



Zulily's top tips to a more data driven approach to digital marketing

Sasha Bartashnik | Marketing Analytics Manager, Zulily



Speaker

Sasha Bartashnik



Marketing Analytics Manager

zulily

Agenda

- How we achieved 1.5M in customer growth
- Our approach to marketing optimization
- What's next in marketing analytics
- Q&A

a day in the life of *Zulily* marketing

launch
hundreds
of ads

serve
millions
of impressions

convert
**tens of
thousands**
of customers

how we achieved growth?

Analytics team
can move fast
**without needing
to involve IT**
in everyday activities.

Business users get real-time
access to key data
**without needing to involve
analysts**
to generate basic insights.

self-service analytics

marketing analytics team growth



marketing analytics team growth



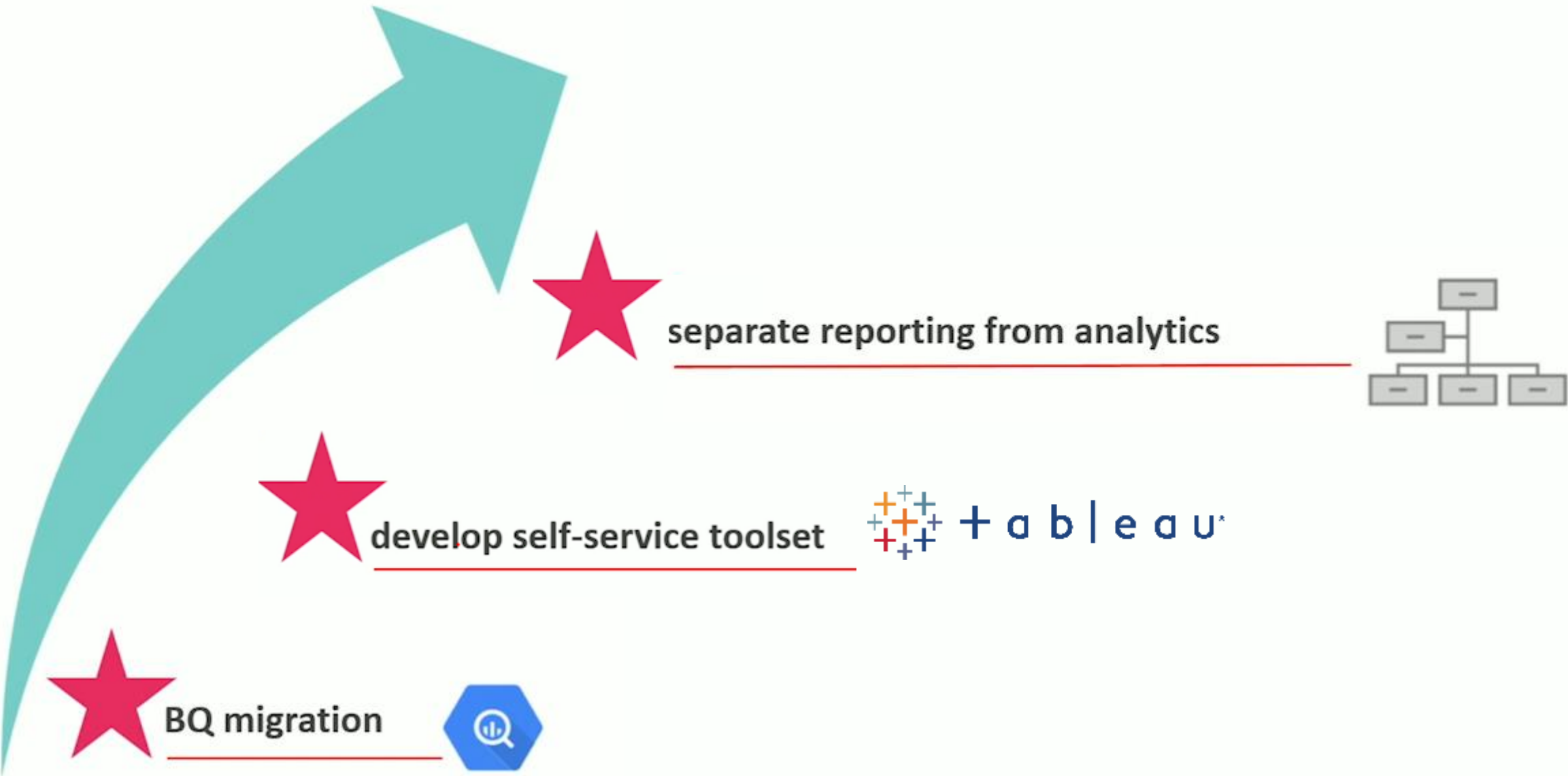
develop self-service toolset



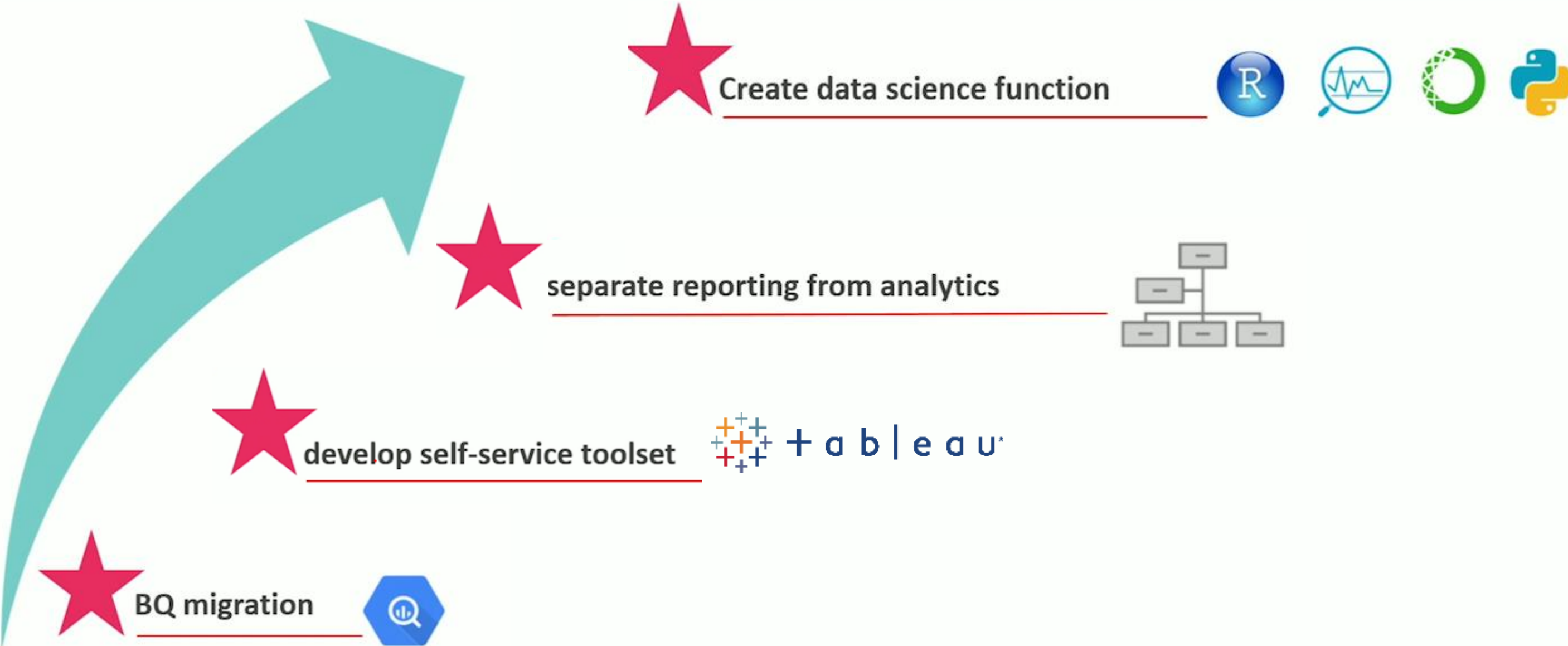
BQ migration



marketing analytics team growth



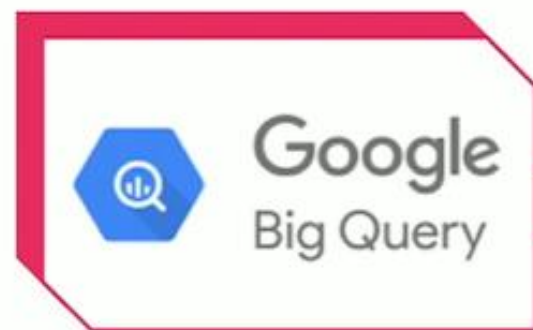
marketing analytics team growth



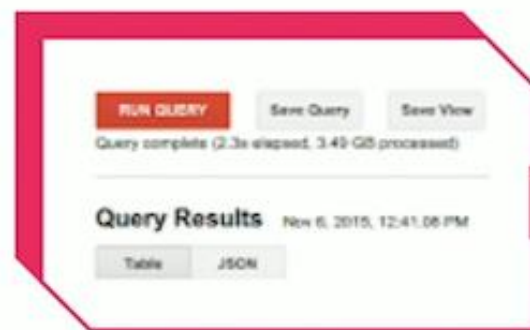
**building the
Tableau + Big Query
pipeline**



Zulily Tableau + Big Query pipeline



data team
pushes all data —
structured and
unstructured,
real-time and batch
— into **BigQuery**



marketing analysts &
data scientists **join**
multiple data sources
using **BigQuery's SQL**



analysts **develop models**
on BigQuery data marts
using a variety of
common **data science**
tools
as well as internal
ETL platforms



marketers and analysts
use **Tableau for self-**
service analytics
on data and
model results **stored in**
BigQuery

key centralized data in Tableau



All data shown is masked to protect proprietary information

key centralized data in Tableau



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key centralized data in Tableau

Notifications Overview - YoY High Level Report - Date High Level Report - Agg Metric

Data Refreshed As Of:

High Level Report by Date- View metrics at the channel-program level. The purpose of this report is to view metrics at a high level of granularity at a date level. Expand and collapse columns by hovering and clicking the (+/-) button over the column name to show programs. You can also toggle the data between a weekly and daily level by hovering over the dates and clicking the (+/-) button. Please also note that this report does include manual costs. Data available from 2014 onwards.

High Level Report for All ACQ - Media

Date: 1/1/2018 3/10/2018

Measure Names: (Multiple values)

Fiscal Quarter: (All)

Primary Channel: (All)

Secondary Channel: (All)

Channel Path: (All)

Program Name: (All)

Primary Channel	1/7/2018	1/14/2018	1/21/2018	1/28/2018	2/4/2018	2/11/2018	2/18/2018	2/25/2018
Ads								
Spend								
CpTA								
pROAS								
Total Activators								
Revisit Rate Next Day								
Activation Rate Same Day								
7 Day Activator Repurchase Rate								
Continued Active Demand Same Day/Customer								
Non Activator 365d Demand/Customer								
EM Activator 365d Demand/Customer								
NM Activator 365d Demand/Customer								
