

Data Storytelling

7) Recap

Prof. Dr. Jan Kirenz
HdM Stuttgart

FIRST, LET'S RECAP
The STORYTELLING with DATA PROCESS

STEP 1: UNDERSTAND the CONTEXT

- WHO** is your audience?
- WHAT** do you need them to do?
- HOW** will data help make your point?

ARTICULATE your BIG IDEA



CREATE a STORYBOARD



- brainstorm
- edit
- get feedback

STEP 2:
CHOOSE an
APPROPRIATE
VISUAL

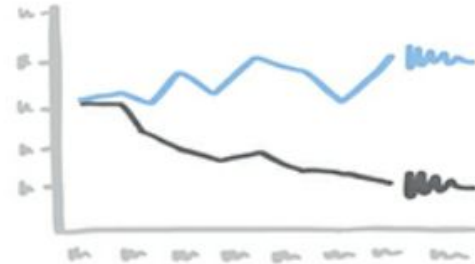
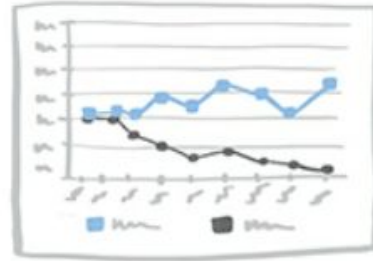


SEEK FEEDBACK
from others



STEP 3: ELIMINATE CLUTTER

IDENTIFY UNNECESSARY
ELEMENTS *and* REMOVE THEM



- Leverage white space
- Align elements
- Avoid diagonal components

STEP 4:
**DRAW
ATTENTION
where you
WANT it**

Use **POSITION, SIZE, and COLOR** to
FOCUS your **AUDIENCE'S ATTENTION**

Use the
"where are
your eyes
drawn?"
test



**CLOSE
EYES...**



**then
OPEN
EYES**

**WHAT do
you SEE FIRST?**



STEP 5: THINK LIKE a DESIGNER

FIRST FUNCTION →

think about what you want your audience to DO with the data



VS.



SECOND FORM ✨

create a visualization that will make this easy

- Affordances
- Accessibility
- Aesthetics
- Acceptance

STEP 6: TELL a STORY

RETURN to your STORYBOARD



Use the narrative arc to plan
your story and form a pithy, repeatable
phrase to help your message stick

Exercise 7.1

new advertiser revenue

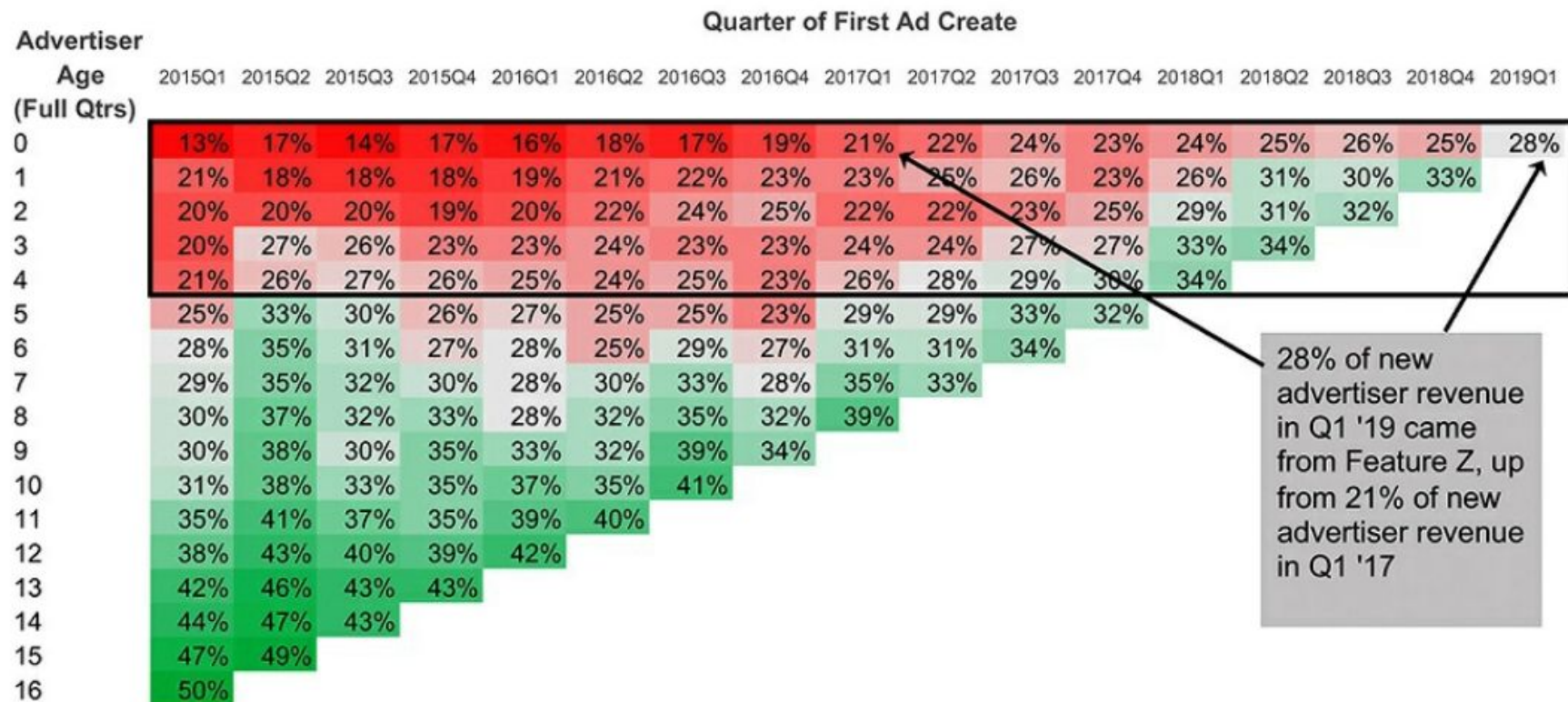
Imagine you are an analyst at a digital marketing company.

- **A new feature was rolled out in 2015—let's call it Feature Z—**
 - that allows your company's clients to create better ads and
 - will introduce a new revenue stream for your platform.
- **The challenge is that Feature Z has a steep learning curve,**
 - so there's been some difficulty getting clients to utilize it.
- **Overall, you have seen improvement over time,**
 - both in terms of clients using Feature Z and
 - increased revenue from it

Imagine you are an analyst at a digital marketing company.

- At a recent meeting when discussing this topic, the head of client support raised a question about what Feature Z adoption looks like for new advertisers specifically
 - —those creating an advertisement on your platform for the first time.
- No one has sliced the data to look at this before, so you're working with a colleague to answer this question.

Advertisers are getting more sophisticated sooner



Advertisers are getting more sophisticated sooner; Your colleague put together the heatmap shown in Figure 7.1a. Spend a few moments studying it, then complete the following steps.

STEP 1:

- It's easy to jump to what's "wrong" when faced with someone else's data viz:
 - let's pause first and reflect on **positive points** to share as feedback.
 - What do you like about the current visual? Write a sentence or two.

STEP 2:

- What is not ideal? Make a list.

STEP 3:

- How would you show this data?
- Download the data and iterate in the tool of your choice to create your preferred view.



STEP 4:

- What is the tension in this scenario?
- What action do you want your audience to take to resolve this tension?

STEP 5:

- You've been asked to provide a single slide that tells the story.
- Create this slide in the tool of your choice, making assumptions as necessary for the purpose of this exercise.

