

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	<i>Increase Online Sales by 15% in the Next 3 Months</i>
2	<i>Improve Mobile Conversion Rate by 20% Over the Next 6 Months</i>
3	<i>Reduce Cart Abandonment Rate by 10% Within the Next 4 Months</i>
4	<i>Increase Traffic from Organic Search by 25% Over the Next 6 Months</i>
5	<i>Boost Average Order Value (AOV) by 10% in the Next 3 Months</i>



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	Total revenue from online purchases
2	Mobile conversion rate
3	Cart Abandonment Rate.
4	Number of sessions from organic search
5	Average order value (AOV)



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 (AOV).

Variable that will have an impact on the KPI

Product page layout (e.g., displaying a “Frequently Bought Together” section with bundled product recommendations)

Hypothesis for your A/B Test

Adding a “Frequently Bought Together” section to product pages will encourage customers to purchase complementary items, increasing the average order value. This change will help users discover relevant products, leading to a higher total purchase amount per transaction.



A/B Testing Proposal: Details and results

Details of the A/B test

Variations being tested:

Baseline (Current Version): Product pages display only the selected item without any recommendations.

Variation (Test Version): Product pages include a “Frequently Bought Together” section with two to three related items suggested alongside the main product.

User groups:

2 groups

Group 1 (Control): Views the current product page layout with no bundled recommendations.

Group 2 (Test): Views the product page with the “Frequently Bought Together” recommendations.

Data collection tool:

Google analytics tool.

Length of the test:

4 weeks, or until each group reaches at least 5,000 unique visitors to ensure statistically significant results.

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

To evaluate the A/B test, we will examine the **Average Order Value (AOV)** for each group. A higher AOV in the test group compared to the control group would indicate that the “Frequently Bought Together” recommendations are effective at increasing the total amount spent per transaction, thus validating the hypothesis.



