



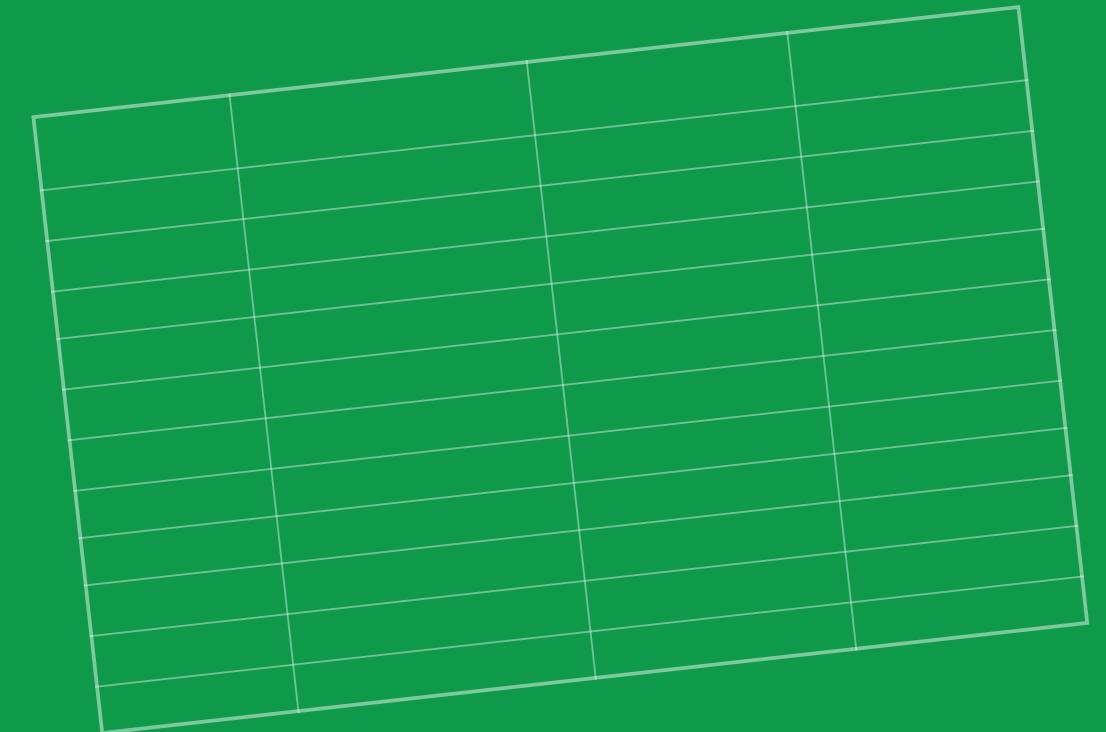
E-commerce Customer Churn Dataset

Predicting & Preventing Customer Dropout to Maximize Retention Revenue

Sector -Commerce



C24	A	B
1	NAME	Enrollment No.
2	Aryan Kumar	2401020014
3	Dikshant Jangra	2401010155
4	Yuvraj Chandravansi	2401010521
5	Tattva Rajput	2401010478
6	Swagato Bauri	2401010470
7	Adityaraj Pal	2401010042



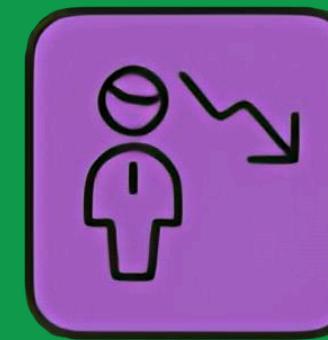


CONTEXT & PROBLEM STATEMENT

Setting the scene – who cares, and why?

High Customer Churn

Losing significant lifetime value



Data-Driven Retention



Improved Customer Retention

Increased lifetime value, reduced churn

Pinpoint customers likely to churn

Reliably predict churn before it happens

Increase retention by 10–15%

SECTOR CONTEXT

E-commerce faces fierce competition. Acquiring a new customer costs 5–7× more than retaining one. With a 28.9% churn rate across this 50k-customer base, the business is losing significant lifetime value every quarter.

CORE PROBLEM STATEMENT

Why are 14,450 customers disengaging, and which behavioral signals reliably predict churn – before it happens?