Reactivator 365d Demand/Customer								

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Key centralized data in Tableau

The screenshot displays a Tableau dashboard interface. At the top, there are navigation tabs: 'Notifications', 'Overview - YoY', 'High Level Report - Date', and 'High Level Report - Agg Metric'. Below the tabs, a 'Data Refreshed As Of:' field is visible. A descriptive paragraph explains the report's purpose: 'High Level Report by Date- View metrics at the channel-program level. The purpose of this report is to view metrics at a high level of granularity at a date level. Expand and collapse columns by hovering and clicking the (+/-) button over the column name to show programs. You can also toggle the data between a weekly and daily level by hovering over the dates and clicking the (+/-) button. Please also note that this report does include manual costs. Data available from 2014 onwards.'

The main content area is titled 'High Level Report for All ACQ - Media'. It features a table with columns for dates: 1/7/2018, 1/14/2018, 1/21/2018, 1/28/2018, 2/4/2018, 2/11/2018, 2/18/2018, and 2/25/2018. The first column is labeled 'Primary Channel' and contains the value 'Ads'. A red box highlights a sidebar of metrics for 'Ads', including: Spend, CpTA, pROAS, Total Activators, Revisit Rate Next Day, Activation Rate Same Day, 7 Day Activator Repurchase Rate, Continued Active Demand Same Day/Customer, Non Activator 365d Demand/Customer, EM Activator 365d Demand/Customer, NM Activator 365d Demand/Customer, and Reactivator 365d Demand/Customer.

On the right side, a filter panel is visible, also highlighted with a red box. It includes: 'Date' (range: 1/1/2018 to 3/10/2018), 'Measure Names' (dropdown: (Multiple values)), 'Fiscal Quarter' (dropdown: (All)), 'Primary Channel' (dropdown: (All)), 'Secondary Channel' (dropdown: (All)), 'Channel Path' (dropdown: (All)), and 'Program Name' (dropdown: (All)).

All data shown is masked to protect proprietary information

intra-day self-service analytics

Most Recent Order in Data:
wSOI Wed 01/01/20 09:55:00

Net Active Customer Report - Intraday

Data Source	Actives Yesterday	Activations Today	Reactivations Today	Scheduled Churns (-)	Net Change Today	Actives EOD Today	Product Demand (Today)	Product Demand (LastYear)
wSOI	6,000,000	10,000	10,000	-5,000	15,000	6,015,000	\$3,000,000	\$4,500,000

Net Active Customers by Hour

(Churn is pre-loaded for the whole day)

Order (Churn) Hour	Activations	Reactivations	Scheduled Churns (-)	Net Change Today (Hourly)	Net Change Today (Cumulative)
0	1,000	1,000	-208	1,792	1,792
1	1,000	1,000	-208	1,792	3,583
2	1,000	1,000	-208	1,792	5,375
3	1,000	1,000	-208	1,792	7,167
4	1,000	1,000	-208	1,792	8,958
5	1,000	1,000	-208	1,792	10,750
6	1,000	1,000	-208	1,792	12,542
7	1,000	1,000	-208	1,792	14,333
8	1,000	1,000	-208	1,792	16,125
9	1,000	1,000	-208	1,792	17,917
10	0	0	-208	-208	17,708
11	0	0	-208	-208	17,500
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21	0	0	-208	-208	15,417
22	0	0	-208	-208	15,208
23	0	0	-208	-208	15,000
Grand Total	10,000	10,000	-5,000	15,000	15,000

