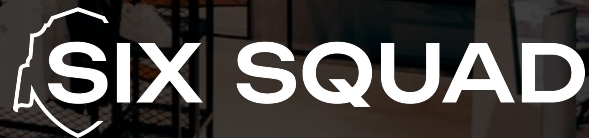


WhatsApp Ads Experiment for Six Squad

Effectiveness of WhatsApp Business Ads for high-end Streetwear

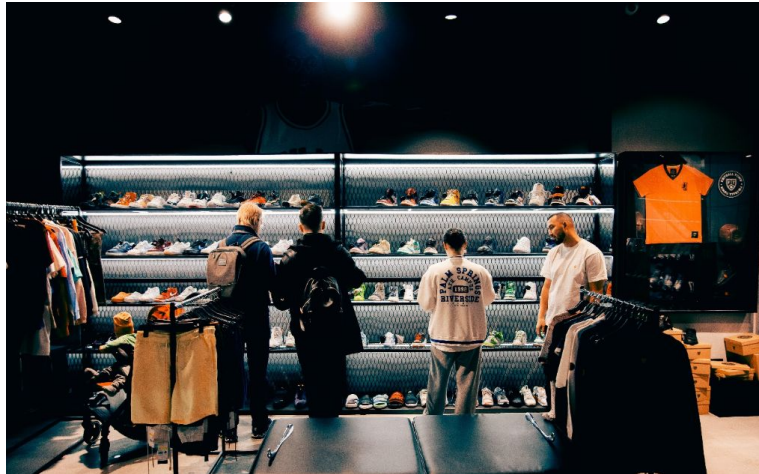
Team:
Madhumitha Sriram
Fahad Alsubaie
Raiymbek Ordabayev
Olimpia Borgohain
Rohit Devanaboina



Introduction to Six Squad

- Fast-growing sneaker & streetwear business based in Kazakhstan
- Founded December 2022 (15 months)
- 2 brick-and-mortar stores + website
- \$1 Million in Revenue till date

Store #1 (FORUM)



Store #2 (Dostyk Plaza)



Introduction to Experiment

What:

- Evaluate effectiveness of WhatsApp bot marketing messages
- Analyze consumer response to standard vs. 'nudge' messages

How:

- A WhatsApp Ads experiment with a control & 2 treatment groups
- Analyzing data on click rates, conversion rates, and purchase propensity

Benefits:

- Marketing recommendation (Is it worth it?)
- Improve message effectiveness



The background of the slide features a photograph of several pairs of sneakers, including a prominent green and white pair, resting on a dark shelf. A chain-link fence is positioned in front of the shoes, creating a layered visual effect. The entire scene is dimly lit, with a dark, semi-transparent rectangular box overlaid in the center to contain the title text.

Experiment Design

Experiment Design

Objective

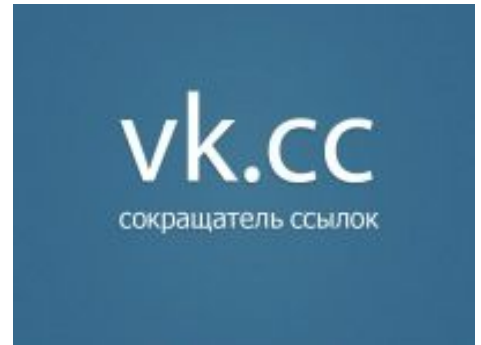
- Test the **effectiveness** of Ads and Nudges
- Products - **Nike Air Force 1 '07** sneakers
 - 2 variants - black/white, white/black
- Target - **1,549 members** in loyalty program



Experiment Design

Tools that were used to conduct an Experiment:

- Six Squad's Microsoft SQL Server (to extract loyalty program and sales data)
- gupshup.io (to create WhatsApp message templates)
- vk.cc (to count click rate)



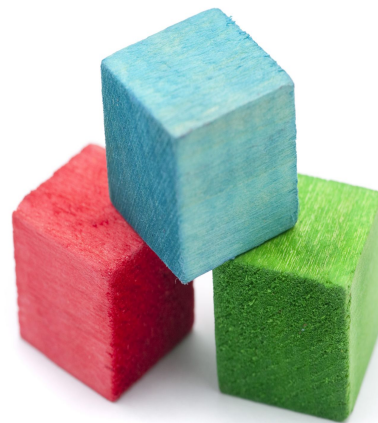
Experiment Design:

Unit of Randomization:

- Member-ID (member level)
- Blocking based on **past transactions and net sales**, to make sure that each arm are the same in term of past transactions and net sales.