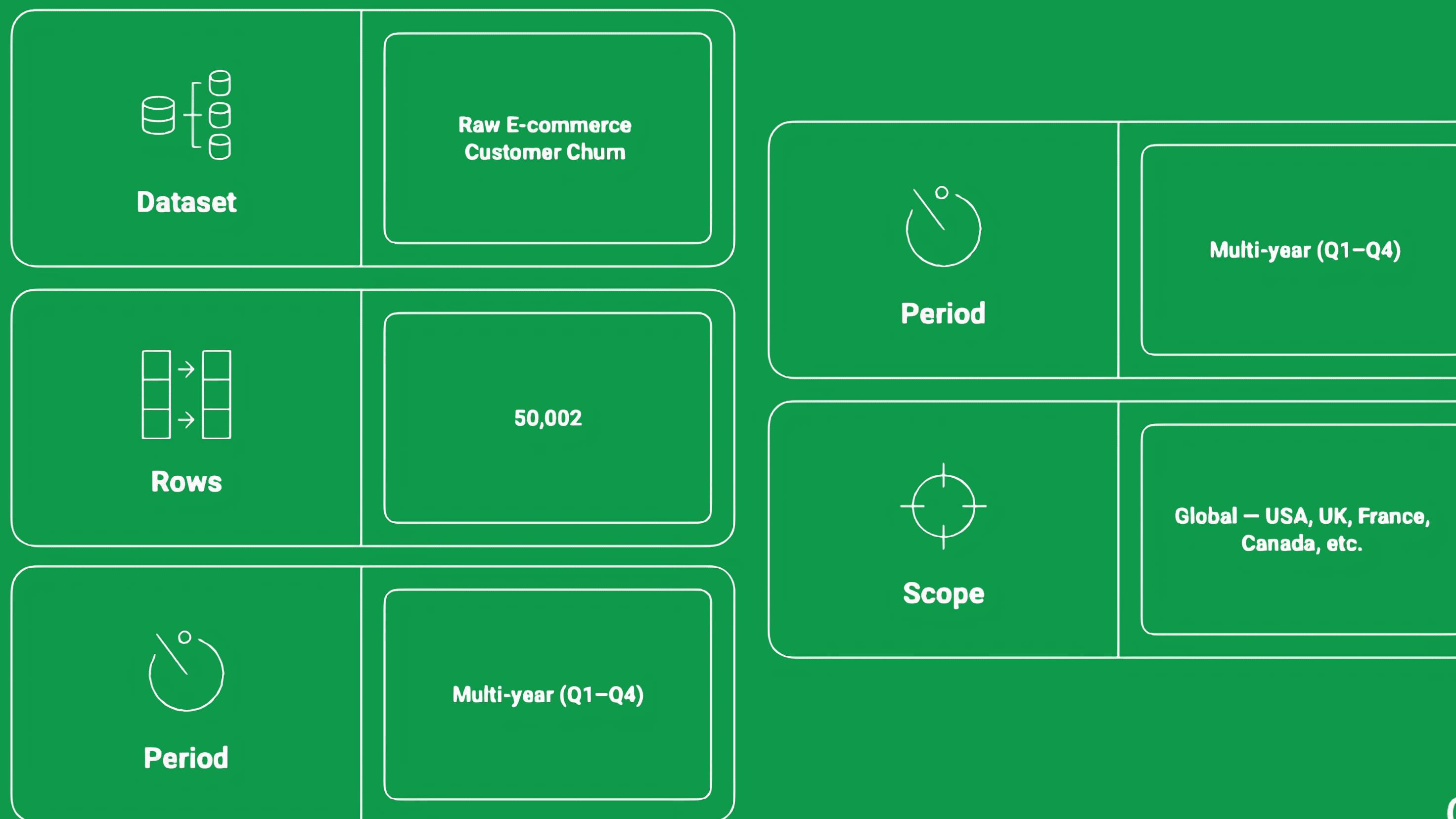
OBJECTIVE

Identify high-risk churn segments and equip the CXO team with data-driven recommendations to improve retention rate by 10–15%.