Product Demand by Hour

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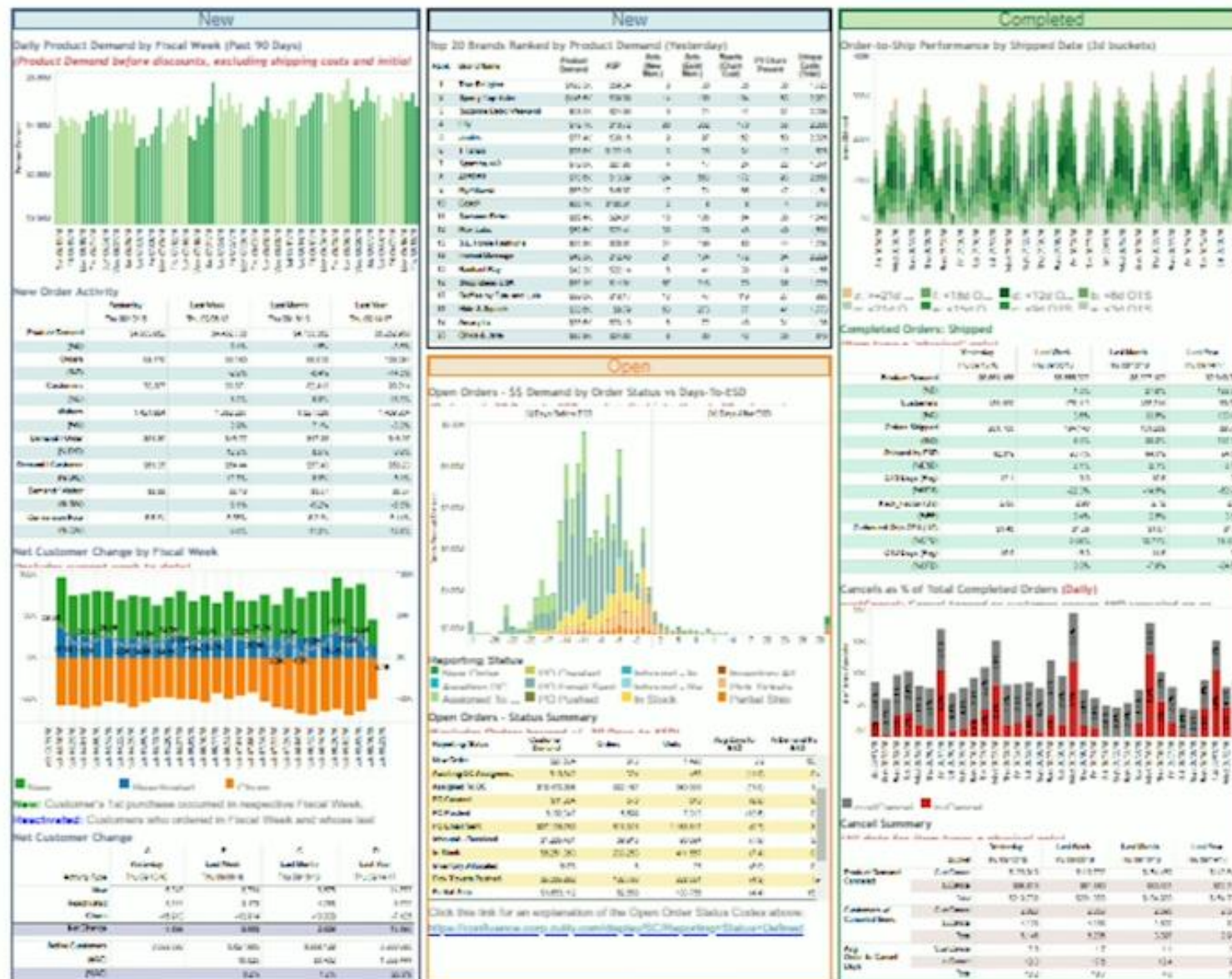
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holistic view of cross-company metrics



Revenue

Active customers

Brands on site

Order delivery

Cancellations

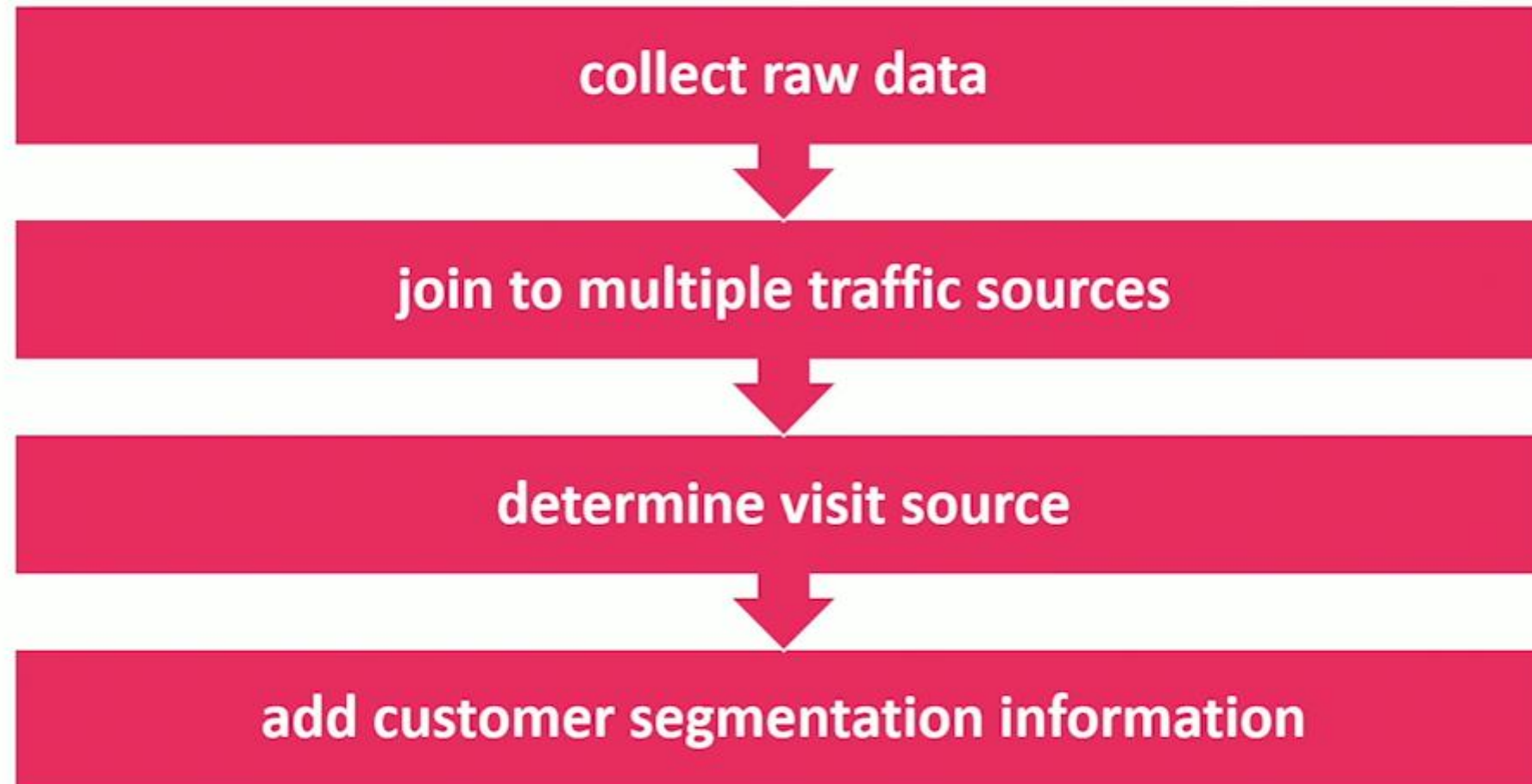
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our approach to marketing optimization

