A Look Into Google Merchandise Store's Revenue

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1. Where the data comes from?

Google Merchandise Store

Select your ship to location below.

Canada
United States
Mexico
South America
Europe
Africa
Asia
Australia

official merchandise store

New | Apparel ▾ | Lifestyle ▾ | Stationery ▾ | Shop by Brand ▾ | Sale | Campus Collection

Nifty shades of gray

See the new items in the season's hottest hues.

Shop now

Google Merchandise Store

New | Apparel ▾ | Lifestyle ▾ | Stationery ▾ | Shop by Brand ▾ | Sale | Campus Collection

Brand of Item ▾ | Item Type | By ▾

Android
Google
YouTube

Men's / Unisex

New | Apparel ▾ | Lifestyle ▾ | Stationery ▾ | Shop by Brand ▾ | Sale | Campus Collection

Google Zip Hoodie F/C
Quantity
LG
1
$60.00

Google Color Block Tee White
$29.00 $14.50

Google Mens Microfleece Jacket Black
$75.00

Google Zip Hoodie F/C
$60.00

Android Coach's Jacket Black
$70.00 $35.00

Have a code?

Promo Code

UPDATE

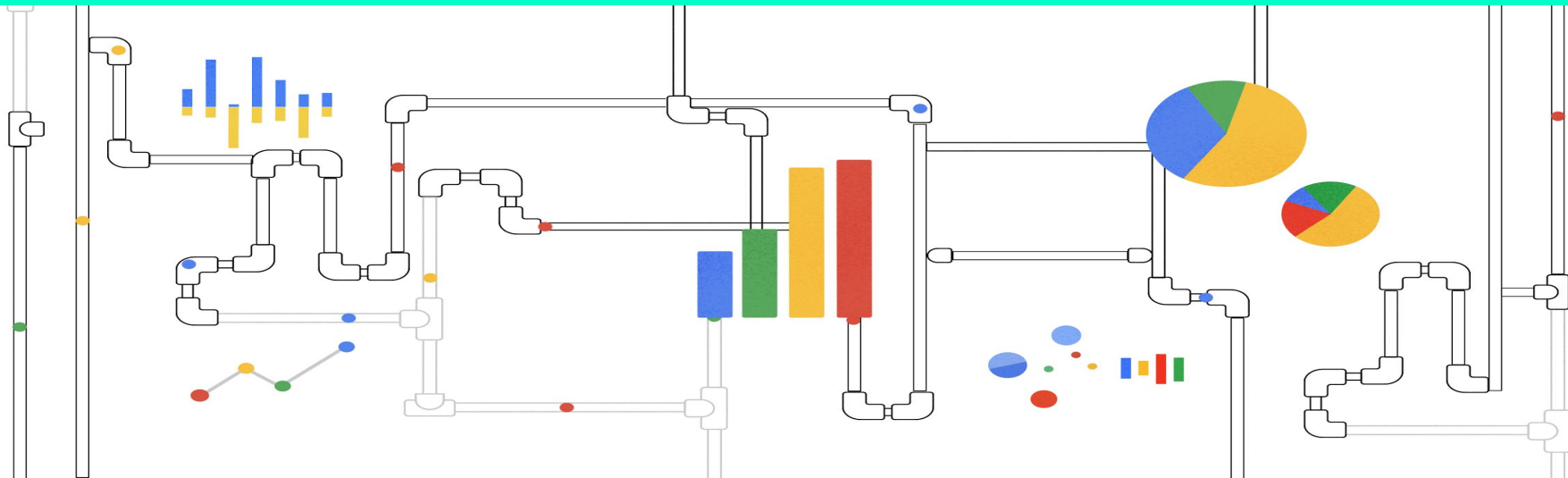Sub Total (1 item): $60.00

Estimate Shipping:

Estimate Tax:

Grand Total: $60.00

CONTINUE SHOPPING | CONTINUE TO CHECKOUT

The tool allows you to **track websites, blogs, and social networks**. In addition, it puts at your disposal predetermined and customizable reports.

