

NETFLIX-STYLE USER BEHAVIOUR ANALYSIS

Turning behavioural signals into revenue outcomes

PROJECT TEAM

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FACULTY GUIDE

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Industry Context & Problem

Navigating the "Retention Era" in OTT Streaming

From Growth to Profitability

Streaming platforms have historically prioritised aggressive acquisition. However, as markets saturate, the focus has shifted to **lifetime value (LTV)** and **churn prevention**.

II Data-Rich, Signal-Poor

Platforms possess abundant behavioural logs (10k+ records) but lack clarity on the specific signals that drive revenue loss versus retention.

14.5%

INACTIVE RATE

Immediate Revenue Leakage



Content Investment Mismatch

Inefficient allocation of budget to genres that don't drive long-term stickiness or retention.



Pricing Inefficiencies

Standard & Premium plans lack clear differentiation, leading to suboptimal ARPU capture.



Discovery Gap

High correlation between "Stopped" and "Completed" sessions indicates failure in content matching.

Data Engineering Architecture

End-to-end data pipeline from raw logs to actionable intelligence

STEP 01



Source Ingestion

- **Kaggle Dataset**
Netflix-Style User Behavior
- **Volume**
10,000 Raw Records
- **CSV / Excel Format**



STEP 02



Preprocessing

- **Imputation**
Median/Mode for 10–15% missing values
- **Deduplication**
Removed 3–6% duplicates
- **Standardization**
Country codes & Booleans
- **Outliers Retained**



STEP 03



Modeling

- **Feature Eng.**
Created 'Maturity_Level'
- **KPI Logic**
Watch Time, Completion %, Inactive Status
- **Segmentation**
Cohort & Genre clustering



STEP 04



Visualization

- **Executive View**
High-level MRR, Churn, & ARPU metrics
- **Operational View**
Granular device, genre, and age-group drill-downs
- **Strategic Insights**

KPI Framework

Aligning behavioural metrics with core business objectives

Stickiness



METRIC: AVG WATCH DURATION

Measures the average time a user spends consuming content per session (minutes). High stickiness indicates strong content-market fit and reduces churn probability.

BUSINESS OBJECTIVE MAPPING

- Content Relevance & Engagement Depth

Monetization Efficiency



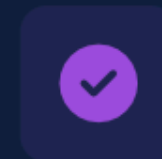
METRIC: ARPU (\$/MONTH)

Average Revenue Per User across subscription tiers. Tracks the platform's ability to upsell users from Basic/Standard to Premium+ plans.

BUSINESS OBJECTIVE MAPPING

- Price Architecture & Upsell Strategy

Content Quality



METRIC: COMPLETION RATE (%)

The percentage of sessions where users watch >90% of the content. Differentiates "bouncers" from "engaged viewers" and signals true content satisfaction.

BUSINESS OBJECTIVE MAPPING

- Recommendation Engine Accuracy

Retention Health



METRIC: INACTIVE RATE (%)

Percentage of users with zero sessions in the last 30 days. The primary leading indicator for voluntary churn and revenue erosion.

BUSINESS OBJECTIVE MAPPING

- Lifecycle CRM & Win-Back Campaigns

Key Insights

Executive summary of revenue, engagement, and retention drivers

REVENUE MIX



\$12,871

~9% of Total Revenue

Premium+ plan is significantly underperforming. Despite highest price point, it fails to attract volume, signaling poor value proposition alignment.

FINANCIAL CORE



\$51,674

Top Revenue Generator

Standard plan serves as the financial backbone. It balances price and features effectively, driving the majority of monthly recurring revenue (MRR).

ENGAGEMENT SOURCE



91,492 mins

Highest Watch Time

Desktop users drive the most volume in watch duration. Optimizing the desktop web experience is critical for retaining heavy users.

CONTENT QUALITY



50.6%

Completion Rate (Tablets)

Tablets show the highest completion rate, suggesting focused, solitary viewing sessions. A key platform for "deep dive" content consumption.

CONTENT STRATEGY



>70 mins

Avg. Session (Drama/Animation)

Drama and Animation genres outperform all others in session length. These are the "sticky" content pillars that should anchor the library.