Outcomes:

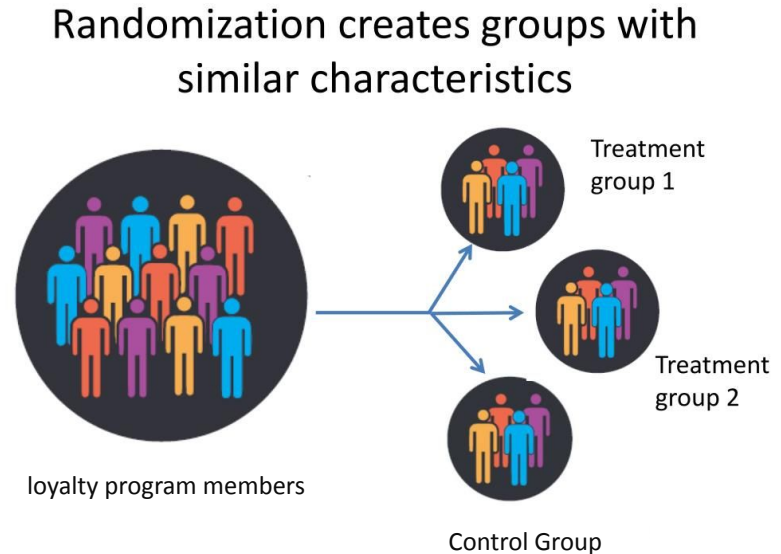
- Click Through Rate
- Total Transactions
- Quantity (of Items)
- Conversions (for promoted products)
- Net Sales (cart value)
- Purchase Propensity (at least 1 purchase)



Experiment Design:

Treatment Arms:

- **Control Group:**
 - No promotional message
- **Treatment Arm 1 (Status Quo Ad):**
 - Received Six Squad's standard WhatsApp message
- **Treatment Arm 2 (Nudge-Based Ad):**
 - Received nudge-based advertisement, w/ video



Experiment Design: Standard AD

Message:



Дорогие друзья, участники SIX SQUAD CLUB!

Классические Air Force 1 уже в наличии!

Освежите свой стиль с легендарными кроссовками Nike Air Force 1 — символом индивидуальности и комфорта. Уникальный дизайн и высокое качество сделают каждый ваш шаг стильным и уверенным.

ТРЦ Dostyk Plaza, 2 этаж | ТРЦ FORUM, 3 этаж

9:33 pm

sixsquad.store

Translation:

Dear friends, members of SIX SQUAD CLUB!

The classic Air Force 1 is in stock now!

Refresh your style with the iconic Nike Air Force 1, a symbol of individuality and comfort. Unique design and high quality will make every step you take stylish and confident.

Shopping center Dostyk Plaza, 2nd floor |
FORUM shopping center, 3rd floor

Experiment Design: Nudge Treatment

Message:



Уважаемый Name!


Время истекает! ⌚

Классические модели Air Force 1 '07 впервые поступили в продажу.

Освежите свой стиль с легендарными кроссовками Nike Air Force 1 — символом индивидуальности и комфорта. Уникальный дизайн и высокое качество сделают каждый ваш шаг стильным и уверенным.

Захвати свою пару прямо сейчас, пока еще в наличии!

9:53 pm

 sixsquad.store

Translation:

Personalization

Dear {Name}!

Time is running out! ⌚

Scarcity

The classic Air Force 1 '07 is now available for the first time.