marketing analytics program components



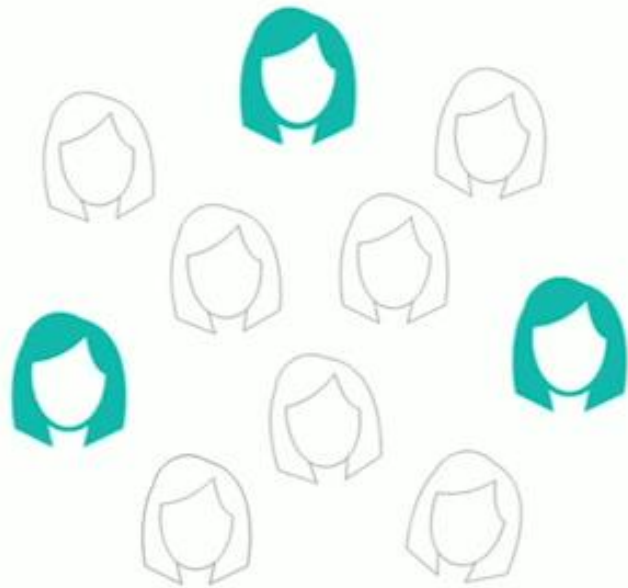
foundational data layer with one view



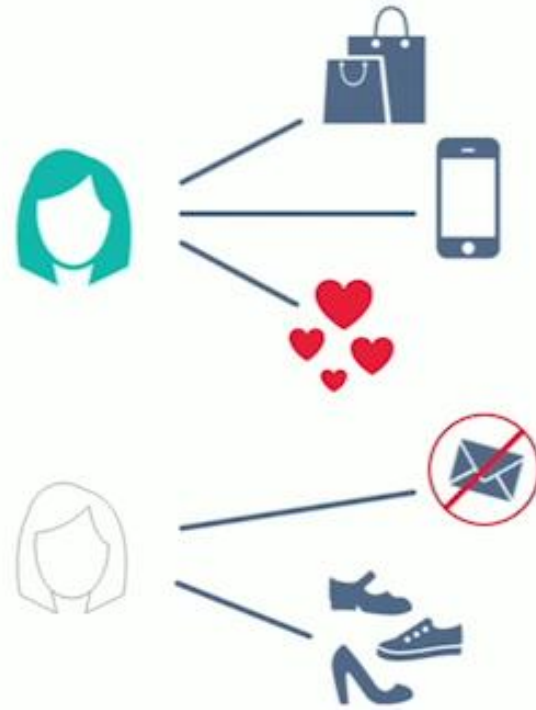
understand value of new customer



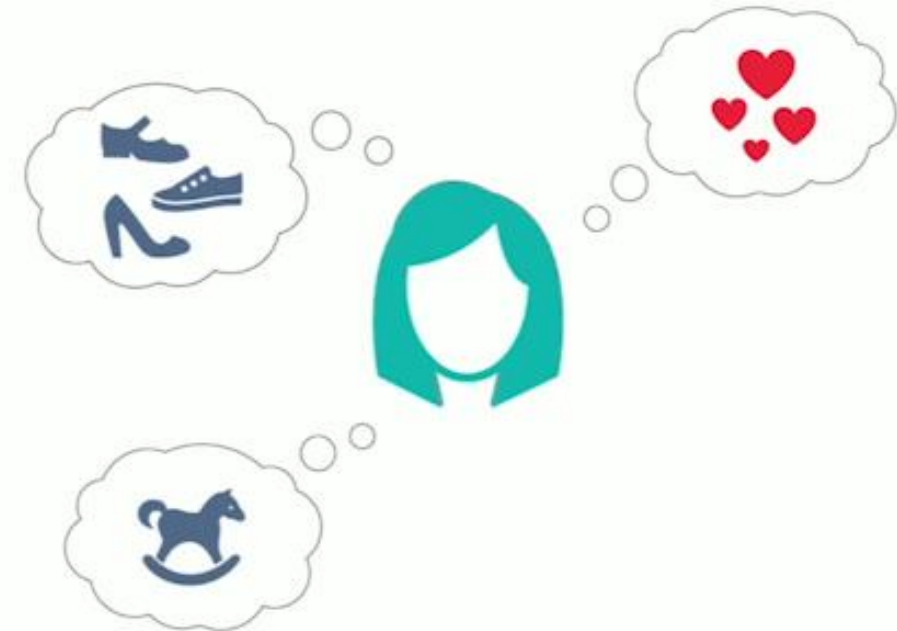
find existing high value customers



Which behaviors distinguish them from others?



Are new customers showing these behaviors?
To what extent?



what goes into the *zulily* predictive model?