TARGET SEGMENT



26–35

Age Group "Golden Cohort"

This demographic combines high ARPU with high retention. They are the ideal target for Premium+ upsell campaigns and loyalty programs.

Advanced Segmentation

Identifying high-value cohorts and mitigating churn risks

The Golden Cohort

HIGH LTV

Our most valuable user segment demonstrating high stickiness and retention. Ideal target for premium upsells and loyalty features.

AGE GROUP

26–35

PRIMARY DEVICE

 Desktop

TOP GENRE

Drama

At-Risk Segment

HIGH CHURN RISK

Users showing signals of disengagement. Short sessions and high "stop" rates indicate content mismatch or UX friction.

AGE GROUP

<18

PRIMARY DEVICE

 Mobile

COMPLETION RATE

Low (<15%)

Financial Impact Model

Strategy: Convert subset of high-engagement
Standard users to Premium+

SOURCE

Standard Plan Users



5% Conversion



TARGET

Premium+ Plan

+12–15%

PROJECTED MRR INCREASE

*Based on \$9 uplift per user

Dashboard Walkthrough

Translating data into decision-making interfaces



Executive View

Strategic Oversight & Financial Health

MONTHLY REVENUE

\$196k

+12% ↑

ACTIVE USERS

6.6k

Stable

CHURN RATE

14.5%

High !

MRR Trend (Last 6 Months)

TOP PERFORMING SEGMENTS

Golden Cohort (26-35)

\$24.50 ARPU

Drama Enthusiasts

92% Retention

- ✓ High-level Financials (MRR, ARPU)
- ✓ Retention Health Indicators
- ✓ Top Cohort Performance



