Ecommerce Consumer Purchase Decision Prediction

Mark Dziuban

Intro

Average conversion rate for ecommerce: **~2.5%**

Our conversion rate: **.8%**
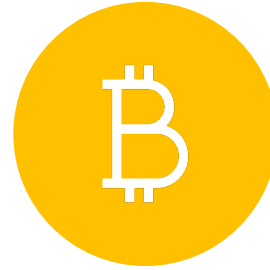
Goal: Increase conversions.

How?

Targeted Marketing to the right customers

IS THE SITE VISITOR GOING TO BUY?

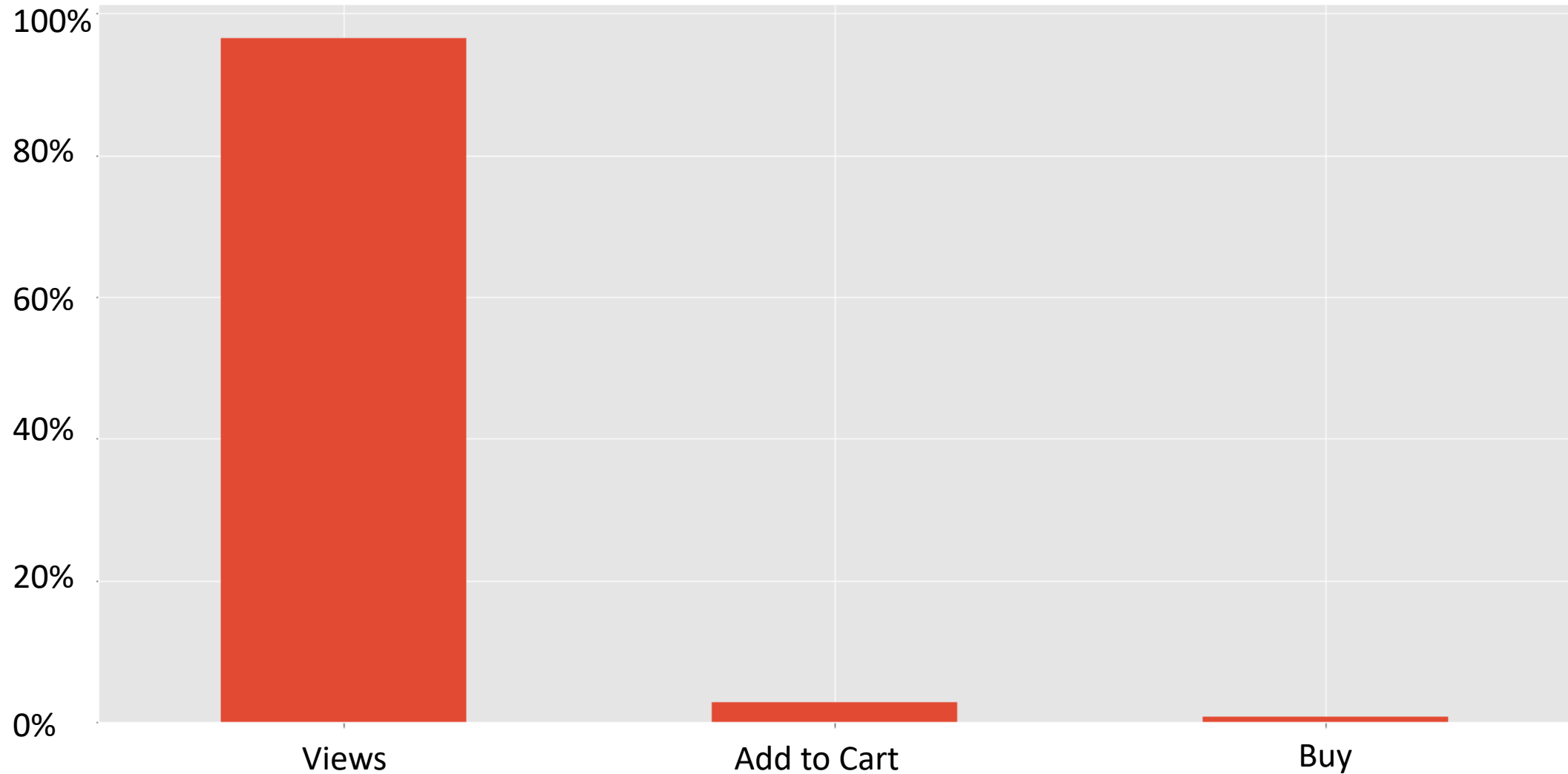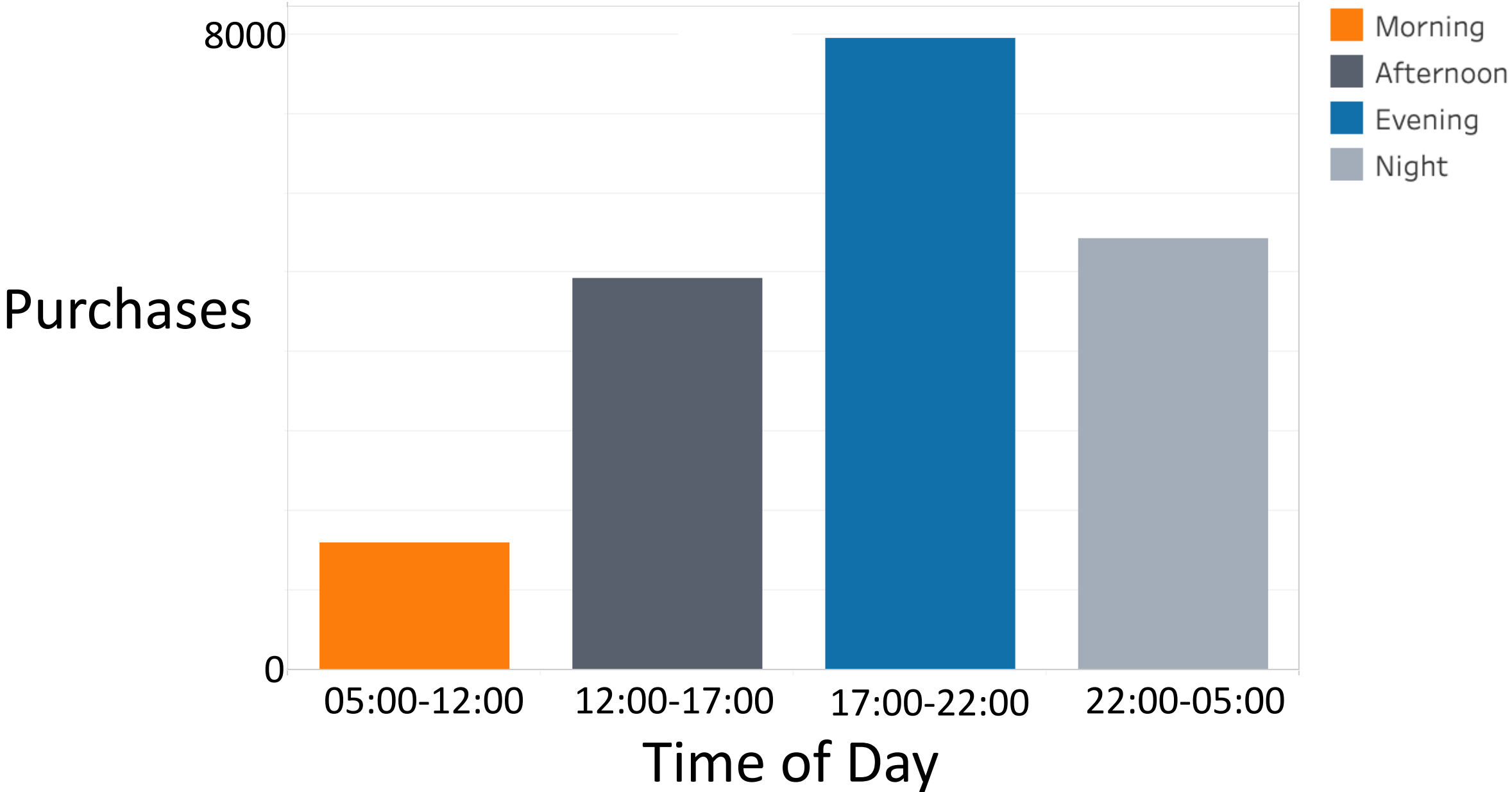IF YES, THEN NOT OUR TARGET.