DATA ENGINEERING: SOURCE TO SINK

From raw, messy data → clean, analysis-ready dataset



Missing Values
11,000+

Total missing values in engagement and usage

Outliers & Out-of-Range
100+

Values capped at 0-100 and replaced with mean

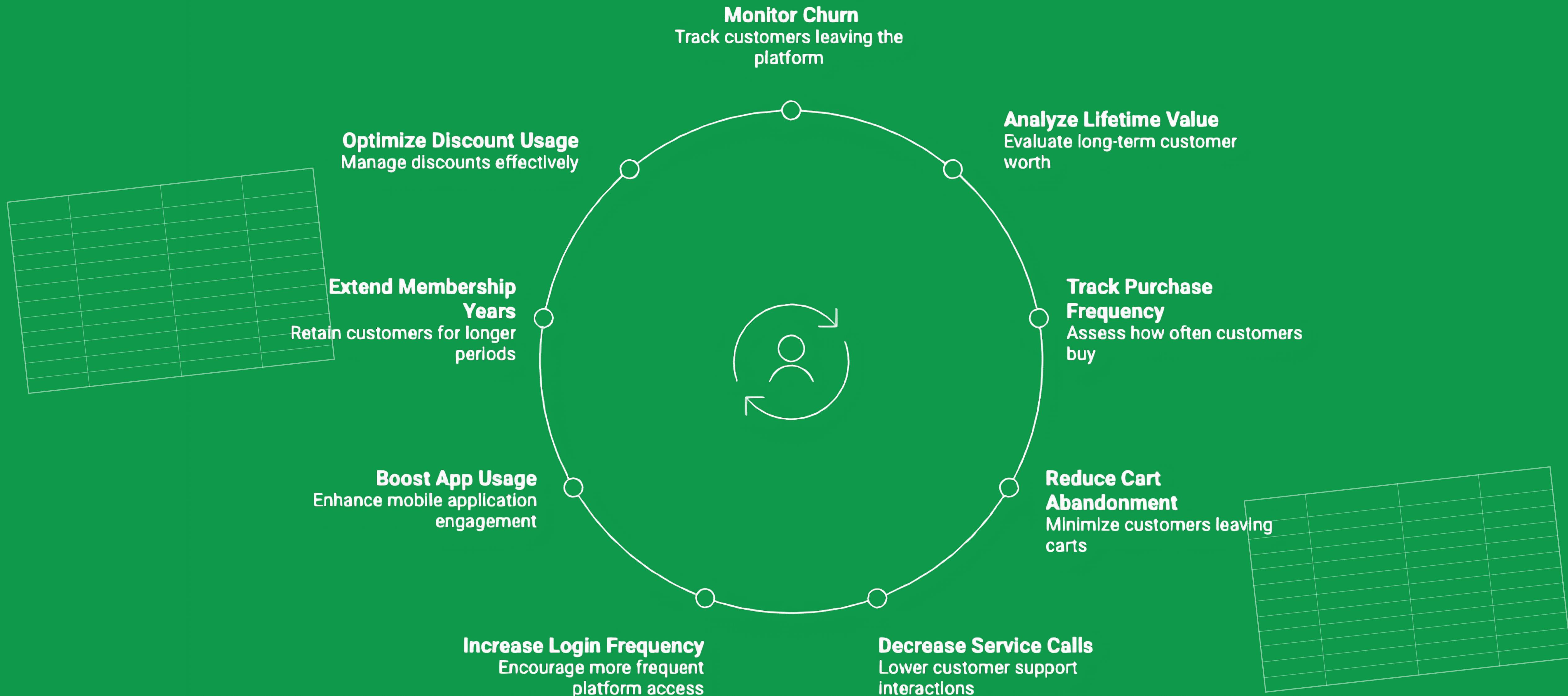
Data Type & Dirty Values
21 Total

Columns converted to numeric and negative values removed



DATA ENGINEERING: SOURCE TO SINK

Key columns identified post Data Engineering





KPI & METRICS FRAMEWORK

What we measure — and why it links to the problem

→ **Primary target.**
Measures the share of customers
who stopped buying.
Directly quantifies revenue loss.

Total Churned Customers
14450

Value health metric.
Declining AOV signals reduced
engagement and imminent
churn.

Average Order Value
\$123.12

Geographic risk indicator
Identifies the country
contributing most to customer
churn.

