

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>Key Business Objective 1 (required)</i> <i>Increase the number of returning customers by 20% within 3months</i>
2	<i>Key Business Objective 2 (required)</i> <i>Increase total revenue by 30% within 6months</i>
3	<i>Key Business Objective 3 (required)</i> <i>Reduce bounce rate on the Home page by 30% within 3months</i>
4	<i>Key Business Objective 4 (optional)</i> <i>Reduce the bounce rate from Display ads by 50% in 6 months</i>
5	<i>Key Business Objective 5 (optional)</i> <i>Improve bounce rate from Display ads by 50% in 3months</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	<i>Key Performance Indicator 1 for Key Business Objective 1 (required)</i> <i>No. of returning visitors</i>
2	<i>Key Performance Indicator 2 for Key Business Objective 2 (required)</i> <i>Average order Value</i>
3	<i>Key Performance Indicator 3 for Key Business Objective 3 (required)</i> <i>Drop-off rate</i> <i>Bounce rate</i>
4	<i>Key Performance Indicator 4 for Key Business Objective 4 (optional)</i> <i>Bounce rate, Conversion rate</i>
5	<i>Key Performance Indicator 5 for Key Business Objective 5 (optional)</i> <i>Bounce rate</i>



Part Two: A/B Testing Proposal



A/B Testing Proposal: Instructions

For one of the KPIs identified in Part 1, you will outline a proposal for an A/B test.

To demonstrate your knowledge:

- Identify a variable that will have an impact on the KPI and metric
- Determine a hypothesis for what you expect to happen. Your hypothesis should include the variable you are testing and an explanation of your reasoning for testing this variable.
- Describe the steps you would take to perform the test. DO NOT ACTUALLY PERFORM THE A/B TEST.
- Describe the steps you would take to determine the results of the A/B test.
- **Place your responses and notes on the slides that follow.**



A/B Testing Proposal: KPI and Variable,

KPI used as the basis for an A/B Test:

- Bounce Rate
- Drop-off Rate

Identify a variable that will have an impact on the KPI and metric.

The variable that will have an impact on the KPI is the Home Page design of Google Merchandise store.

I will perform an A/B test on the Home Page because data shows that we are losing a lot of potential customers on that page. The Home page is the first interaction the potential customer will have with the company's website, so we need to make it easy for them to navigate to the other pages.



A/B Testing Proposal: Hypothesis

Determine a hypothesis for your A/B Test. Your hypothesis should include the variable you are testing and your predicted outcome.

I predict that Home Page A will enable more potential customers navigate to other pages on the website than Home Page B.

Variables: Home Page(A) vs Home Page(B)

Home Page(A) : The Home Page images are clickable for each collection e.g “Drinkware” image, “YouTube Collection” image

Home Page(B) : The original Home Page (images are not clickable)

The images on the Home Page should be made links for each collection so that once the customer clicks on the image, they are directed to all the products in that collection. This change will ease navigation, reduce the bounce rate and drop-off of potential customers.



A/B Testing Proposal: Testing Process

Describe the steps you would take to perform the A/B test.

I will be testing Home Page(A) and Home Page(B) to determine which one will perform better.

Home Page(A) : Home Page with clickable images

Home Page(B) : original design

- I would run Test A and B simultaneously for a period of 3 weeks by randomly splitting the potential customers so that half will be directed to Home Page A while the other half to Home Page B.
- I would use Google Analytics as my analysis tool to generate UTM codes to attach to the pages for tracking and analysis.
- Data will be collected from both test cases and reviewed to ensure that it is statistically significant (a minimum sample size of 100 users).
- I will analyse the data comparing the bounce rate and drop-off rate from both tests. At this point I can confirm or disprove my hypothesis.
- If my hypothesis is true, I will proceed to optimize my marketing effort by using the new Home Page.



A/B Testing Proposal: Testing Process

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

The result will be determined based on the bounce rate and drop-off rate metric. The test case with the lowest bounce rate and drop-off rate will be considered a better option.



Part Three: Data Exploration



Data Exploration: Instructions

Assume you're working with a client who has limited knowledge and experience, and who is relying your critical eye and expertise. They've looked at the data but aren't sure what to make of it, and they have specific questions they want you to answer. Some of the questions are driven by a cut-and-dry need to know. For others, you may be asked to share your insight.