IF NO, PROVIDE A COUPON

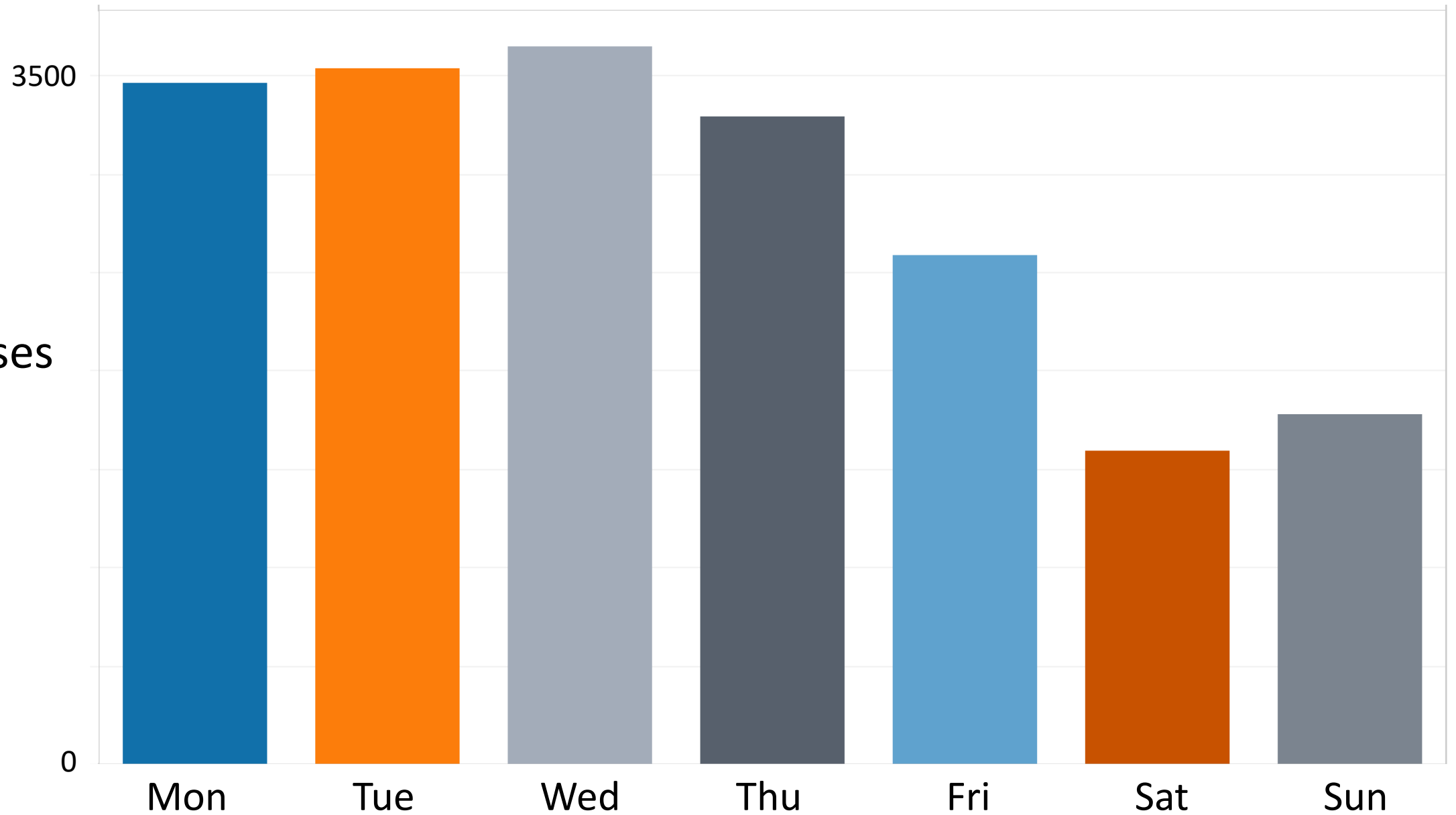MODEL: DETERMINE WHETHER THE SITE VISITOR WILL BUY OR NOT

Customer Behavior by Percentage

Purchases by Time of Day

Purchases by Day of the Week

Purchases

3500

0

Mon Tue Wed Thu Fri Sat Sun

Key Features:

- Customer previous orders
- Day of the Week
- NOT the morning
- Category Level

Model Selection
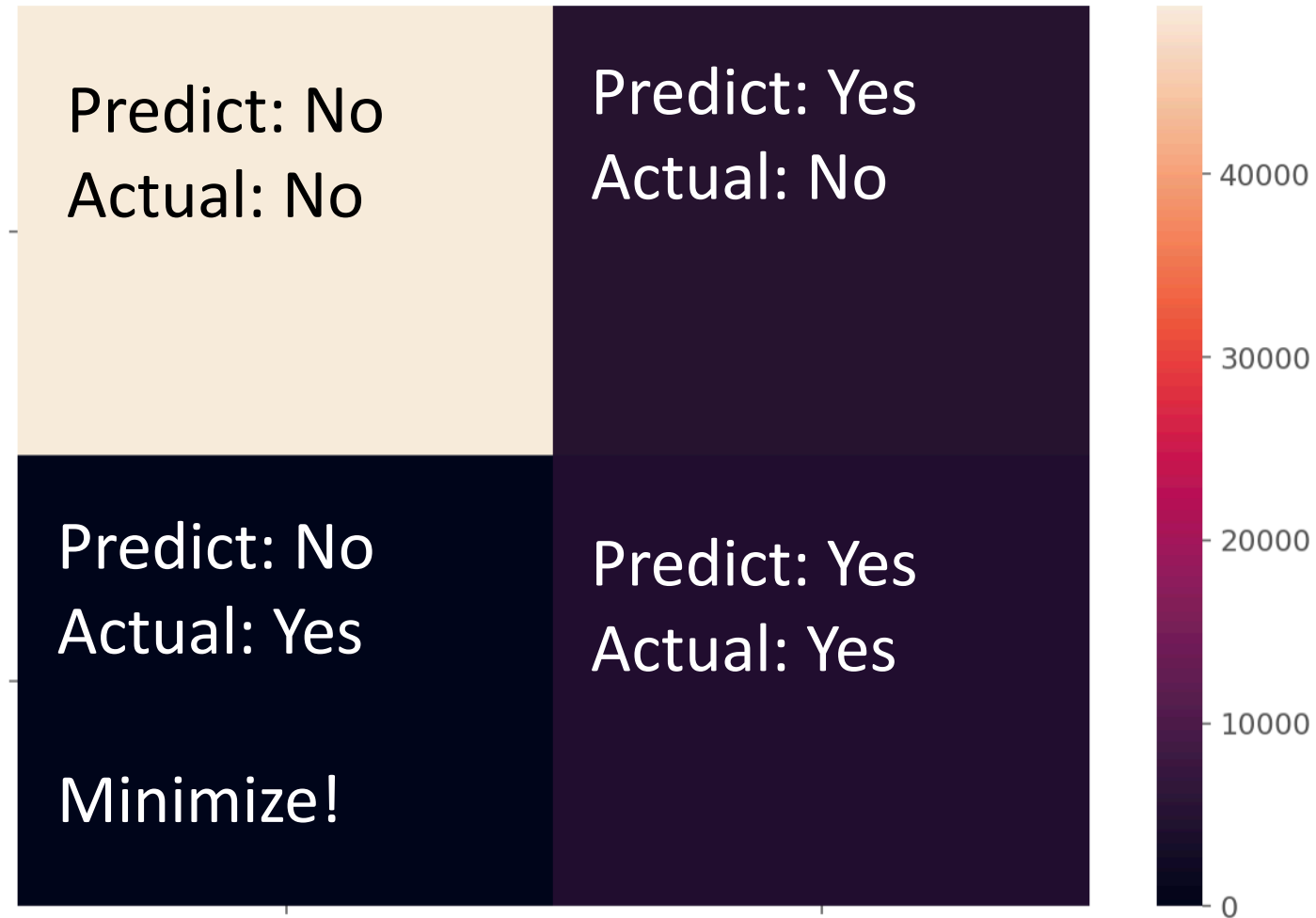
Logistic Regression

Tuning:

Liblinear Solver

Regularization set to 100

Threshold of .8

Cost Benefit Analysis based on Confusion Matrix

Cost Benefit Analysis based on Confusion Matrix

Predict Buy: Yes / Actual: No

(Prediction * Expected Conversion Rate * Value of Product * Percent Profit - Coupon) =

1000 * 5% * ($100 * 40% - $100 * 10%)= $1500 loss

Predict Buy: No / Actual: Yes

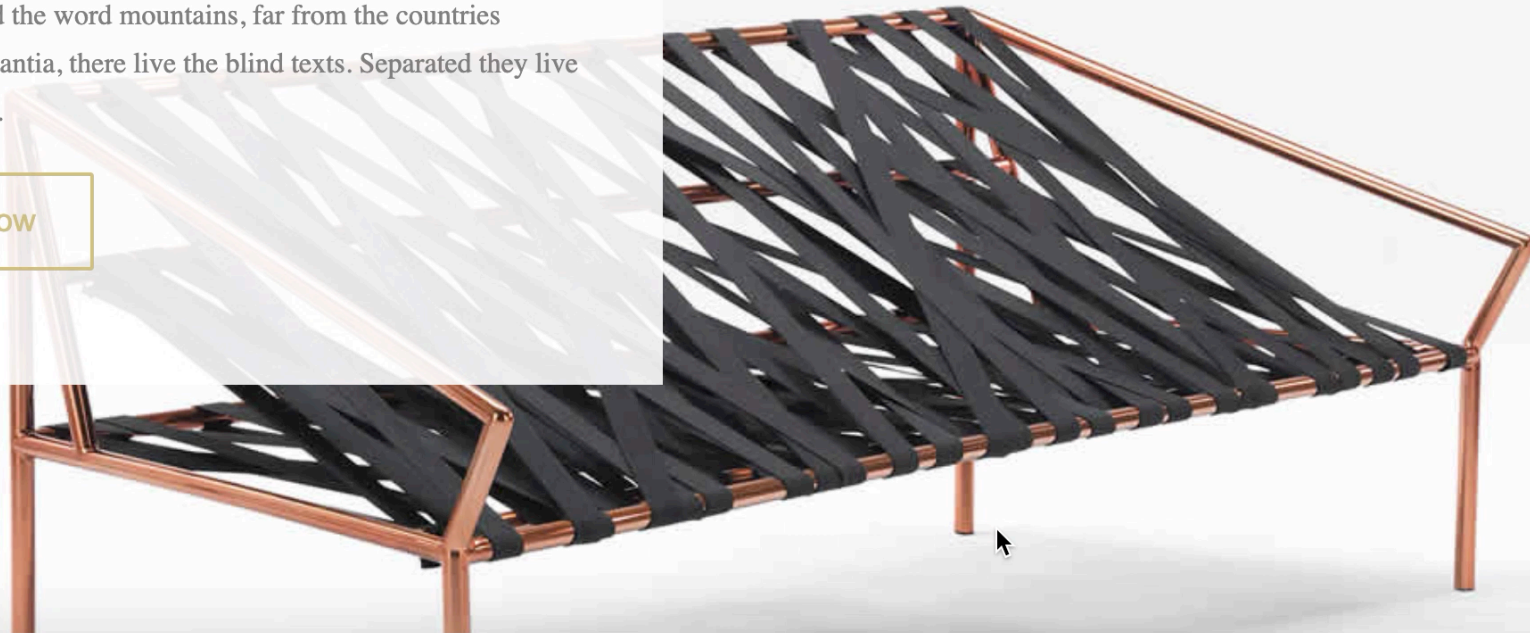(Prediction * Value of Product * Percent Profit * Percent Coupon Amount) =

1000 * $100 * 40% * 10% = **$4000 LOSS**

$750

ALATO CABINET

Far far away, behind the word mountains, far from the countries Vokalia and Consonantia, there live the blind texts. Separated they live in Bookmarksgrove.

Purchase Now

Recommendations

Based on buy / not buy, provide coupon to not buy to increase incentive

Build recommendation engine and combine with coupons

Incentive Program for returning customers

Thank you!