[Click Here To Create Your Demo Account](#)

[Click Here if you already have GA account](#)

2. What variable do we have?

1. Time Information -

The date and time on which the user visited the store

- November and December are peak
- Sunday and Saturday are through
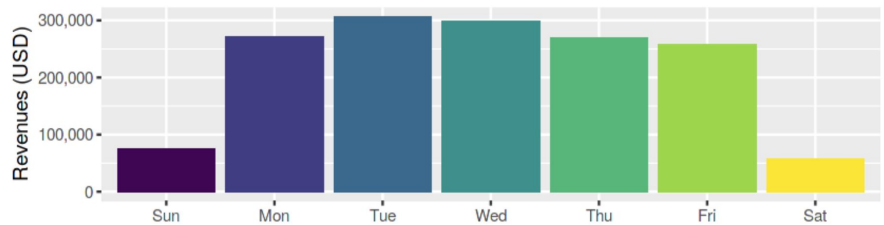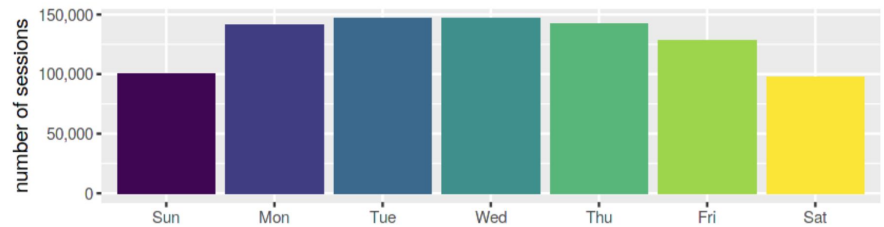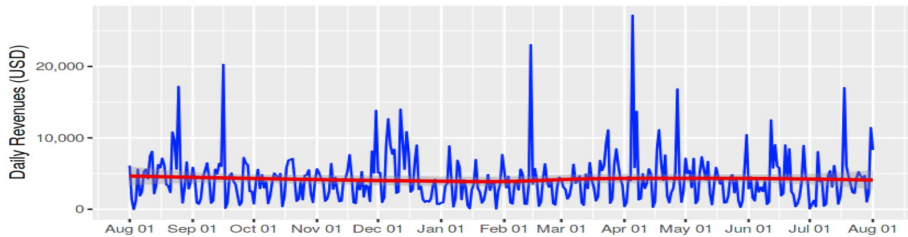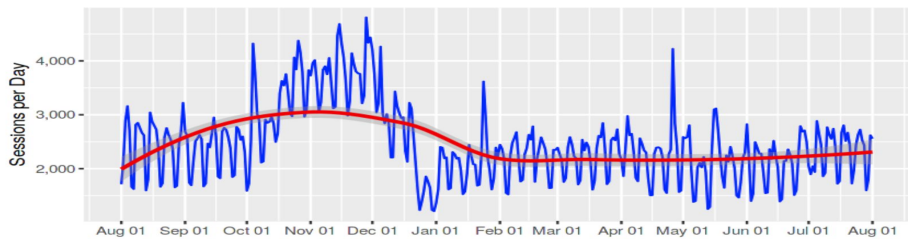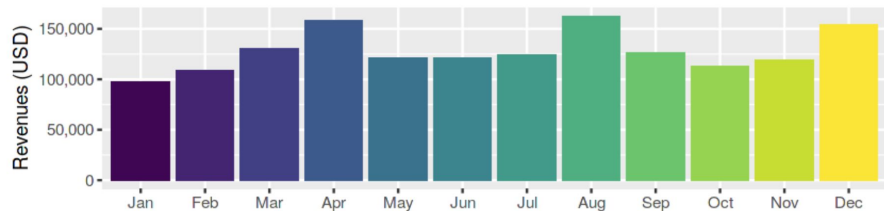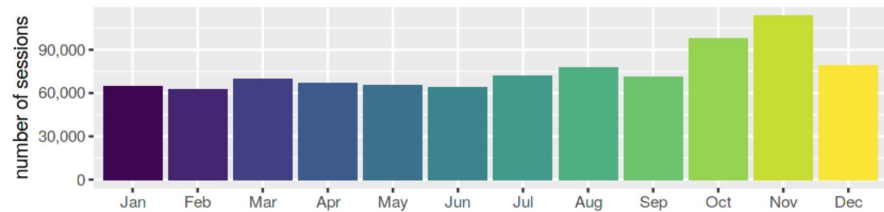
2.Device and Browser –
Desktop vs Mobile vs Tablet
And
Windows vs Mac vs Android vs iOS ...

