# III. DATA SCIENCE COMPETITION

**TELEPROMPTER**

## BOOSTING BUSINESS PERFORMANCE WITH USER BEHAVIOR INSIGHTS

*Created by: Gabor NAGYMANYAI*
*Organized by: Data36.com*

# EXECUTIVE SUMMARY

- Since 2018, **Teleprompter LLC** has been empowering online content creators to produce smooth, professional videos with ease. Each month, nearly 10,000 new users join the platform, generating valuable insights across a 15-million-row activity database. Our mission: to unlock smarter strategies that turn free trial users into loyal, paying customers.
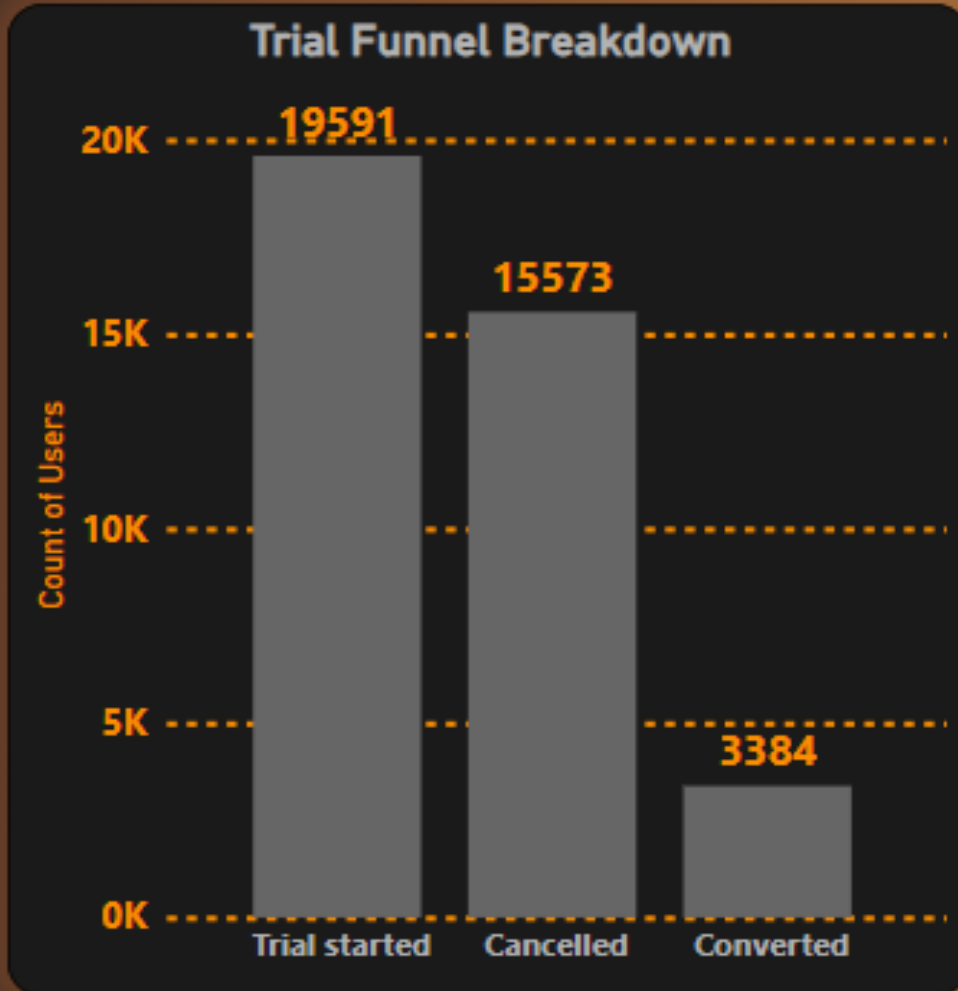
# TABLE OF CONTENTS

- Funnel data analysis
- Segmentation and conversion
- Logistic regression
- Business Value Enhancement Proposal

# FUNNEL ANALYSIS



Trial Funnel Breakdown

Goal: Increase the **trial_started** → **converted** rate, turning more users into paying customers by the end of the trial period. Business impact: Higher revenue, longer customer lifetime value (CLV), and reduced churn.