Scarcity

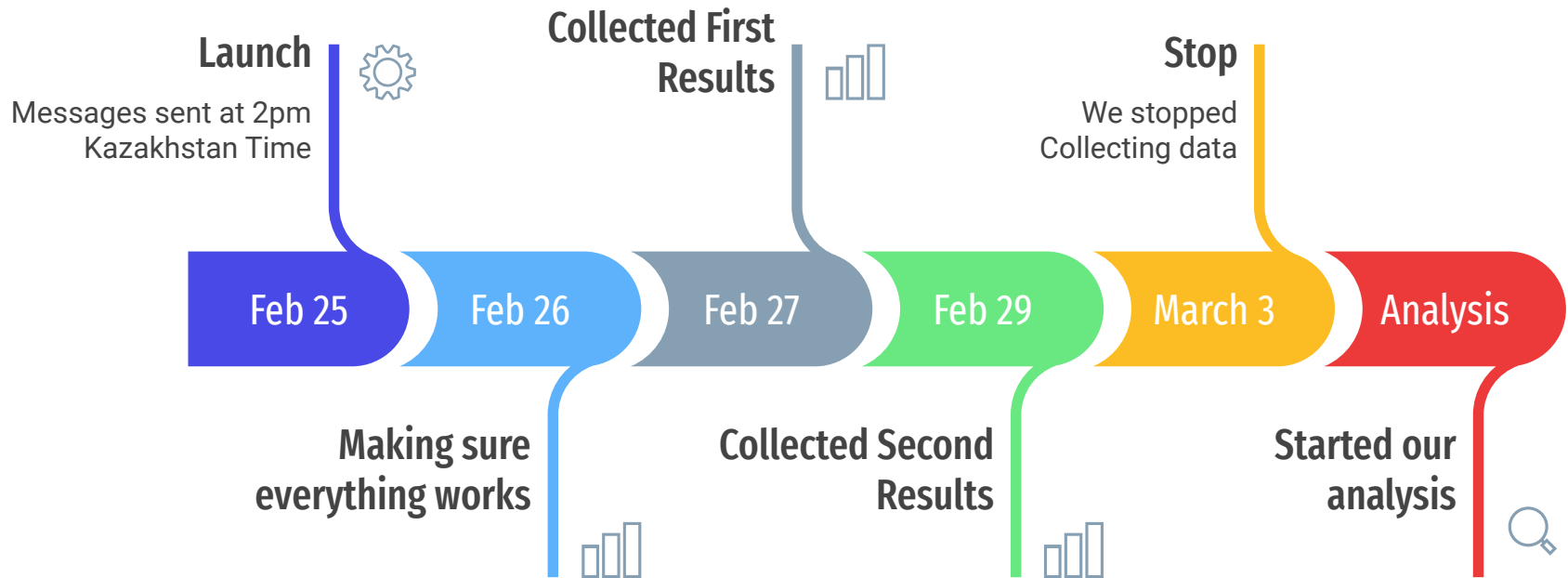
Refresh your style with the iconic Nike Air Force 1, a symbol of individuality and comfort. Unique design and high quality will make every step you take stylish and confident.

Grab your pair now while supplies last!

↑
Scarcity

Launch

1 week results (from Sunday to Sunday)



The background of the slide is a photograph of a tennis court. In the foreground, a pair of white and green tennis shoes is visible, resting on a dark surface. Behind them, a chain-link fence runs diagonally across the frame. The overall lighting is dim, giving the image a moody, dark appearance. A white rectangular border is superimposed over the center of the image, containing the word "Results".

