UDACITY

Marketing Data and Technology

Draw Insights from Marketing Data

Part One: Setting Goals

Identify Key Business Objectives

Key Business Objective: A defined goal or outcome used to plan the desired direction of your company.
Write at least 3 but no more than 5 business objectives that support your business model. Each objective should be SMART.

1	*Track at least 70% of website traffic sessions by March 31, 2026, using Google Analytics and session tracking tools, to gain insights into user engagement and better the marketing strategies.*
2	*Increase monthly merchandise purchase leads by 15% by December 31, 2025, through targeted digital marketing campaigns and promotional offers to generate interest.*
3	*Increase average gross sales by 10% by March 31, 2026, compared to amount calculated from Q4 2025, by upselling higher-margin products.*

Identify Key Performance Indicators

Key Performance Indicator (KPI): A quantifiable metric used to determine how effectively your key business objectives are being met. Ensure that the specific metric is clearly identified.	
1	*Percentage of sessions that are properly tracked (have all session data of specific user actions captured)*
2	*Number of new leads generated per month*
3	*Average order value*

Part Two:
A/B Testing Proposal

A/B Testing Proposal: KPI, Variable, and Hypothesis

KPI used as basis for the A/B test
Average Order Value
Variable that will have an impact on the KPI
Showing customer a message regarding being x dollar amount away from getting free shipping with their order
Hypothesis for your A/B Test
By displaying a free shipping threshold message in the cart more customers will decide to add more items and therefore increase the average order value

A/B Testing Proposal: Details and results

Details of the A/B test	
Variations being tested:	*Control: the cart page does not display any message about free shipping*
	The cart page does display a message about free shipping that updates based on cart value and the free shipping threshold
User groups:	*50/50 split of group A (control) that sees the cart with no message and group B that sees the cart with the free shipping message.*
Data collection tool:	*Google Analytics and Optimizely*
Length of the test:	*Collect data from 1,000 completed orders per group (2,000 users total).*

Describe how you would determine the results of the A/B test

I would compare the Average Order Value between the control group and the variation group. A higher AOV in the variation group would mean that the test worked well to meet objective.

Part Three:
Data Exploration

Reports Snapshot

From the Reports Snapshot, select a twelve month time period you would like to explore.

Ensure that the following are visible in the screenshot:

- Timeframe
- New users
- Axis values

Reports Snapshot

Which month had the most new users?

May 2025

Which month had the fewest new users?

Jan 2025

Write some ideas why certain trends are associated with these specific months?

May highest because spring promotions, mid-year sales, people are more socially active, and its far away from expensive holiday seasons.

Jan lowest because there is a drop in shopping after lots of spending in Nov - December.

User Tech

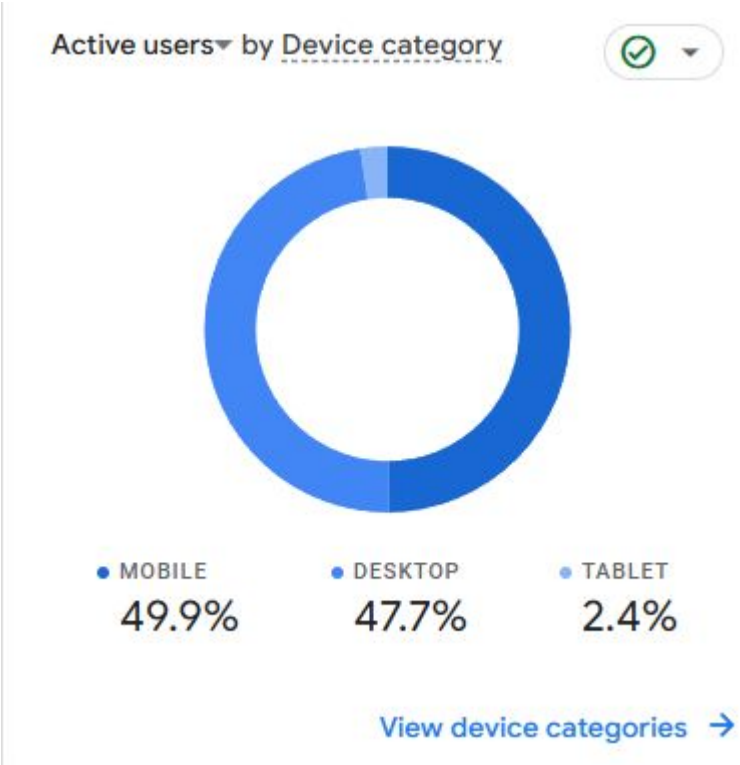
Please go into the User → Tech → Tech overview report for the following:

For the twelve month period you've chosen, provide a screenshot showing percentage chart (donut charts) of All Users that came from mobile, desktop, and tablet devices.