**Conversion metrics (only calculated for trial launch):**

- **Number of Trial Started: 19591**
- **Trial -> conversion: 3384 (17,27%)**
- **Cancel under the trial : 15573 (79,49%)**
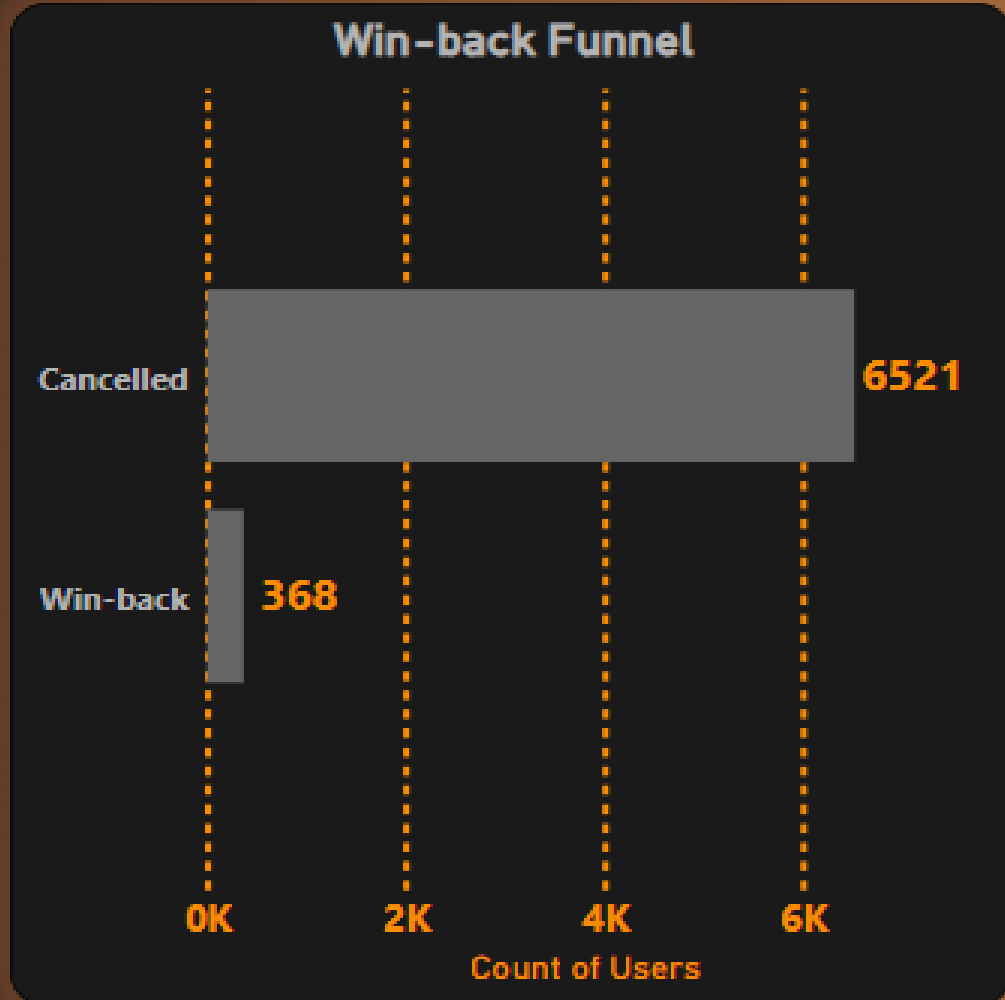
# FUNNEL ANALYSIS
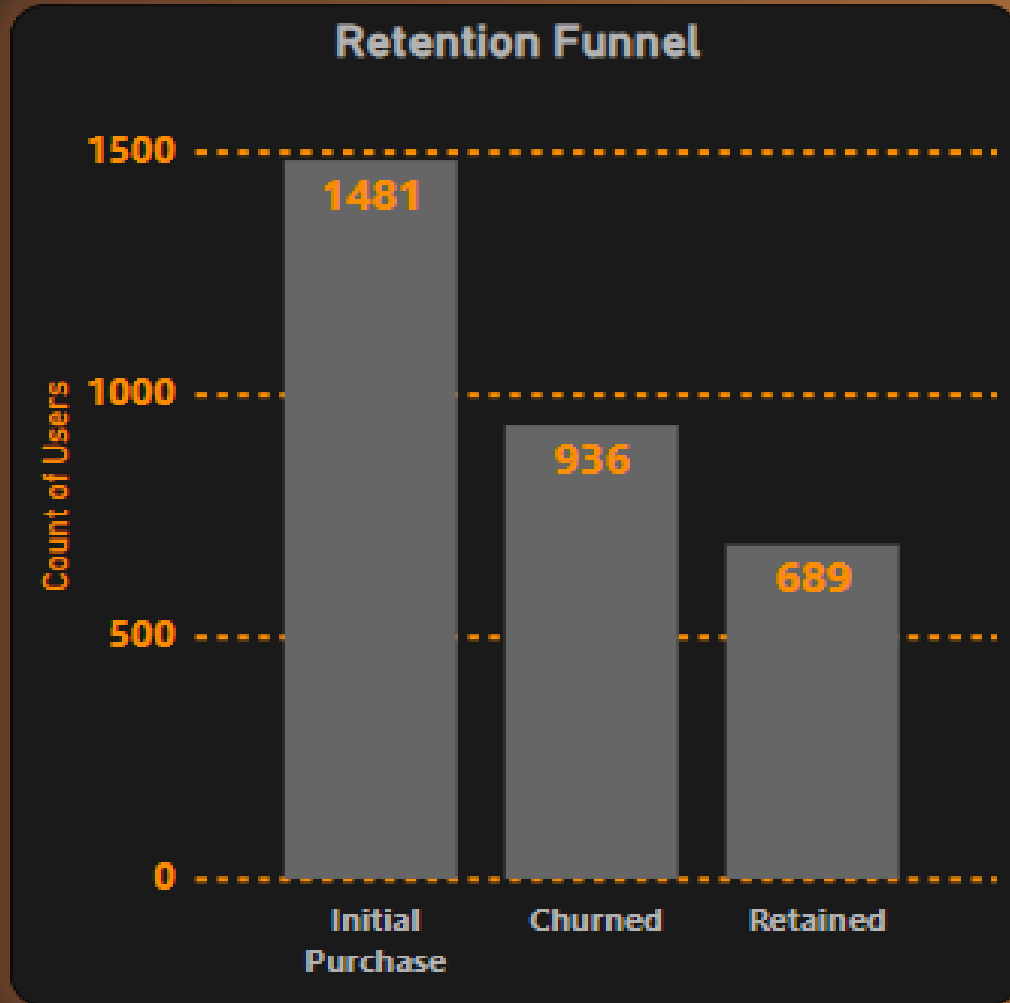