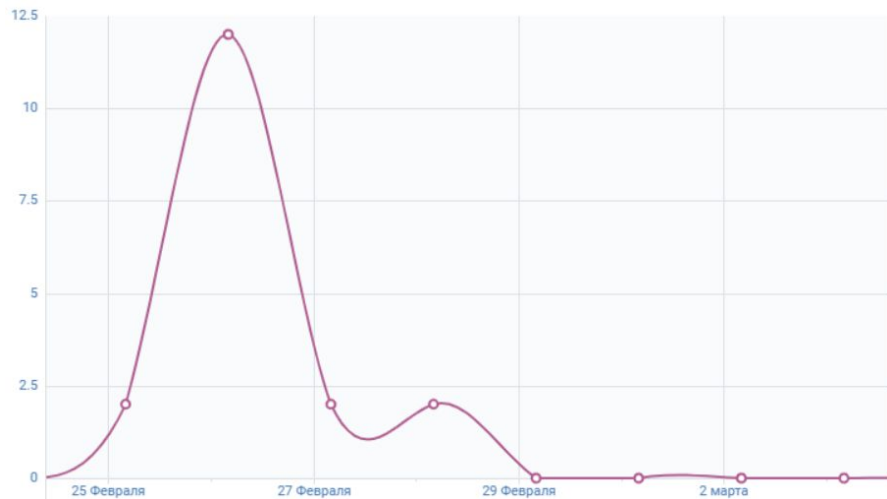
Results

Randomization Checks

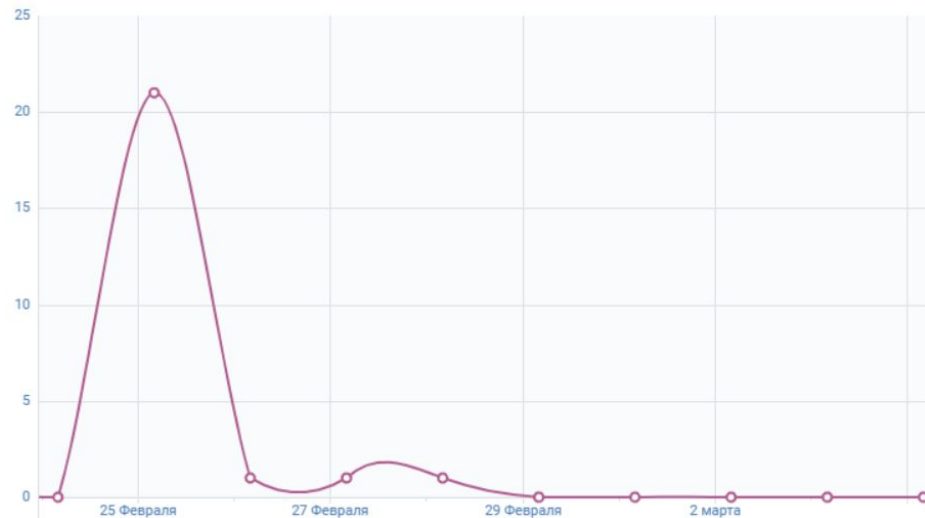
P-values	Control	Standard Ad	Nudge Ad	Outcome
Proportions Test	1	1	1	Randomization was successful
<u>Balance Test</u> Past Transactions	0.513	0.773	0.720	Balancing was successful
<u>Balance Test</u> Past Sales	0.737	0.737	0.972	

Click Rate

Standard Ad: ~4% Click Rate (21)



Nudge Ad: ~5.5% Click Rate (28)



Click Rate - Regression

Click Rate - Standard Ad vs Nudge Ad

<i>Dependent variable: click</i>	
Click Rate	
Intercept	0.04 ^{***} (0.02 , 0.06)
Treatment Effect	0.01 (-0.01 , 0.04)
Observations	1033
Note:	* p<0.1; ** p<0.05; *** p<0.01

No Significant Effect

Conversions - Regression

Treatment Effect - Conversions

<i>Dependent variable: Q("Total Conversions (post)")</i>		
	Control vs Standard Ad	Standard vs Nudge
	(1)	(2)
Intercept	0.00 ^{***} (0.00)	0.00 ^{***} (0.00)
Treatment Effect	0.00 ^{***} (0.00)	0.00 ^{***} (0.00)
Observations	1032	1033

Note:

* p<0.1; ** p<0.05; *** p<0.01

No variance
(so we drop)

Rest of the Outcomes - Control vs Standard Ad

Treatment Effects - Control vs Status Quo Ad

	Total Transactions	Quantity	Net Sales	Purchase Propensity
	(1)	(2)	(3)	(4)
Treatment Effect	0.00 (0.01)	-0.01 (0.02)	-494.68 (1484.17)	-0.00 (0.00)
Past Transactions	0.01 (0.01)	-0.00 (0.02)	-370.68 (870.86)	0.01 (0.01)
Past Net Sales	0.00 (0.00)	0.00 (0.00)	0.01 (0.01)	0.00 (0.00)
Observations	1032	1032	1032	1032

Note:

* p<0.1; ** p<0.05; *** p<0.01

No Significant Effect
(Power = 5% to 15%)

Rest of the Outcomes - Standard Ad vs Nudge Ad

Treatment Effects - Status Quo Ad vs Nudge Ad

	Total Transactions	Quantity	Net Sales	Purchase Propensity
	(1)	(2)	(3)	(4)
Treatment Effect	0.01 (0.01)	0.00 (0.02)	795.38 (1076.92)	0.01 (0.01)
Past Transactions	0.01 (0.01)	-0.01 (0.02)	-518.79 (786.08)	0.01 (0.01)
Past Net Sales	-0.00 (0.00)	0.00 (0.00)	0.01 (0.01)	-0.00 (0.00)
Observations	1033	1033	1033	1033

Note:

* p<0.1; ** p<0.05; *** p<0.01

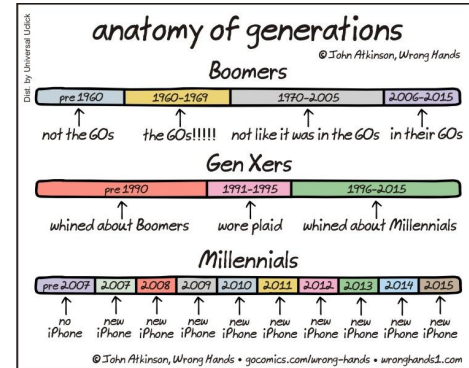
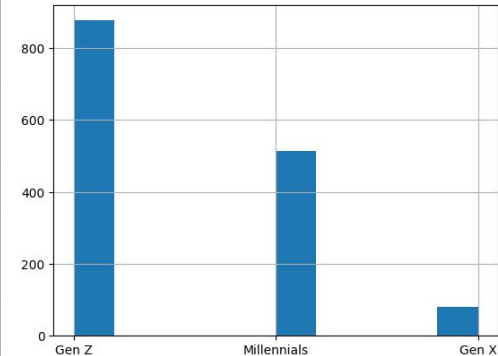
No Significant Effect
(Power = 8% to 74%)

The background image shows a close-up of a sneaker, specifically a white and green model, resting on a dark, textured mesh surface. The image is heavily darkened with a semi-transparent black overlay, which serves as a backdrop for the white text. The text is centered and reads "Heterogeneous Treatment Effect".

Heterogeneous Treatment Effect

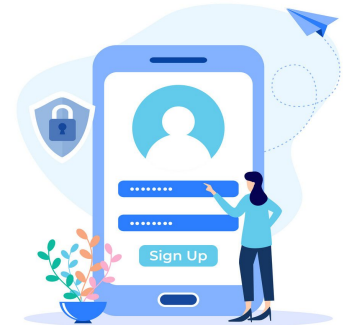
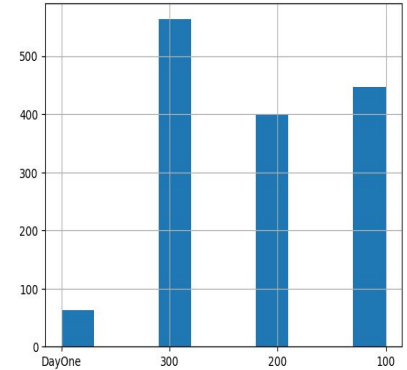
Treatment Effect with Generations

	Sales		Quantity		Propensity	
	Control vs Treatment arm 1	Treatment Arm1 vs Treatment Arm 2	Control vs Treatment arm 1	Treatment Arm1 vs Treatment Arm 2	Control vs Treatment arm 1	Treatment Arm1 vs Treatment Arm 2
[Generation[T.Gen X]	41973.707	25854.692	0.433	0.707	0.034	0.12
	(49942.637)	(26756.806)	(0.697)	(0.708)	(0.083)	(0.119)
Generation[T.Millennials]	2841.341	-8403.285	0.052	-0.108	0.023	-0.047
	(1639.163)	(5177.696)	(0.034)	(0.060)	(0.018)	(0.030)
Intercept	-1047.782	1145.308	-0.007	0.013	0	0
	(988.857)	(3427.654)	(0.012)	(0.033)	(0.008)	(0.019)
treatment_group	1150.171	53.626	0.01	0	0.003	0.003
	(972.781)	(1329.441)	(0.010)	(0.013)	(0.006)	(0.008)
treatment_group:Generation[T.Gen X]	-17113.134	-9053.626	-0.104	-0.24	0	-0.043
	(26133.264)	(8944.797)	(0.404)	(0.236)	(0.054)	(0.040)
treatment_group:Generation[T.Millennials]	-2046.95	3575.362	-0.033	0.047	-0.015	0.02
	(1171.988)	(2352.093)	(0.019)	(0.028)	(0.010)	(0.014)