Ensure that the following are visible in the screenshot:

- Device Category
- Donut chart showing % breakdown by device

Note that the time frame selected does not need to be visible in the screenshot..



User Acquisition

For this section, if you are using your own business's Google Analytics data but do not have eCommerce capabilities established, please use the Google Analytics demo data provided from the Google Merchandise store.

Take a screenshot that shows the Engagement rate of the different acquisition channels over a 12 month period.

Ensure that the following are visible in the screenshot:

- Channel group
- Users
- Engagement Rate

Note that the time frame selected does not need to be visible in the screenshot, but will be reflected by the number of users.

Plot rows | Search... | Rows per page: 10 | Go to: 1 | 1-10 of 13

	Session primary...Channel Group)	Sessions	Engaged sessions	Engagement rate	Average online session engagement	Online session events	Event count All events	Key events All events	Session event r All events
	Total	1,253,620 100% of total	613,264 100% of total	48.92% Avg 0%	51s Avg 0%	13.45 Avg 0%	16,863,091 100% of total	1,072,877.00 100% of total	20.1 Avg
1	Direct	773,449 (61.7%)	314,933 (51.35%)	40.72%	40s	10.93	8,456,302 (50.15%)	505,660.00 (47.13%)	14.3
2	Organic Search	279,449 (22.29%)	180,103 (29.37%)	64.45%	57s	13.64	3,810,351 (22.6%)	261,541.00 (24.38%)	27.4
3	Referral	51,191 (4.08%)	35,958 (5.86%)	70.24%	1m 26s	19.10	977,567 (5.8%)	87,304.00 (8.14%)	36.2
4	Paid Search	48,404 (3.86%)	31,644 (5.16%)	65.37%	1m 19s	18.16	879,230 (5.21%)	62,289.00 (5.81%)	29.8
5	Unassigned	47,859 (3.82%)	4,525 (0.74%)	9.45%	51s	28.90	1,383,084 (8.2%)	31,601.00 (2.95%)	21.7
6	Email	25,446 (2.03%)	19,172 (3.13%)	75.34%	1m 43s	21.04	535,381 (3.17%)	58,741.00 (5.48%)	44.3
7	Cross-network	25,411 (2.03%)	19,971 (3.26%)	78.59%	1m 42s	22.48	571,149 (3.39%)	42,107.00 (3.92%)	41.1
8	Organic Social	8,577 (0.68%)	6,052 (0.99%)	70.56%	1m 36s	20.69	177,474 (1.05%)	17,020.00 (1.59%)	39.5
9	Organic Shopping	3,959 (0.32%)	3,055 (0.5%)	77.17%	1m 21s	16.72	66,184 (0.39%)	6,336.00 (0.59%)	53.
10	Paid Other	491 (0.04%)	219 (0.04%)	44.6%	34s	9.35	4,593 (0.03%)	203.00 (0.02%)	13.4

User Acquisition

Which channel groups had the highest and lowest engagement rates?

Highest: Cross-network

Lowest: Unassigned

Which channel groups had the highest and lowest total revenue?

Highest: Direct

Lowest: Unassigned

What do these metrics mean, based on your experience?

Cross-network users are traffic from targeted ads shown across Google platforms

Unassigned means unclear tracking / unintentional traffic so not surprising its the lowest both because of campaign efforts and unintentional traffic isn't a high conversion

Direct users come to site because they are familiar with the brand and are often return clients / high conversion

