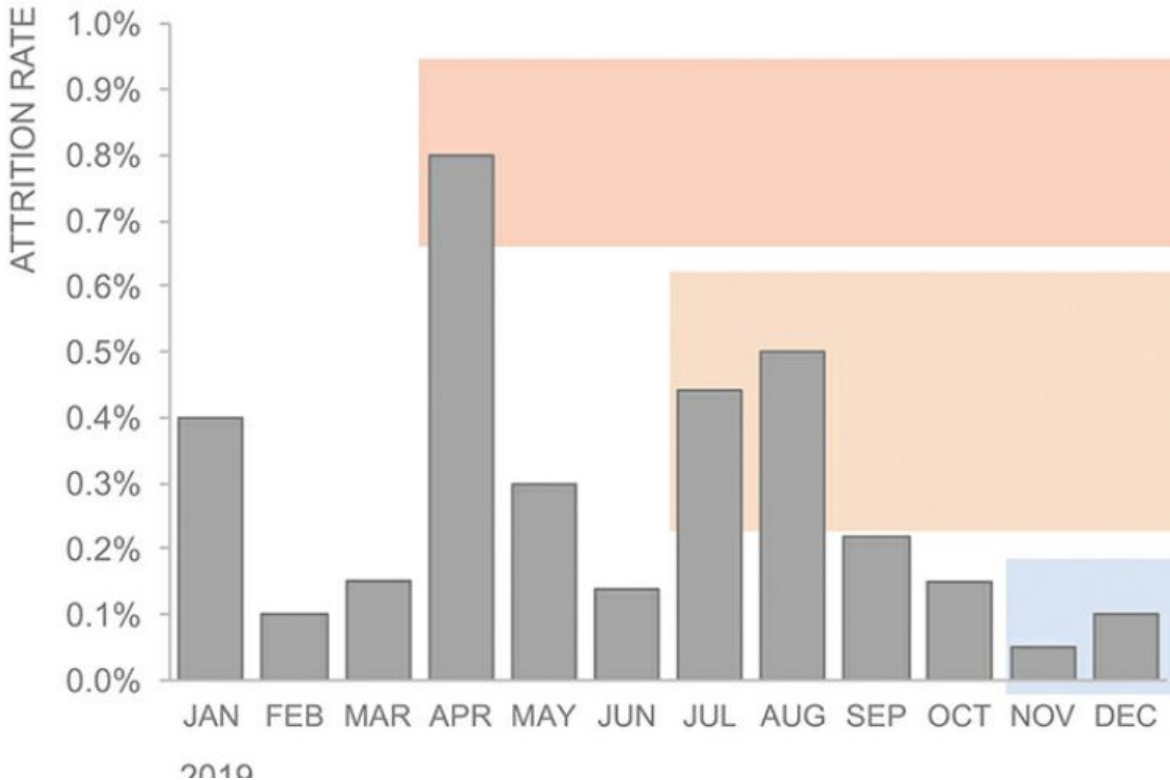

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Source: Nussbaumer Knaflic (2020); Enclosure with color differentiation

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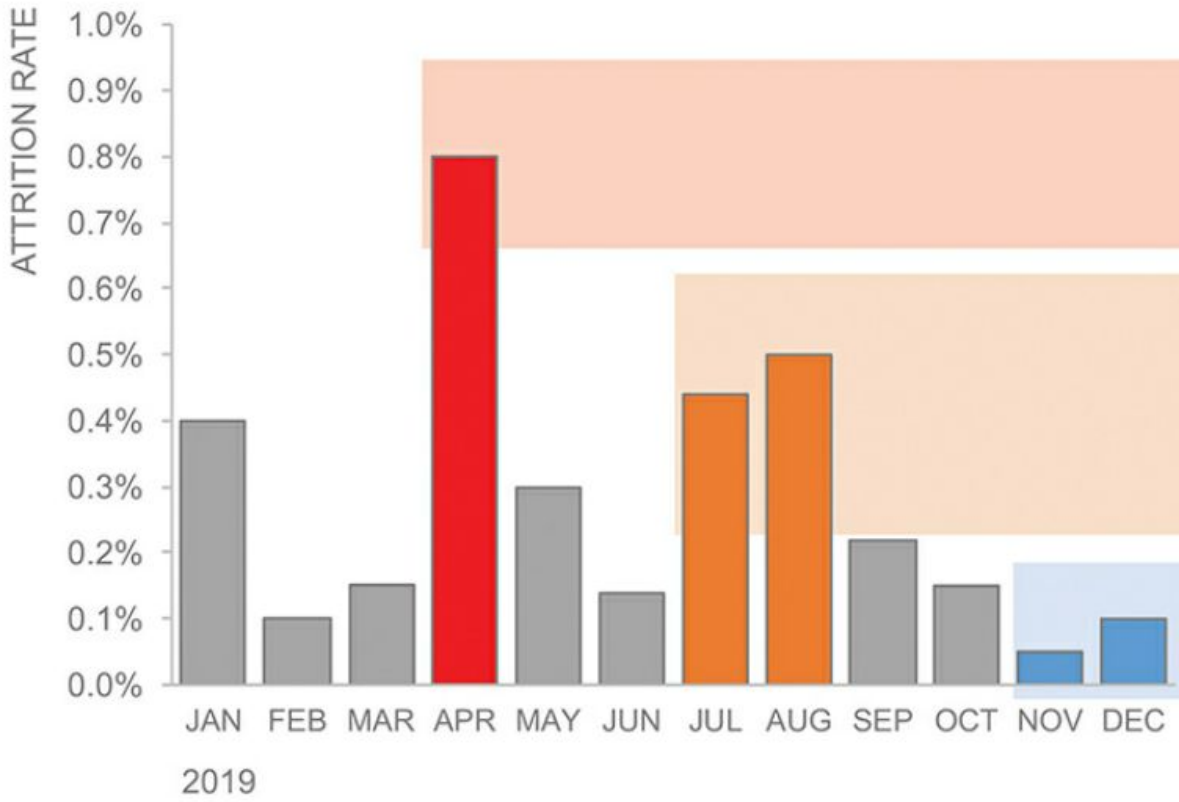

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Source: Nussbaumer Knaflic (2020); Enclosure plus similarity

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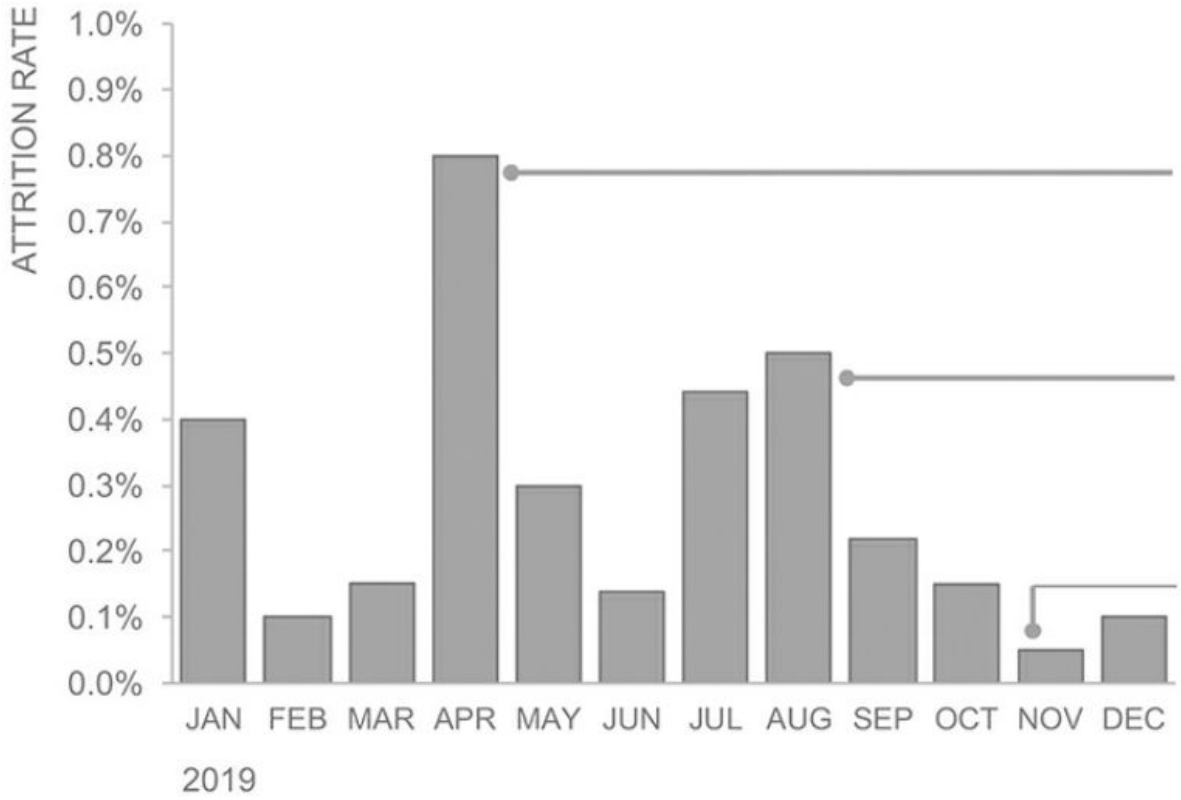