Part Three: Data Exploration

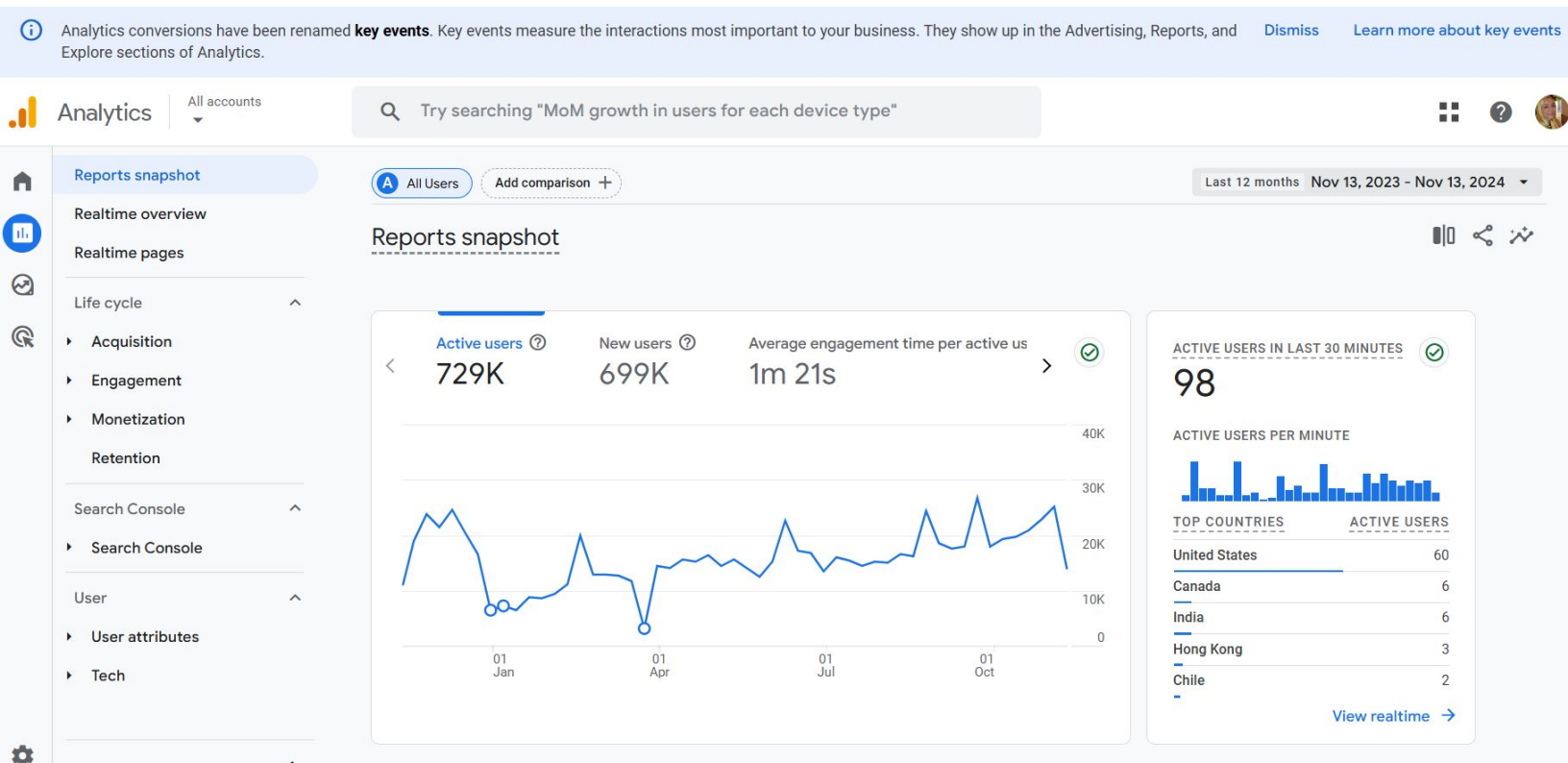


Reports Snapshot

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

Ensure that the following are visible in the screenshot:

- Nov 13, 2023 - Nov 13, 2024
- New users
- Axis values





Reports Snapshot

Which month had the most new users?

Sep 2024

Which month had the fewest new users?

March 2024

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

September is the start of the holidays seasons where everybody gets ready for holiday offers and so on .