- Specifications for the device and browser used to access the online store
- Information used for cross platform targeting
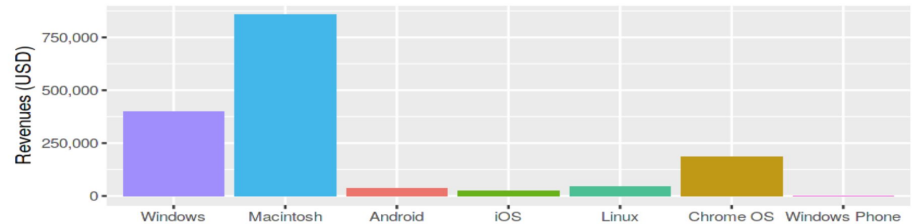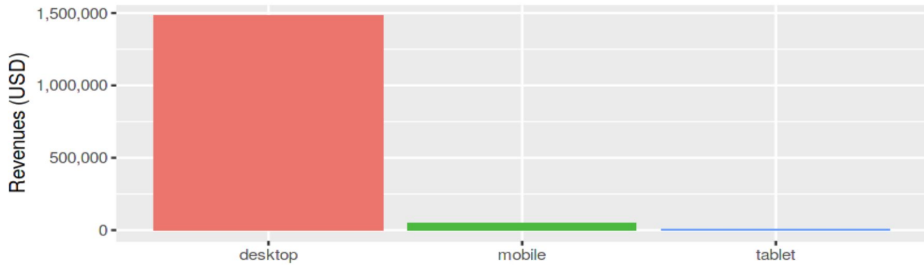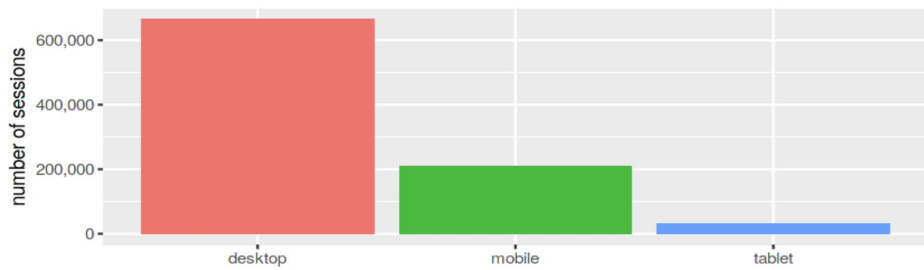
3. Geographical Info -
Country and Region