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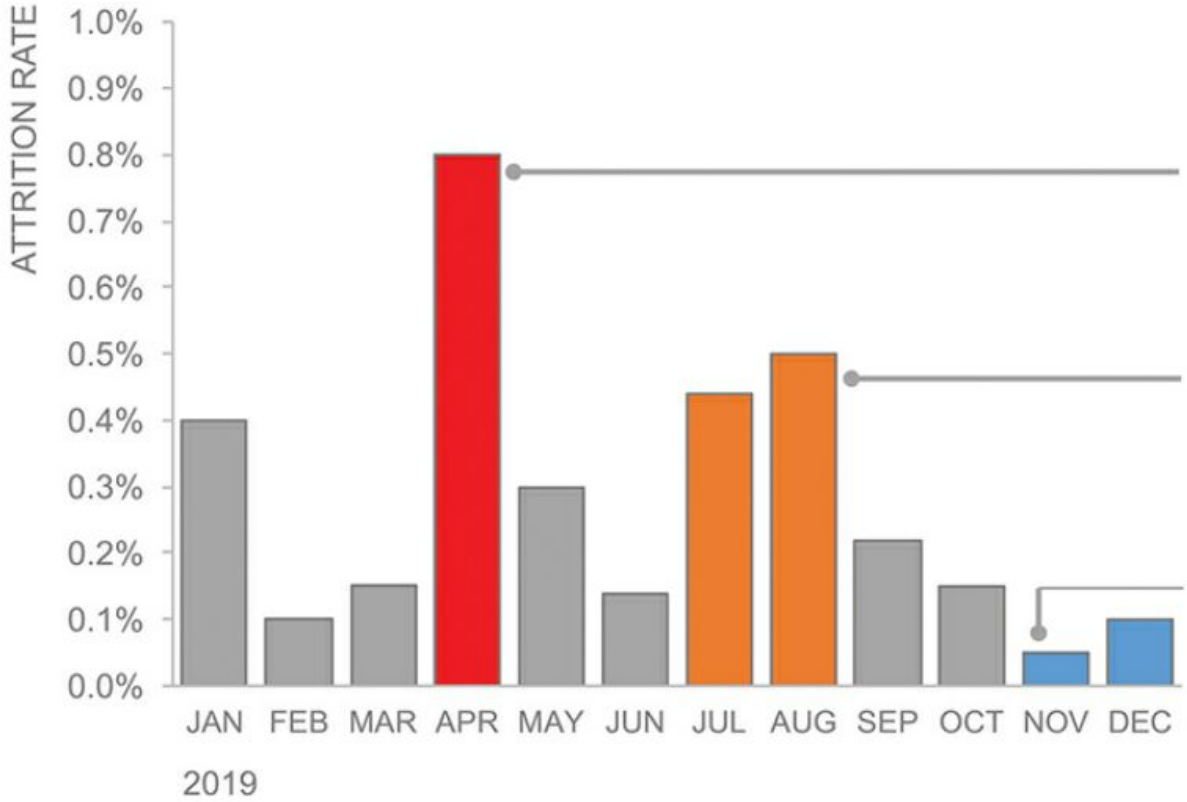

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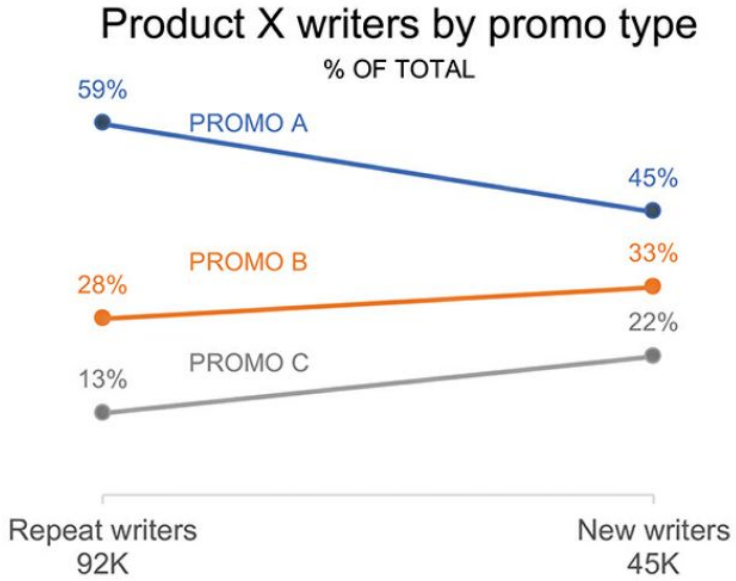
Example 3.3

There were 45K new writers in the past year.

The distribution across promo types looks different than repeat writers.



Though Promo A makes up the biggest segment overall, they contribute less to new writers than to repeat writers.

Both Promo B and Promo C brought in higher proportion of new writers compared to repeat writers.

How should we use this data for our future promotion strategy?

Source: Nussbaumer Knaflic (2020); Question: How might we better use alignment & white space?

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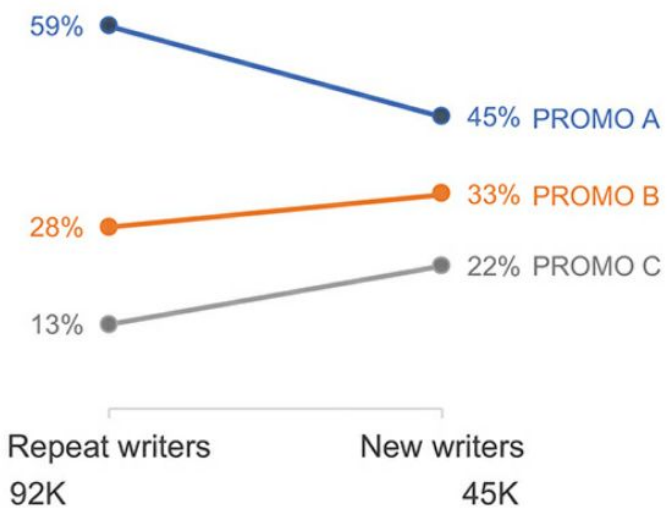
Product X writers by promo type

% OF TOTAL



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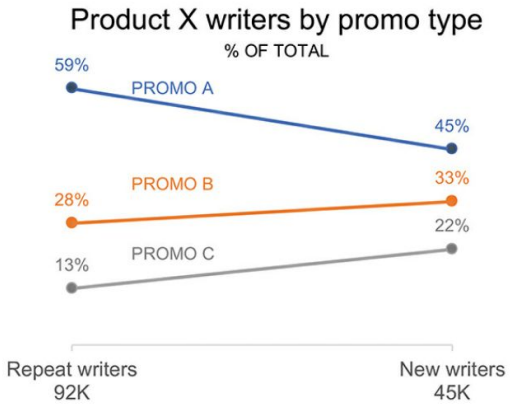