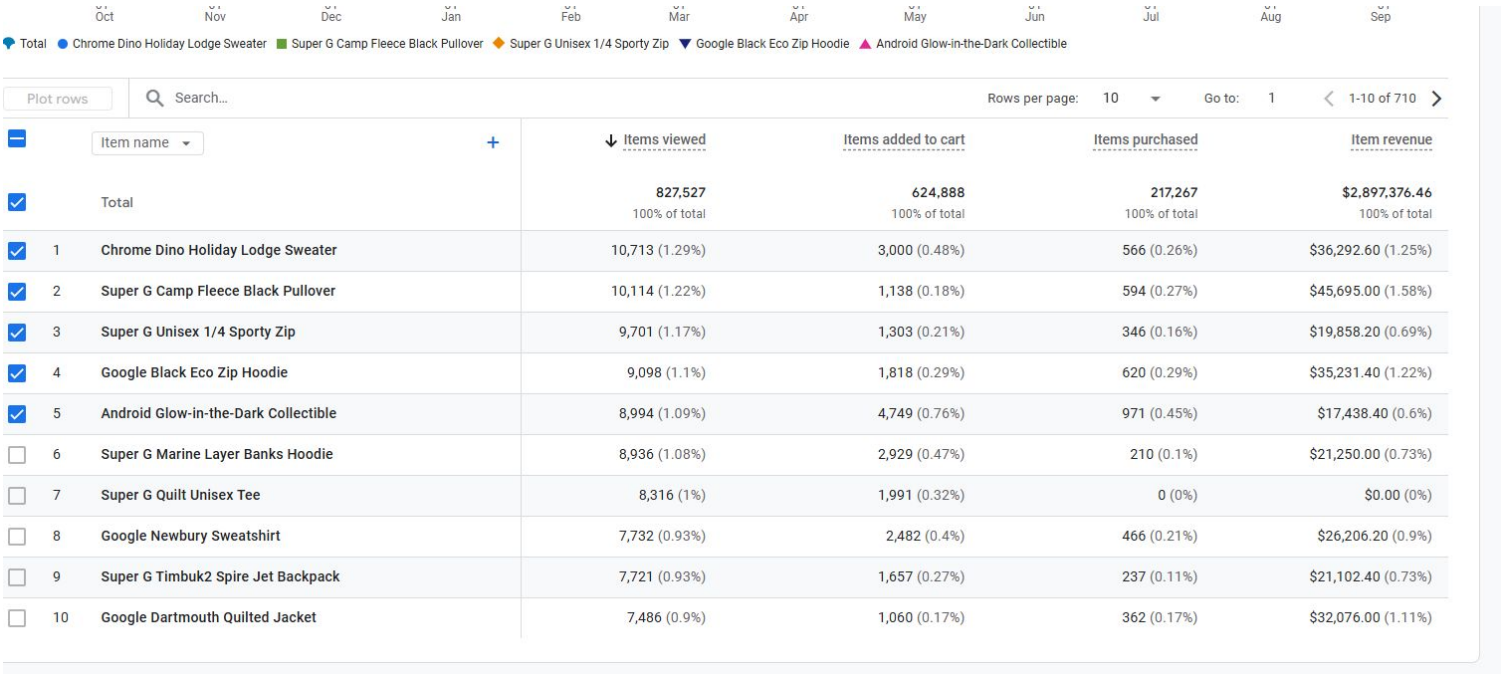
Monetization

For this section, if you are using your own business's Google Analytics data but do not have eCommerce capabilities established, please use the Google Analytics demo data provided from the Google Merchandise store.

During the twelve month period you've selected, provide a screenshot that shows the Item name that contributed the highest number of unique purchases and the item name that was responsible for the largest percentage of revenue? (Screenshot(s) only; no annotation required.)

Ensure that the following are visible in the screenshot:

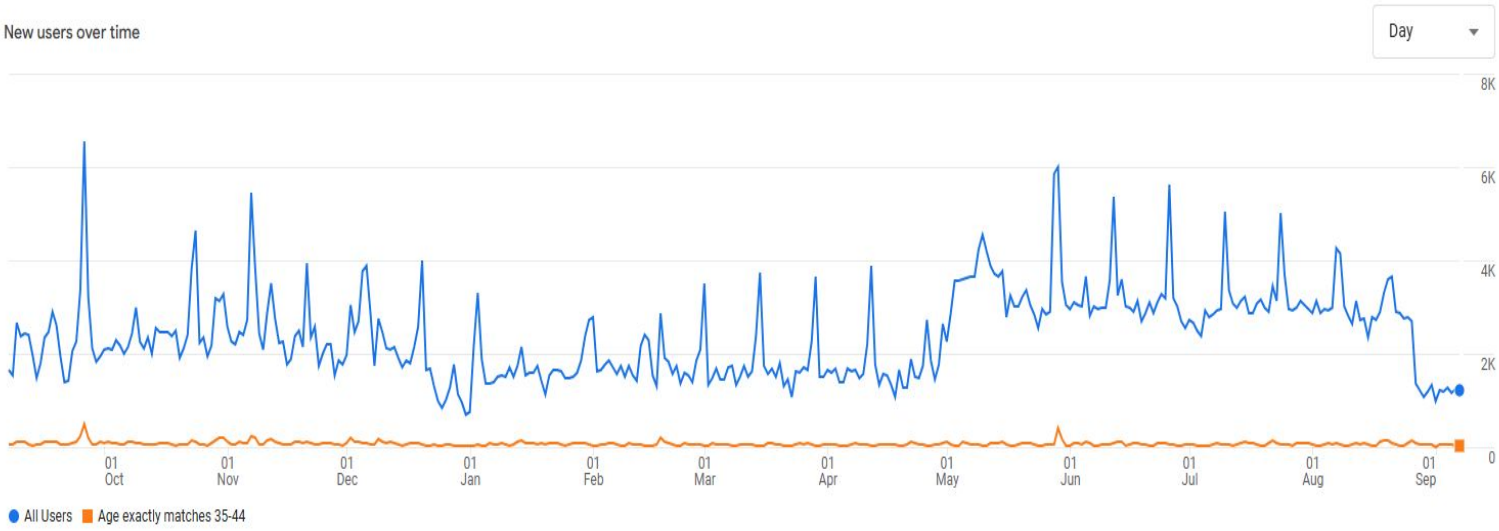
- Item names
- Number of items purchased
- Item revenue



