



EXPLORING THE PRODUCTION GAP

THE PROMISE AND PERIL OF DS + ML IN BUSINESS

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AGENDA

Introductions

About Zulily

Case studies + Key learnings

UNIQUELY POSITIONED IN RETAIL

A NEW STORE EVERY DAY

Thousands of products at brag-worthy prices

INSPIRED, DISCOVERY-DRIVEN EXPERIENCE

without specific purchase intent

HIGHLY CURATED

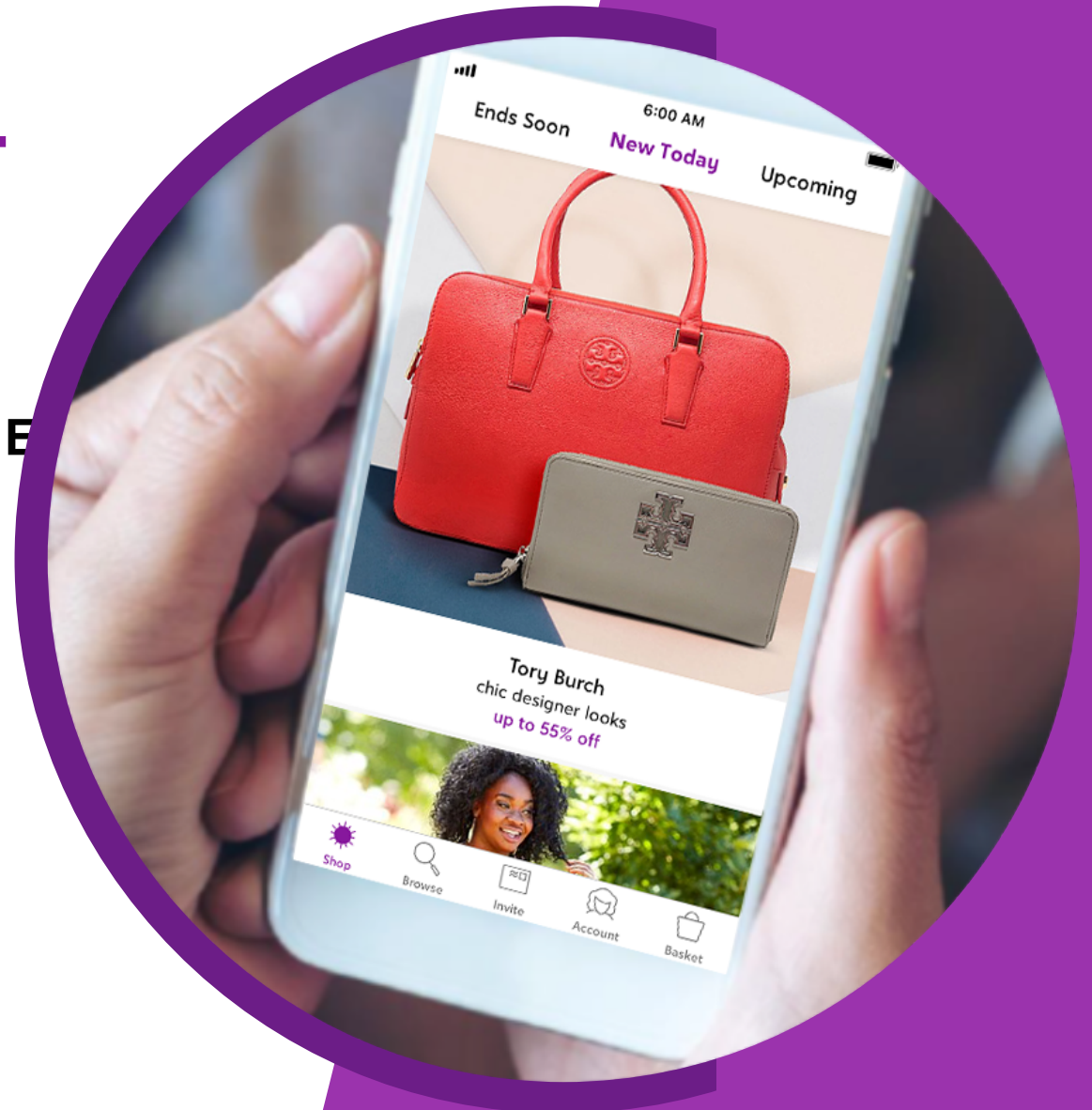
100+ time limited sales (72 hours)

DAILY DESTINATION

74% orders via mobile (Q119)

PERSONALIZED APPROACH

Launch millions of versions of the site/app daily



ZULILY DELIVERS A FUN SHOPPING EXPERIENCE

“The fun of browsing is **new ideas on what to buy**. I am constantly getting inspired and updating. I get a real endorphin rush when a new idea gets ignited in me.”