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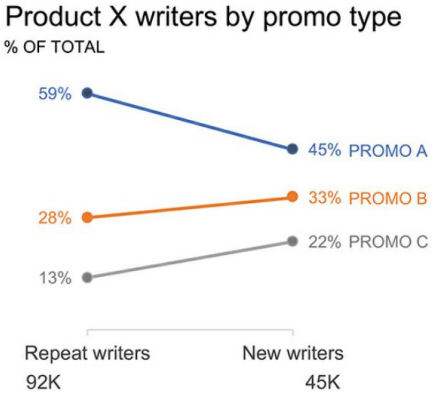

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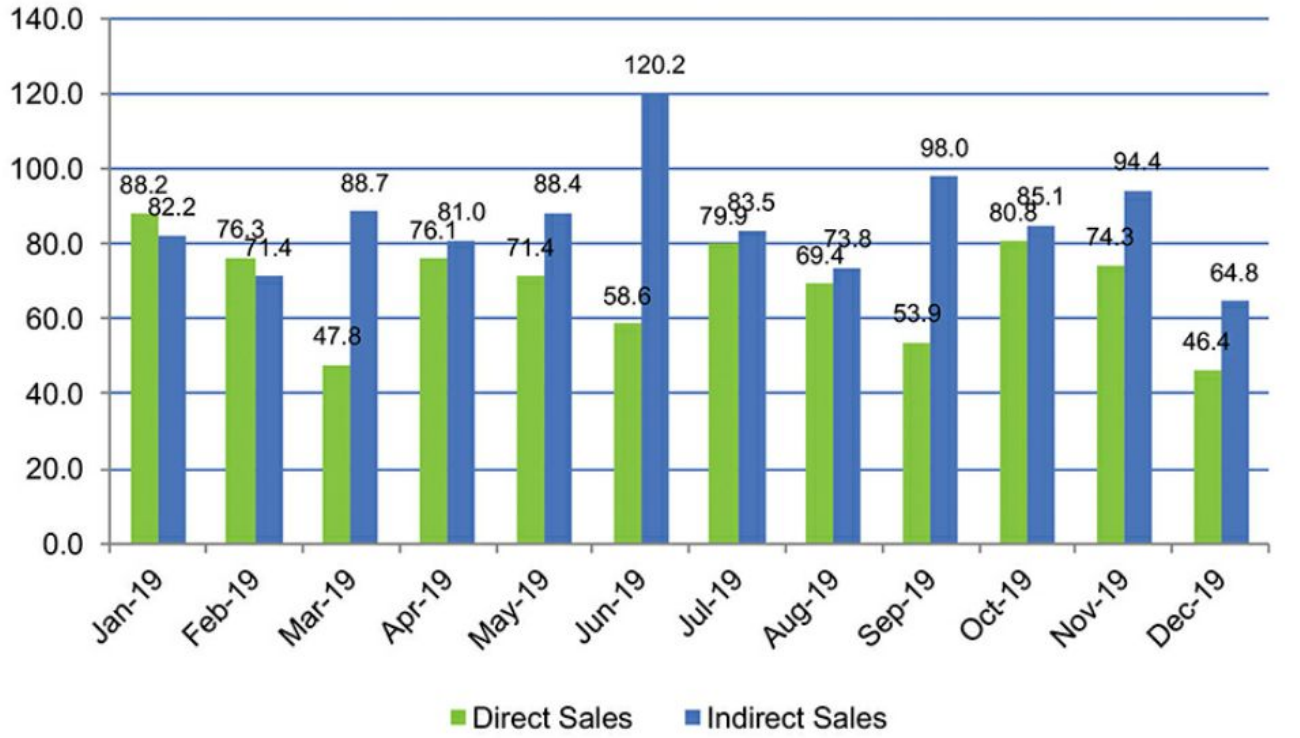
Example 3.4