- Information about the geography of the user
- We only looked within the US
- So our regions were US states
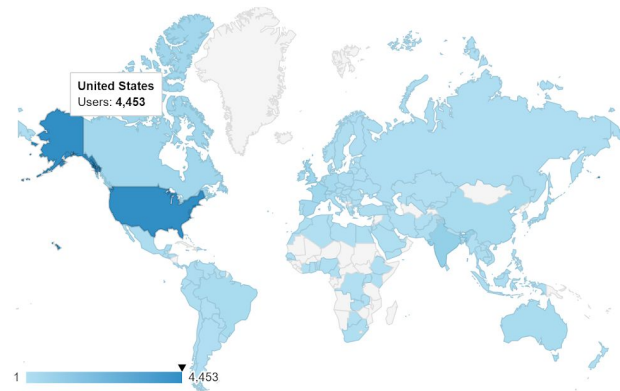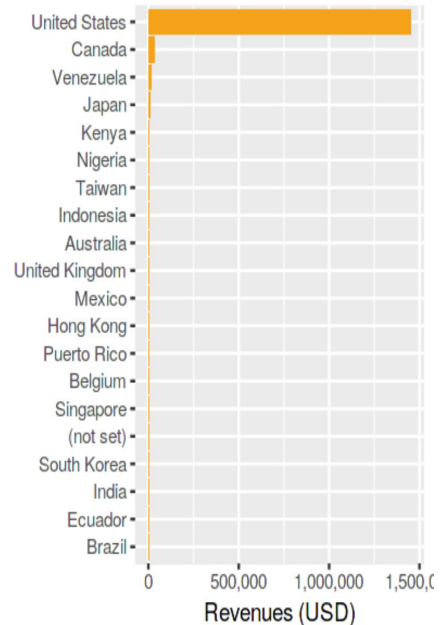
4. User Action

Hits : An interaction that results in data being sent to Analytics. Common hit types include page tracking hits, event tracking hits, and ecommerce hits.

Bounce Rate : A bounce is a single-page session on your site.

Page View : Pageviews is a metric defined as the total number of pages viewed.
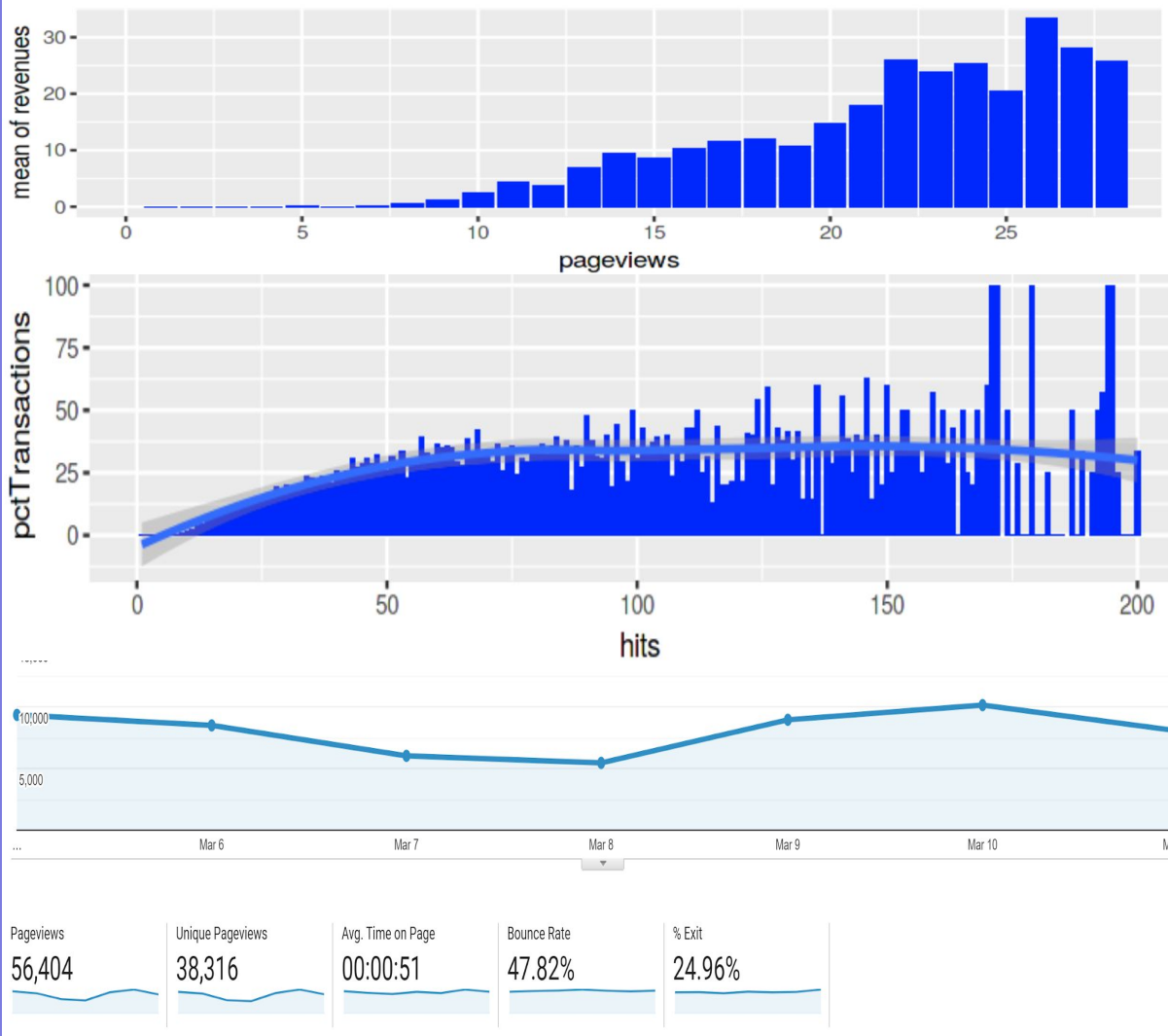
5.Channel Info -