**Retention Funnel**

Data shows that among non-annual subscribers, the churn rate remains higher than the rate of returning user

**Retention Funnel Results:**

**- Retention Rate: (46.52%)**

**- Churn Rate: (63.2%)**

# FUNNEL ANALYSIS



Win-back Funnel

Cancelled 6521

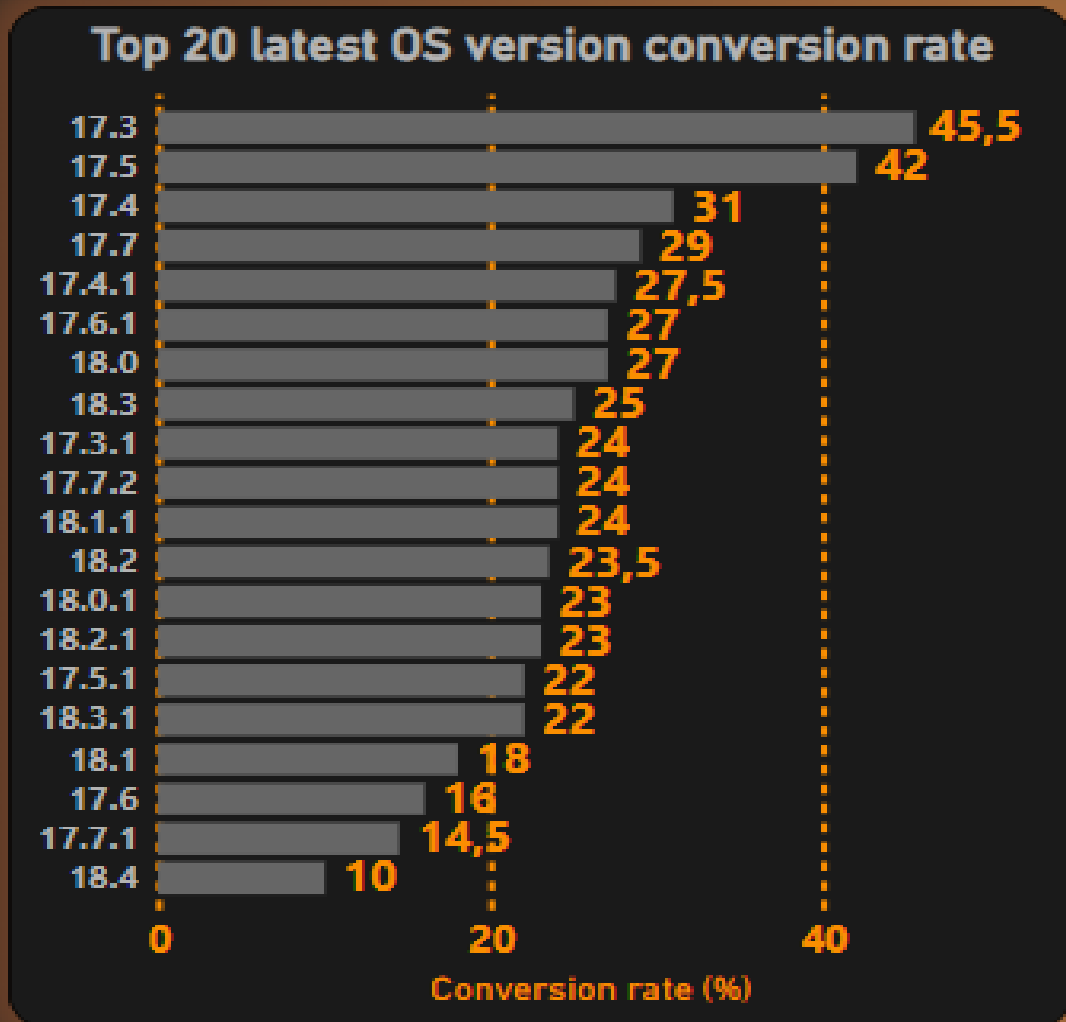Win-back 368

0K    2K    4K    6K

Count of Users

The share of users successfully reactivated is still significantly lower than that of users who have churned.