Time to Close Deal

Goal = 90 days

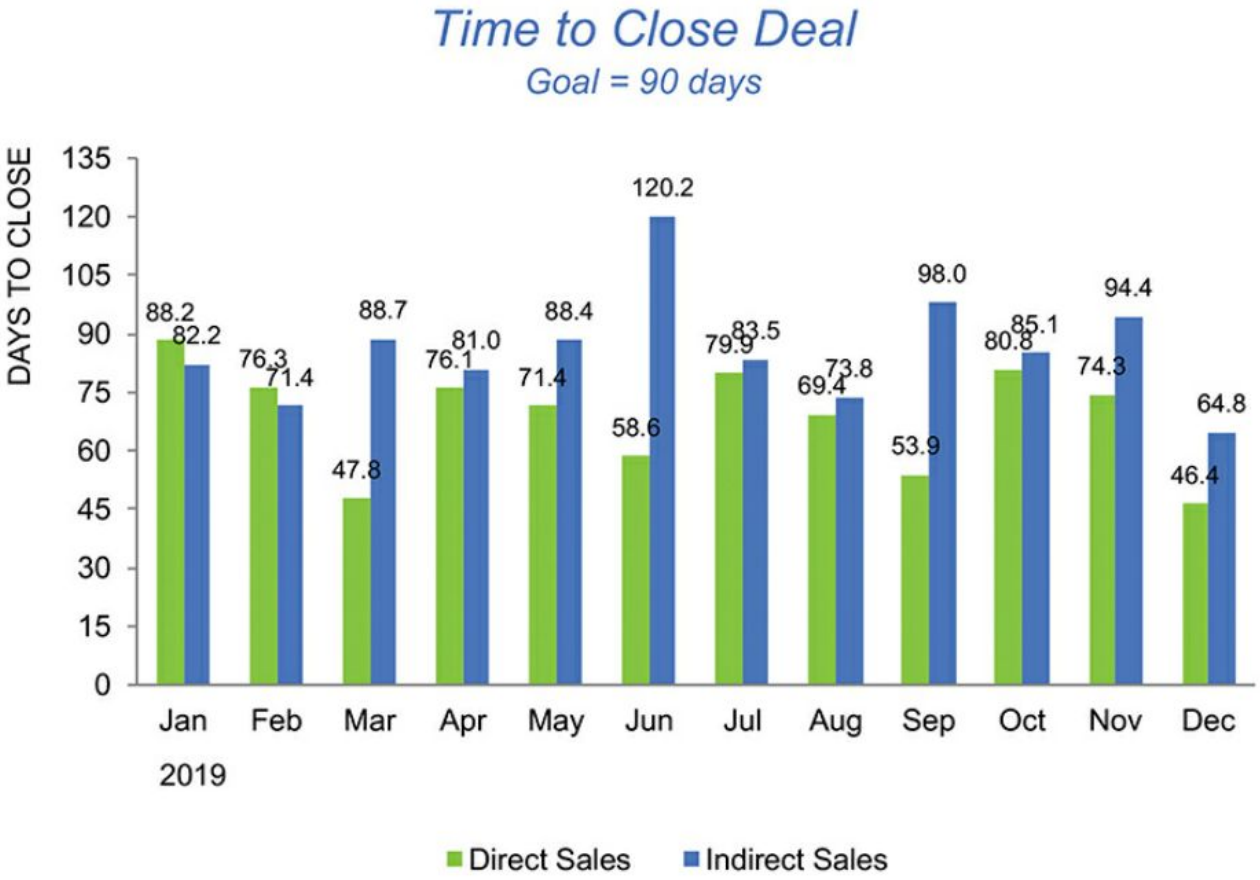


Source: Nussbaumer Knaflic (2020); Let's declutter

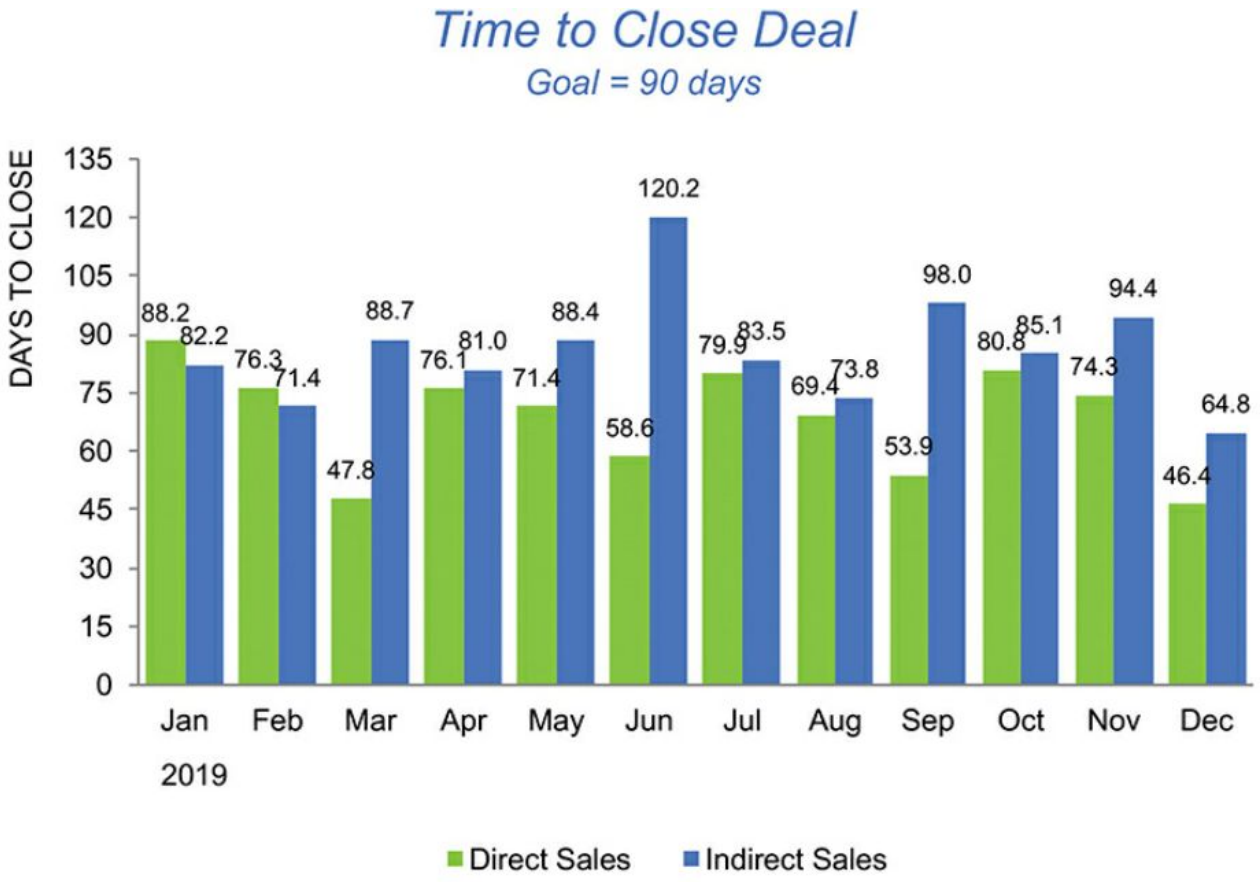
Source: Nussbaumer Knaflic (2020); Remove heavy lines

Source: Nussbaumer Knaflic (2020); Remove gridlines

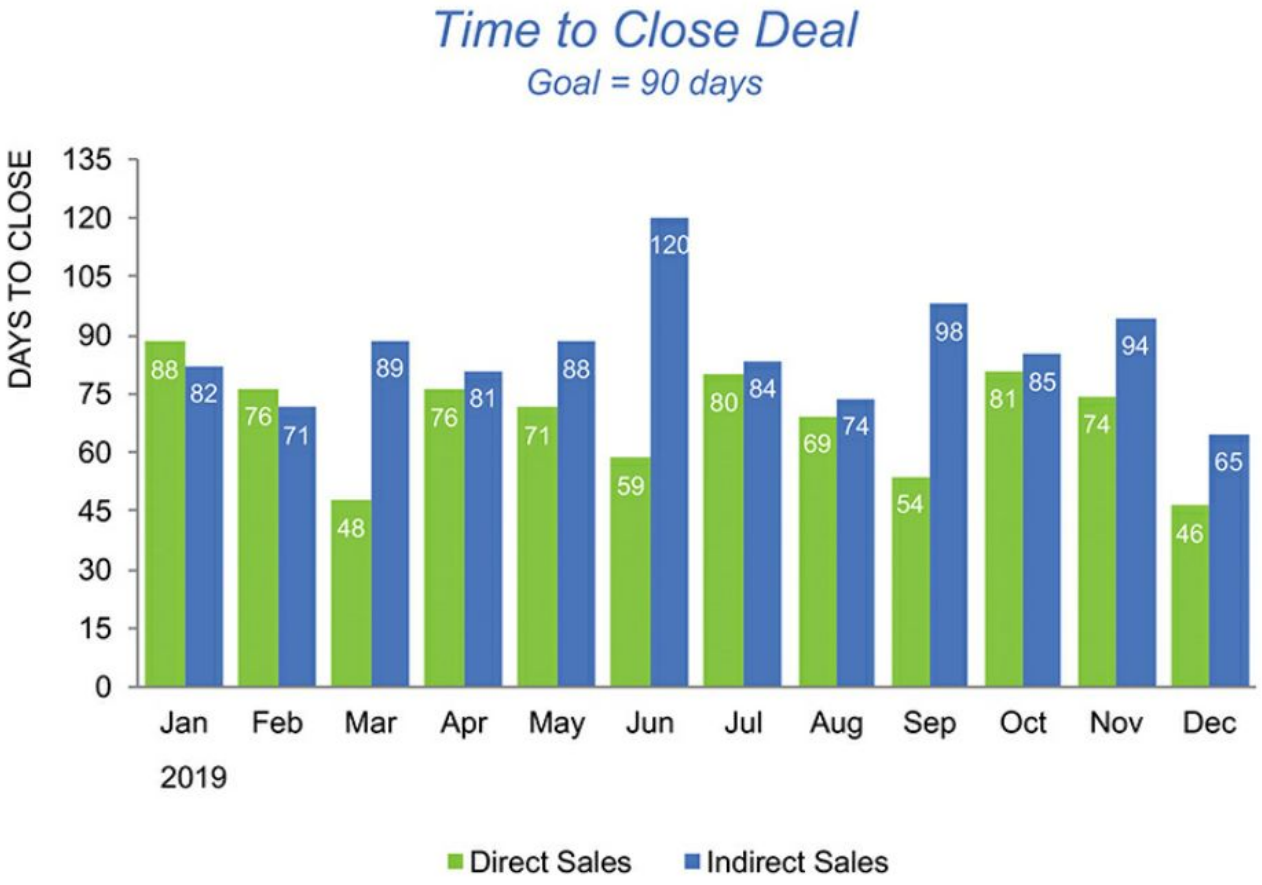
Source: Nussbaumer Knaflic (2020); Drop trailing zeros from y-axis label gridlines