	Item name	Items viewed	Items added to cart	Items purchased	Item revenue
	Total	827,527 100% of total	624,888 100% of total	217,267 100% of total	$2,897,376.46 100% of total
1	Chrome Dino Holiday Lodge Sweater	10,713 (1.29%)	3,000 (0.48%)	566 (0.26%)	$36,292.60 (1.25%)
2	Super G Camp Fleece Black Pullover	10,114 (1.22%)	1,138 (0.18%)	594 (0.27%)	$45,695.00 (1.58%)
3	Super G Unisex 1/4 Sporty Zip	9,701 (1.17%)	1,303 (0.21%)	346 (0.16%)	$19,858.20 (0.69%)
4	Google Black Eco Zip Hoodie	9,098 (1.1%)	1,818 (0.29%)	620 (0.29%)	$35,231.40 (1.22%)
5	Android Glow-in-the-Dark Collectible	8,994 (1.09%)	4,749 (0.76%)	971 (0.45%)	$17,438.40 (0.6%)
6	Super G Marine Layer Banks Hoodie	8,936 (1.08%)	2,929 (0.47%)	210 (0.1%)	$21,250.00 (0.73%)
7	Super G Quilt Unisex Tee	8,316 (1%)	1,991 (0.32%)	0 (0%)	$0.00 (0%)
8	Google Newbury Sweatshirt	7,732 (0.93%)	2,482 (0.4%)	466 (0.21%)	$26,206.20 (0.9%)
9	Super G Timbuk2 Spire Jet Backpack	7,721 (0.93%)	1,657 (0.27%)	237 (0.11%)	$21,102.40 (0.73%)
10	Google Dartmouth Quilted Jacket	7,486 (0.9%)	1,060 (0.17%)	362 (0.17%)	$32,076.00 (1.11%)

Part Four: Segmentation

Audience Segment: Demographics



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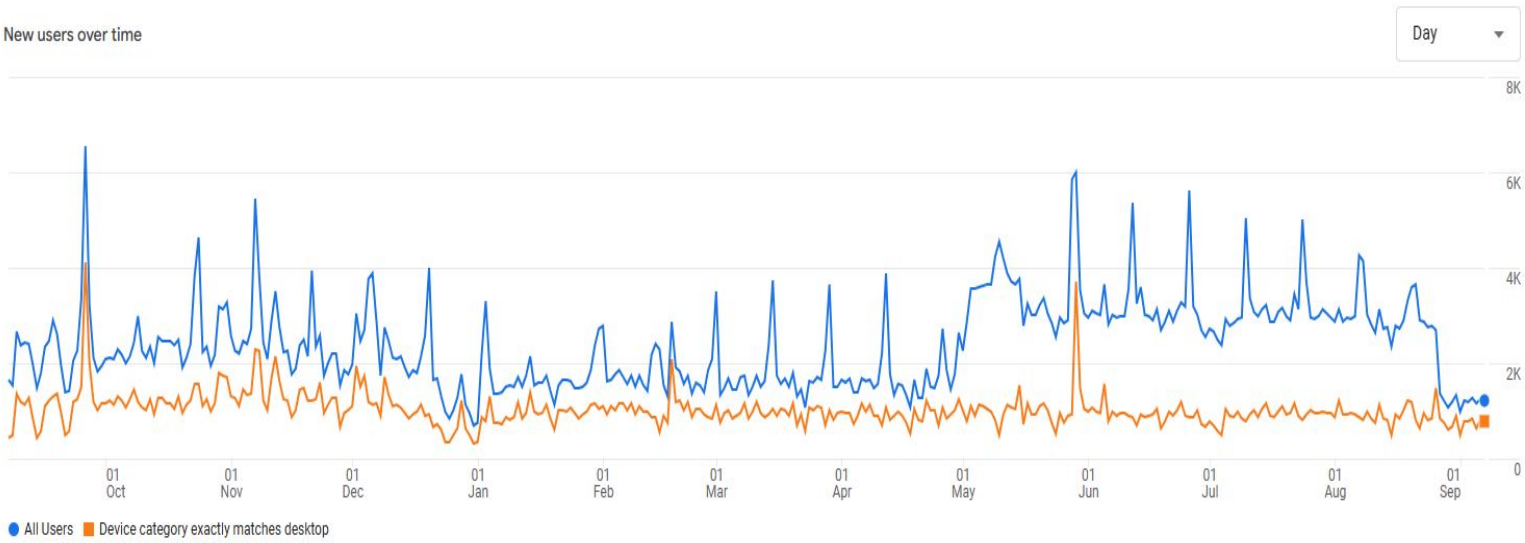
	Audience name	+	Comparison	New users	Sessions	Online session views	Online session duration	Total revenue	Total users
	All Users			2,305,797 100% of total	1,253,620 100% of total	16.45 Avg 0%	16m 41s Avg 0%	$16,437,493.87 100% of total	858,035 100% of total
	Age exactly matches 35-44			81,171 3.52% of total	57,926 4.62% of total	27.36 Avg +66.32%	22m 20s Avg +33.88%	$1,899,125.05 11.55% of total	34,762 4.05% of total
1	All Users		All Users	877,187 (38.04%)	1,253,620 (100%)	3.46	3m 47s	$2,656,839.30 (16.16%)	858,035 (100%)
	All Users		Age exactly matches 35-44	26,496 (32.64%)	57,926 (100%)	5.02	4m 05s	$304,021.55 (16.01%)	34,762 (100%)