**Win-back Funnel Results:**

 **- Win-back Rate: (5.64%)**

# SEGMENTATION AND CONVERSION


Top 20 latest OS version conversion rate
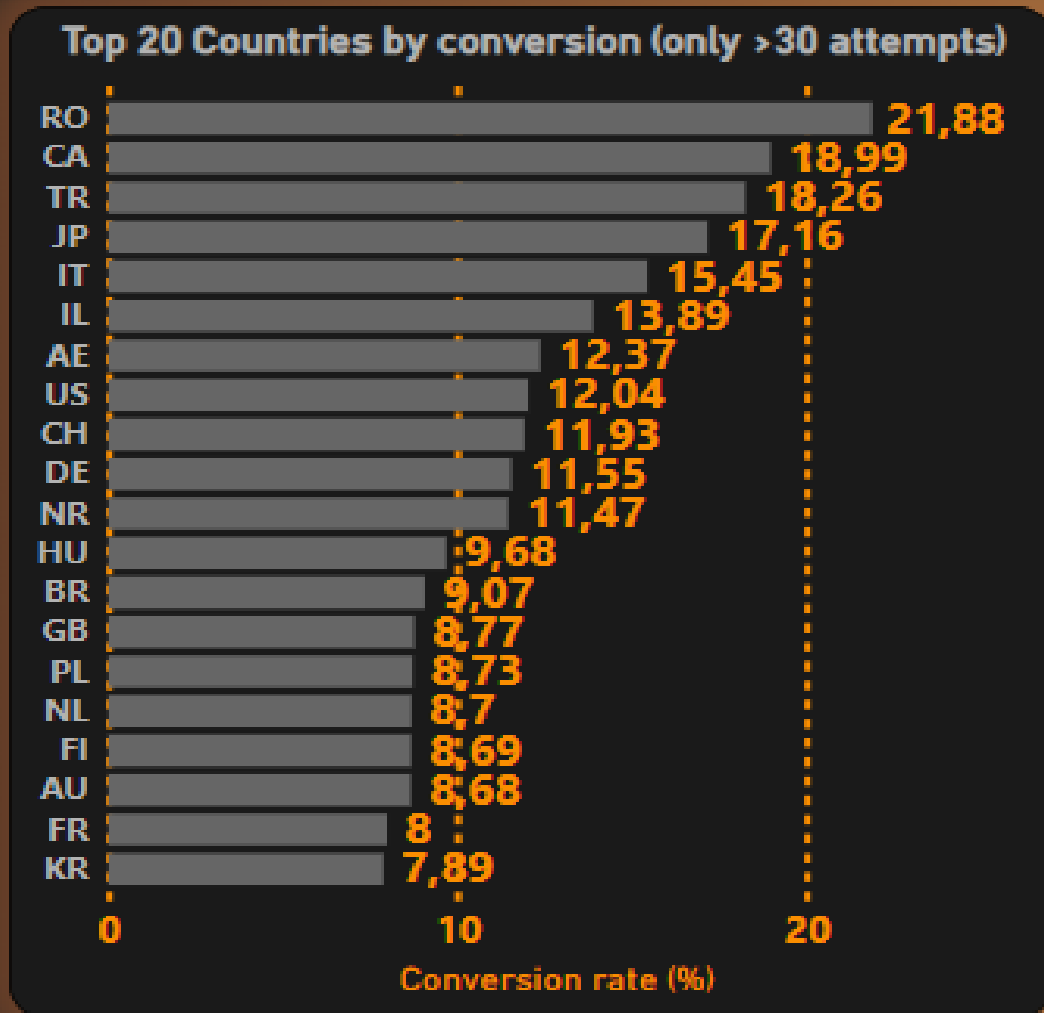
The chart reveals key conversion insights across the 20 latest OS versions — highlighting specific environments where users are significantly more likely to upgrade. These trends signal untapped potential for technical fine-tuning and laser-focused marketing campaigns that drive higher subscriptions and stronger ROI