Operational View

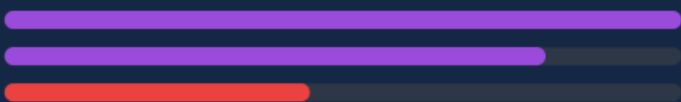
Tactical Execution & User Intelligence

Genre: All ▾

Device: Mobile ▾

Age: <18 ▾

Session Funnel



High drop-off at 10 mins

Rec. Match Score

62%

Avg Match Accuracy

Campaign Tracking

Campaign

Conv. Rate

Win-Back Q1

4.2%

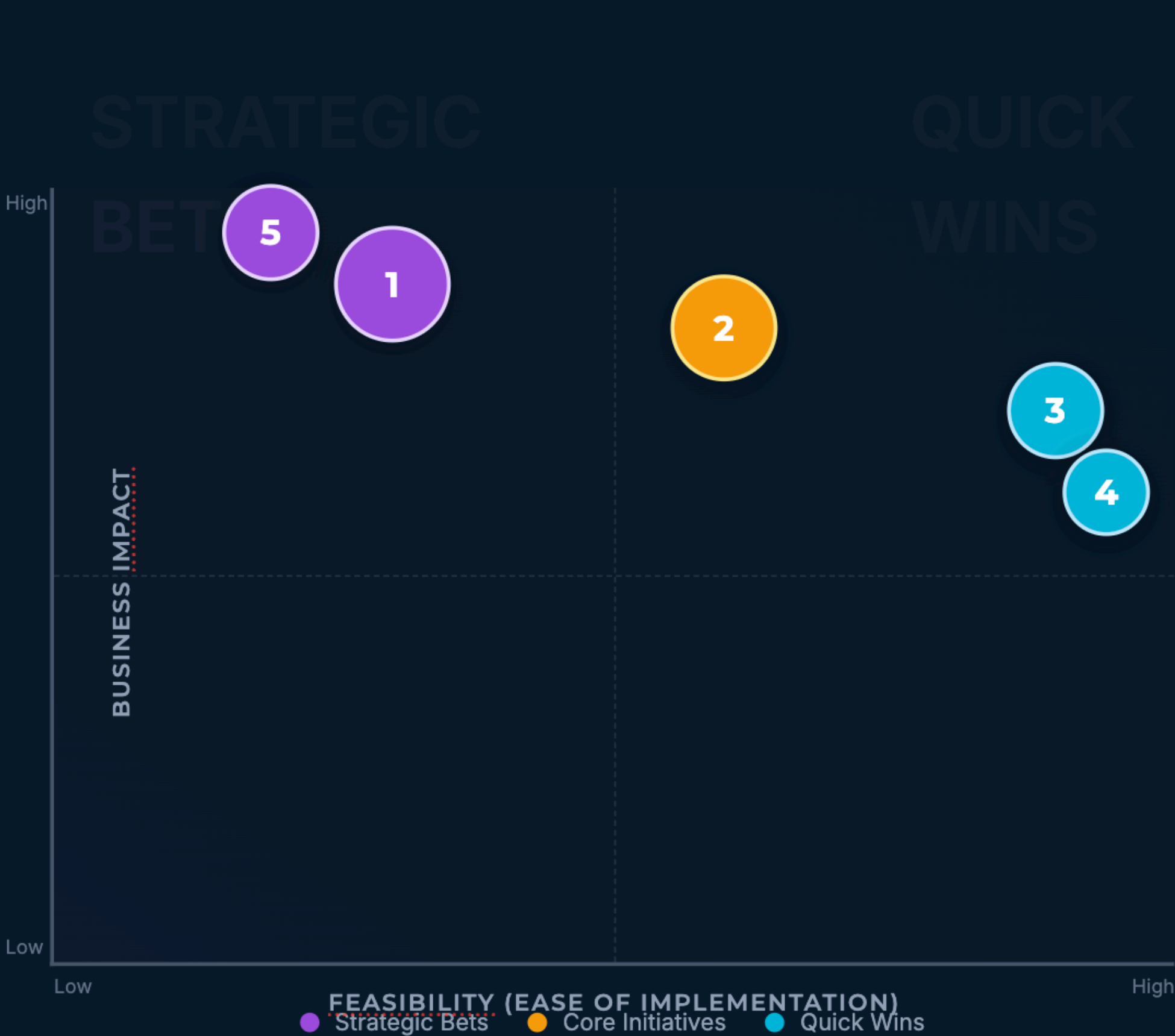
Prem+ Upsell

1.8%

- ✓ Granular Drilldowns (Device x Genre)
- ✓ Real-time Recommendation Scoring
- ✓ Campaign & Funnel Analysis

Strategic Recommendations

Prioritising initiatives based on Business Impact vs. Implementation Feasibility



- 1

Restructure Premium+ Plan

Introduce exclusive "Directors Cut" content & early access. Targeted at high-ARPU users to justify \$15+ price point.

STRATEGIC BET
- 5

Advanced Rec. Engine

Enhance match score accuracy using session duration signals. Critical for long-term retention but requires heavy ML engineering.

STRATEGIC BET
- 2

Content Budget Shift

Reallocate 15% of licensing budget from underperforming genres to Drama & Animation to boost stickiness.

CORE INITIATIVE
- 3

Desktop UX Optimization

Redesign web player for long-form consumption. Low effort, high impact on our most engaged device segment.