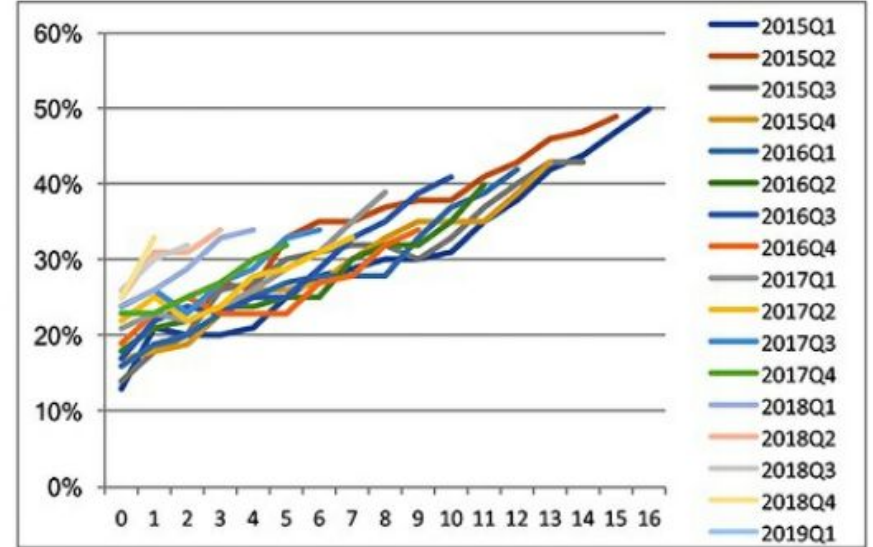
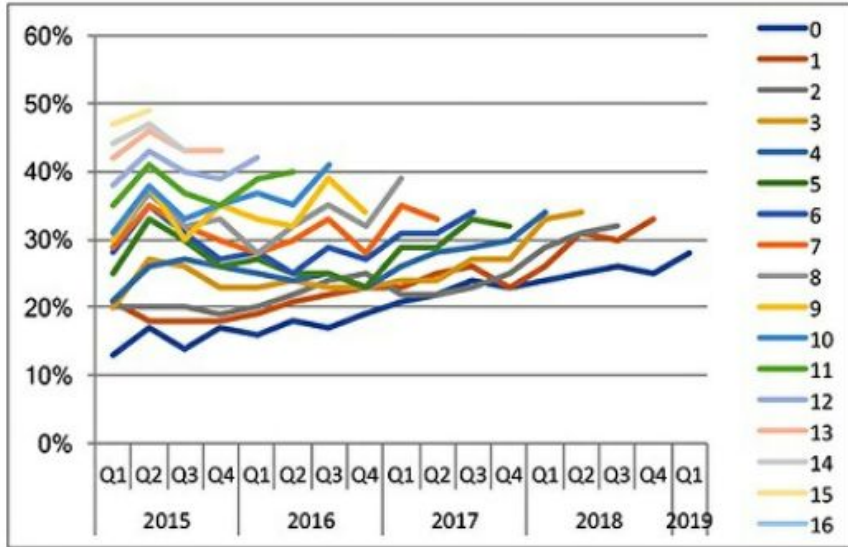
Possible solution step 1

- **Words** are generally used well.
- The **takeaway title** at the top does a nice job setting up the story and starting to address the question posed.
- **Axes** are titled directly.
- There is **annotation** directly on the graph (in the grey text box on the right) that supports the takeaway title and also is connected directly to the data that is described so I don't have to search for it.
- *However, the arrows for creating this connection look messy and cover up some of the data.*

Possible solution step 2

- The tabular data is **difficult to understand**
- Heatmapping helps, but it still requires **effort** to figure out what we're meant to see.
- We've employed a problematic **color scheme**.
 - The red/green color scheme will be an issue for colorblind individuals in our audience.
 - Beyond that, the red and green are competing for attention, making it difficult to focus.
- There is **lack of alignment**.
 - The various elements on the page aren't aligned.
 - We see a mix of left-aligned, centered, and right-aligned text and numbers, without an apparent reason why.
 - This creates an overall disorganized feel.

Possible solution step 3:

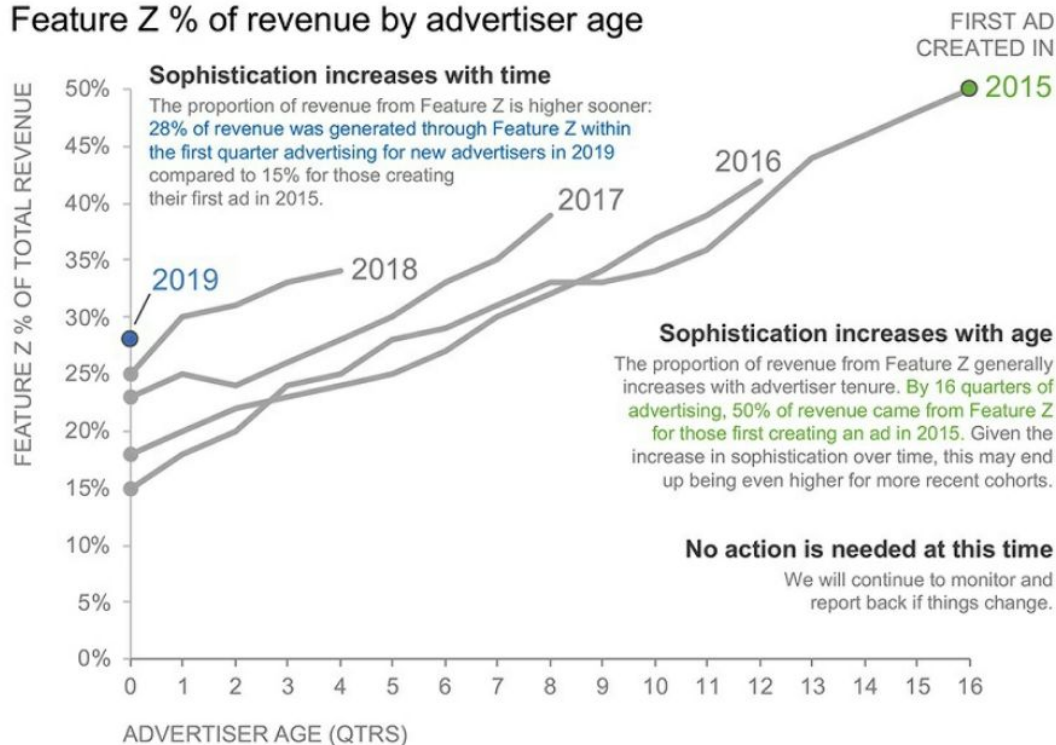


Possible solution step 4

- We're generally seeing improvement in adoption of and revenue from Feature Z
- We don't know how this plays out for our newbie advertisers.
- Are things okay? Are there issues we need to address?
- The resolution is that things look good—no immediate action is needed.

Sophistication increasing with time & age

Feature Z % of revenue by advertiser age



Data source: PearlAD Database, as of March 31, 2019.