# SEGMENTATION AND CONVERSION

Top 20 Countries by conversion (only >30 attempts)

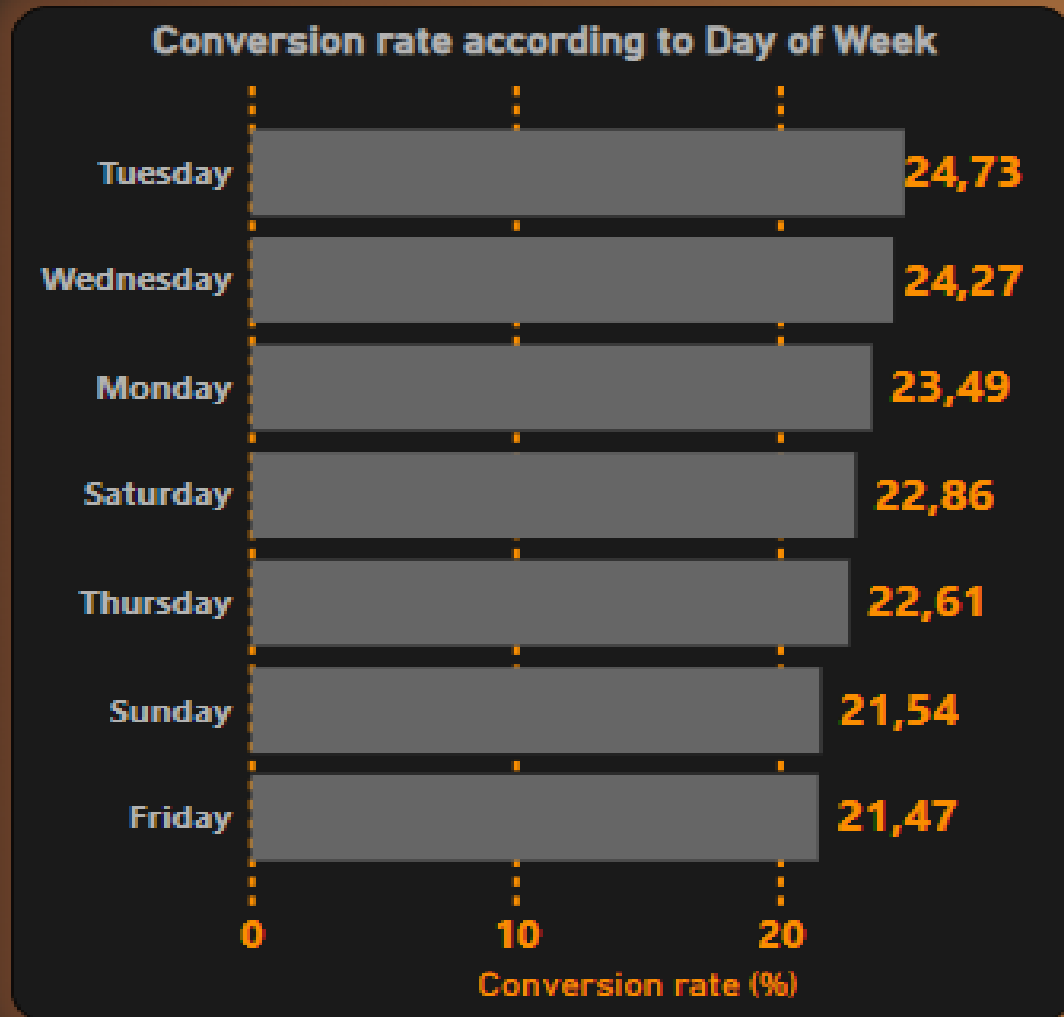| Country | Conversion rate (%) |
|---------|---------------------|
| RO | 21,88 |
| CA | 18,99 |
| TR | 18,26 |
| JP | 17,16 |
| IT | 15,45 |
| IL | 13,89 |
| AE | 12,37 |
| US | 12,04 |
| CH | 11,93 |
| DE | 11,55 |
| NR | 11,47 |
| HU | 9,68 |
| BR | 9,07 |
| GB | 8,77 |
| PL | 8,73 |
| NL | 8,7 |
| FI | 8,69 |
| AU | 8,68 |
| FR | 8 |
| KR | 7,89 |