What she uses to access zulily

What her first purchase was like

How she engages with us

Where she is located

How she found us

thousands

of variables considered
for
the model

hundreds

of models tested

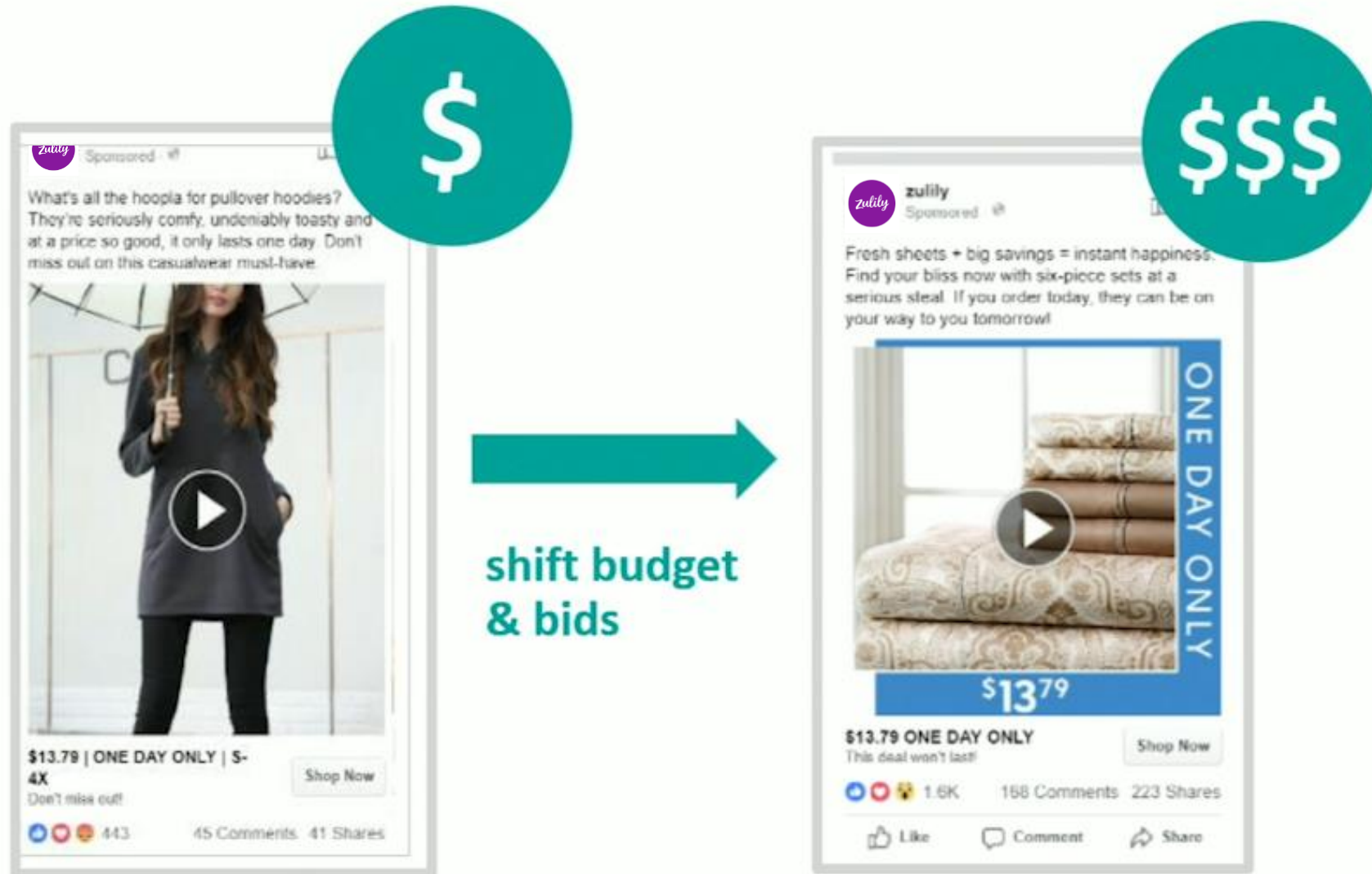
dozens

of variables
chosen using gradient
boosting machine
learning

+85%

accuracy in predicting 1
year revenue

optimize new customer acquisition



a/b testing:

creative

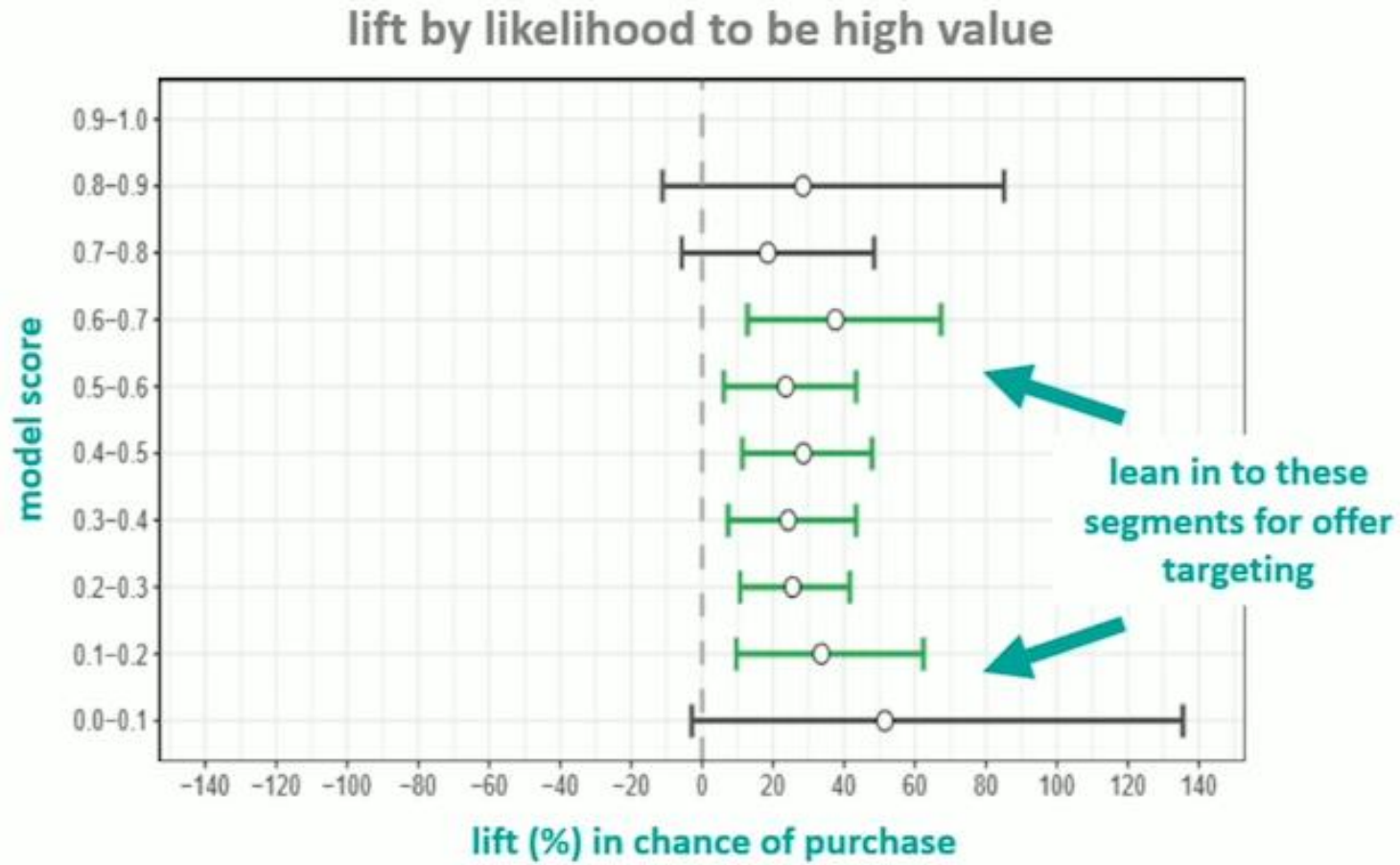
timing

landing experience

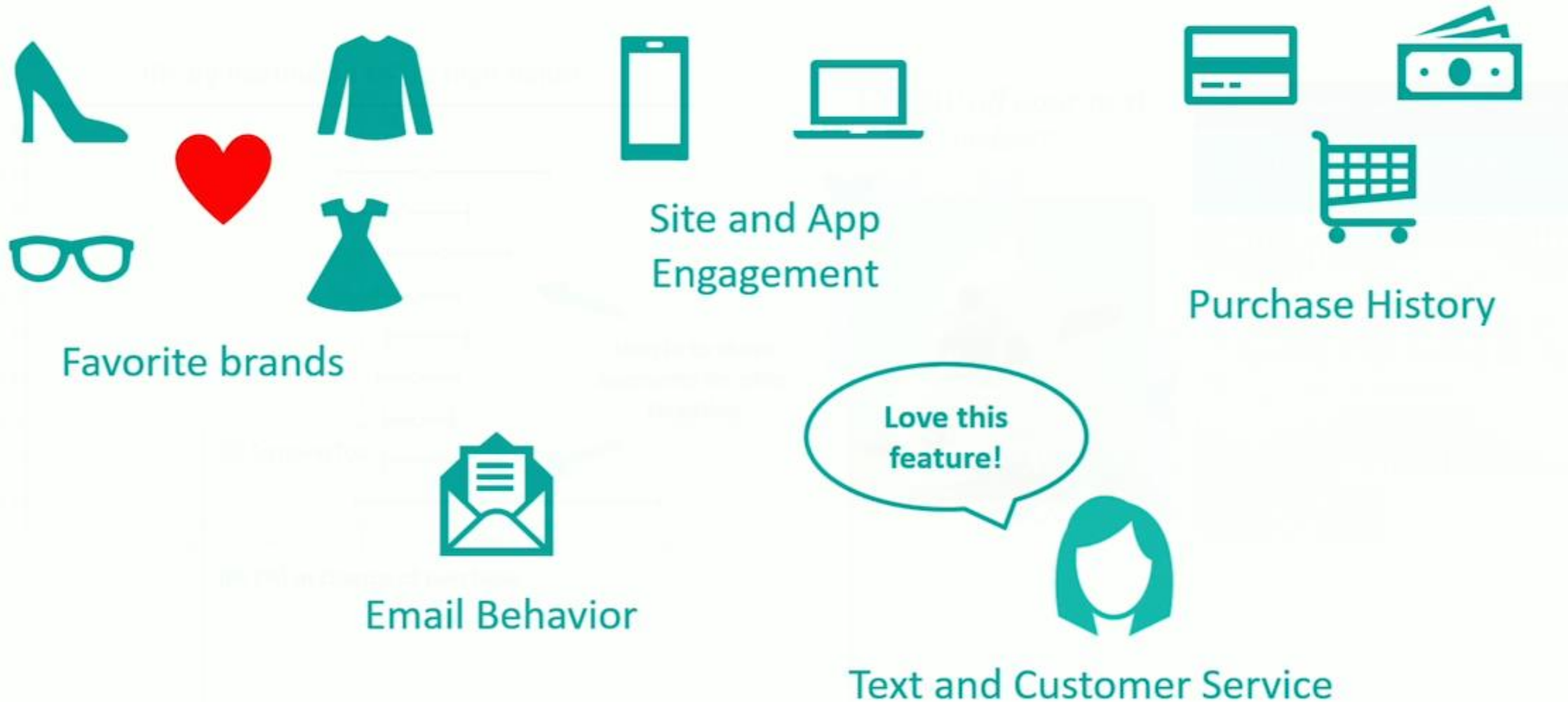
paid vs unpaid

DR vs brand

targeted messaging

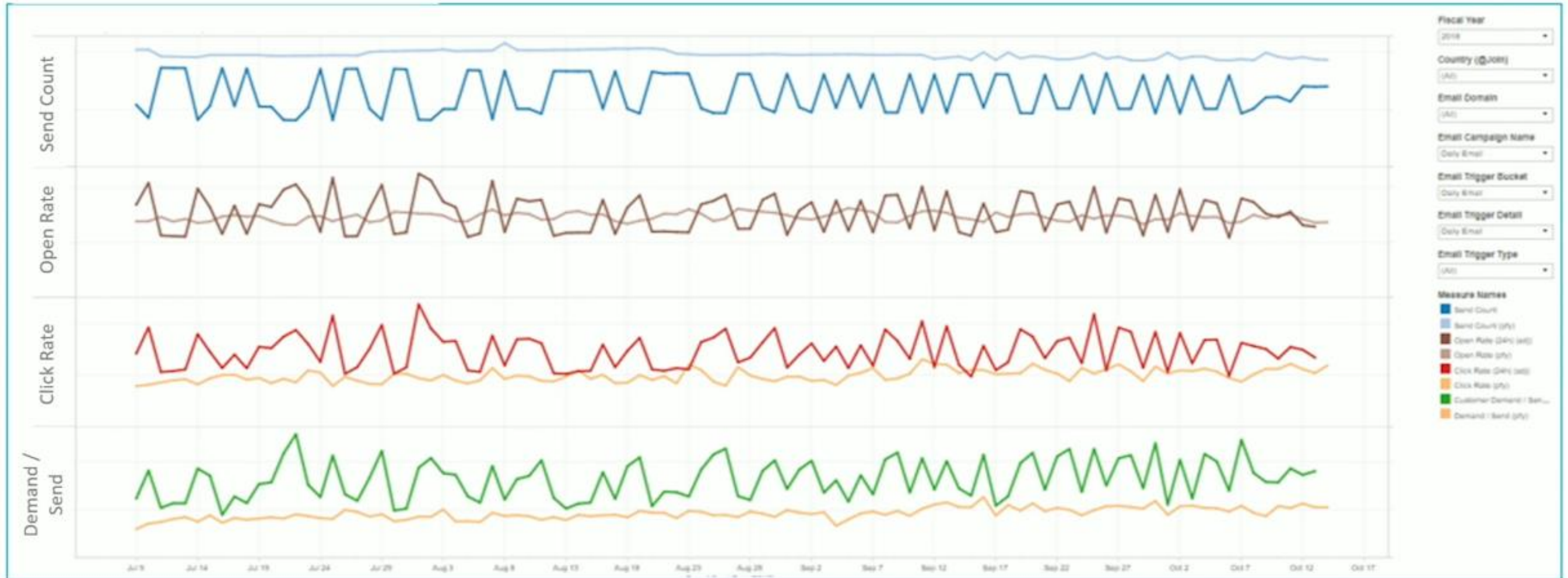


using personalization to optimize



optimization based on response

Email Performance Metrics YoY



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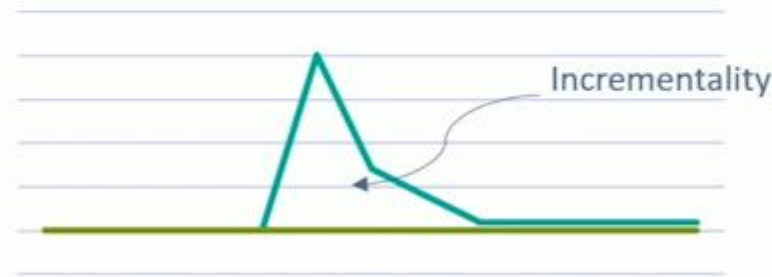
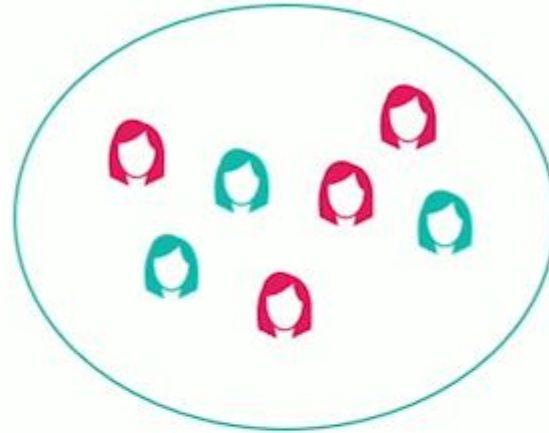
building the right models & tools