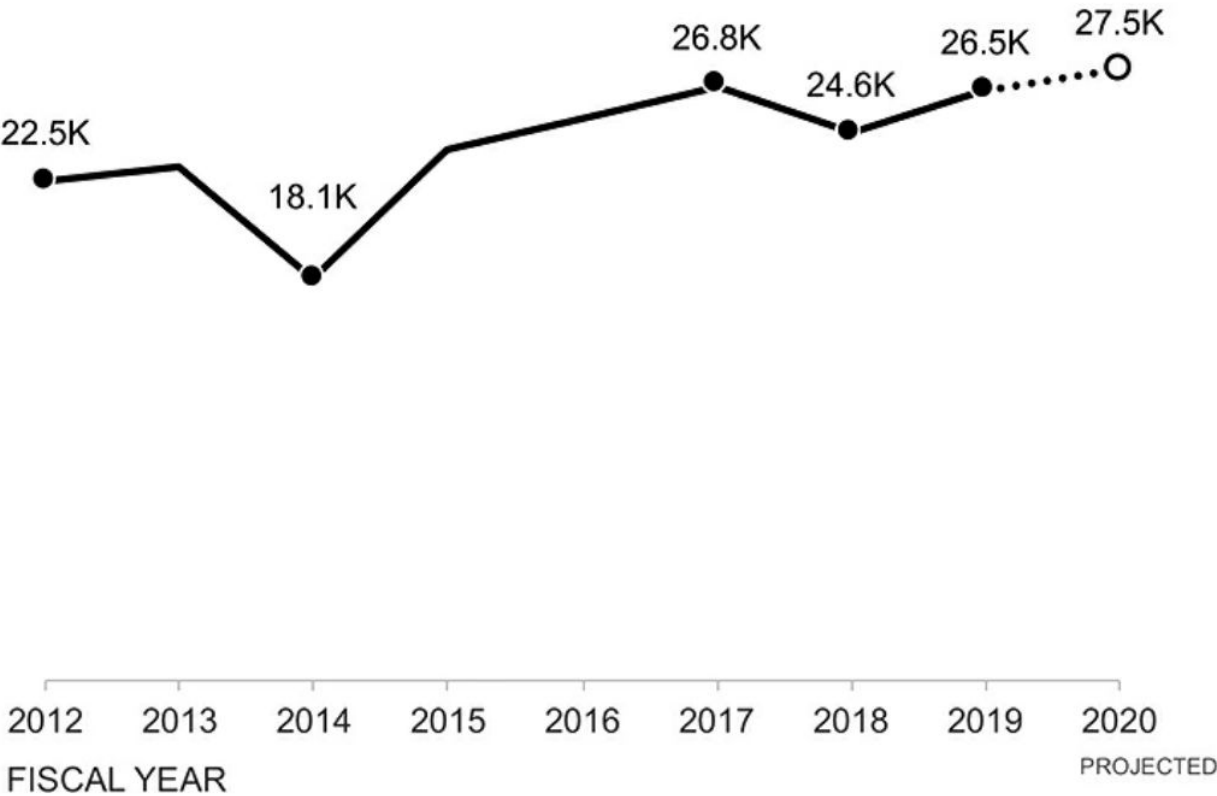
Exercise 7.2: sales channel update

Sales Channel Update

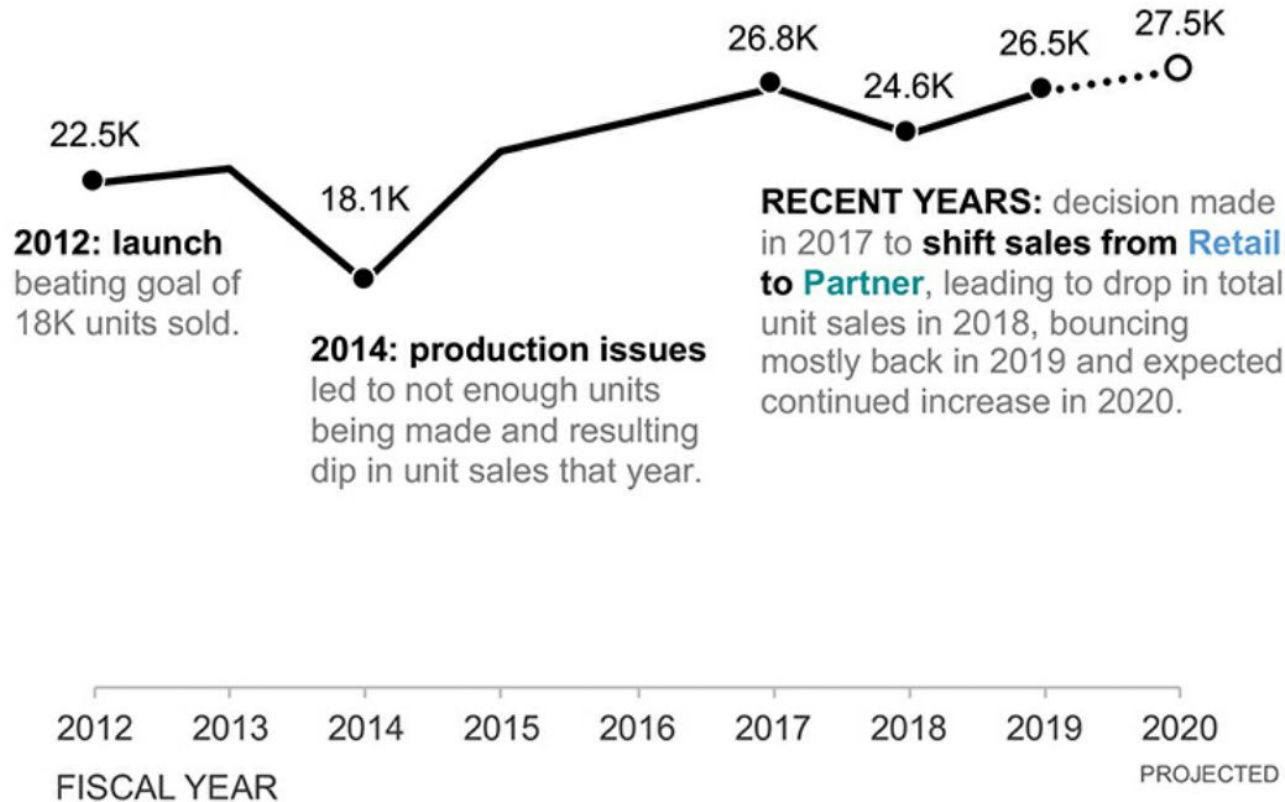


- Production issues in 2014, not enough units were made
- 2017: decision to start shifting volume from retail to partners
- The latest forecast is for an increase in unit sales in 2020

Total units sold



Total units sold

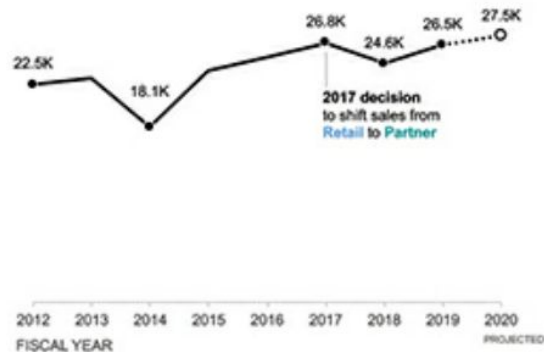


Total sales increasing as channels shift

2020 EXPECT INCREASE IN SALES

The 2012 launch yielded 22.5K units sold, beating initial 18K goal by 25%. In 2014, production issues led to not enough units being made and resulting in a 22% drop in annual unit sales. Unit sales increased through 2017, when the **decision was made to shift channel sales** from retail to partners. This led to a drop in 2018, bouncing mostly back in 2019, and expected to continue to increase in 2020.

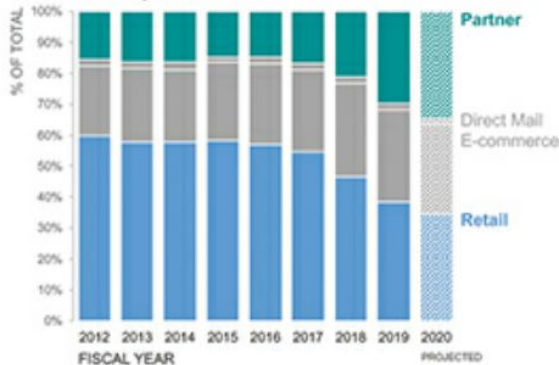
Total units sold



CHANNEL SHIFT OVER TIME

The relative composition of sales channels has shifted markedly over time. Unit sales from the **Retail** channel, which historically accounted for 60% of total sales, has decreased to 38% in 2019 due to intentional shift towards the **Partner** channel, where contribution to total unit sales has increased from less than 20% in our early years to 30% in 2019. We expect these trends to continue.