Highest Churn Rate Country
USA

Avg. Returns Rate
6.68%

→ **Product satisfaction metric**
Higher return rates may indicate
quality issues or mismatched
expectations.

Highest Performing Quarter
Q4

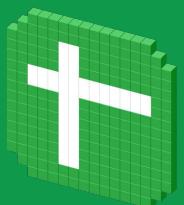
Revenue performance benchmark.
Highlights the quarter generating
the highest sales and
engagement.



KEY INSIGHTS FROM EXPLORATORY ANALYSIS

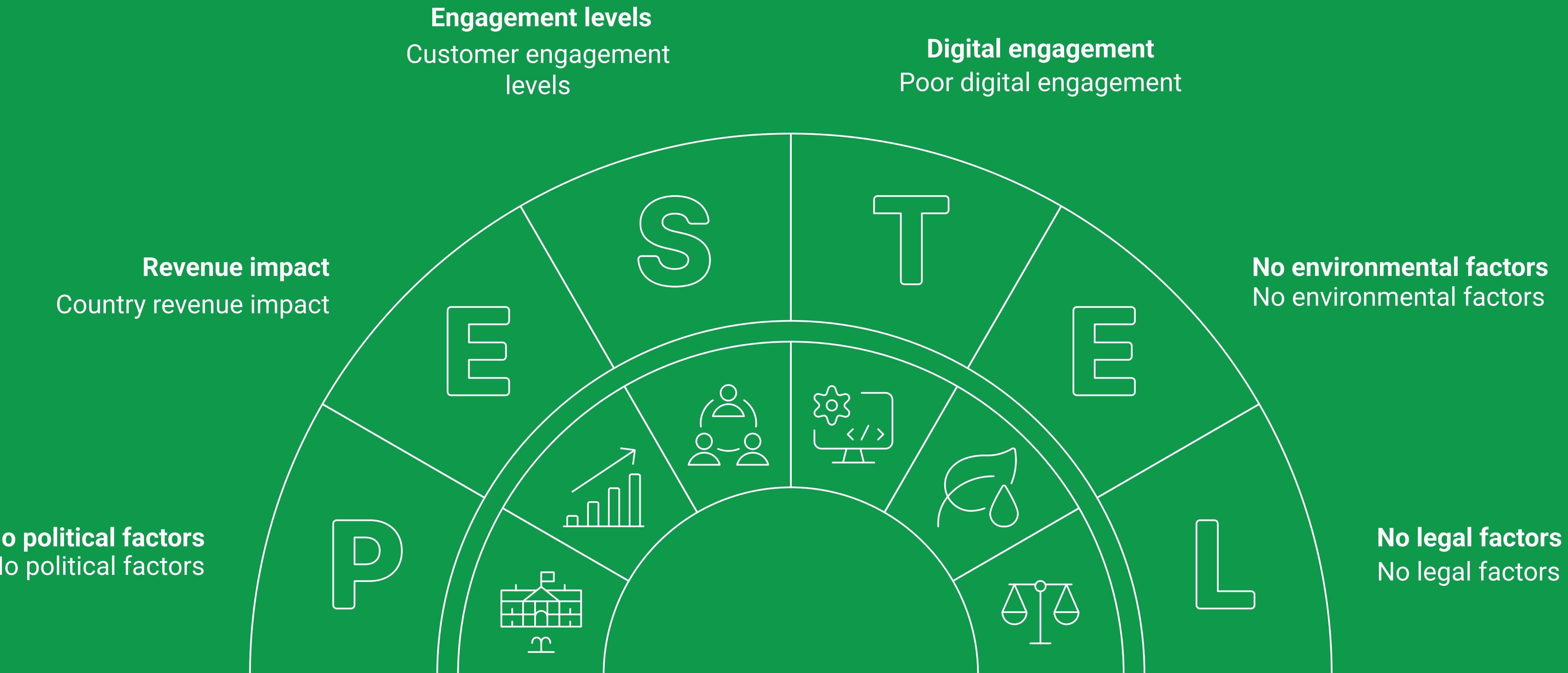
What the data reveals – in business language