Treatment Effect with Days since Registered in the Loyalty Program

	Sales		Quantity		Propensity	
	Control vs Treatment arm 1	Treatment Arm1 vs Treatment Arm 2	Control vs Treatment arm 1	Treatment Arm1 vs Treatment Arm 2	Control vs Treatment arm 1	Treatment Arm1 vs Treatment Arm 2
Days_since_grp[T.200]	-3556.598 (8655.519)	-5569.835 (8239.589)	-0.032 (0.121)	-0.01 (0.090)	0.021 (0.030)	-0.012 (0.046)
Days_since_grp[T.300]	-7227.231 (8548.573)	1766.275 (8191.599)	-0.126 (0.117)	0.117 (0.128)	-0.016 (0.020)	0.022 (0.045)
Days_since_grp[T.DayOne]	-6036.755 (8465.032)	-408.877 (7235.629)	-0.094 (0.112)	0.033 (0.085)	-0.011 (0.020)	0.016 (0.041)
Intercept	6036.755 (8465.032)	408.877 (7235.629)	0.094 (0.112)	-0.033 (0.085)	0.011 (0.020)	-0.016 (0.041)
treatment_group	-1744.072 (4561.635)	1069.867 (2874.791)	-0.033 (0.059)	0.03 (0.036)	0.002 (0.013)	0.015 (0.017)
treatment_group:Days_since_grp[T.200]	503.994 (4650.142)	1510.612 (3485.477)	0.002 (0.063)	-0.009 (0.039)	-0.017 (0.017)	-0.001 (0.020)
treatment_group:Days_since_grp[T.300]	2934.548 (4714.853)	-1562.205 (3189.773)	0.065 (0.067)	-0.057 (0.048)	0.004 (0.014)	-0.015 (0.019)
treatment_group:Days_since_grp[T.DayOne]	1744.072 (4561.635)	-1069.867 (2874.791)	0.033 (0.059)	-0.03 (0.036)	-0.002 (0.013)	-0.015 (0.017)





Business Recommendations

Business Recommendations

- Focus marketing spend to attract **new customers**, not loyalty members
- Try personalising ads by customer segment
- Keep conducting more experiments



The background of the slide is a photograph of a sneaker store. In the foreground, a pair of black and white sneakers with green accents is visible. Behind them, a chain-link fence runs diagonally across the frame. In the background, more sneakers are hanging on display racks. The entire image is dimmed and has a dark overlay.

Challenges & Future Work

Challenges & Future Work

Power of Experiment:

- Need more customers to increase the power of experiment
 - ~30,000 customers for 80% power

High-end products:

- Since, it is a high end product conversion rate is less


Duration of Measurement:

- At least one month, to account for short-term fluctuations



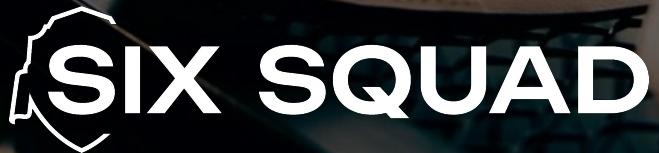
The background of the image is a dark, moody photograph of a basketball court. A chain-link fence is visible in the upper right, and several sneakers are scattered on the court floor. A large, dark, semi-transparent rectangle is centered over the image, containing the text "Thank You!".

Thank You!

The logo for SIX SQUAD features a stylized white outline of the state of Texas on the left. To the right of the outline, the words "SIX SQUAD" are written in a bold, white, sans-serif font.

SIX SQUAD

Appendix



The background of the slide features a photograph of several pairs of sneakers, including a prominent green and white pair, resting on a dark shelf. A chain-link fence is positioned in front of the shoes, creating a layered, textured effect. The entire image is dimmed with a dark overlay to ensure the white text is legible.

Fixed Effects

Fixed Effects Model - Control vs Standard Ad

Fixed Effect Model - Control vs Standard Ad				
	Transactions	Quantity	Net Sales	Purchase Propensity
Treatment Effect	-0.000 (0.003)	-0.006 (0.019)	-556.843 (1417.712)	-0.000 (0.003)
Past Purchase Propensity	X	X	X	X
Day of Week	X	X	X	X
Observations	1032			

No Significant Effect

No Significant changes

Fixed Effects Model - Standard Ad vs Nudge Ad

Fixed Effect Model - Standard Ad vs Nudge Ad				
	Transactions	Quantity	Net Sales	Purchase Propensity
Treatment Effect	-0.005 (0.003)	-0.017 (0.009)	-533.770 (560.994)	-0.002 (0.002)
Past Purchase Propensity	X	X	X	X
Day of Week	X	X	X	X
Observations	1033			