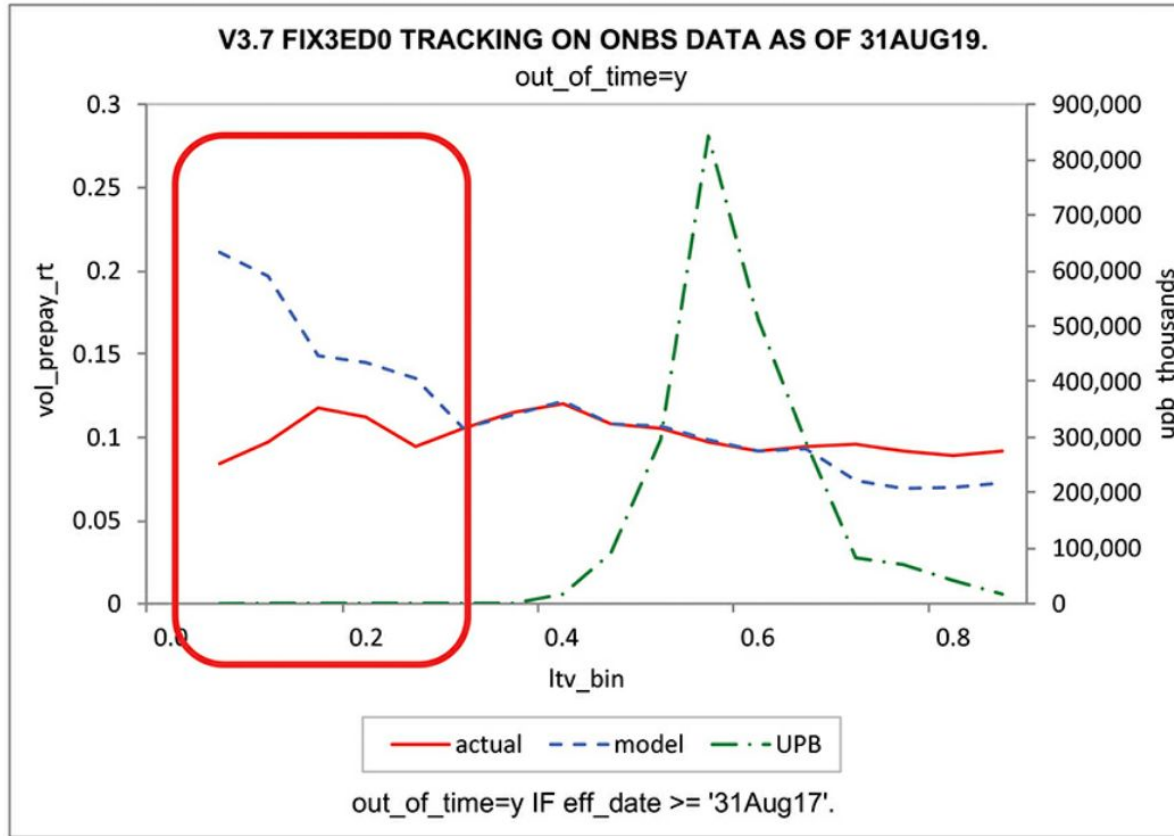
Units sold by channel



Data is from Sales Database through 12/31/19. 2020 projections assume no major market changes. For more details, reach out to Sales Analytics team.

Exercise 7.3: model performance

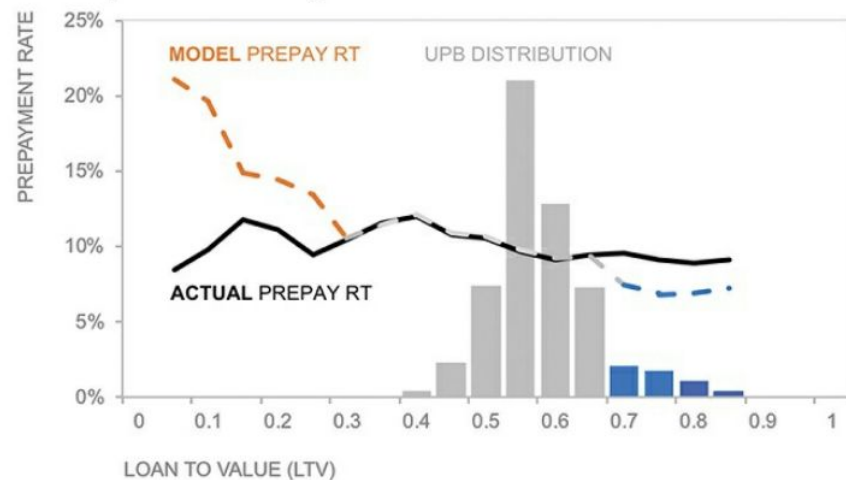
FIGURE A: Model Performance by LTV



Prepayment model has limitations

The prepayment model performs well in the LTV range where most of our portfolio loans are concentrated.

Model performance by LTV

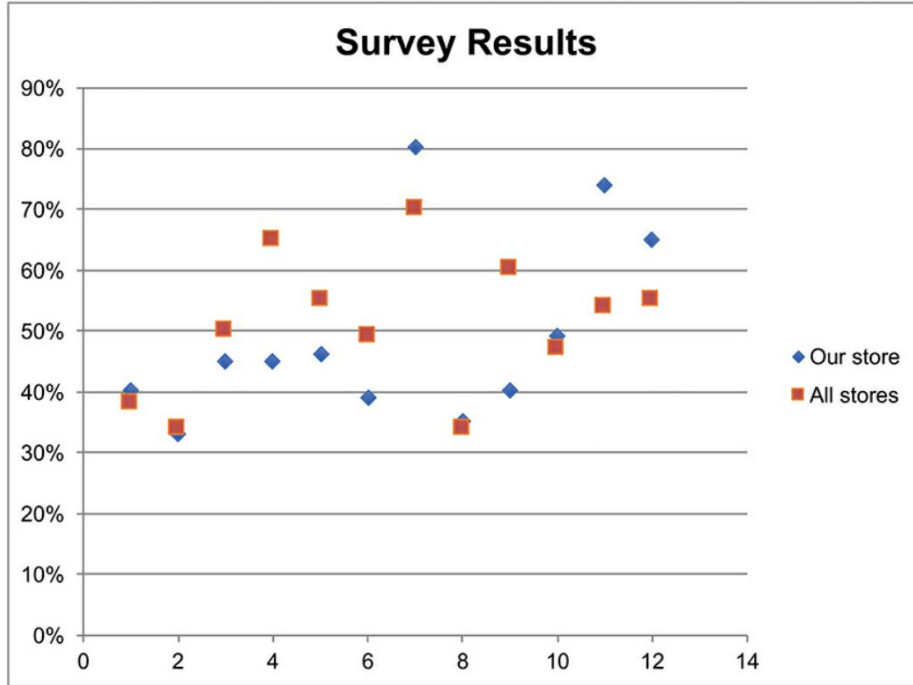


However, the model **overestimates prepays at low LTVs** and **under-predicts at high LTVs**. This is a model limitation.

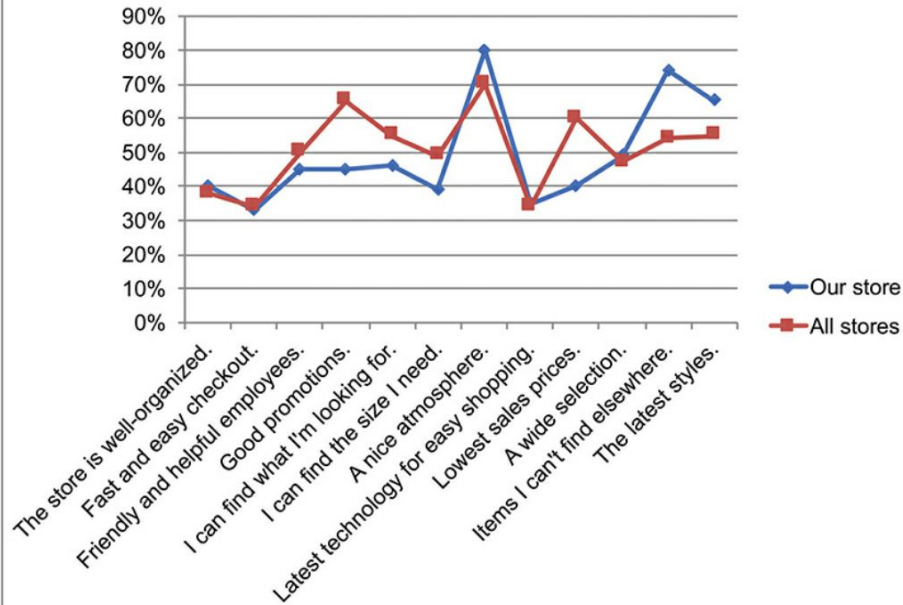
ACTION: avoid concentrating portfolio in low or high LTV loans.