Insight	Description
USA Leads in Churn	Highest churn count, top retention risk
Q4 Is Peak - But Doesn't Stick	Highest purchases, many churn next year
High Cart Abandonment = Churn Trigger	Above 70% abandonment disproportionately churned
Low Membership Tenure = High Risk	Fewer than 1.5 years, highest churn rates
Multiple Service Calls = Red Flag	4+ calls, significantly more likely to churn
Low App Engagement Predicts Exit	Below-median usage, 40% more likely to churn



ADVANCED ANALYSIS

Segmentation, Root Cause & Country Revenue Impact



Customer Lifetime Value & Country Revenue

DASHBOARD WALKTHROUGH

Executive view → Operational drill-down



[View -->](#)



RECOMMENDATIONS

3–5 clear, actionable steps – each tied directly to an insight



Launch an early-tenure loyalty program to reduce churn. Introduce onboarding reward milestones and gamify first purchases.



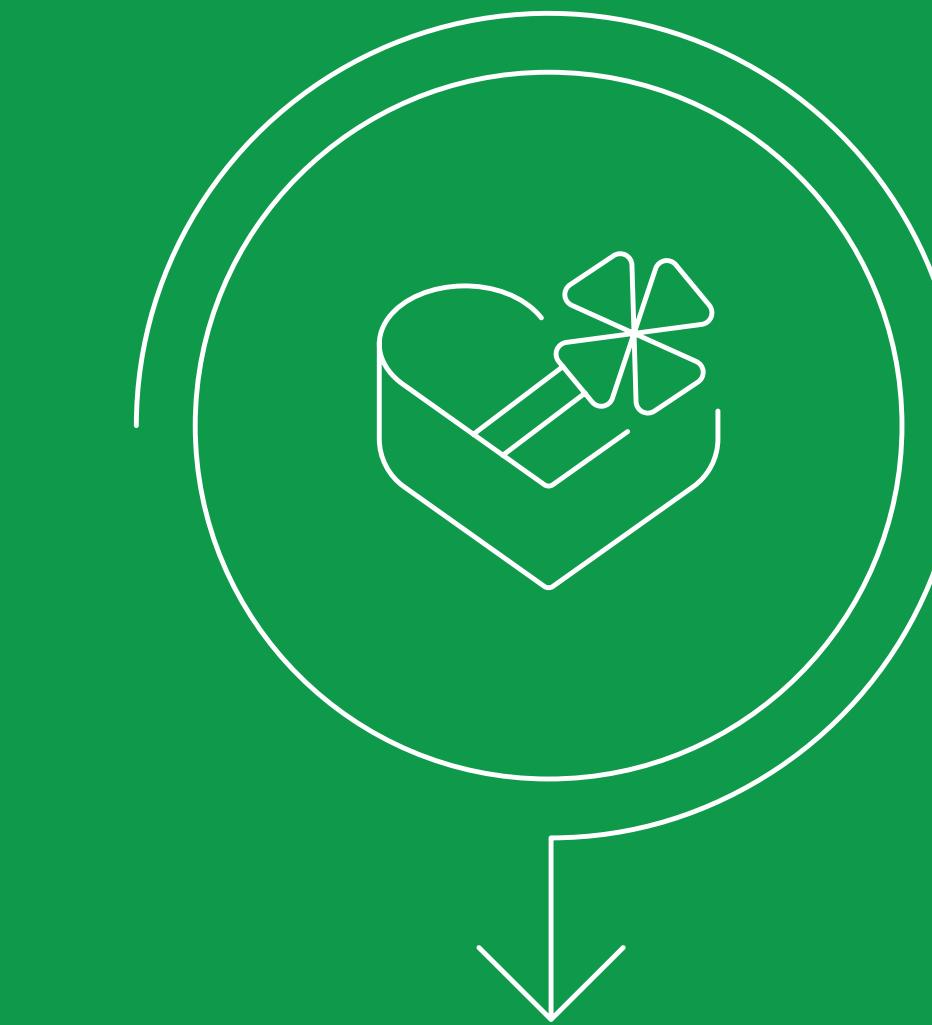
Deploy a cart-abandonment recovery engine to re-engage customers. Trigger automated emails and push notifications with a discount offer.



Create a service resolution SLA to reduce friction. Implement a first-call resolution target and escalate customers with multiple calls.