A NEW STORE
EVERY DAY

A FUN &
ADDICTIVE
SHOPPING
EXPERIENCE

THINGS SHE
LOVES AT PRICES
SHE CAN BRAG
ABOUT



vs.

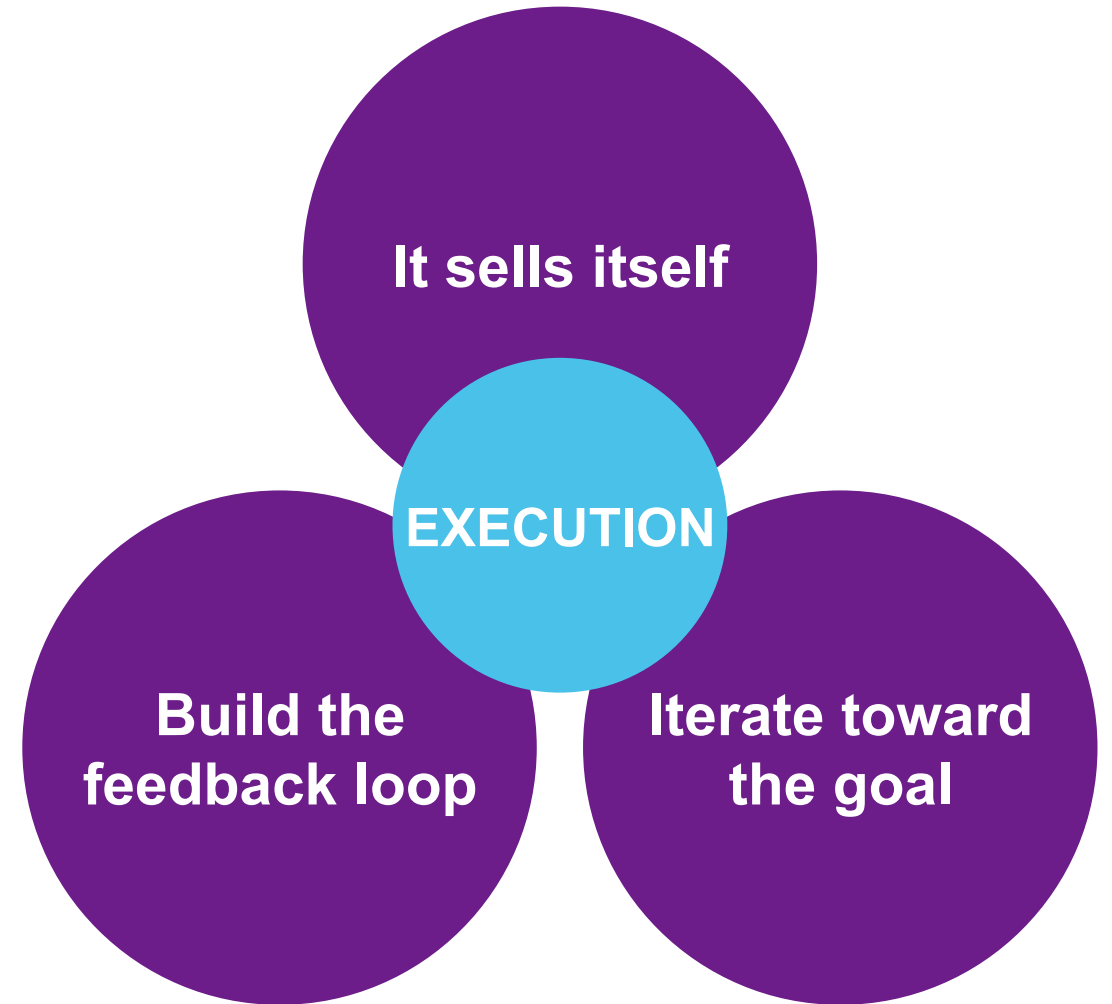
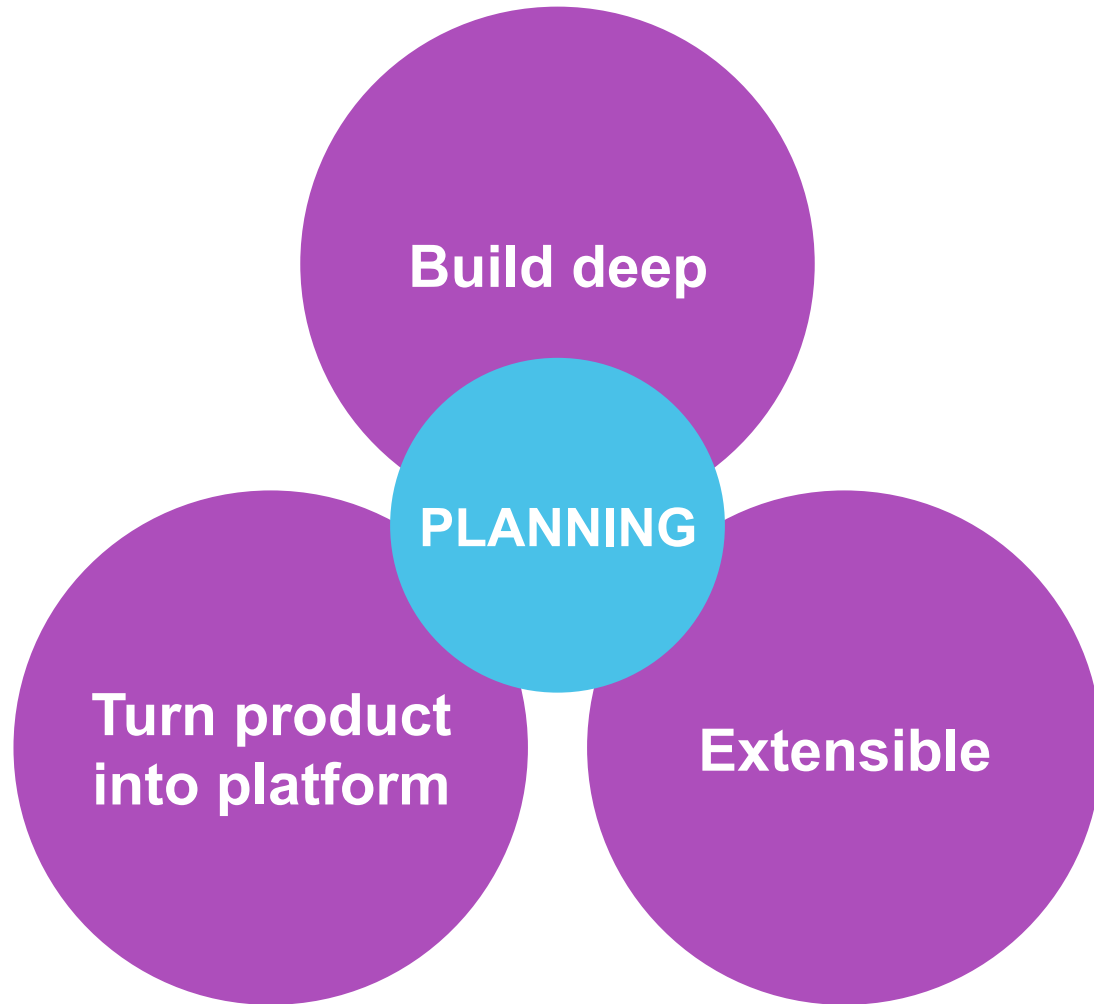


DIRECT-SEARCH
COMMODITIZED
CAT FOOD



DISCOVERY
ENTERTAINMENT
FUN

THE ZULILY APPROACH TO MACHINE LEARNING



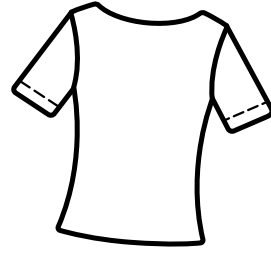
CASE STUDY: MACHINE LEARNING V. BUSINESS PROCESS



BUILD DEEP

EXTENSIBLE

KEY LEARNINGS



Not every problem need an ML solution

Pick ML projects strategically

Your models will only be as good as your data

CASE STUDY: Personalized Sort

THE PATH TO PERSONALIZATION

PLATFORM

SELLS ITSELF



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**HELLO
FRIEND**

We're thrilled you're here.
Thanks for joining us!