Attribution Model



Engagement Modeling



Lookalike Modeling



Purchase/Churn
Propensity Modeling



Customer Level
Profitability Modeling

how we track the brand



NPS



customer surveys & VOC



monitoring data science models



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monitoring data science models



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monitoring data science models



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monitoring data science models



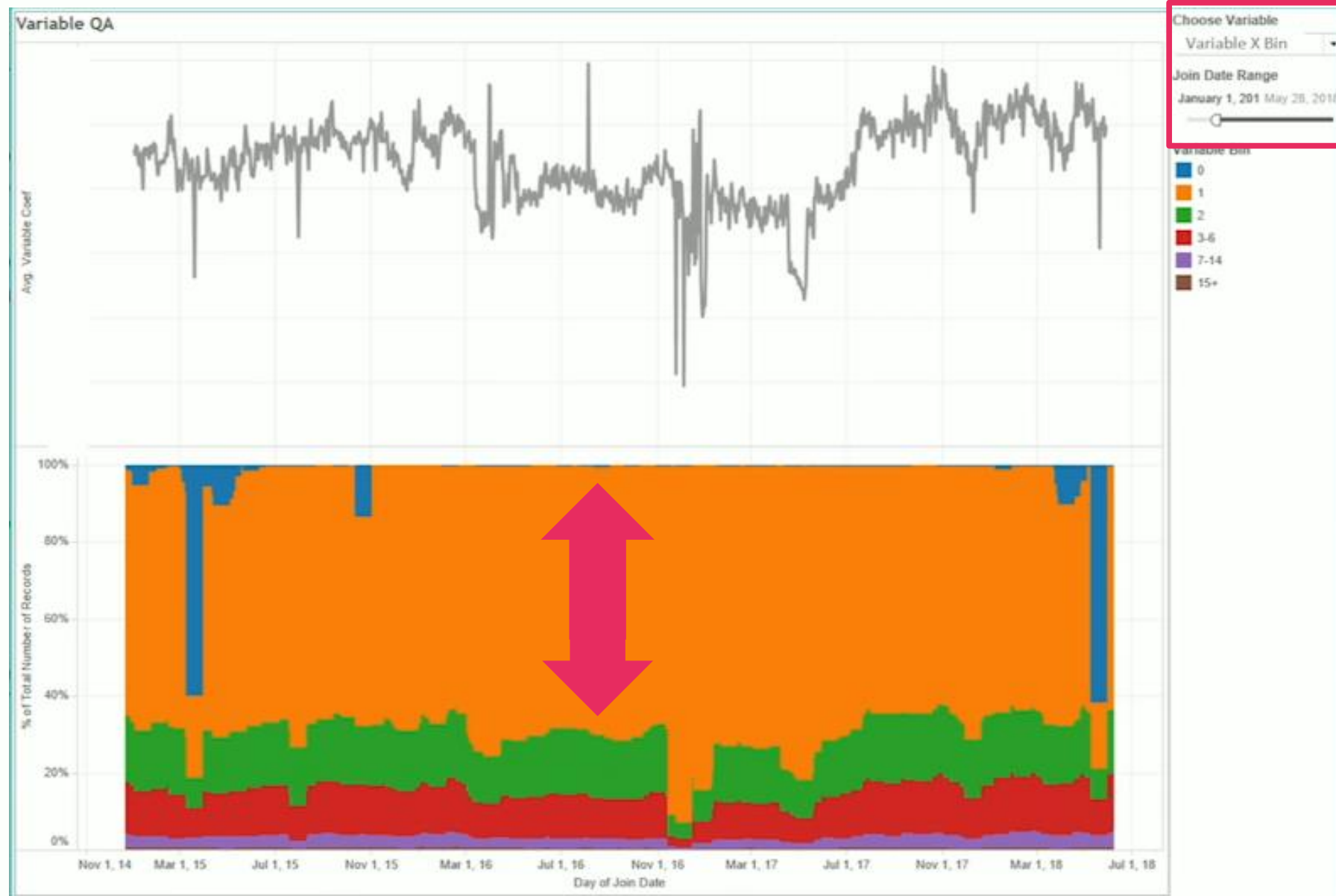
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monitoring data science models



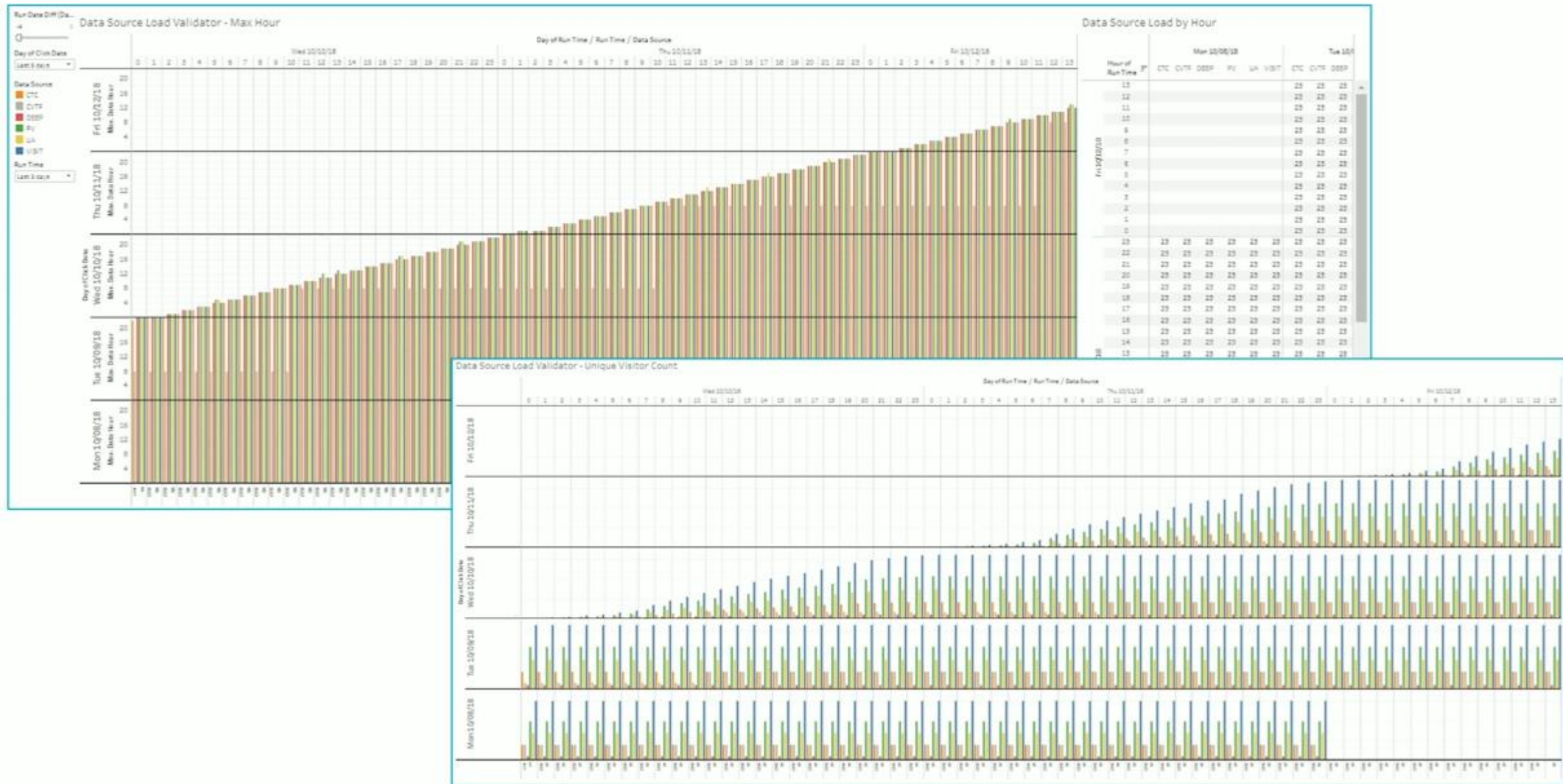
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monitoring data science models