Values used:	*"Age exactly matches 35-44"*

Audience Segment: Technology



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Audience name	+ Comparison	New users	Sessions	Online session views	Online session duration	Total revenue	Total users
All Users		2,305,797 100% of total	1,253,620 100% of total	16.45 Avg 0%	16m 41s Avg 0%	$16,437,493.87 100% of total	858,035 100% of total
Device category exactly matches desktop		1,089,093 47.23% of total	717,348 57.22% of total	22.27 Avg +35.38%	21m 15s Avg +27.41%	$15,744,849.31 95.79% of total	455,306 53.06% of total

Values used:	*Device category exactly matches desktop*

Part Five:
Analysis and Suggestions

Google Merchandise Store data

You can find the results of the Google Merchandise Store campaigns below.

Campaign Name	Cost	Revenue	ROAS
Tech Trends: Discover the Latest Google Gear	$5,000	$3,000	0.6
Shop with Google: Unleash Your Digital Lifestyle	$5,000	$8,000	1.6
Google Gadgets Galore: Elevate Your Tech Game	$5,000	$8,000	1.6
Gear Up with Google: Your One-Stop Tech Shop	$8,000	$13,000	1.625
Google Merch Madness: Score Big on Tech Essentials	$5,000	$2,000	0.4
Unlock the Power of Google: Shop the Best in Tech	$2,000	$3,500	1.75
Totals	$30,000	$37,500	

Business Sales Growth

Based on the data provided, how might the campaigns be realigned and improved to potentially achieve a 20% YOY sales growth **without additional cost**? You can assume that the data will remain consistent over the projected time frame. Please reference specific data to support your answer, such as metrics and campaigns.

You could get the answer by asking yourself: Which campaign would I spend less, and which would I spend more?

To make at least 20% more in revenue which would be a minimum of $7500 additional revenue:

Cut the most ineffective campaigns:

- *Google Merch Madness 5K spend for 3k return (.6 ROAS)*
- *Tech Trends. 5k spend for 2k return (.4 ROAS)*

Reallocate that $10000 saved on costs and reallocate it to 2 top ROAS performers:

- *Unlock the Power of Google: Shop the Best in Tech (1.75 ROAS)*
- *Gear Up with Google: Your One-Stop Tech Shop (1.625 ROAS)*

eCommerce improvements

UX change:

Create a side panel with the categories that is more intuitive to use than the top across layout of options, the side panel is a more common display UX. Also smaller image icons that show price when hovering over them.

Other eCommerce change or addition:

Option to buy wholesale

Technology

It is time for some exploration! You need to find 2 emerging marketing technologies that you could use in a technology stack. For each one, you need to describe why you would use that tool.	
1	*AI Agent Chat Bot*
	To improve shopping experience by allowing 1 on 1 conversation to explore customer wants/needs and make FAQ more interactive for user
2	*Social Commerce (linked to social media shops)*
	Wider audience funnel / more accessible