Every day, we
deliver
millions
of versions of the
app + site

EXTENSIBLE



zulily

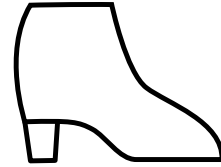
**LOOK CHIC.
SAVE GREEN.**

SIGN UP NOW



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KEY LEARNINGS



If it works, it will probably also work elsewhere

ML can power your core business

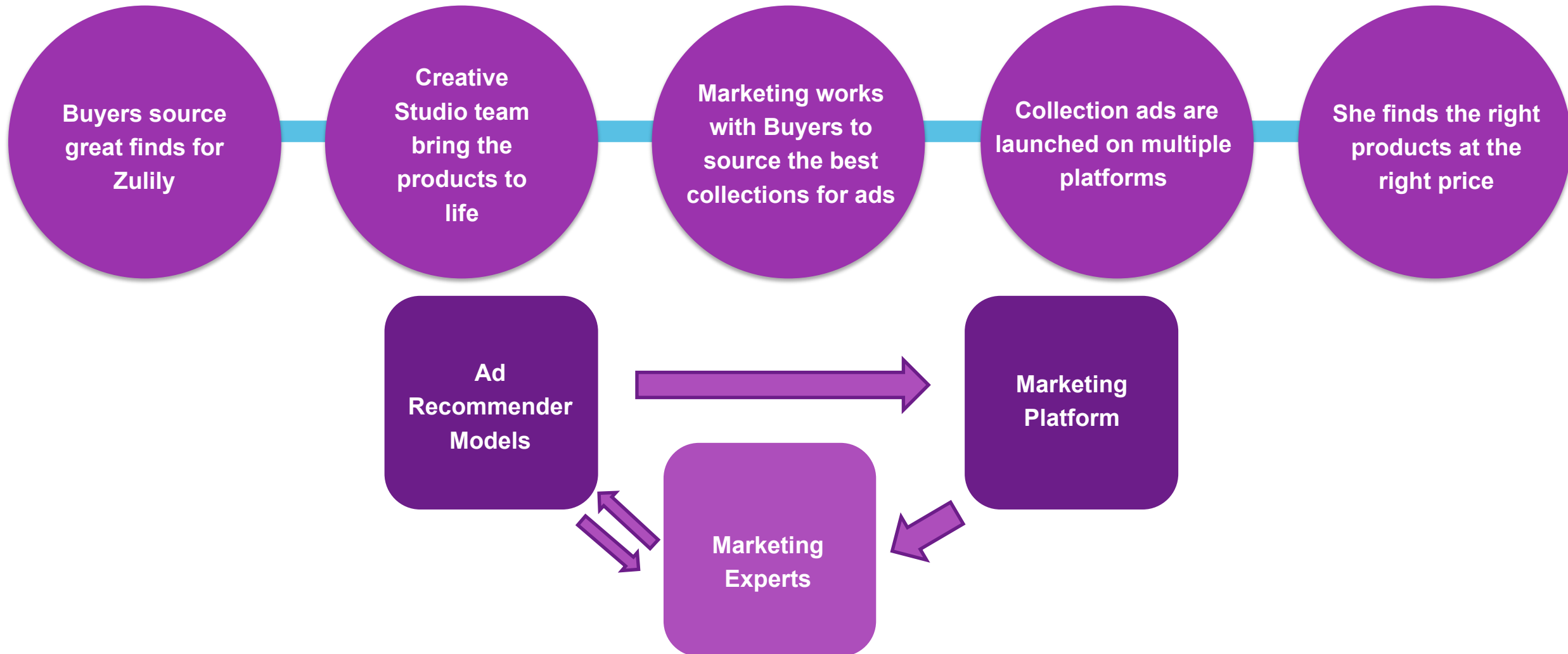
Measure impact to demystify ML

CASE STUDY: Ad Recommender

WHAT COLLECTIONS MAKE GOOD ADS?