Re-activate dormant digital users before churn. Build a predictive trigger for app login drops and send personalized campaigns.



Design a Q4 post-holiday retention campaign. Enrol customers in a new member benefit track to convert holiday shoppers.

Customer Retention Strategies



IMPACT & VALUE: THE 'SO WHAT?'

Estimated business impact if recommendations are implemented

Revenue Recovery

Recovering revenue from
churned customers

Churn Reduction

Lowering churn rates with
targeted programs

Data-Backed Recommendations

Ensuring strategies are based
on statistical validation

Scalability

Allowing global deployment
with minimal infrastructure

Churn Reduction Strategy

Time Efficiency

Enabling proactive
intervention through early
warnings

Service Cost Reduction

Cutting operational costs
with improved resolution

Low Cost, High ROI

Providing cost-effective
solutions with significant
returns

Fast Implementation

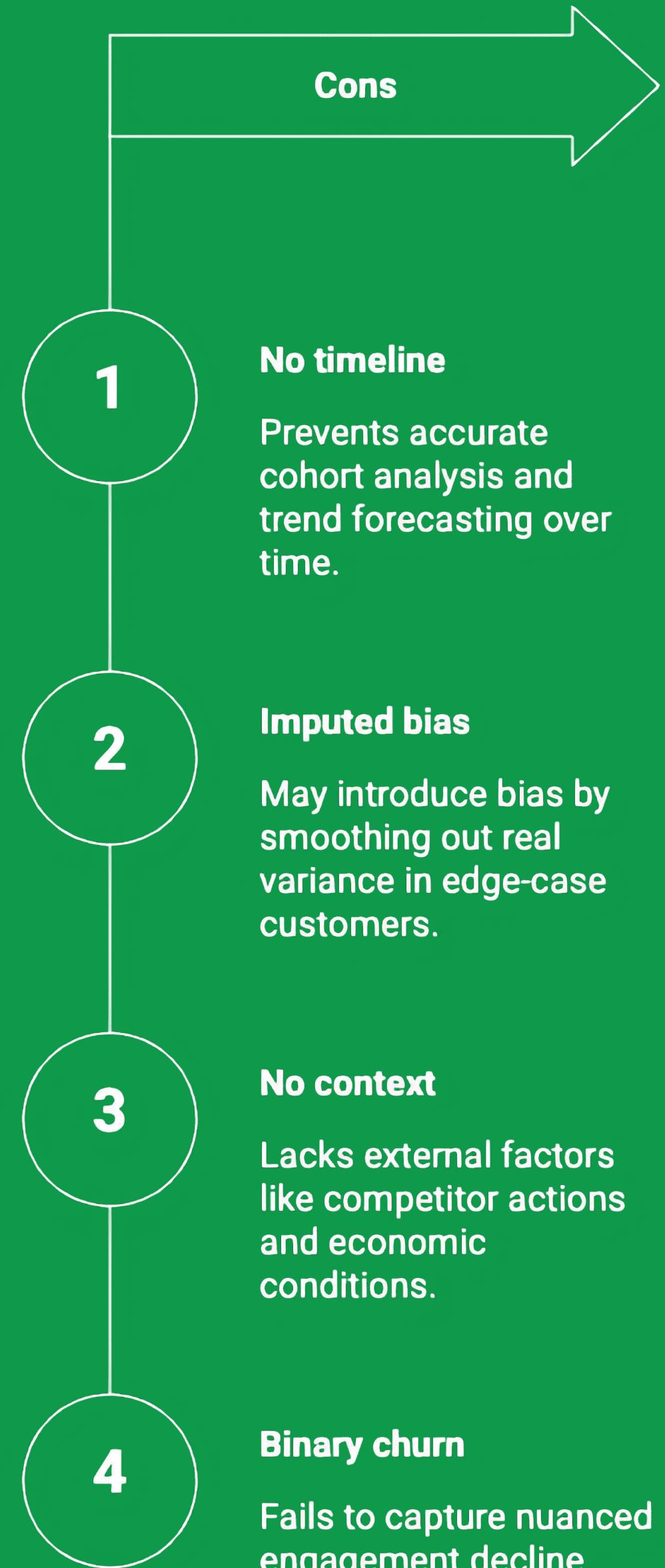
Enabling quick deployment
using existing tools