To demonstrate your knowledge:

- You will either be using your own company's Google Analytics data or the demo data provided, as selected in part 1.
- For each of the questions that follow, take screenshots that show the indicated information.
- Provide annotations where indicated to give clarity to your answer
- If you are asked to provide your insight on a given question, provide those, too, on another slide right after the slide that contains your screenshot(s)
- **Place your questions, screenshots, and notes on the slides that follow.**

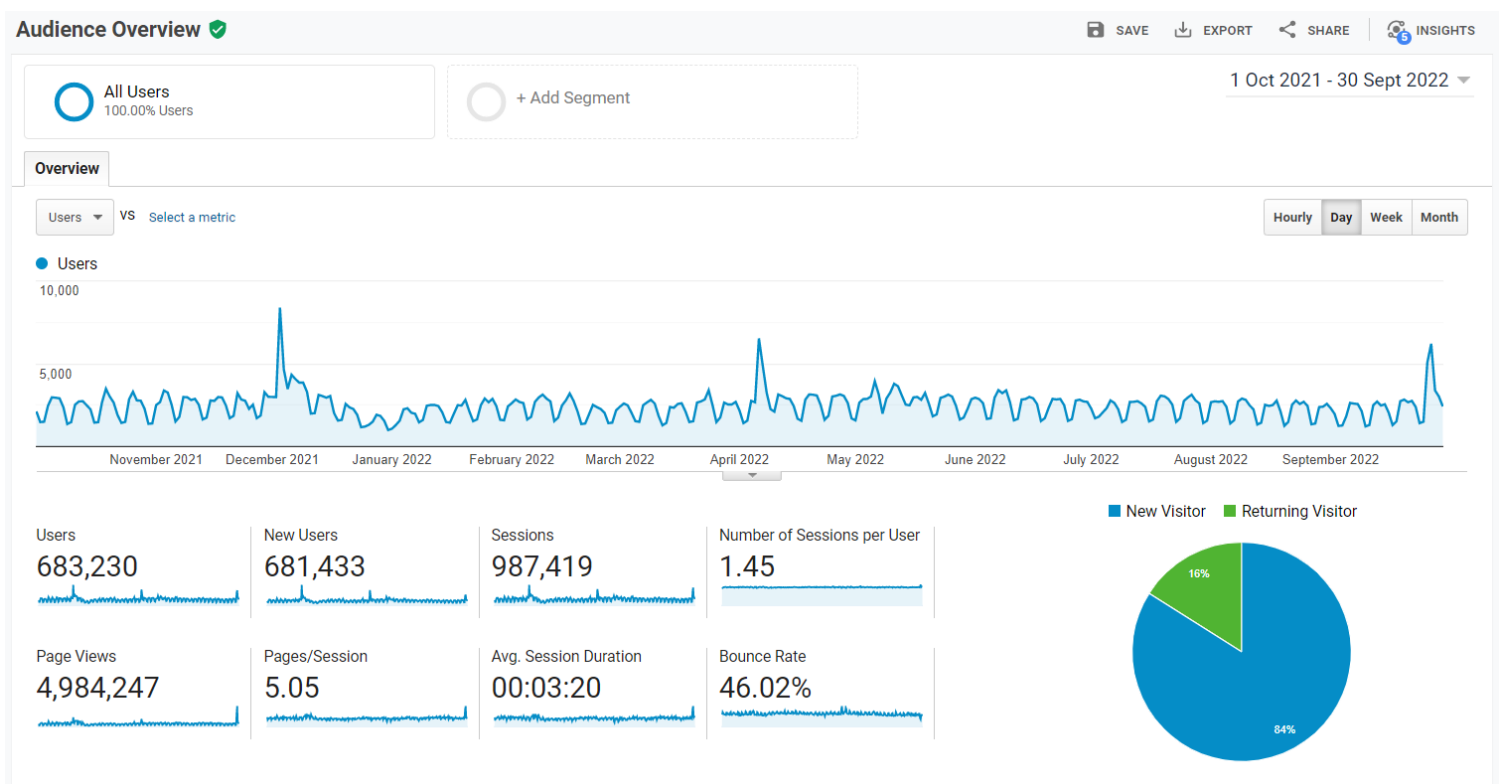


Standard Display - Audience

From the Audience Overview Report, select a twelve month time period you would like to explore.