FEEDBACK LOOP

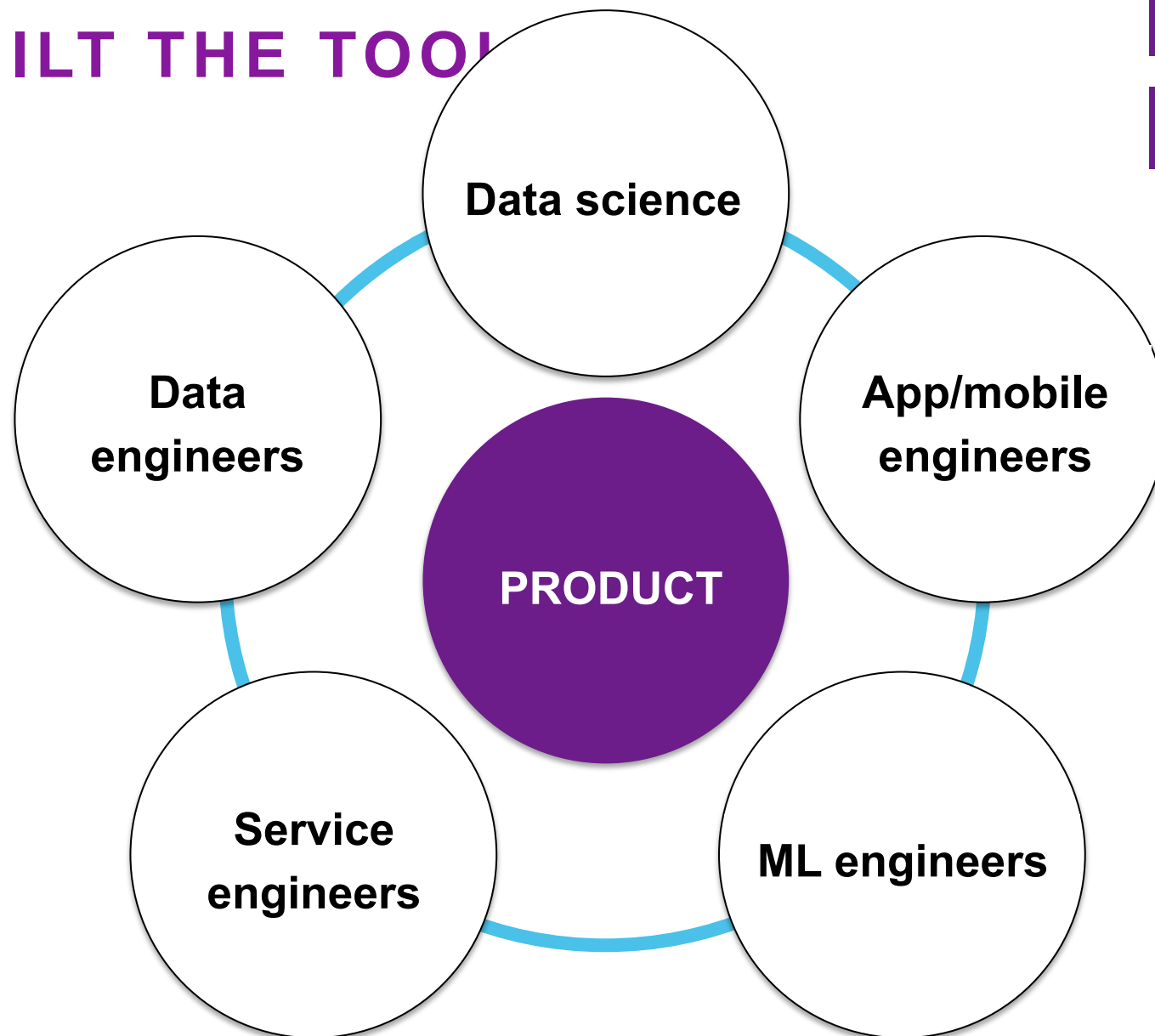
ITERATE



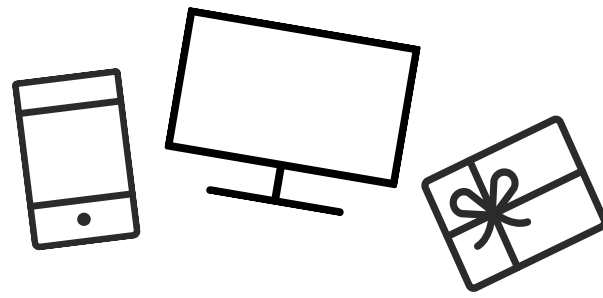
HOW WE BUILT THE TOOL

FEEDBACK LOOP

ITERATE



KEY LEARNINGS



Start small to make a big impact

Build feedback loops so the model learns by itself