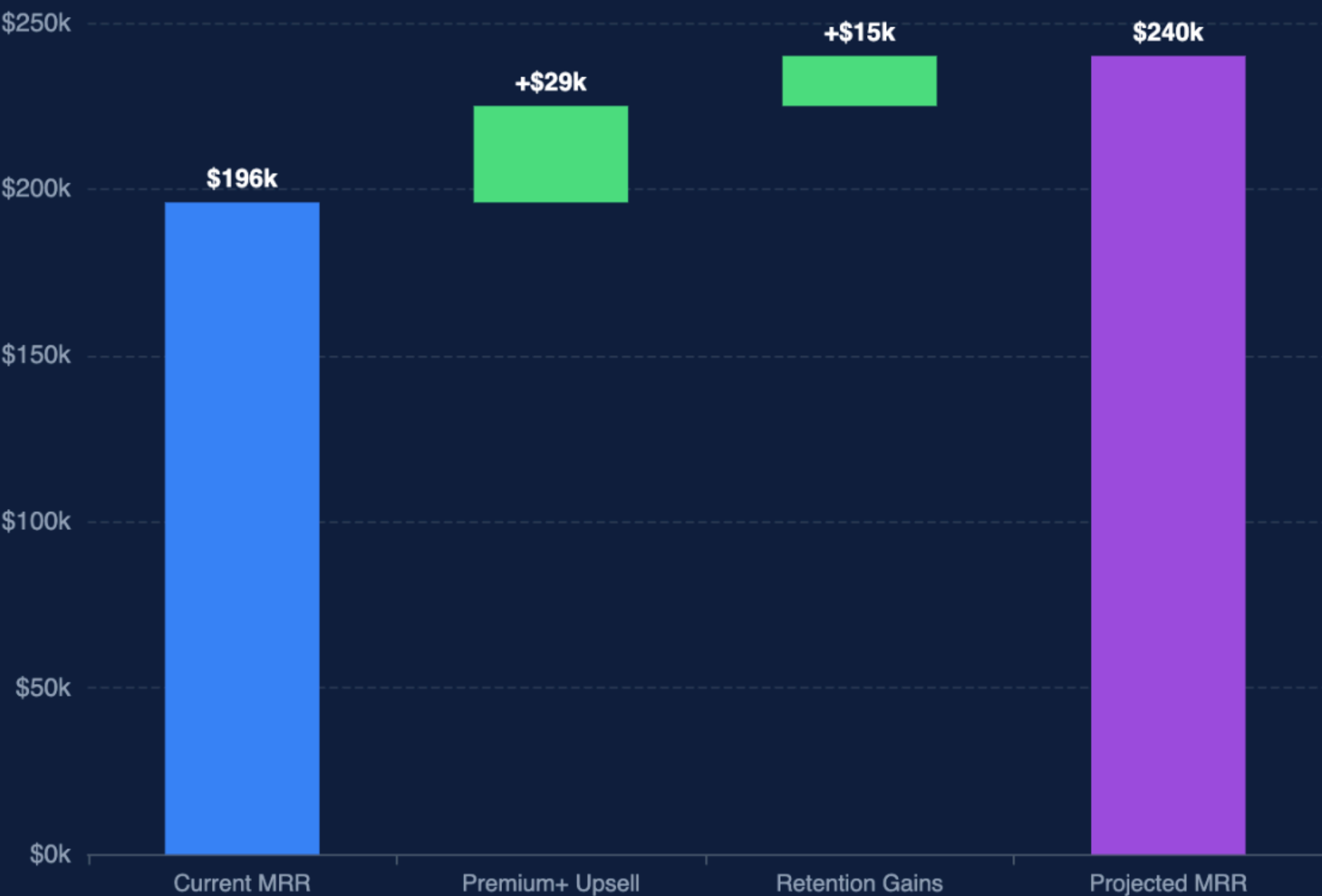
QUICK WIN

Business Impact

Financial modeling of strategic initiatives: Revenue uplift and efficiency gains

Revenue Bridge (MRR Projection)

■ Base MRR ■ Growth Drivers ■ Projected MRR



REVENUE GROWTH

+15% **+\$29.4k MRR**

Driven by converting 5% of Standard users to Premium+ through exclusive content and targeted upsells.

EFFICIENCY

-15% **CAC**

Focusing acquisition spend on the "Golden Cohort" (26-35 Desktop) reduces wasted ad spend.

RETENTION

12.0% **Target (from 14.5%)**

Win-back campaigns and improved recommendation scores stabilize the active user base.

Limitations & Future Scope

Transparent assessment of constraints and strategic roadmap for Phase 2



Data Constraints

Methodological & Quality Limitations

- Data Imputation Impact** **10–15%**
Missing demographic values were filled via median/mode imputation. This may dampen variance in age-related insights for smaller cohorts.
- Simulated Patterns** **Synthetic**
Dataset reflects simulated behavioral patterns. Complex real-world seasonality (e.g., holiday churn spikes) is likely underrepresented.
- Duplicate Removal** **3–6%**
aggressive deduplication may have removed legitimate multi-device login sessions, potentially undercounting household sharing activity.



Next Phase Opportunities

Strategic Roadmap (Q3-Q4)

- Causal Inference Testing** **High Value**
Move beyond correlation. Design A/B tests to causally link specific content recommendations to retention uplift.
- Advanced LTV/RFM Modeling** **Predictive**
Implement Recency-Frequency-Monetary models to predict individual user lifetime value and trigger preemptive churn interventions.
- Real-Time Recommendation Signals** **Technical**
Integrate session-start context (device + time of day) to dynamically adjust recommendation weights in real-time.