How the user came to the site

Some of the more common:

- Paid Search
  - Traffic from PPC (pay per click) campaigns run in search results
  - Determined by medium of cpc (cost per click), ppc, or paid search
- Display
  - Traffic from display advertising
- Referral
  - Traffic where users clicked from another site, excluding major search engines
- Other advertising
  - Traffic from online ads outside of search and display, such as cost per view video advertising

6. Specific Channel Information

Users

300
200
100

Mar 6 | Mar 7

Summary Dimension: **Account** Campaign Google Ads: Ad Group

Plot Rows | Secondary dimension ▼ | Sort Type: Default ▼ | [search] advanced

Account	Acquisition					Behavior		Conversions eCommerce
	Clicks	Cost	CPC	Users	Sessions	Bounce Rate	Pages / Session	Ecommerce Conversion Rate
	409 % of Total: 100.00% (409)	$148.62 % of Total: 100.00% ($148.62)	$0.36 Avg for View: $0.36 (0.00%)	333 % of Total: 2.83% (11,767)	403 % of Total: 2.86% (14,077)	31.76% Avg for View: 47.82% (-33.57%)	5.82 Avg for View: 4.01 (45.16%)	0.00% Avg for View: 0.09% (-100.00%)
1. analytics_googlestore_NA	409 (100.00%)	$148.62 (100.00%)	$0.36	319 (95.80%)	383 (95.04%)	29.77%	6.00	0.00%
2. (not set)	0 (0.00%)	$0.00 (0.00%)	$0.00	14 (4.20%)	20 (4.96%)	70.00%	2.30	0.00%

Keyword	Acquisition					Behavior		Conversions eCommerce
	Clicks	Cost	CPC	Users	Sessions	Bounce Rate	Pages / Session	Ecommerce Conversion Rate
	409 % of Total: 100.00% (409)	$148.62 % of Total: 100.00% ($148.62)	$0.36 Avg for View: $0.36 (0.00%)	333 % of Total: 2.83% (11,767)	403 % of Total: 2.86% (14,077)	31.76% Avg for View: 47.82% (-33.57%)	5.82 Avg for View: 4.01 (45.16%)	0.00% Avg for View: 0.09% (-100.00%)
1. Google Merchandise Store	189 (46.21%)	$48.05 (32.33%)	$0.25	185 (54.90%)	225 (55.83%)	24.00%	6.56	0.00%
2. Google Merchandise	49 (11.98%)	$9.02 (6.07%)	$0.18	36 (10.68%)	38 (9.43%)	23.68%	6.53	0.00%
3. Google Swag	38 (9.29%)	$13.97 (9.40%)	$0.37	26 (7.72%)	30 (7.44%)	40.00%	5.10	0.00%
4. google merch store	19 (4.65%)	$7.63 (5.13%)	$0.40	13 (3.86%)	16 (3.97%)	12.50%	7.12	0.00%
5. Google Clothing	14 (3.42%)	$9.05 (6.09%)	$0.65	8 (2.37%)	10 (2.48%)	50.00%	4.10	0.00%
6. Google T Shirt	13 (3.18%)	$2.81 (1.89%)	$0.22	8 (2.37%)	9 (2.23%)	44.44%	3.78	0.00%

3.Q1: How to target customers in USA?