Source: Nussbaumer Knaflic (2020); Eliminate diagonal text on x-axis



Source: Nussbaumer Knaflic (2020); Thicken the bars



Source: Nussbaumer Knaflic (2020); Pull data labels into ends of bars

Source: Nussbaumer Knaflic (2020); Eliminate data labels

Source: Nussbaumer Knaflic (2020); Make it a line graph

Source: Nussbaumer Knaflic (2020); Label the data directly

Source: Nussbaumer Knaflic (2020); Make data labels the same color as the data

Time to Close Deal

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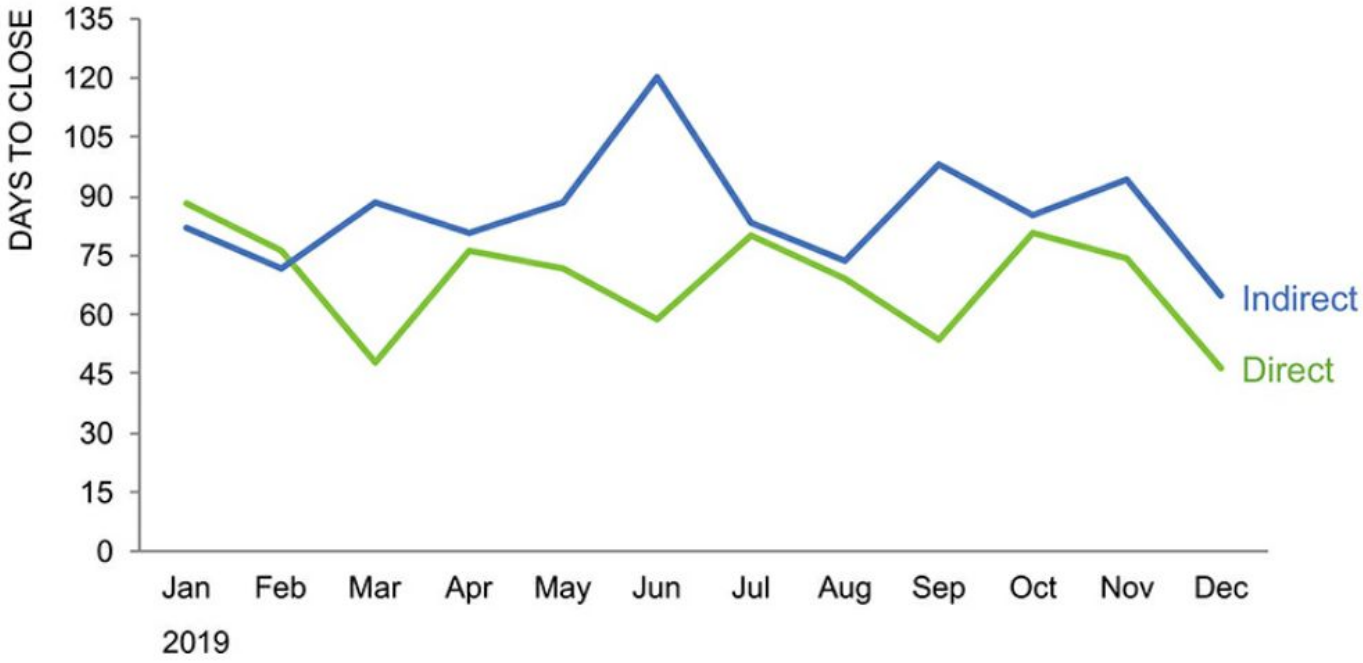

Source: Nussbaumer Knaflic (2020); Upper-left-most orient graph title

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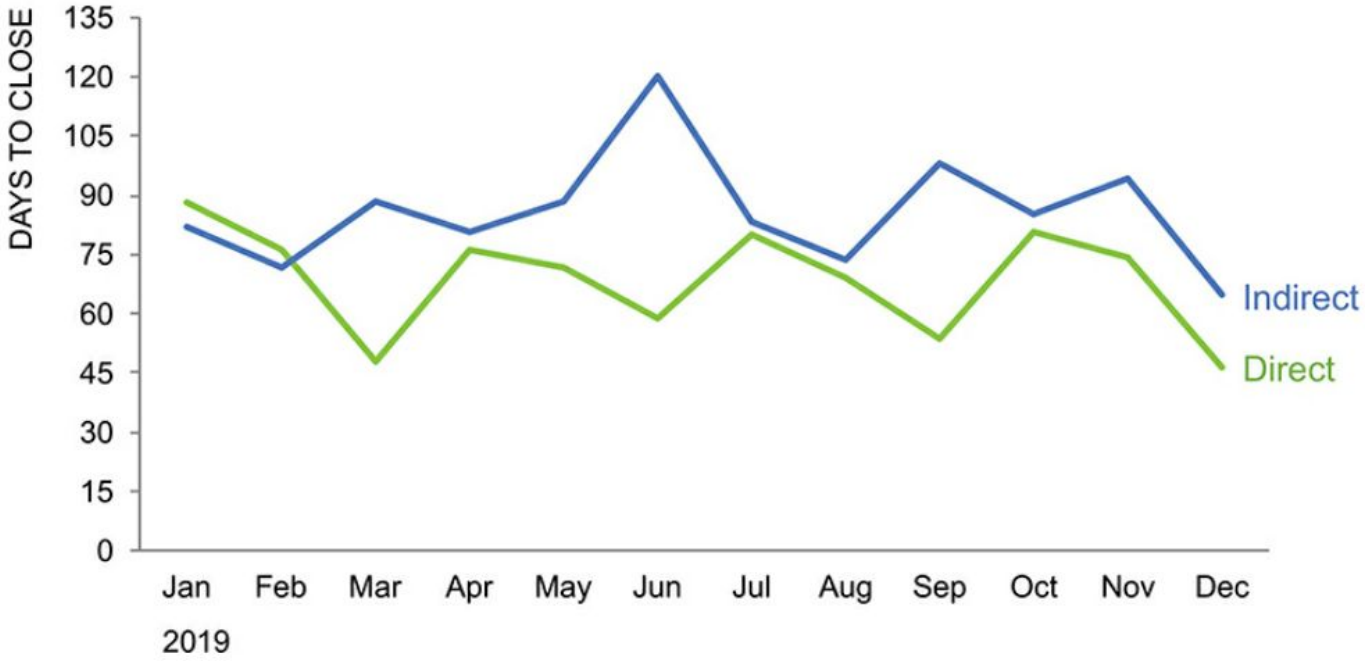
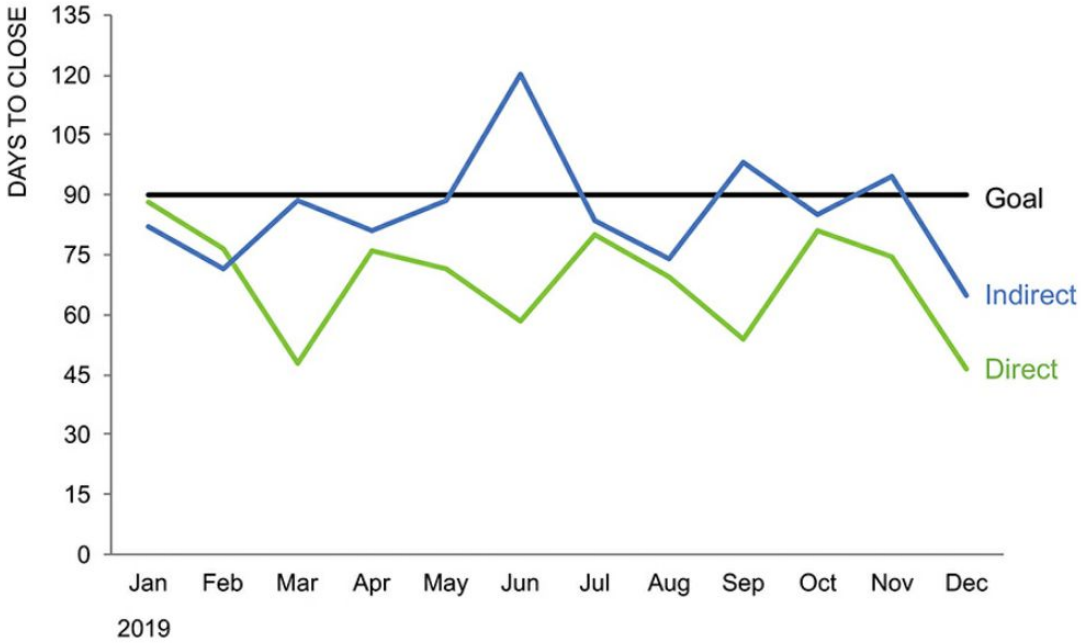