March is not a month full of offers and holidays



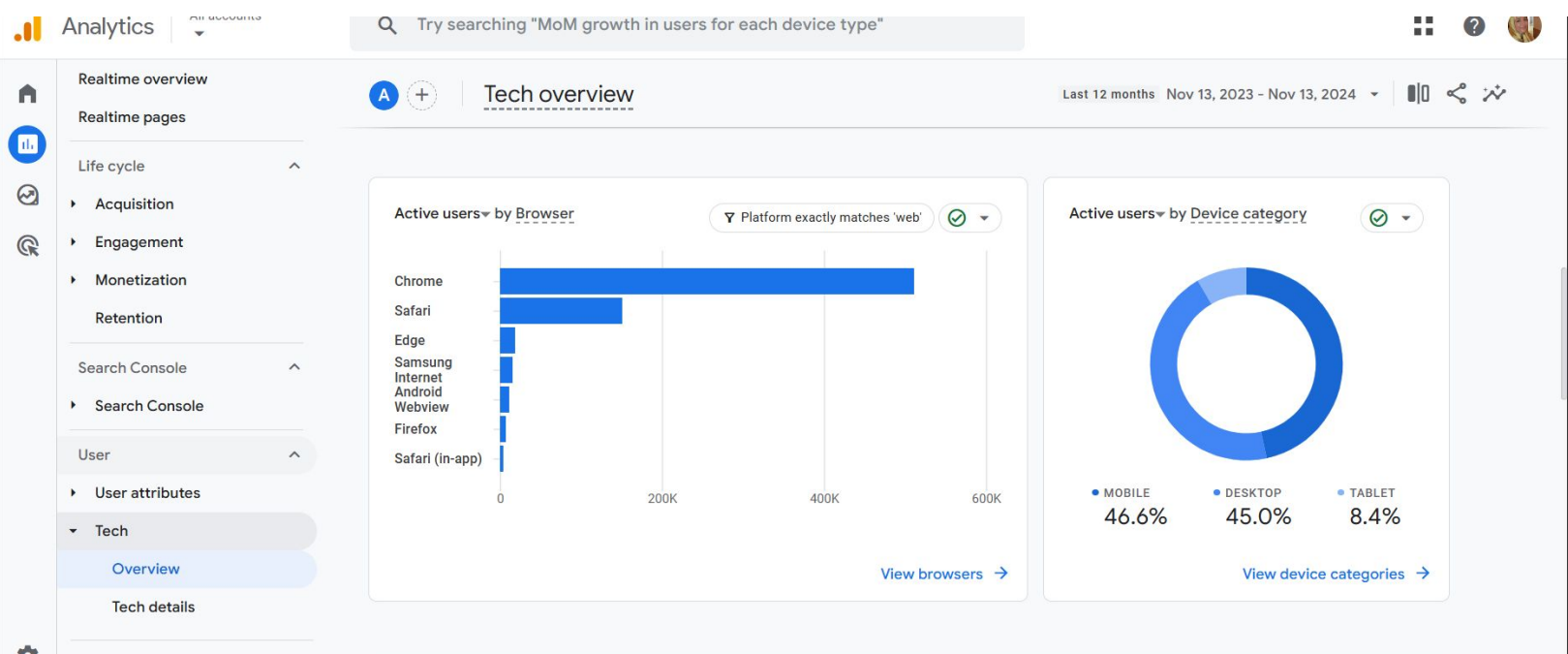
User Tech

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





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.

The screenshot displays the Google Analytics 'User acquisition' report. The left sidebar shows the navigation menu with 'Acquisition' expanded and 'User acquisition' selected. The main content area shows a table of acquisition channels with columns for Total users, New users, Returning users, Average engagement time, and Engaged sessions per active user. The data is for the last 12 months, ending on Nov 13, 2020.

User acquisition: First user primary channel group (Default Channel Group)						
Last 12 months Nov 13, 2020						
Channel Group	Total users	New users	Returning users	Average engagement time per active user	Engaged sessions per active user	Engagement rate
Total	745,688	699,055	144,195	1m 21s	0.86	
1 Direct	510,549	473,493	105,405	1m 20s	0.80	
2 Organic Search	133,371	129,875	23,037	1m 22s	1.02	
3 Cross-network	47,951	43,147	7,014	58s	0.72	
4 Referral	31,945	31,000	5,043	1m 41s	0.99	
5 Email	7,121	6,495	3,164	3m 51s	1.76	
6 Paid Search	6,706	6,530	618	12s	0.34	
7 Organic Social	5,264	4,872	1,041	1m 57s	1.09	



User Acquisition

Which channel groups had the highest and lowest engagement rates?

- **Email** channel has the highest engagement, with an **average engagement time of 3 minutes and 51 seconds per active user** and **1.76 engaged sessions per active user**. This indicates that users coming from the Email channel are the most engaged with the website content, likely due to the targeted nature of email campaigns.
- **Paid Search** has the lowest engagement, with an **average engagement time of 12 seconds per active user** and **0.34 engaged sessions per active user**. This low engagement suggests that users from Paid Search may not be finding relevant content on the site or may not be as interested in the offerings compared to users from other channels.

Which channel groups had the highest and lowest total revenue?

- **Direct** channel has the highest total revenue, with **732,179 in key events** (interpreted as revenue or goal completions). This suggests that users who come directly to the website, likely existing customers or users with strong brand awareness, generate the most revenue.
- **Paid Other** has the lowest total revenue, with **177 in key events**. This indicates that the Paid Other channel is underperforming in driving revenue, suggesting that its targeting or ad content may need optimization.