1. Time Information

visitStartTime
2016-09-02 19:04:19
2016-09-02 15:33:46
2016-09-02 23:27:57
2016-09-03 03:27:36
2016-09-02 10:37:29
2016-09-02 22:56:45
2016-09-03 02:23:59
2016-09-02 20:14:45
2016-09-02 23:11:24
2016-09-02 15:52:31
2016-09-02 18:04:08
2016-09-02 21:08:17

Month - Quarter

Weekday- Sunday

Hour: MidNight,morning, Afternoon,Evening

2. Device and Browser Information

browser	operatingSystem	isMobile	deviceCategory
Chrome	Linux	FALSE	desktop
Chrome	Windows	FALSE	desktop
Chrome	Android	TRUE	mobile
Safari	iOS	TRUE	tablet
Chrome	Windows	FALSE	desktop
Chrome	Macintosh	FALSE	desktop
Chrome	Android	TRUE	mobile
Chrome	Windows	FALSE	desktop
Chrome	Android	TRUE	mobile

DeviceCategory › ismobile
Operating System and Browser

3. Geographic Information

continent	subContinent	country	region	metro	city
Americas	Northern America	United States	California	San Francisco–Oakland–San Jose CA	Mountain View
Americas	Northern America	United States	not available in demo dataset	not available in demo dataset	not available in demo dataset
Americas	Northern America	United States	not available in demo dataset	not available in demo dataset	not available in demo dataset
Americas	Northern America	United States	not available in demo dataset	not available in demo dataset	not available in demo dataset
Americas	Northern America	United States	New York	New York NY	New York
Americas	Northern America	United States	California	San Francisco–Oakland–San Jose CA	Mountain View
Americas	Northern America	United States	District of Columbia	Washington DC (Hagerstown MD)	Washington
Americas	Northern America	United States	California	Los Angeles CA	Los Angeles
Americas	Northern America	United States	California	San Francisco–Oakland–San Jose CA	San Francisco
Americas	Northern America	United States	Washington	Seattle–Tacoma WA	Seattle
Americas	Northern America	United States	not available in demo dataset	not available in demo dataset	not available in demo dataset

1. Too many levels in each variable except region
2. Even we pick region, it is not significant

4. USer Action

visits	hits	pageviews	bounces	newVisits	visitNumber
1	1	1	1	0	2
1	1	1	1	1	1
1	1	1	1	1	1
1	1	1	1	1	1
1	1	1	1	1	1
1	1	1	1	0	2
1	1	1	1	0	2
1	1	1	1	0	3
1	1	1	1	0	4
1	1	1	1	0	57

- Visit all = 1
- hits & pageviews highly correlated
- When pageviews and hits both = 1, Bonunces = 1, otherwise =0
- When visit number = 1, newvisits = 1, otherwise = 0

5. Channel Information

source	medium	channelGrouping
sites.google.com	referral	Referral
siliconvalley.about.com	referral	Referral
google	cpc	Paid Search
siliconvalley.about.com	referral	Referral
baidu	organic	Organic Search
mall.googleplex.com	referral	Referral
baidu	organic	Organic Search
Partners	affiliate	Affiliates

Source is more specific information for channel

medium - channel:
(none) = Direct
affiliate = Affiliates
cpc = Paid Search
cpm = Display
organic = Organic Search
referral = Referral + Social

6. Specific Channel information

adwordsClickInfo.page	adwordsClickInfo.slot	adwordsClickInfo.gclId	adwordsClickInfo.adNetworkType	adwordsClickInfo.isVideoAd
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
1	Top	Cj0KEQjwxqS-BRDRgPLp0q2t0IUBEiQAgfMXRBVDYwn...	Google Search	FALSE
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA

Only show the information about Paid search, don't need to use.