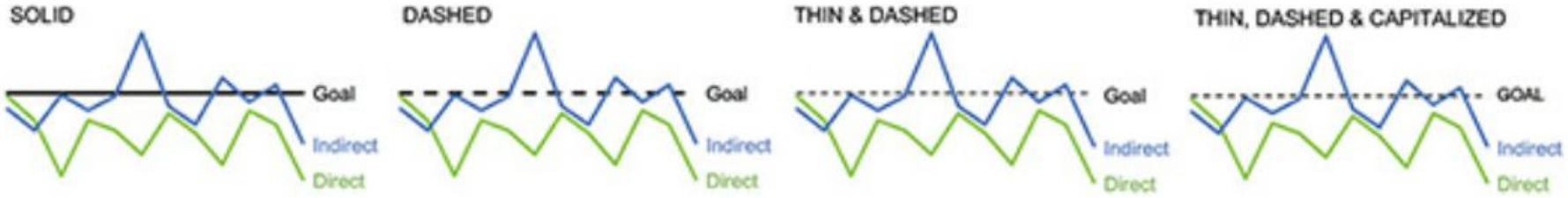
Source: Nussbaumer Knaflic (2020); Remove title color

Time to close deal



Source: Nussbaumer Knaflic (2020); Put the goal in the graph

Iterating on **goal** line



Source: Nussbaumer Knaflic (2020)

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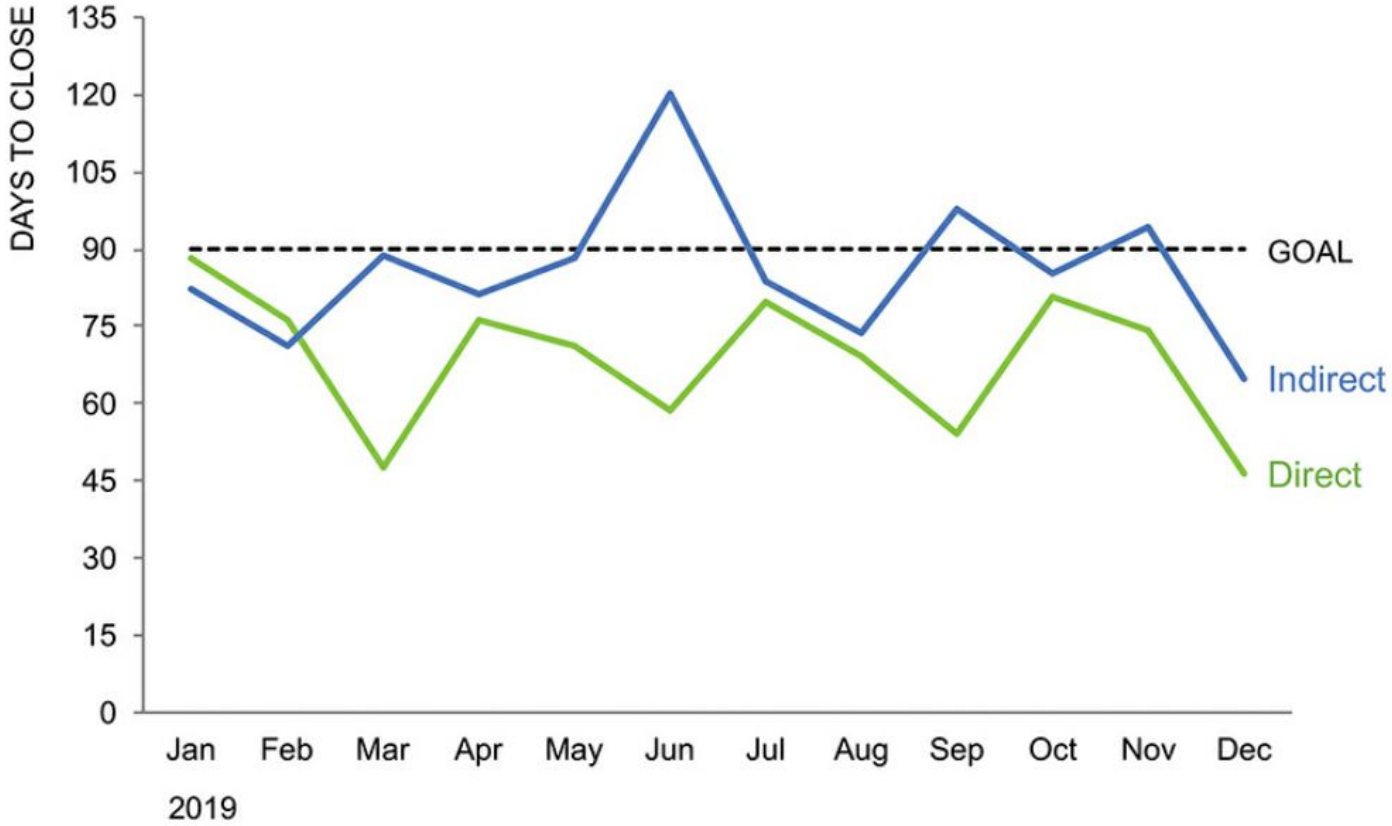