Includes Home Loans only. Unpaid Principal Balance (UPB) is as of 8/31/19. Data sources: Originations and Active Portfolio files. For additional details on prepayment model methodology, contact Credit Risk Analytics.

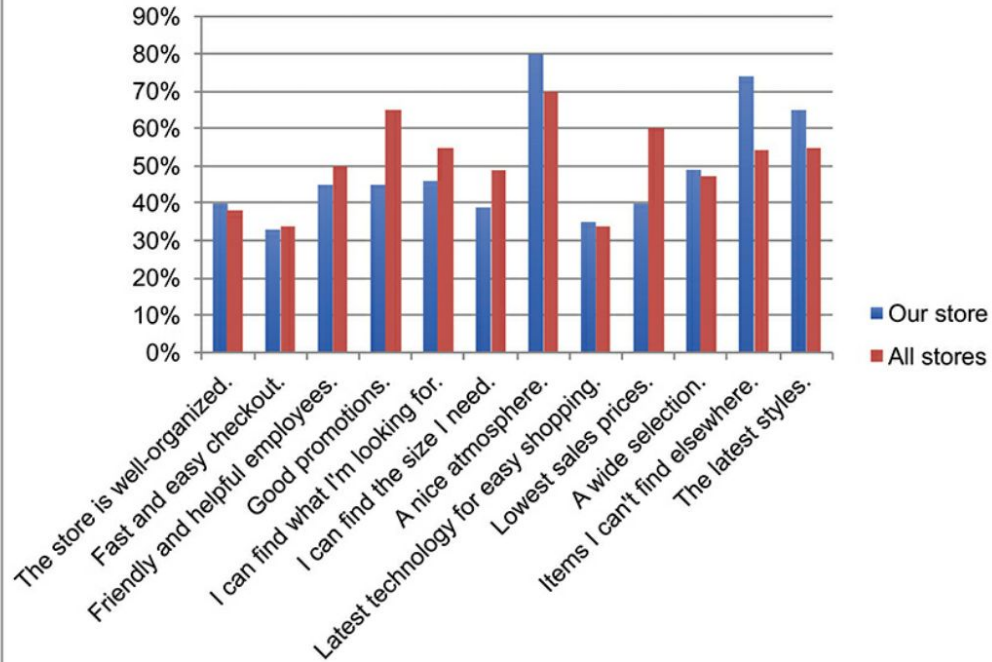
Solution 7.4: back-to-school shopping



Survey Results



Survey Results



Survey Results



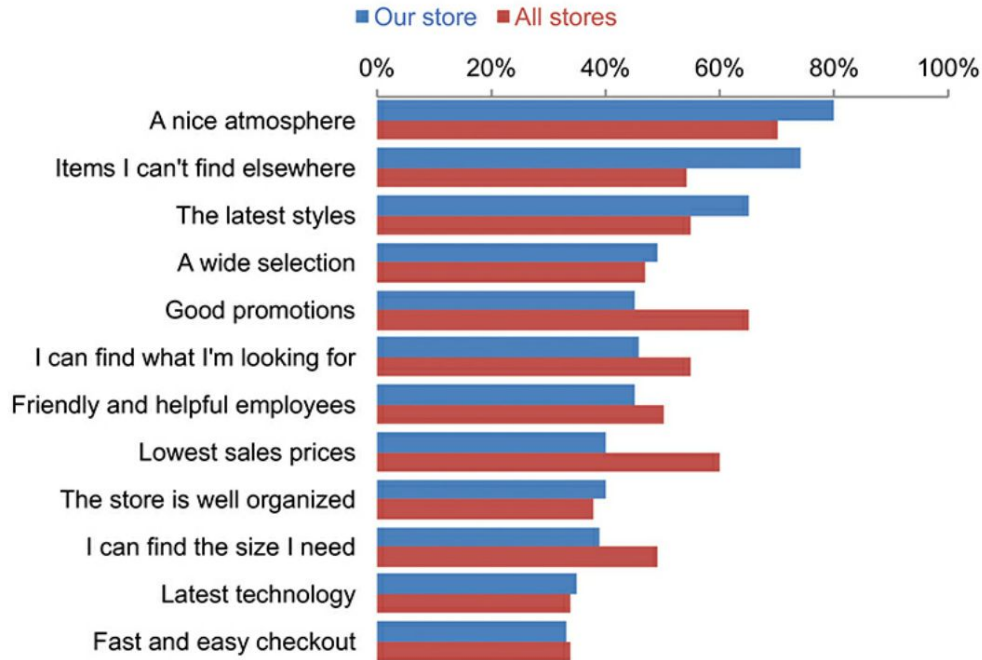
Survey Results



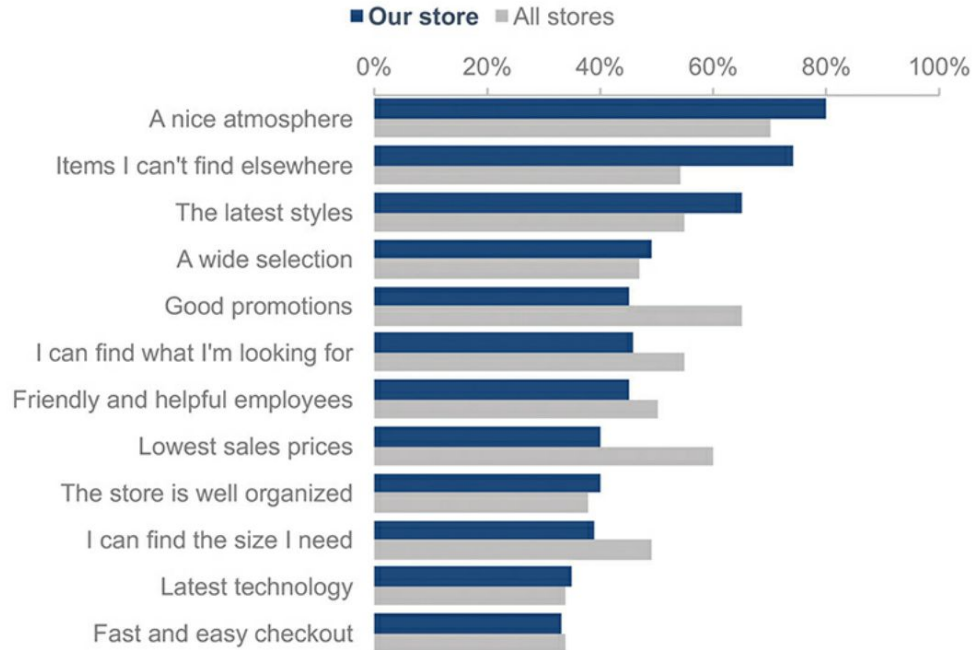
Survey Results



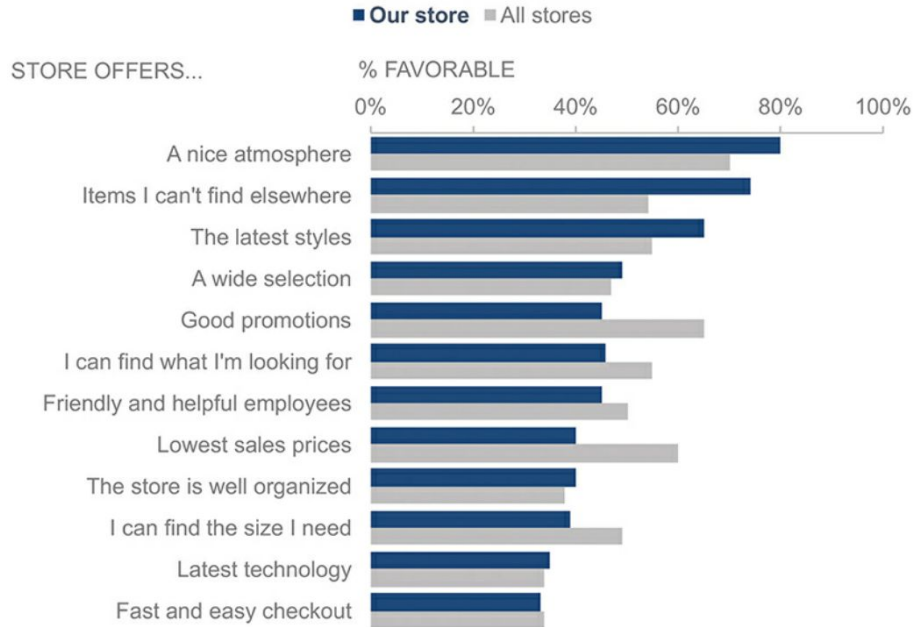
Survey Results



Survey Results



Back-to-school shopping: **consumer sentiment**



Let's **invest** in employee training to
improve the in-store customer experience

Back-to-school shopping accounts for

30%