Conversion rate (%)

This chart displays the conversion rates of the top 20 performing countries - specifically, the percentage of trial users who became paying customers. The differences highlight which markets have effective onboarding and value propositions, and where strategic adjustments could yield improvements

# SEGMENTATION AND CONVERSION

**Conversion rate according to Day of Week**

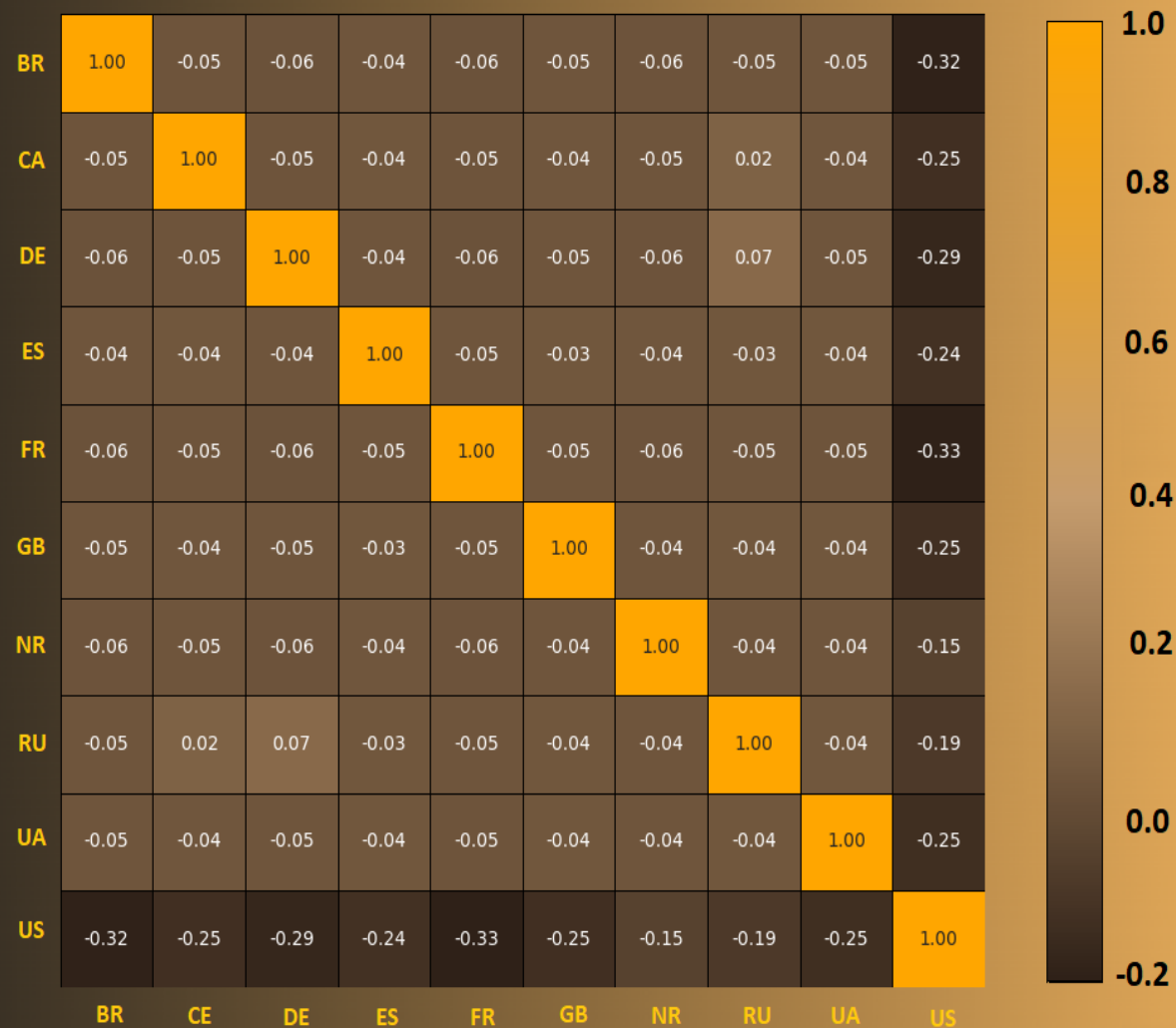| Day | Conversion rate (%) |
|-----------|-----|
| Tuesday | 24,73 |
| Wednesday | 24,27 |
| Monday | 23,49 |
| Saturday | 22,86 |
| Thursday | 22,61 |
| Sunday | 21,54 |
| Friday | 21,47 |

Conversion rate (%)

The chart illustrates how the trial-to-subscription conversion rate varies across the seven days of the week. By analyzing this weekly distribution, we can identify which days users are most receptive to making a purchase decision — helping optimize the timing of campaigns and promotions

# SEGMENTATION AND CONVERSION

**Top 10 country conversion correlation matrix**

| | BR | CE | DE | ES | FR | GB | NR | RU | UA | US |
|---|---|---|---|---|---|---|---|---|---|---|
| **BR** | 1.00 | -0.05 | -0.06 | -0.04 | -0.06 | -0.05 | -0.06 | -0.05 | -0.05 | -0.32 |
| **CA** | -0.05 | 1.00 | -0.05 | -0.04 | -0.05 | -0.04 | -0.05 | 0.02 | -0.04 | -0.25 |
| **DE** | -0.06 | -0.05 | 1.00 | -0.04 | -0.06 | -0.05 | -0.06 | 0.07 | -0.05 | -0.29 |
| **ES** | -0.04 | -0.04 | -0.04 | 1.00 | -0.05 | -0.03 | -0.04 | -0.03 | -0.04 | -0.24 |
| **FR** | -0.06 | -0.05 | -0.06 | -0.05 | 1.00 | -0.05 | -0.06 | -0.05 | -0.05 | -0.33 |
| **GB** | -0.05 | -0.04 | -0.05 | -0.03 | -0.05 | 1.00 | -0.04 | -0.04 | -0.04 | -0.25 |
| **NR** | -0.06 | -0.05 | -0.06 | -0.04 | -0.06 | -0.04 | 1.00 | -0.04 | -0.04 | -0.15 |
| **RU** | -0.05 | 0.02 | 0.07 | -0.03 | -0.05 | -0.04 | -0.04 | 1.00 | -0.04 | -0.19 |
| **UA** | -0.05 | -0.04 | -0.05 | -0.04 | -0.05 | -0.04 | -0.04 | -0.04 | 1.00 | -0.25 |
| **US** | -0.32 | -0.25 | -0.29 | -0.24 | -0.33 | -0.25 | -0.15 | -0.19 | -0.25 | 1.00 |

This heatmap illustrates the similarity in conversion behavior among the ten most active countries. The cells represent correlation coefficients between country pairs for users who converted to paid subscriptions after the trial period..