Enhancing Business Value with Churn Reduction Strategies



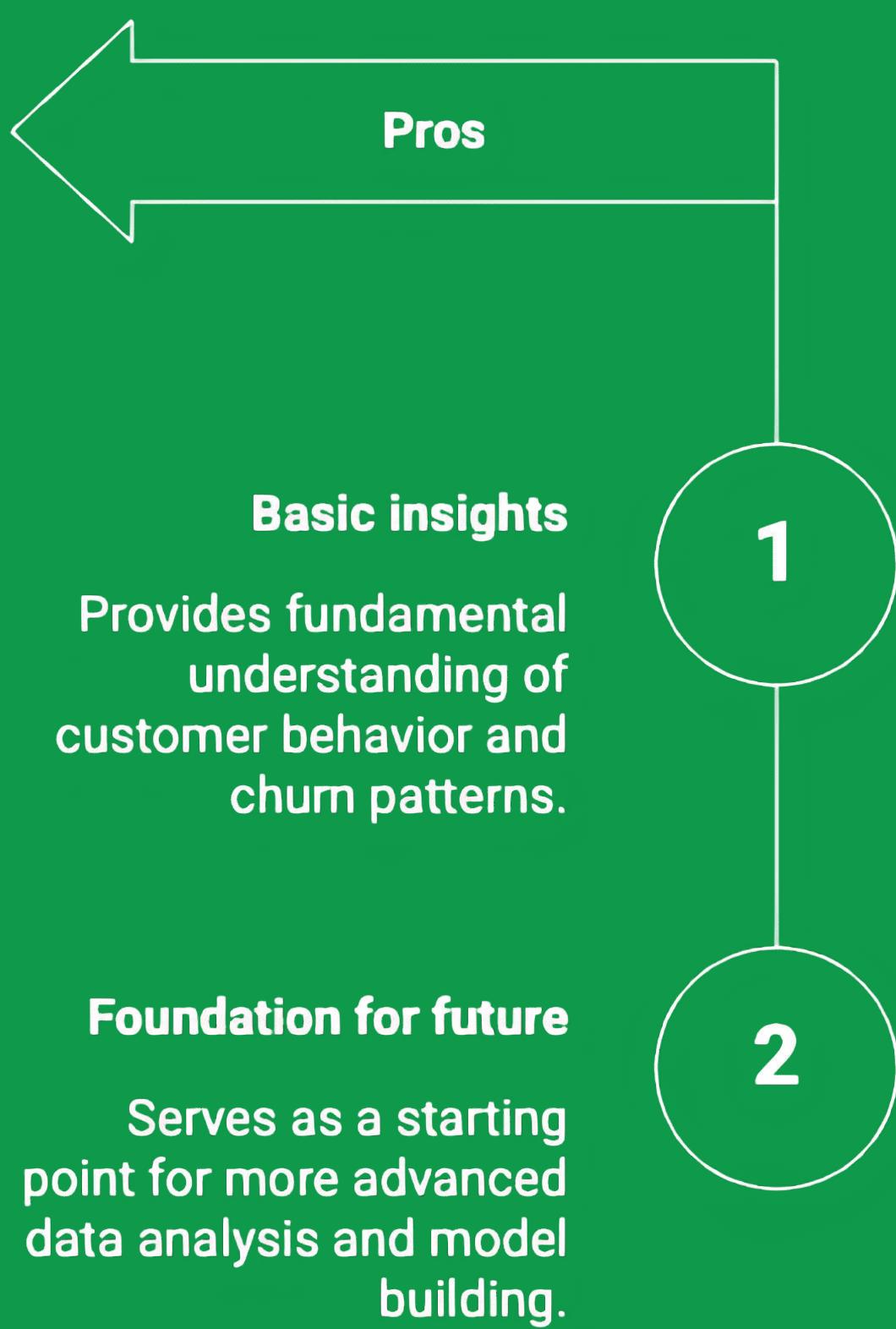
LIMITATIONS & NEXT STEPS

Honest assessment of what we know, what we don't — and how to close the gap



Predict churn probability
in real-time

Measure retention lift
vs. control





DVA GROUP-6



Thank You!