Online Store Revenue Growth

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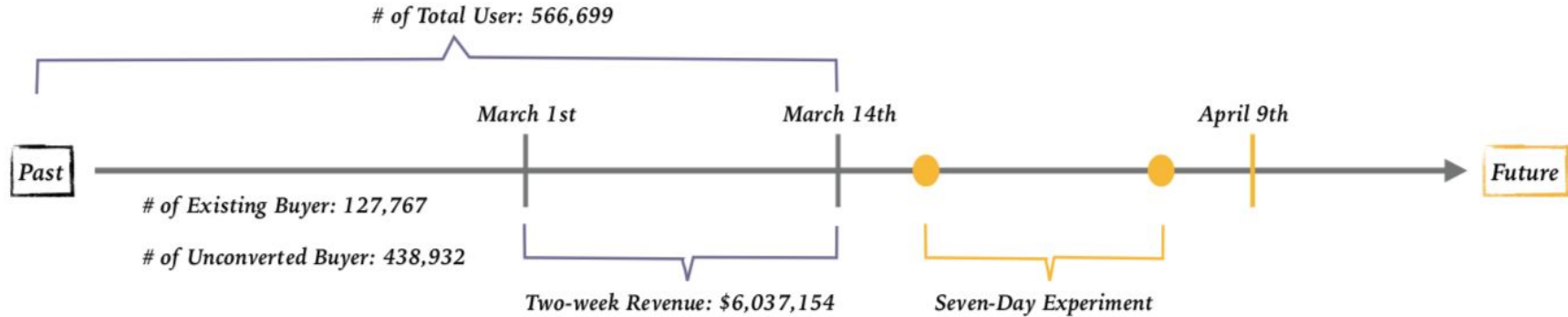**Business Objective:** Increase entire Online Store's revenue by 5%

Exploratory Analysis

Motivation & Hypothesis

Implementation
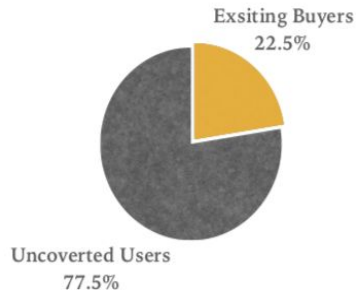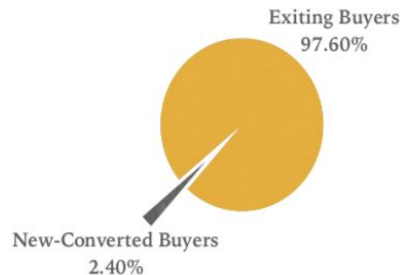
Recommendation & Conclusion

Key to Revenue Growth: Convert more Users & Encourage Users to add Payment Methods

# of Total User: 566,699

Past

March 1st March 14th April 9th Future

# of Existing Buyer: 127,767

# of Unconverted Buyer: 438,932

Two-week Revenue: $6,037,154

Seven-Day Experiment

Buyers' Composition

Exiting Buyers 22.5%

Uncoverted Users 77.5%

Two-Week Revenue Distribution

Exiting Buyers 97.60%

New-Converted Buyers 2.40%

- Out of the all 0.57 million existing users, we had 77.5% remained unconverted . During the 14-day, the new converted bring 146k in sales. Therefore, converting more users is one way to boost revenue.
- Another key is to grow the size of pie by exploiting buyers' purchase power by adding (more) payment methods.

Over 95% of the Revenue Generated by Active Buyers

Group 1 Inactive I
- Users had never made purchase before
- Users did not purchase for last 8 weeks

Group 2 Potential
- Users who purchased before
- But did not purchase for last 8 weeks

Group 3 Inactive II
- No purchase history
- But purchased for last 8 weeks

Group 4 Active
- Purchased before
- Purchased items for last 8 weeks

Over 99% of the Revenue Generated by Buyers with Payment Methods Added

$6 <$ N_week $<= 8$
- If the user had ever added any payment methods: $2,781,459
- If not: $1,584

$4 <$ N_week $<= 6$
- If the user had ever added any payment methods: $1,336,094
- If not: $1,029

$2 <$ N_week $<= 4$
- If the user had ever added any payment methods: $983,628
- If not: $948

$0 <$ N_week $<= 2$
- If the user had ever added any payment methods: $671,185
- If not: $2,778

Group of Active
*Number of weeks(N_week) when user make a purchase during the 8-week

Opportunity in Raising "Place Order" Rate among Non-US Users

- In every part of the funnel, from top to bottom, US users have higher conversion rate than non-US users.
- Among the US users who clicked on "check out" button, 54.3% proceeded to click "place order", while for non-US users the rate was only 23.8%, which suggesting opportunity for improvement.
- Similarly, the final rate of successful purchase is 4.6% higher in US.
- The last two bullets suggest non-US users might have **difficulties** in making payments or letting the payment go through, which might depend on the payment methods.