Scale; data scientists should focus on what matters

CASE STUDY: Pushing Boundaries with ML

MOONSHOT: THE PERFECT DAY

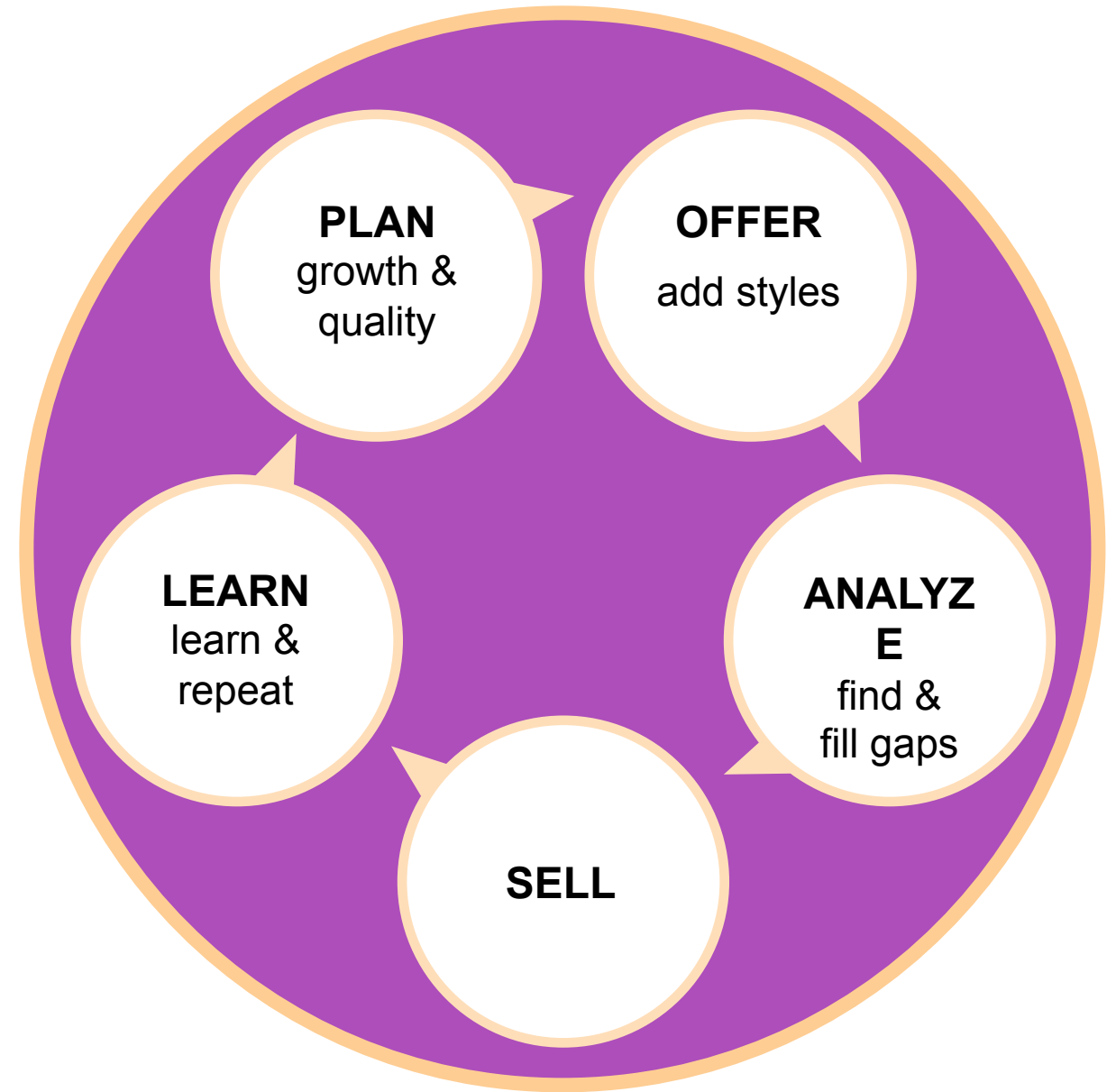
Machine learning powers merchandise plan for day, week, month, quarter