Binary Model (After Undersampling):

Y (buy or not) = $\beta 0$ + $\beta 1X$(channel) + $\beta 1X$(visit behaviors) + $\beta 2X$(device) + $\beta 3X$(visit time)+.....

```
glm(formula = buy ~ channelGrouping + log(visitNumber) + log(pageviews +
     1) + deviceCategory + quarter + ampm, family = "binomial",
     data = undertrain)
```

Coefficients:

	Estimate	Std. Error	z value	Pr(>|z|)	
(Intercept)	-9.70839	0.20474	-47.419	< 2e-16	***
channelGroupingAffiliates	-1.43836	0.69547	-2.068	0.03862	*
channelGroupingDisplay	-0.74843	0.25179	-2.972	0.00295	**
channelGroupingOrganic Search	-0.76876	0.08773	-8.762	< 2e-16	***
channelGroupingPaid Search	-0.86827	0.14756	-5.884	4.00e-09	***
channelGroupingReferral	-0.02974	0.08887	-0.335	0.73791	
channelGroupingSocial	-1.15255	0.22836	-5.047	4.49e-07	***
log(visitNumber)	0.57310	0.03869	14.812	< 2e-16	***
log(pageviews + 1)	3.80263	0.06555	58.014	< 2e-16	***
deviceCategorymobile	-0.50912	0.09289	-5.481	4.23e-08	***
deviceCategorytablet	-0.51321	0.21543	-2.382	0.01721	*
quarter2	0.59327	0.08964	6.618	3.64e-11	***
quarter3	-0.19723	0.08820	-2.236	0.02534	*
quarter4	0.09921	0.08666	1.145	0.25229	
ampm1	0.30740	0.16105	1.909	0.05630	.
ampm2	0.48953	0.07915	6.185	6.20e-10	***
ampm3	0.38018	0.07822	4.860	1.17e-06	***

Model Interpretation

Channel:

Direct › Display (CPM) › Organic Search › Paid Search (CPC) › Social › Affiliates

*Referral insignificant

Suggestions:

- For digital advertising team, If we want to acquire more users, maybe we should try more CPM than CPC
- For social network team(facebook, twitter), we should put less budget on it
- For Business Development Department, we should do more to figure out the brand effect

Model Interpretation

<u>Device:</u>

deviceCategorymobile	-0.50912	0.09289	-5.481	4.23e-08	***
deviceCategorytablet	-0.51321	0.21543	-2.382	0.01721	*

PC › Mobile › tablet

<u>Suggestions:</u>

- For digital advertising department, we should put more budget on PC instead of mobile and tablet.
- For Business Development Department, we should build partnership with some website, not some apps.

Model Interpretation

Quarter:

quarter2	0.59327	0.08964	6.618	3.64e-11 ***
quarter3	-0.19723	0.08820	-2.236	0.02534 *
quarter4	0.09921	0.08666	1.145	0.25229

Quarter 2 › Quarter 4 › Quarter 1 › Quarter 3

Suggestions:

SO if we want to increase a lot of our customers in one year, we should put more effort on quarter 2!!!

Model Interpretation

Hour:

ampm1	0.30740	0.16105	1.909	0.05630 .
ampm2	0.48953	0.07915	6.185	6.20e-10 ***
ampm3	0.38018	0.07822	4.860	1.17e-06 ***

Afternoon › Evening › Morning › Midnight

Suggestions:

More specifically, send your promotion on 12:00, 15:00 and 16:00!!!