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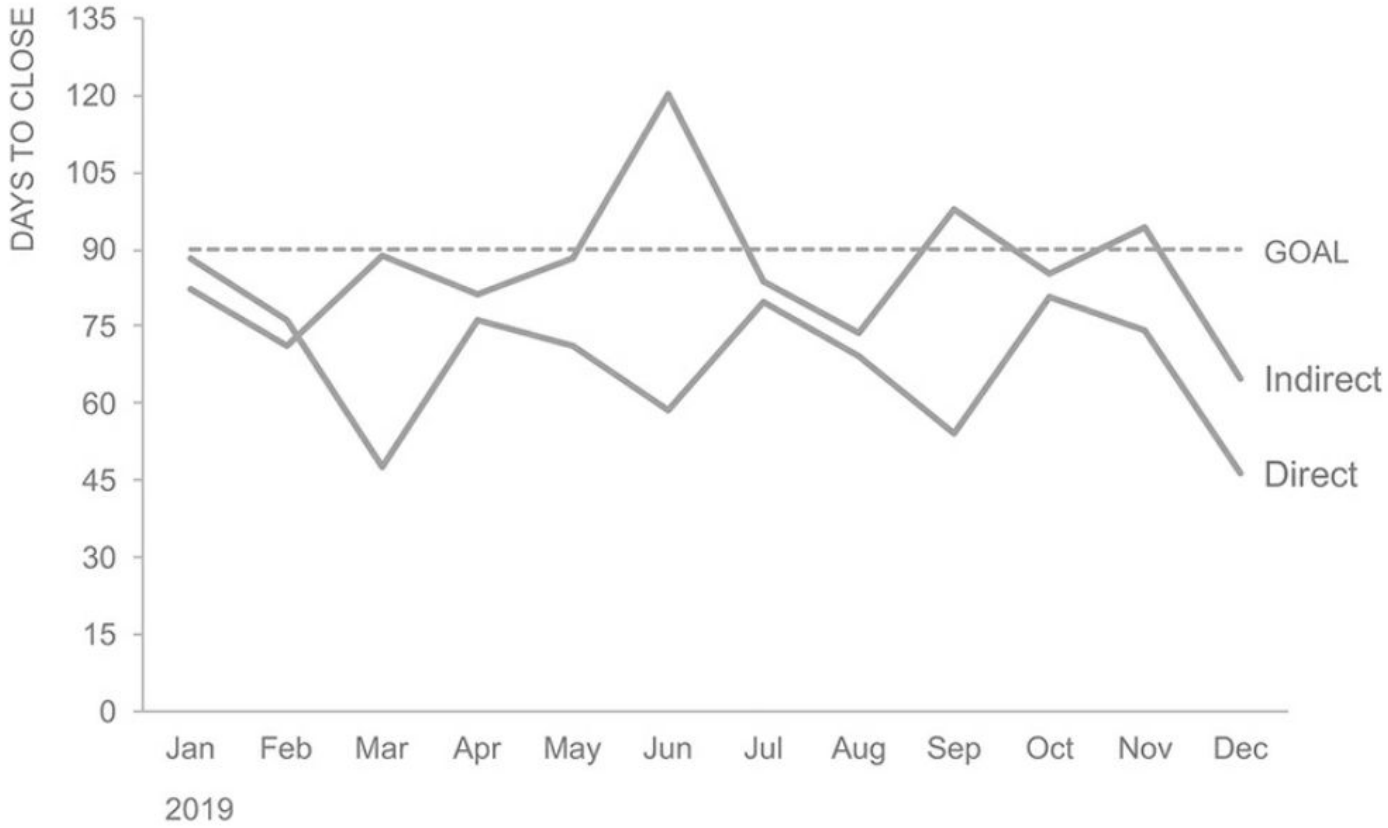
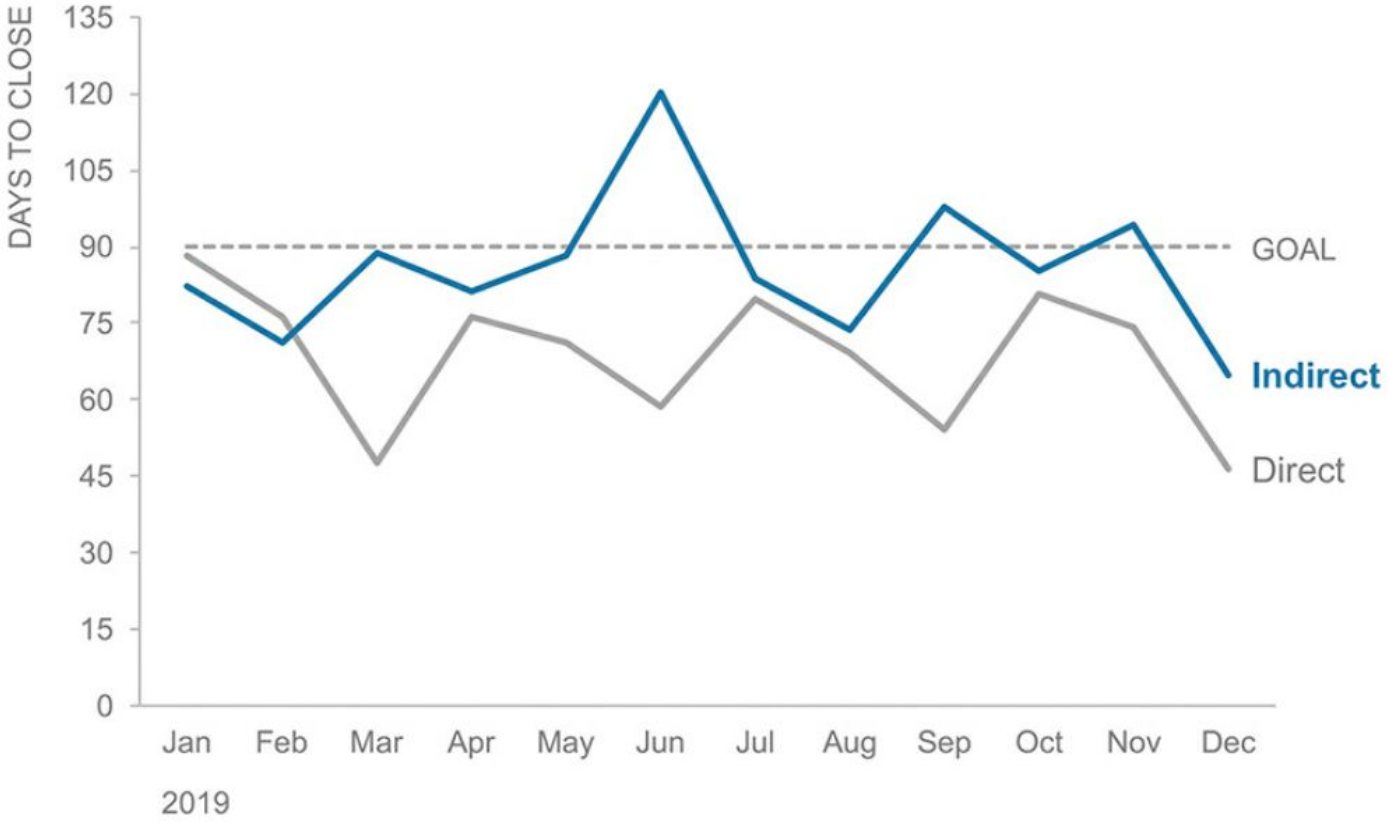


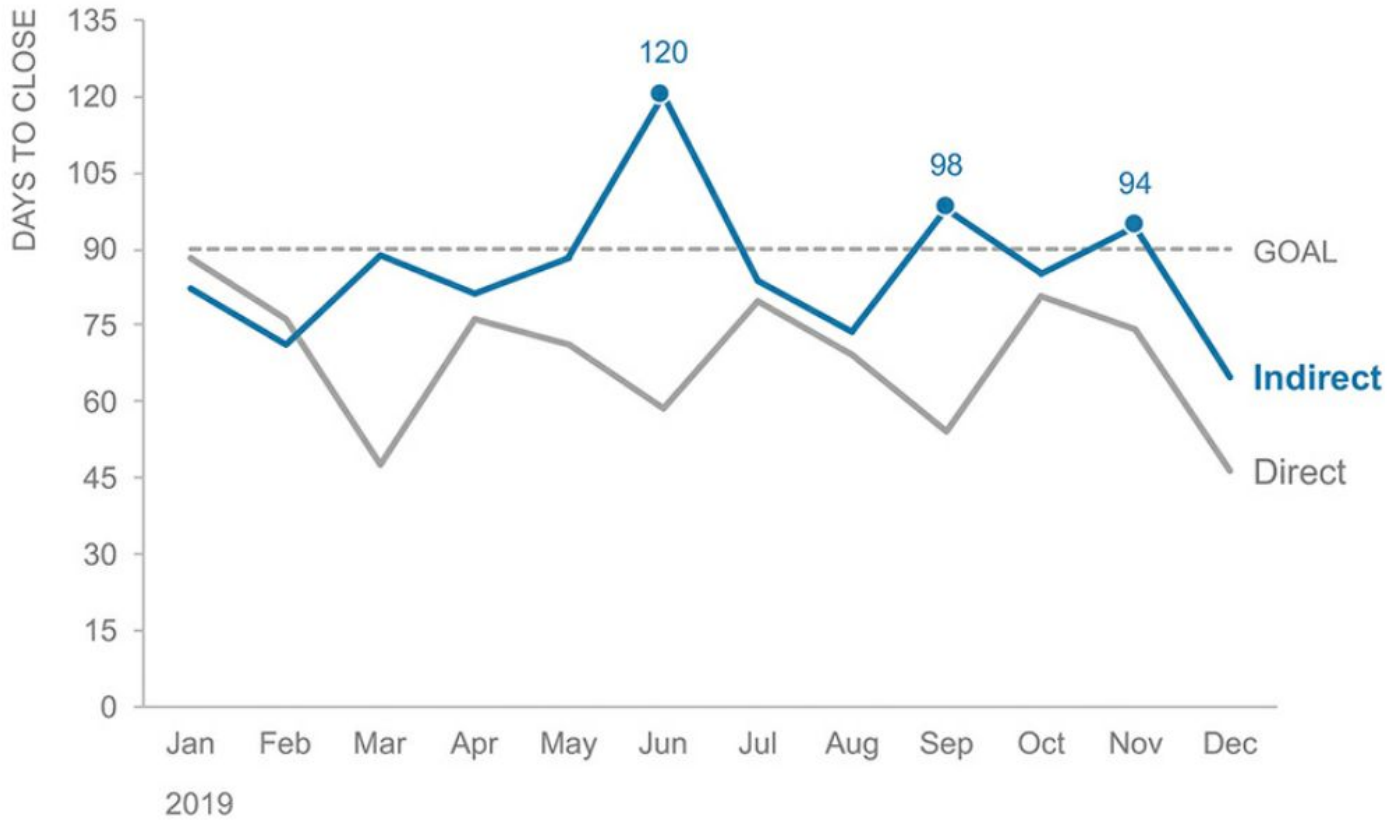
Source: Nussbaumer Knaflic (2020); Remove color