To drive growth, work with brands to create:

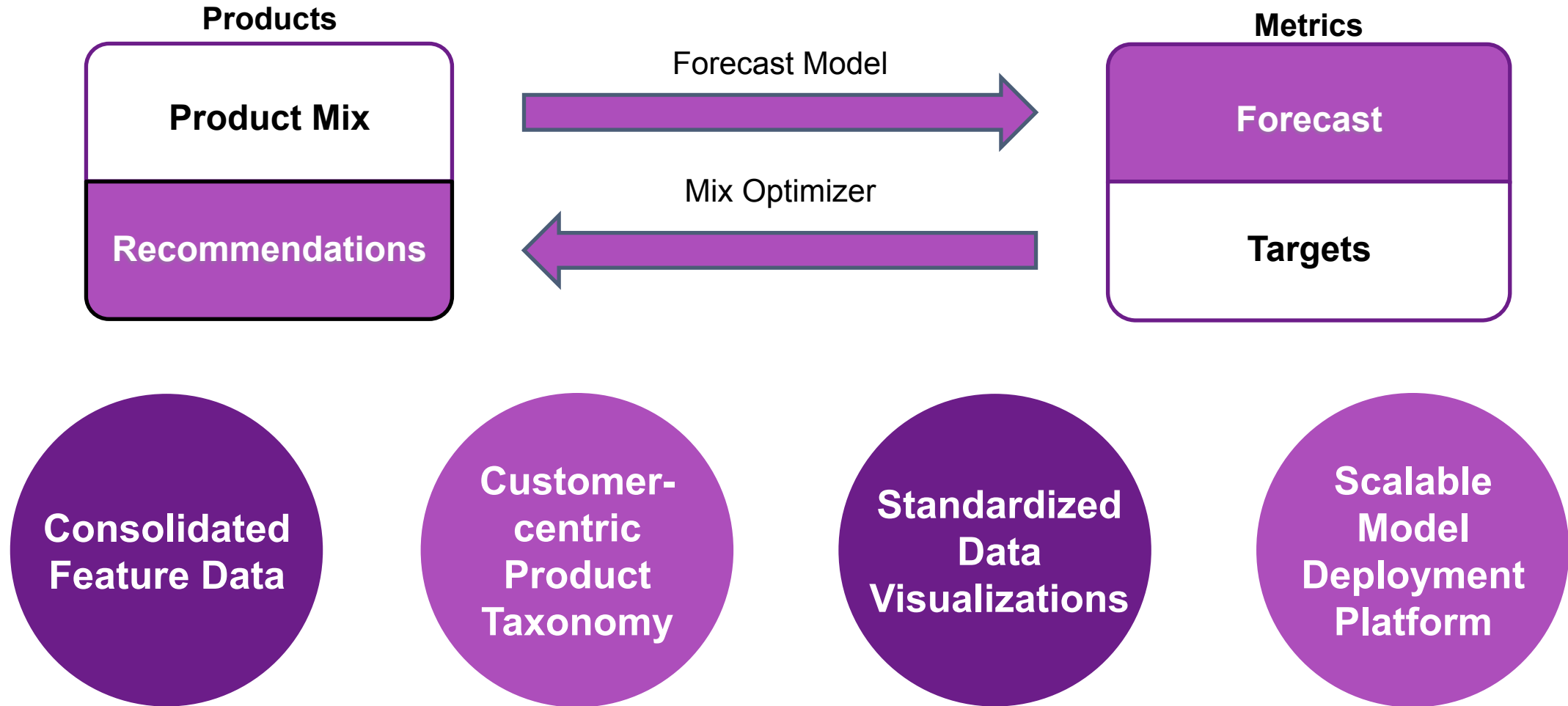
Right **product mix** (categories, size/fit, customer reviews, timing)