This analysis is valuable because high correlation indicates similar conversion patterns, while low or negative values suggest divergent user behaviors. These insights help identify where similar strategies may be effective and where differentiated approaches are needed - supporting targeted international growth strategies

# LOGISTIC REGRESSION

The chart displays a confusion matrix with a 0.5 threshold value, based on a logistic regression model that predicted per-user conversion probability (trial_converted).

The four quadrants of the confusion matrix represent:

- **True Negatives (top left):** Users correctly predicted as non-converters

- **False Positives (top right):** Users falsely predicted as converters (who didn't convert)

- **False Negatives (bottom left):** Users falsely predicted as non-converters (who actually converted)

- **True Positives (bottom right):** Users correctly predicted as converters
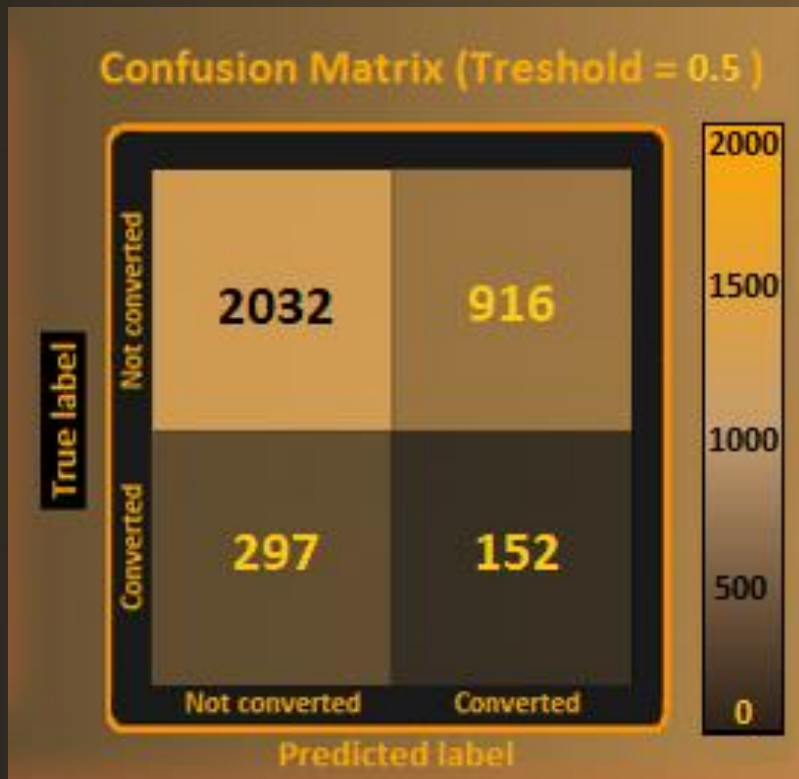
The current model successfully identified approximately 34% of actual converting users, despite converters representing just 13% of the total dataset.



Confusion Matrix (Treshold = 0.5 )

# BUSINESS VALUE ENHANCEMENT PROPOSAL

- **Product Optimization & Targeted Marketing**
  - *Optimize product performance* and *develop tailored marketing strategies* for devices running specific software versions.

- **Market-Specific Conversion Insights**
  - Country-level conversion rates reveal *which markets have effective onboarding/value propositions* and *where strategic refinements may be needed*.

- **Weekly Conversion Patterns**
  - Analysis of daily trends identifies *peak decision-making days* for users, enabling *optimized timing for campaigns and promotions*.

- **Behavioral Correlation Findings**
  - High correlation indicates *similar conversion patterns* across markets, while low/negative values signal *divergent user behaviors*—guiding where to *replicate strategies* or *adapt approaches* for international growth.

- **Campaign Targeting via Predictive Modeling**
  - The Logistic Regression model can *flag high-propensity users* for *personalized emails, targeted offers,* or *remarketing ads* to boost conversions.

# THANK YOU VERY MUCH,
# FOR YOUR ATTENTION