What do these metrics mean, based on your experience?

High Engagement and Revenue from Direct and Email Channels:

- The **Direct** and **Email** channels' high engagement and revenue metrics indicate strong brand loyalty and effective communication with existing customers. Direct traffic suggests users who are already familiar with the brand, while Email's high engagement shows that personalized, targeted emails are effective at capturing user interest.

Low Engagement and Revenue from Paid Search and Paid Other Channels:

- The low engagement and revenue from **Paid Search** and **Paid Other** channels suggest these campaigns may not be reaching the right audience or that their messaging isn't resonating with users. These channels might benefit from retargeting strategies, ad copy improvements, or refining audience targeting to attract users more likely to convert.
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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

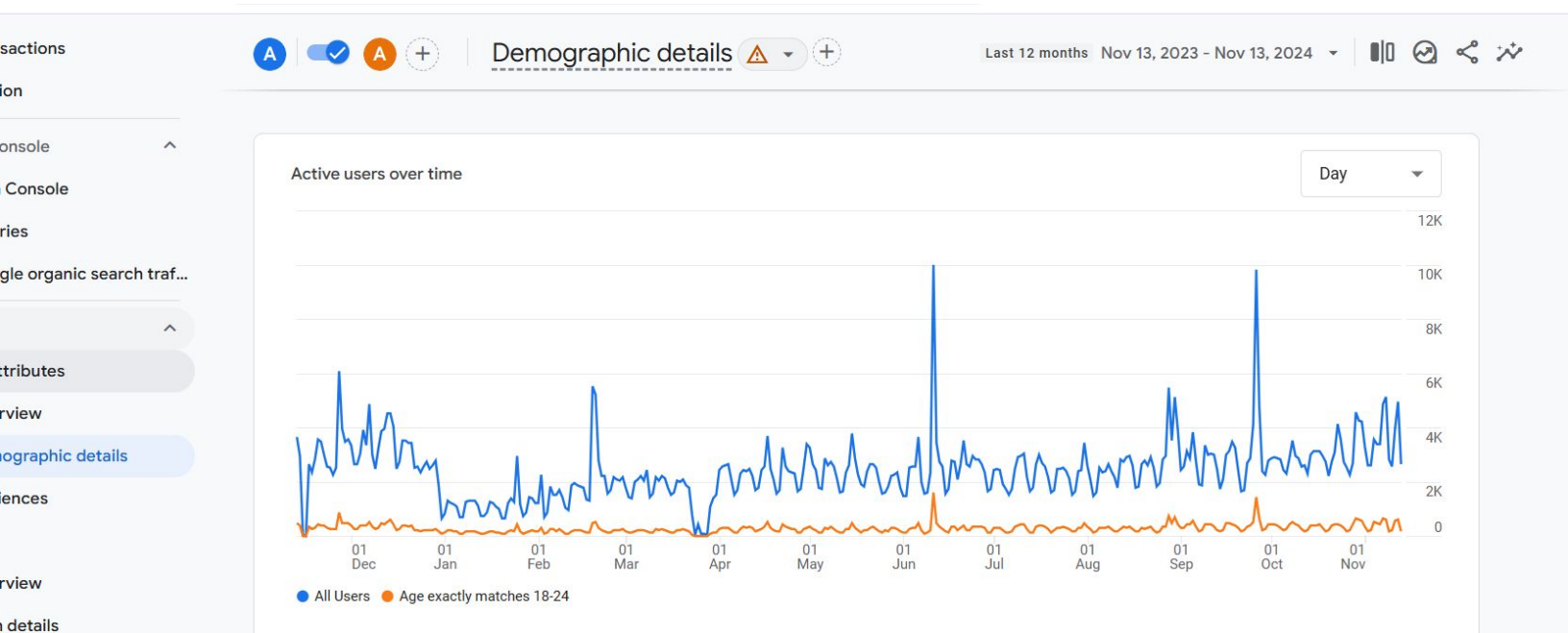
Plot rows		Search...		Rows per page: 10		Go to: 1		< 1-10 of 749 >	
<div><div></div></div>	Item name	<div><div></div></div>	<div><div></div></div>	Items viewed	Items added to cart		Items purchased		Item revenue
<div><div></div></div>	Total			518,056 100% of total	8,022,754,552,367,993,000 100% of total		120,801 100% of total		\$1,558,716.81 100% of total
<div><div></div></div>	1	Super G Timbuk2 Recycled Backpack		12,045	500,000,000,002,010		208		\$22,200.00
<div><div></div></div>	2	Android Classic Collectible		11,114	6,980		971		\$14,740.40
<div><div></div></div>	3	Google Campus Bike		10,709	7,428		656		\$29,502.00
<div><div></div></div>	4	Chrome Dino Warm and Cozy Accessory Pack		7,996	1,614		296		\$3,418.80
<div><div></div></div>	5	Android Glow-in-the-Dark Collectible		6,394	2,549		583		\$10,701.60
<div><div></div></div>	6	Google Sensory Support Event Kit		6,268	370		82		\$4,072.50
<div><div></div></div>	7	Google Black Eco Zip Hoodie		5,874	2,055		519		\$29,380.20
<div><div></div></div>	8	Chrome Dino Holiday Lodge Sweater		5,277	1,642		403		\$25,738.20
<div><div></div></div>	9	Google Cloud Unisex Onyx Zip Hoodie		5,108	1,126		292		\$16,642.80