US Users **Non-US Users**

	# of User	Conversion		# of User	Conversion
	66,046			500,653	
Shopping		89.9%			87.1%
	59,375			436,265	
Check out		97.1%			92.9%
	57,668			405,092	
Place Order		54.3%			23.8%
	31,336			96,431	
Success		85.4%			80.8%
	26,756			77,887	

Credit card is popular among Non-US Buyers who Successful Made Purchase

Findings

- Credit Card is the mainstream form of payment for non-US users who made purchase before.
- Gift Card also has a high penetration among non-US users, second to Credit Card, may be due to the availability.
- While online payment is becoming more and more popular, it's expected that Direct Carrier Billing will be a good choice.
- PayPal can be the key to improve transaction rate, when we take bank decline, risk decline and errors into consideration.
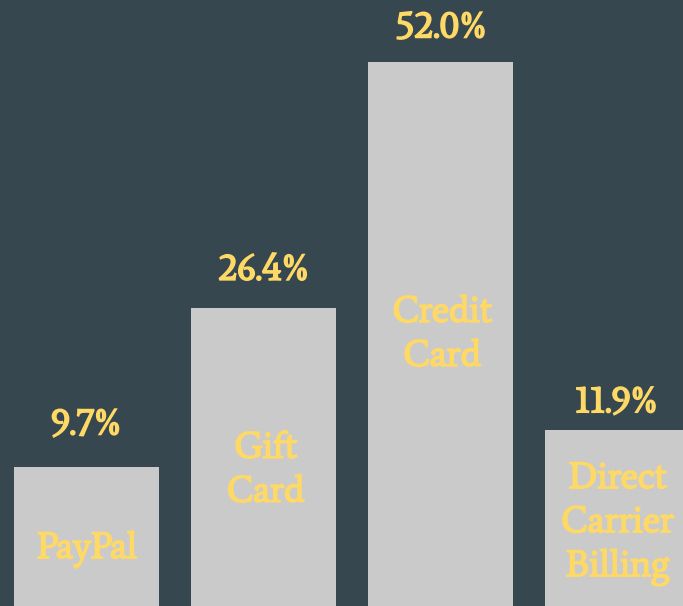
Recap & Hypothesis

Convert More Users into Active Group

Remind them to add a credit card once they create an account

Remind them to add a credit card every time they purchase

Reward them with a small amount gift card once they add a new payment method

According to previous exploratory analysis, we could conclude that:
- Over 95% of the revenue generated by active buyers.
- Among active users, over 99% of the revenue generated by buyers with payment methods added.
- From the purchase funnel, non-US users showed higher drop-off rate.
- Among non-US users who successfully made purchased, credit card is the mainstream form of payment.

Hypothesis:
We assume that if the users have payment methods added, they will spend more money and make more purchases than the users without any payment method added

Experiment Implementation & Results

Group A

Receive push notifications of adding credit cards or any other payment methods, or get prompt of using the existing payment methods when making transactions

Group B

As Before

Keep Track

Keep track of the users' expenses at the Online Store for one week

From 2017-04-01

To 2017-04-07

Success Metric

Percentage lift on revenue

Randomly divide users into two groups

Experiment Implementation & Result

	04-01	04-02	04-03	04-04	04-05	04-06	04-07	Total
AASPU-With Payment Method	14.4	8.7	13.8	14.7	19.1	11.6	15.5	97.8
AASPU-Without Payment Method	13.9	7.7	14.1	13.1	16.2	10.0	13.4	88.3

Average Amount Spend Per User

ASPU-With-PaymentMethods ASPU-Without-PaymentMethods
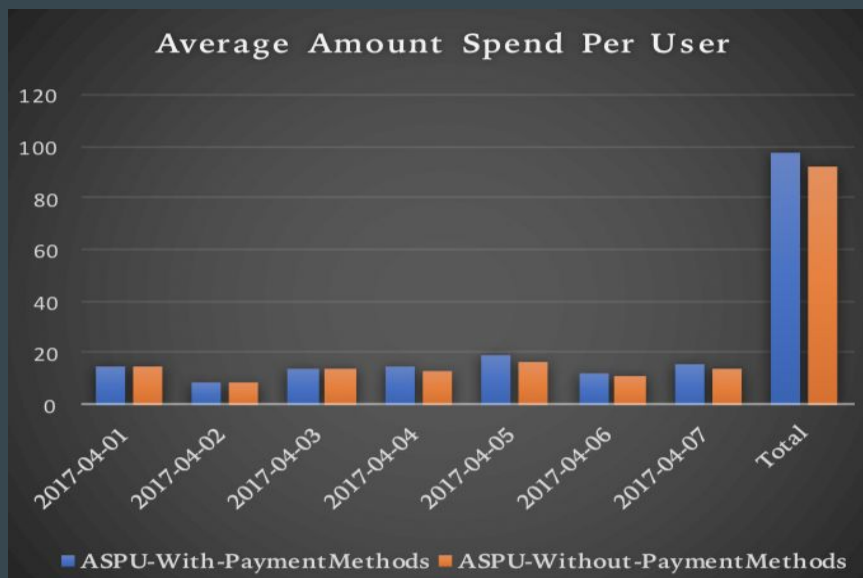
Revenue Increase(Overall)
10.7% > 5%

A/B Test Results Analysis:
    T-statistics =2.881 > 2.326
        2.326 is for dF >>120, Two-Tailed Test
    P-value < 0.02

Experiment Conclusion: It's relatively safe to say that adding payment methods will increase the average amount of money spent per user

Recommendation & Conclusion

Recommendation 1

- Remind them to add a credit card once they create an account

Recommendation 2

- Remind them to add a credit card every time they purchase

Recommendation 3

- Reward them with a small amount gift card once they add any new payment methods, especially for adding gift card and credit card

Recommendation 4

- For users who unsaved payment method, reward them with a coupon code or gift card for saving a payment method