Time to close deal: **indirect varies over time**



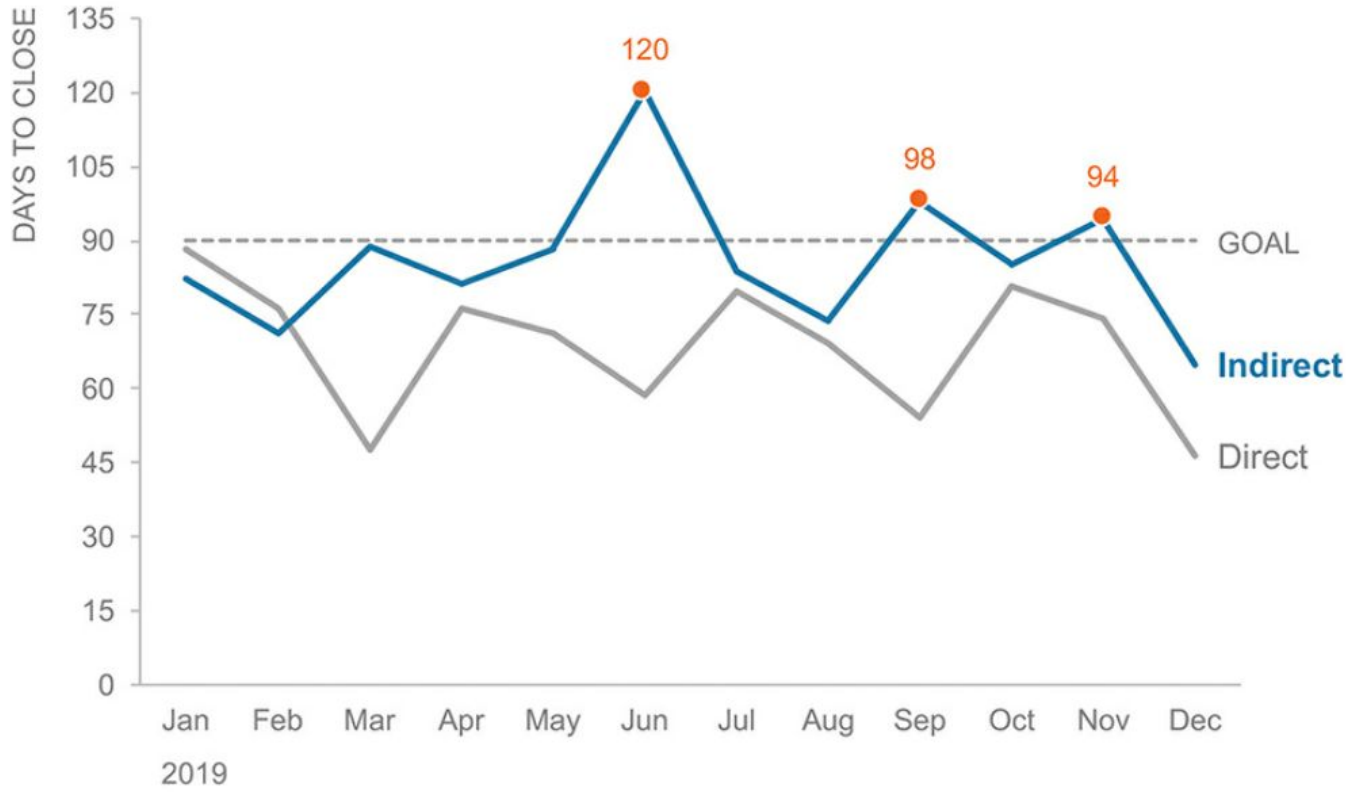
Source: Nussbaumer Knaflic (2020); Focus attention

Time to close deal: indirect sales missed goal 3 times



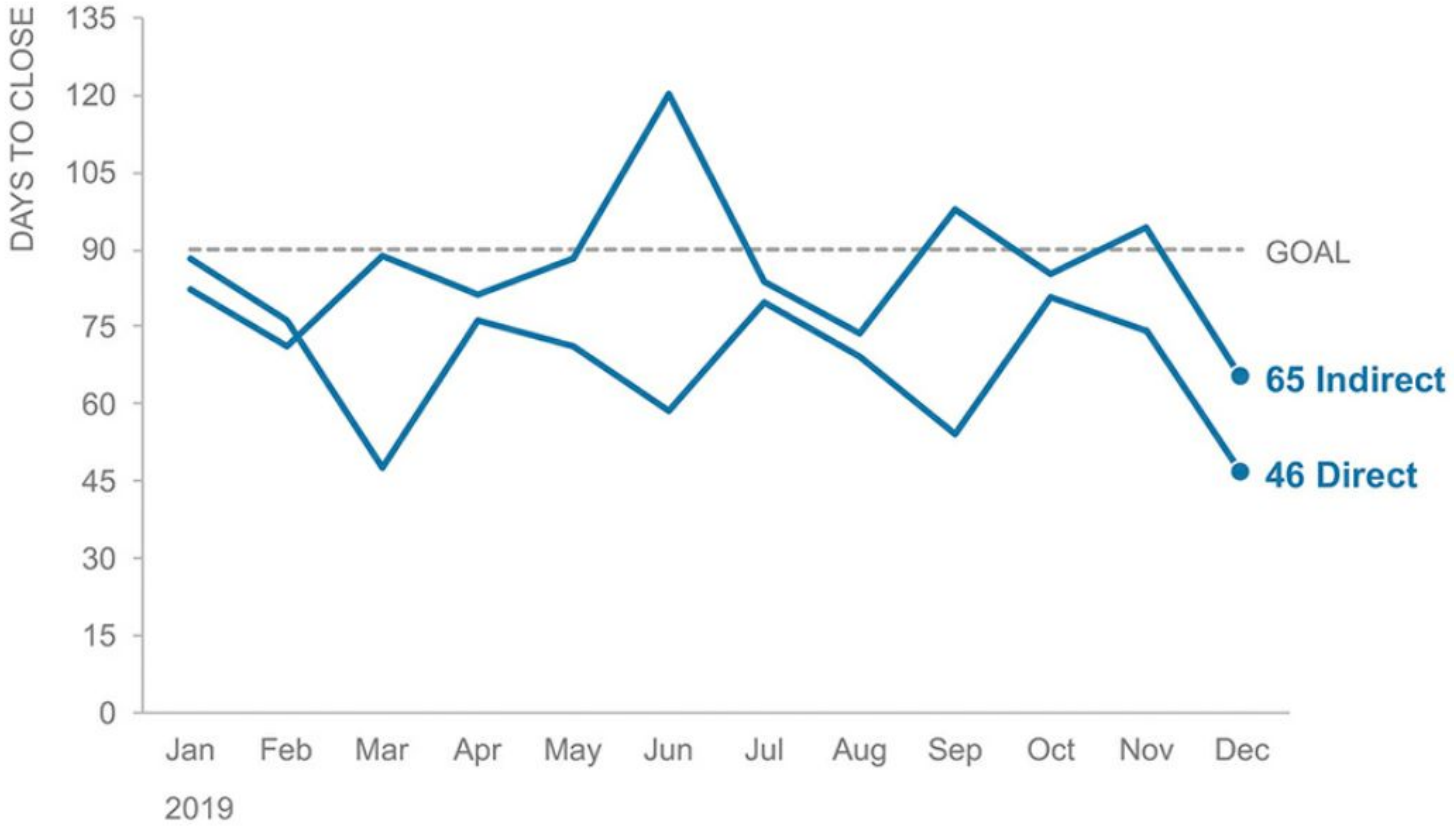
Source: Nussbaumer Knaflic (2020); Focus attention elsewhere

Time to close deal: indirect sales missed goal 3 times



Source: Nussbaumer Knaflic (2020); Introduce a bit more color to really direct attention

Time to fill: **beating goal the majority of time**



Source: Nussbaumer Knaflic (2020); Focus attention on yet another takeaway

All resources (exercises & solutions)

Data and solutions for all exercises

Download