of our annual revenue. Because of this, it is a huge driver of our overall annual success.

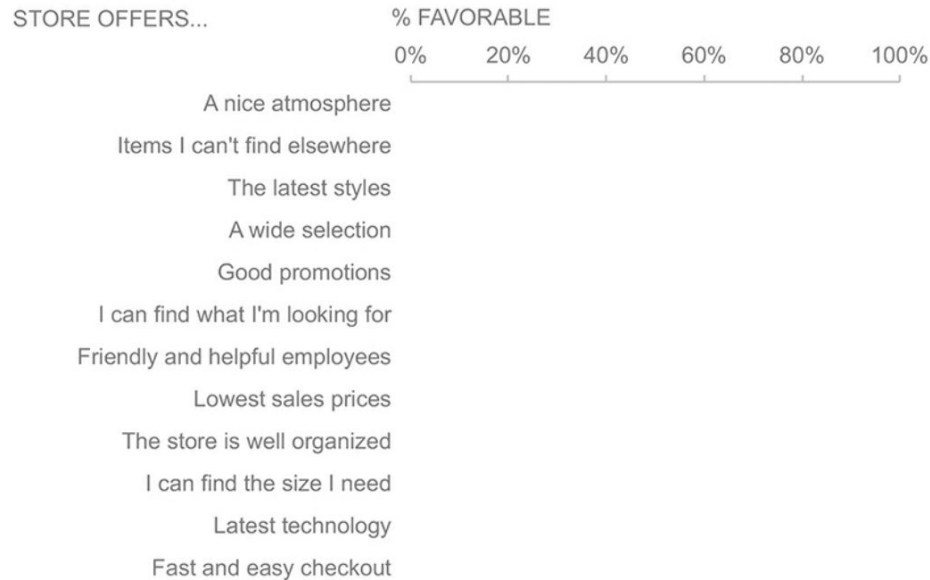
Data source: monthly Sales report. Based on prior three years (2017, 2018, 2019) of annual back-to-school sales compared to total annual sales.

What we'll cover today

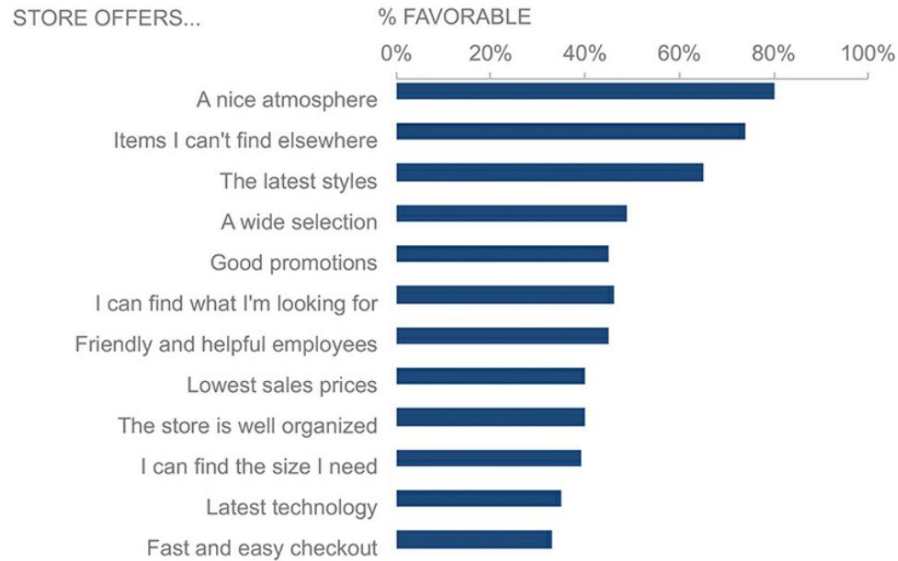
- 1 Discuss what we've learned**
from our survey analysis¹ and
- 2 Suggest specific recommendations**
on changes to make for the upcoming back-to-school shopping season to improve customer satisfaction and increase sales.

¹Comprehensive details on survey methodology and related info can be found in the Appendix on pages 15-20.

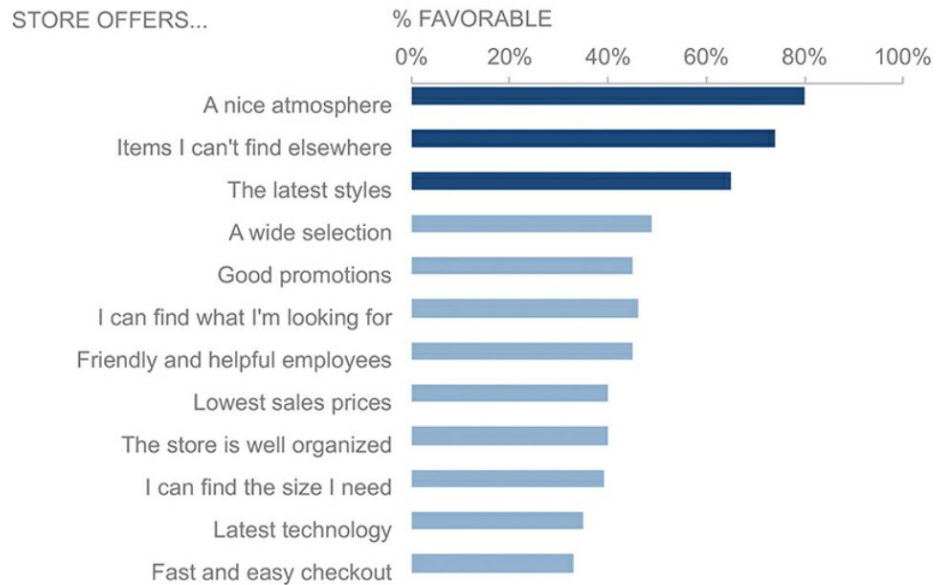
Back-to-school shopping: **consumer sentiment**