Plan **auto adjusts** with changes

Buyers work with brands to fill the plan



KEY ATTRIBUTES TO THE PERFECT DAY



WHAT'S NEXT: CONTINUE EVOLVING OUR WORK

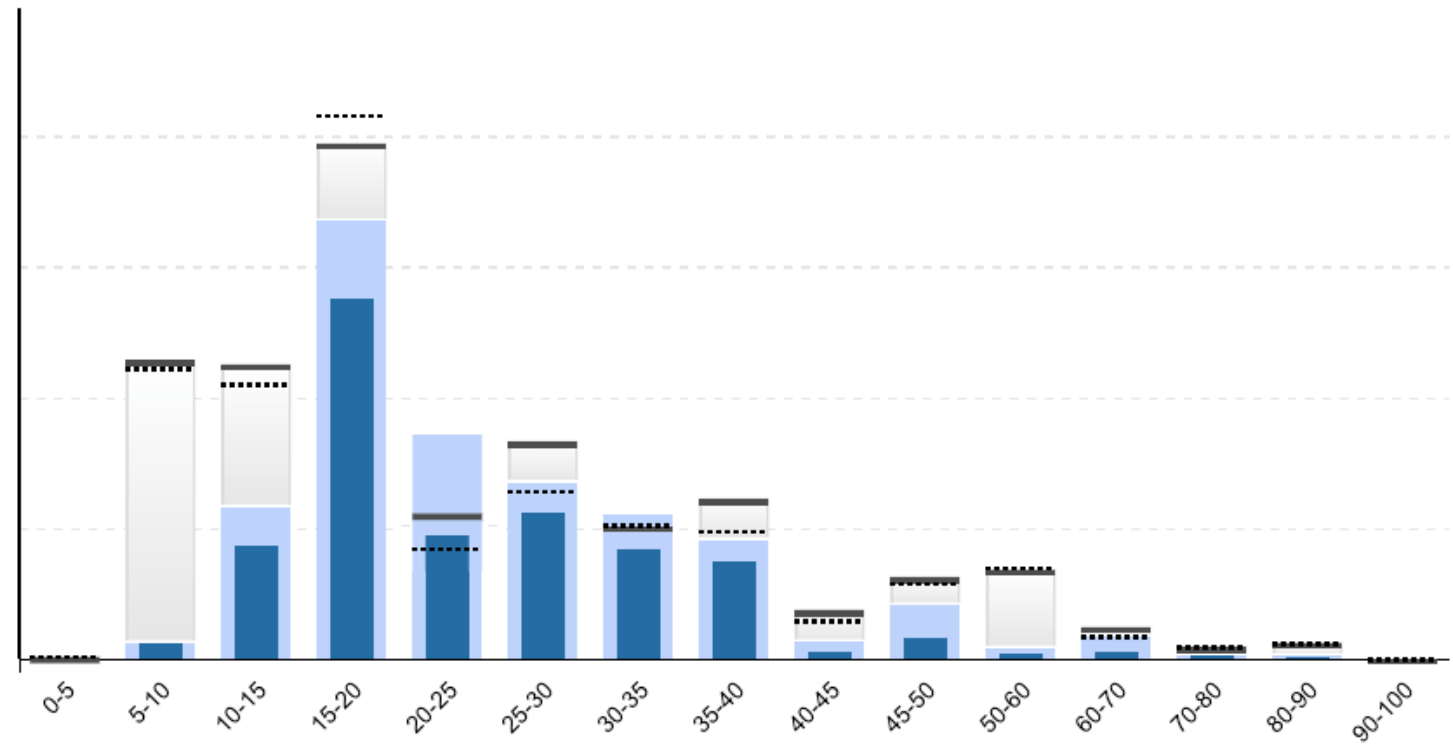
**Plan the
Perfect Day**

**Deliver the
Perfect Experience
for Her**

**Fulfill the Zulily
Brand Promise**

Price Range

KEY: — Recommendation Last Year □ Gap ■ Offering ■ Actuals



EXAMPLE DATA*

ZULILY'S MACHINE LEARNING JOURNEY

Tackle small problems first



Create platforms that scale



Test, try and iterate

- Have big goals, but take small steps to get there
- Your models are only as good as your data
- Models, if trained well and supervised, can be applied to multiple parts of the business
- Empower the whole business to become data-driven
- Machine learning work is never done – it evolves and changes with the business
- There is so much potential to push the boundaries and build great tools in today's tech world

THANK YOU

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