Part Four: Segmentation



Audience Segment: Demographics

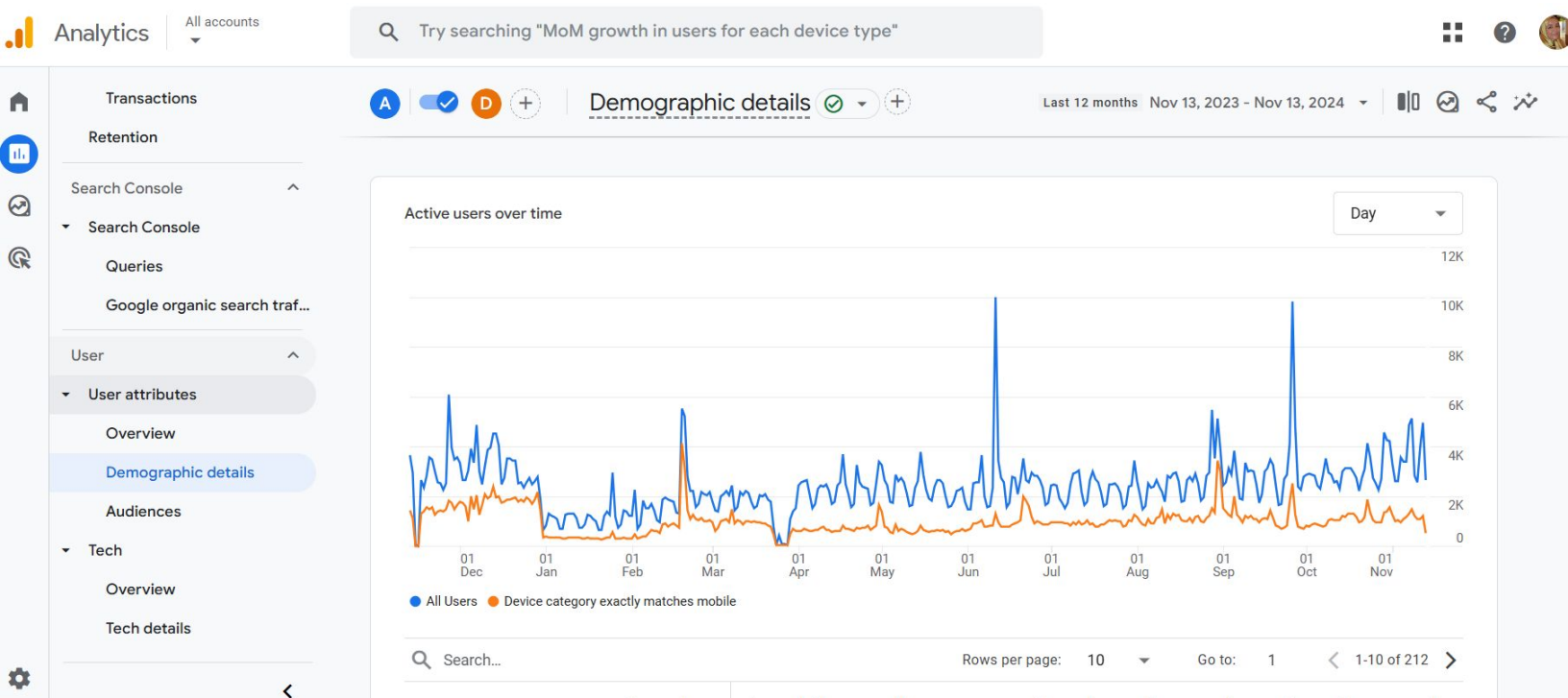


Values used:	Age
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segment and "All users," chosen Audience demographic includes a comparison of your place the screenshot here, that



Audience Segment: Technology



Values used:

Device Category



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?

Realignment Recommendations

1. **Reduce Spend on Low-Performing Campaigns:**
 - **Google Merch Madness** and **Tech Trends** campaigns have the lowest ROAS values (0.4 and 0.6, respectively), indicating low revenue return relative to cost. Reducing or even eliminating spend on these campaigns will free up budget for higher-performing campaigns without increasing overall spending.
 - **Budget Reallocation:** By reallocating \$10,000 (combined from these two low-performing campaigns), we can focus funds on campaigns with a stronger revenue return.
2. **Increase Spend on High-Performing Campaigns:**
 - **Unlock the Power of Google** has the highest ROAS of **1.75**, making it a prime candidate for increased spending. Doubling its budget from \$2,000 to \$4,000, for instance, would project revenue to increase from \$3,500 to \$7,000.
 - **Gear Up with Google** also performs well with a ROAS of **1.625**. Increasing its budget from \$8,000 to \$12,000 could increase projected revenue from \$13,000 to approximately \$19,500.



eCommerce improvements

Looking at your website pages or the [Google Merchandise Store](#) website and current eCommerce experience, identify one change to the eCommerce UX and one additional eCommerce option you would recommend implementing.

Example: One way to improve eCommerce capabilities would be to add the option of a digital wallet with the option to securely store and manage cards that have been used for payment, along with the option of using PayPal or ApplePay.

eCommerce Improvements

UX Change Recommendation:

- **Add a Persistent Shopping Cart Icon:** Display a visible shopping cart icon in the navigation bar that shows the number of items added and updates dynamically as users add products. This allows customers to see their cart progress, improving the overall user experience and potentially reducing cart abandonment.

eCommerce Feature Recommendation:

- **Add a “Save for Later” Option in the Cart:** Adding a “Save for Later” feature allows users to save items they are interested in purchasing but may not be ready to buy immediately. This feature can improve the user experience by reducing immediate abandonment and encouraging customers to return to complete their purchase.



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-Powered Personalization:

AI-powered personalization tools, such as recommendation engines, analyze user behavior to provide tailored product suggestions. By incorporating AI recommendations based on past purchases or browsing history, the Google Merchandise Store could offer more relevant products, boosting engagement and sales.

2

Chatbots for Customer Support:

Chatbots provide instant responses to customer queries, helping guide users through product information, checkout, and more. Implementing chatbots would enhance the customer experience by offering real-time support, which can increase conversions by resolving customer doubts quickly.