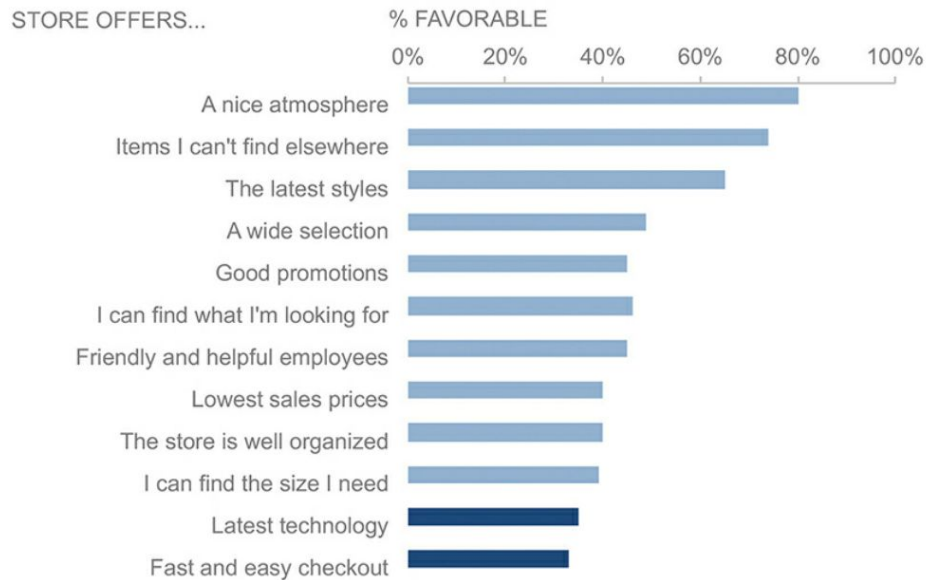
Back-to-school shopping: **consumer sentiment**



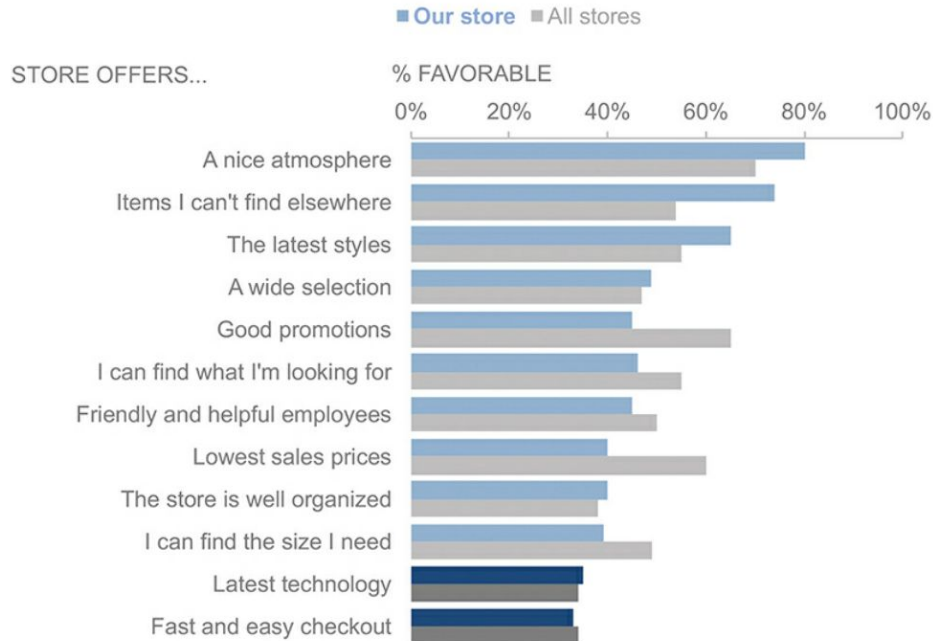
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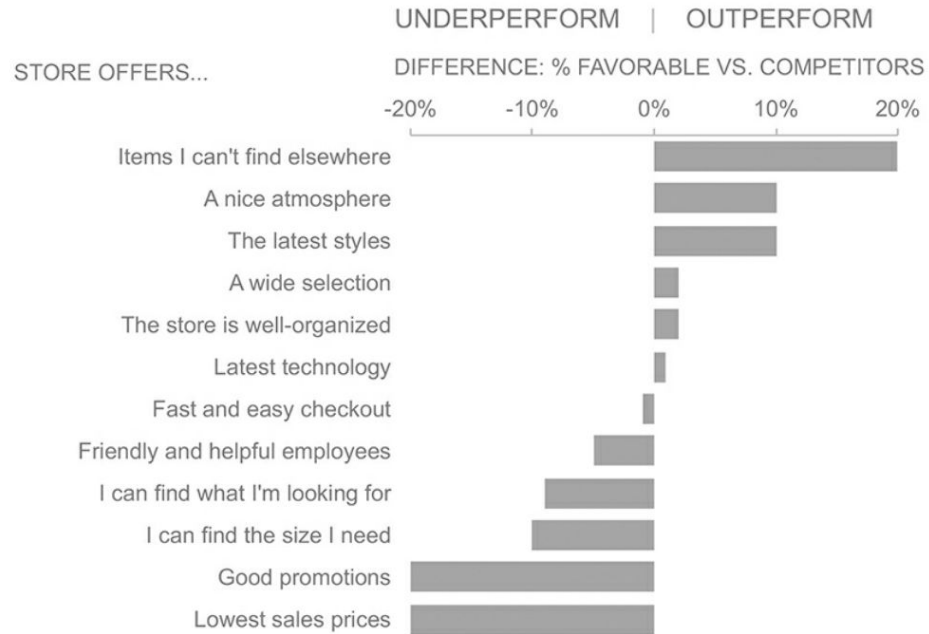
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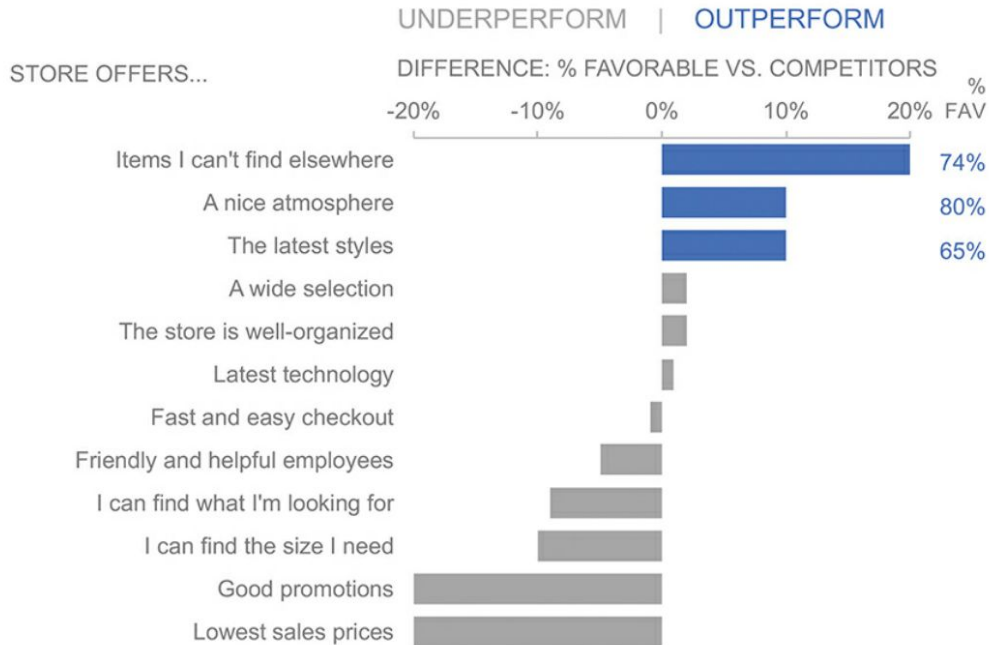
Back-to-school shopping: **consumer sentiment**