hour1	-0.16111	0.19644	-0.820	0.41214
hour2	-0.19246	0.19681	-0.978	0.32813
hour3	-0.19629	0.20537	-0.956	0.33917
hour4	-0.26147	0.20524	-1.274	0.20269
hour5	-0.41751	0.22014	-1.897	0.05788 .
hour6	-0.88920	0.27254	-3.263	0.00110 **
hour7	0.50708	0.31471	1.611	0.10712
hour8	-0.31756	0.40419	-0.786	0.43206
hour9	-0.93075	0.52957	-1.758	0.07882 .
hour10	-0.92862	0.45938	-2.021	0.04323 *
hour11	-0.18391	0.42082	-0.437	0.66208
hour12	0.76260	0.33252	2.293	0.02183 *
hour13	0.13851	0.22053	0.628	0.52996
hour14	0.31813	0.19935	1.596	0.11051
hour15	0.39060	0.18700	2.089	0.03672 *
hour16	0.34240	0.17778	1.926	0.05410 .
hour17	0.19094	0.16989	1.124	0.26106
hour18	0.22349	0.17087	1.308	0.19090
hour19	0.08598	0.17122	0.502	0.61555
hour20	0.25699	0.17320	1.484	0.13785
hour21	0.12244	0.17035	0.719	0.47230
hour22	0.24297	0.17486	1.389	0.16469
hour23	0.07475	0.18105	0.413	0.67968

4. Q2:How to make more money for the Frequent Customers?

Regression Model: subset of original data who buy

```
lm(log(transaction Revenue)

 ~channel Grouping

 +log(hits+1)+log(visitNumber)

 +deviceCategory

 +sunday+ampm,

 data=ltraintr)
```

Model Summary:

```
Coefficients:
                                Estimate Std. Error t value Pr(>|t|)
(Intercept)                      1.94226    0.07761  25.026  < 2e-16 ***
channelGroupingAffiliates       -0.97245    0.38443  -2.530   0.0114 *
channelGroupingDisplay          -0.05247    0.10306  -0.509   0.6107
channelGroupingOrganic Search   -0.45847    0.03526 -13.002  < 2e-16 ***
channelGroupingPaid Search      -0.36735    0.06371  -5.766 8.39e-09 ***
channelGroupingReferral         -0.25766    0.03274  -7.870 3.97e-15 ***
channelGroupingSocial           -0.65079    0.12827  -5.073 3.99e-07 ***
log(hits + 1)                    0.58194    0.01975  29.471  < 2e-16 ***
log(visitNumber)                 0.29199    0.01361  21.456  < 2e-16 ***
deviceCategorymobile            -0.46280    0.04661  -9.929  < 2e-16 ***
deviceCategorytablet            -0.24299    0.10001  -2.430   0.0151 *
sunday                          -0.23161    0.04717  -4.910 9.25e-07 ***
ampm1                            0.10228    0.06509   1.572   0.1161
ampm2                            0.27174    0.03083   8.814  < 2e-16 ***
ampm3                            0.17636    0.03084   5.719 1.10e-08 ***
```

Model Interpretation & Suggestions

➢ <u>Channel</u> : comparing to direct search, coefficients of all other channels are negative

Direct > Referral > Paid Search (CPC) > Organic Search > Social > Affiliates

*Display (CPM) insignificant

<u>Suggestion</u>

When we put ads or sent promotion information to our customers:
● Focus on CPM rather than CPC;
● If budget is limited, put less on social platform like facebook,twitter,ins etc.

Model Interpretation & Suggestions

➢ <u>Device</u> : coefficients of mobile and tablet are negative, PC> tablet > mobile

<u>Suggestion</u>

● For device, our priority is on website rather than on app
● Improve user flow especially on website end to make the shopping experience better

Model Interpretation & Suggestions

➢ <u>Weekday</u> : coefficient of Sunday is negative

➢ <u>Hour</u> : Comparing to midnight, coefficients of afternoon and evening are positive and significant,

Afternoon › Evening , *AM insignificant

<u>Suggestion</u>
When we send coupon through emails to our existing customers:
- During the week, Sunday is not preferred for promotion activity
- In every single, afternoon and evening are preferred especially in the afternoon

Thank you!!
Wish you all healthy!!!