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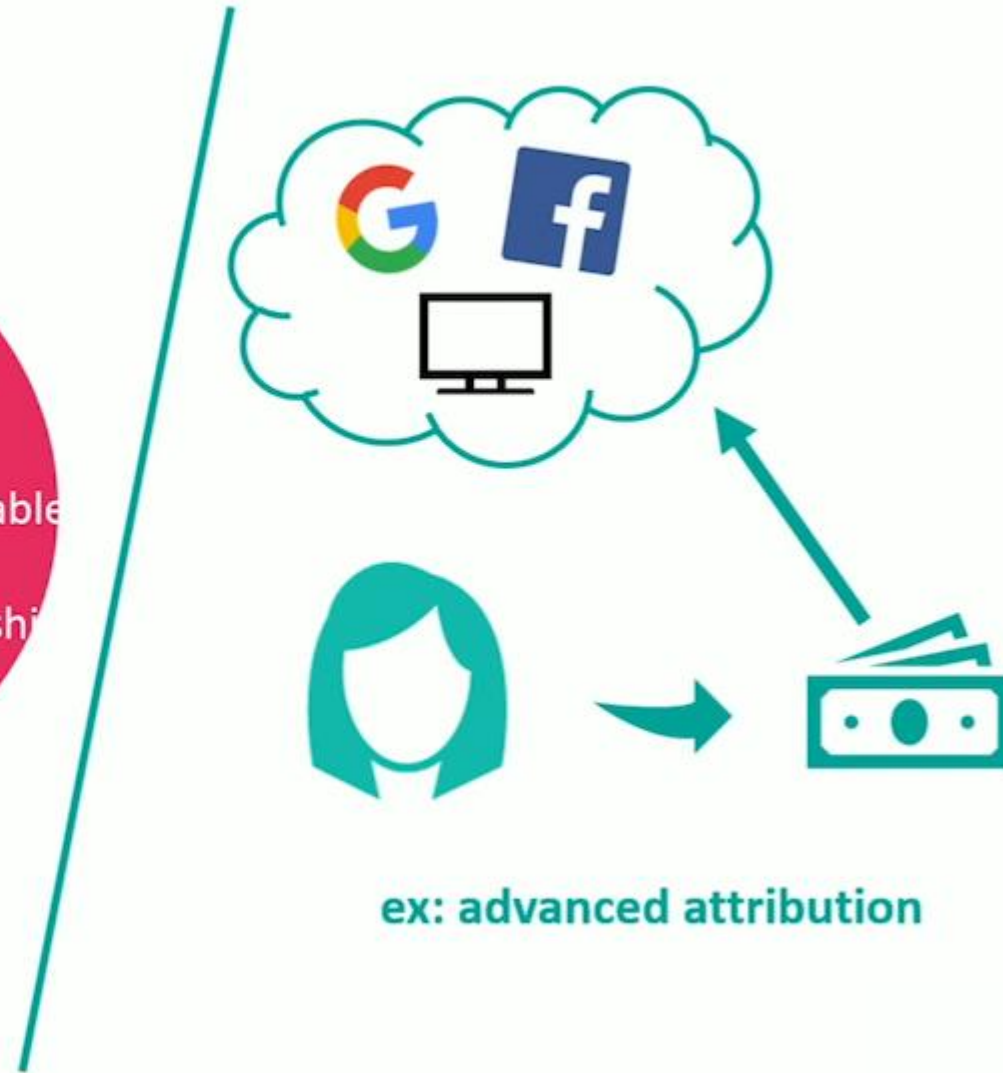
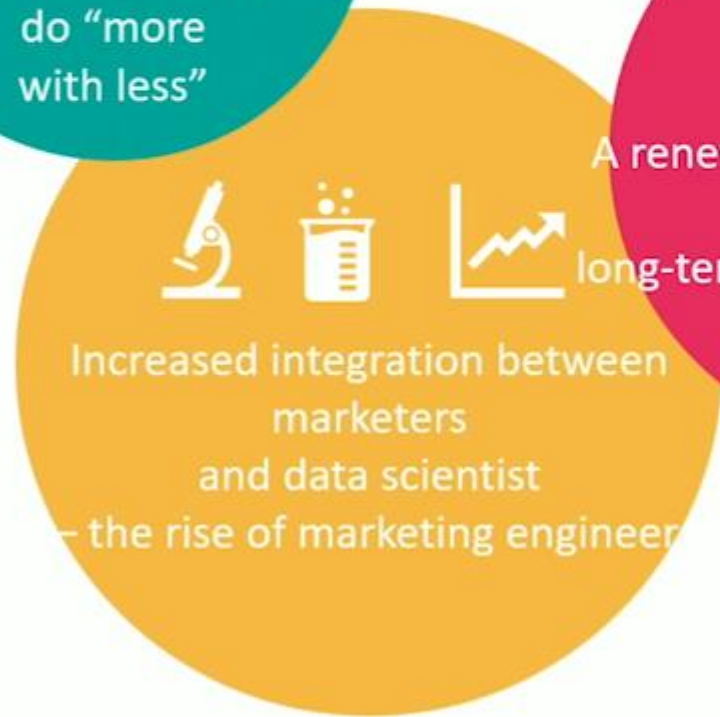
monitoring inputs to data science models



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what's next in marketing analytics

the future of *zulily* ...and the industry



Q&A