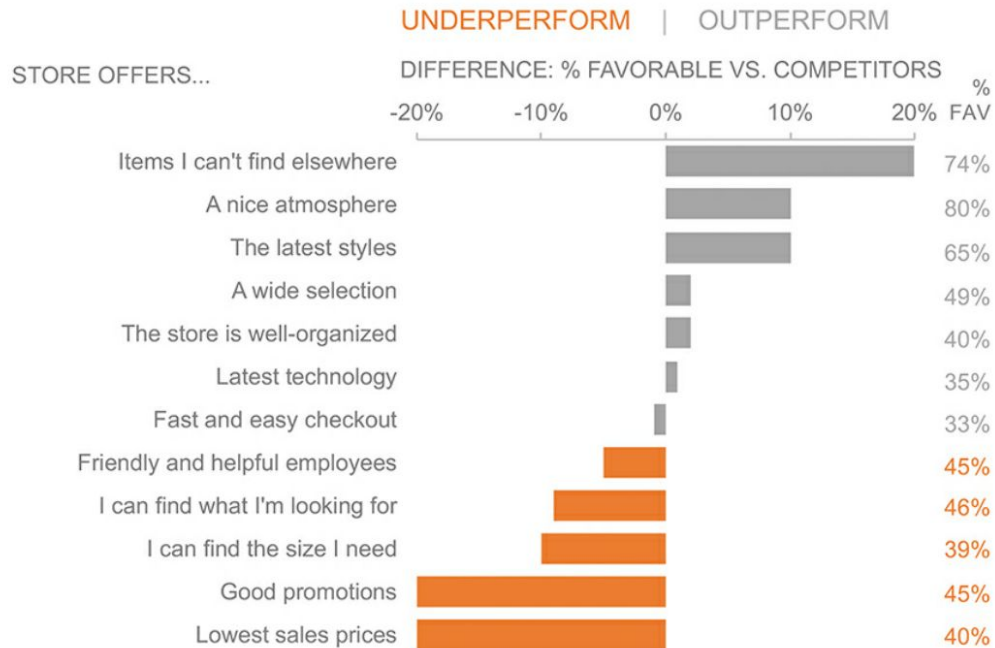
Back-to-school shopping: **consumer sentiment**



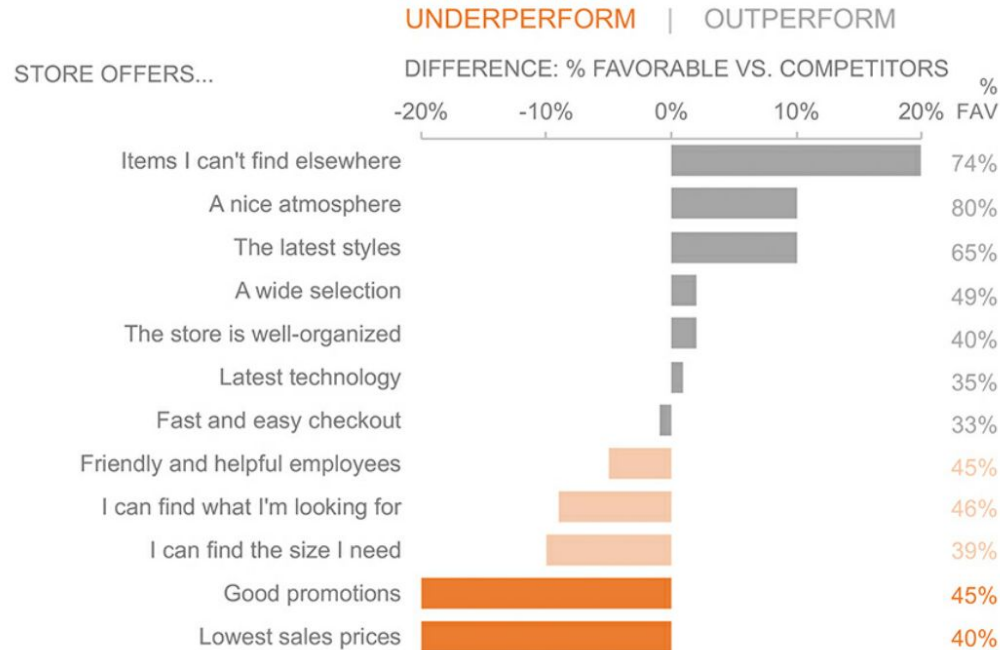
Back-to-school shopping: **consumer sentiment**



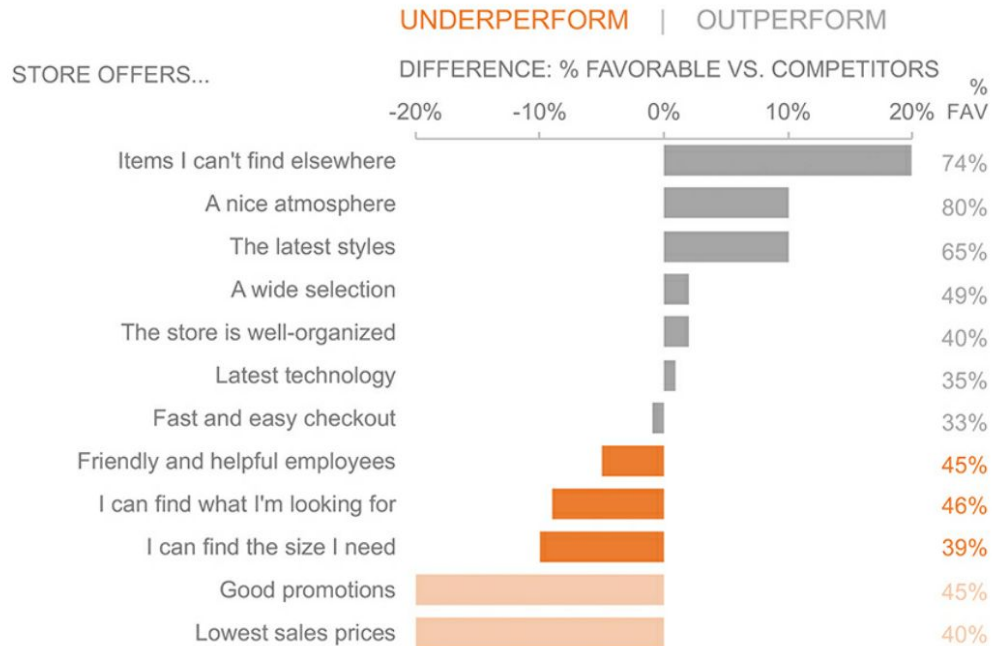
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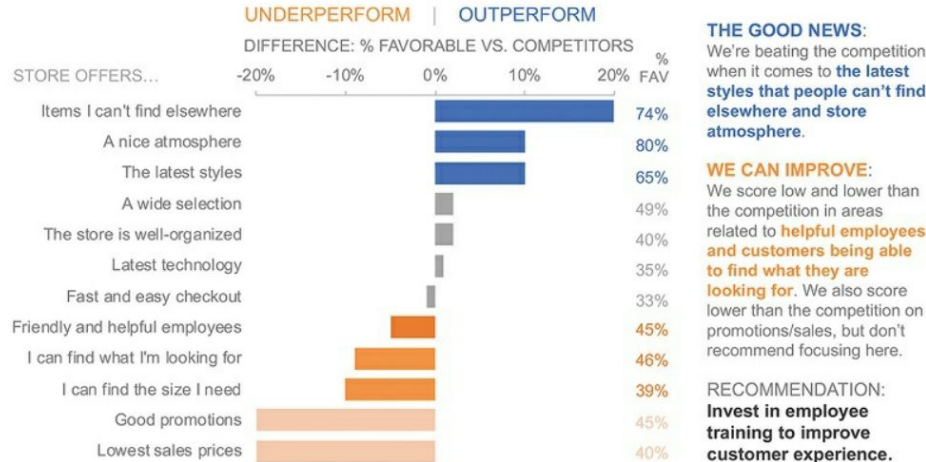
Back-to-school shopping: **consumer sentiment**



Let's **invest** in employee training to
improve the in-store customer experience

Action needed: invest in employee training

Back-to-school shopping: consumer sentiment



Data Source: 2019 Back-to-School shopping survey (represents 21,862 survey responses).
Additional survey and methodology details available upon request. Reach out to Insights Team.

All resources (exercises & solutions)

Data and solutions for all exercises

Download