Ensure that the following are visible in the screenshot:

- Timeframe
- Segment
- Metric
- Axis values





Standard Display - Audience

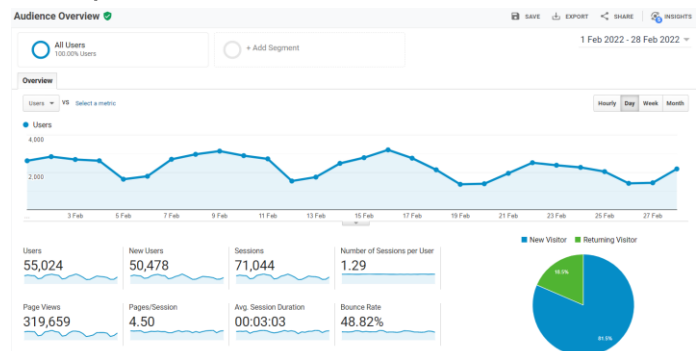
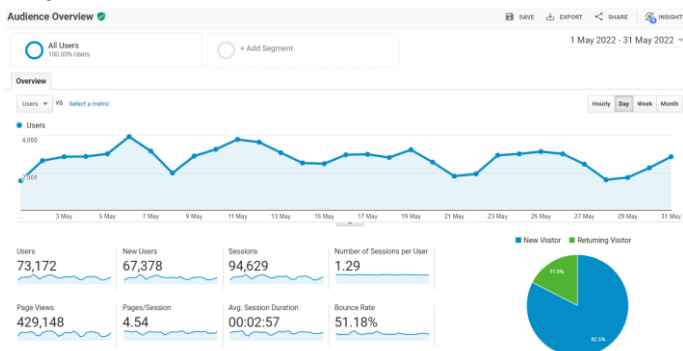
Which month had the most visitors, and which month had the fewest visitors to your site?

Highest Visitor- May 2022

Lowest Visitor- February 2022

73,172 visitors

55,024 visitors



Do you have any ideas why certain trends are associated with these specific months?

In both months, marketing traffic from paid search and display ad contributed to the total website traffic. Also note that February had 27 days compared to May which had 31 days in 2022.



Percentage Display: Audience

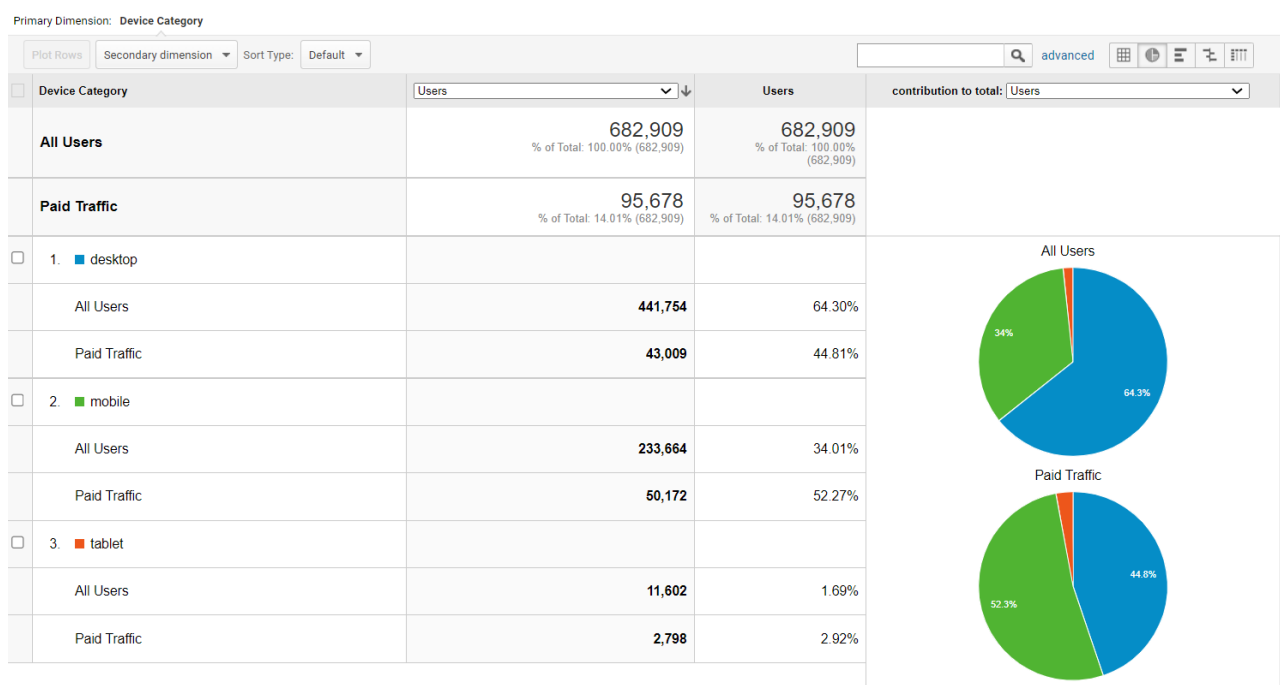
Please go into the Audience → Mobile → Overview report for the following:

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

Ensure that the following are visible in the screenshot:

- Device Category
- Total number of All Users and Paid Users
- Two pie charts showing % breakdown by device

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





Standard Display: 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 bounce rate of the different acquisition channels over a 12 month period.

Ensure that the following are visible in the screenshot:

- Channel
- Users
- Bounce 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.

	Acquisition			Behaviour
	Users	New Users	Sessions	Bounce Rate
	683,230	681,433	987,419	46.02%
1  Direct	582,355	<div><div></div></div>		42.73%
2  Paid Search	75,953	<div><div></div></div>		61.11%
3  Display	27,747	<div><div></div></div>		86.50%
4  Affiliates	2,073	<div><div></div></div>		66.11%
5  (Other)	90	<div><div></div></div>		56.36%
6  Referral	7	<div><div></div></div>		0.00%
7  Organic Search	3	<div><div></div></div>		33.33%



Standard Display: Acquisition

During the twelve-month period you've selected, excluding *Direct* and (*Other*), which channels had the highest and lowest bounce rates and the highest and lowest eCommerce conversion rates?

Display channel had the highest bounce rate and Referral had the lowest bounce rate.

Paid search had the highest ecommerce conversion rate while Referral and Organic Search had the lowest e-commerce conversion rate.

What do these metrics mean, based on your experience?

Insert your notes about the screenshot on the previous page here.

As a marketer, I would like to review the Paid Search, Affiliates and Display ads Channels to understand why their bounce rate is so high. My goal will be to reduce the bounce rate on these channels once it is determined whether it is a design problem, technical problem, misinformation or any other issue that is hindering the performance of these channels.



Percentage Display: Conversion

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 Product Category that contributed the highest number of unique purchases for New Users and the Product Category that was responsible for the largest percentage of revenue for New Users? (Screenshot(s) only; no annotation required.)

Ensure that the following are visible in the screenshot:

- New User segment
- Product Categories
- Unique Purchases
- Revenue

Product Category (Enhanced E-commerce)	Unique Purchases ▼ ↓
New Users	25,385 <small>% of Total: 31.69% (80,101)</small>
Apparel	7,930
New	6,976
Collections	3,095
Shop by Brand	1,240
Clearance	809
View All-Campus Collection	684
Lifestyle	657
Men's	429
Stationery	409
Accessories	401



Percentage Display: Conversion

Product Category (Enhanced E-commerce)	Product Revenue ▾ ↓
New Users	US\$713,621.13 <small>% of Total: 25.66% (US\$2,780,567.83)</small>
Apparel	US\$306,661.84
New	US\$159,299.43
Collections	US\$84,465.39
Bags	US\$24,163.93
Shop by Brand	US\$22,857.09
Men's	US\$14,691.59
Lifestyle	US\$14,340.79
View All-Campus Collection	US\$13,021.29
Clearance	US\$12,172.25
Office	US\$11,540.72



Comparison Display: Behavior

For traffic from All Users between the start and end of your twelve month period, please provide a comparison report showing Site Speed Page timings for the top ten pages (based on pageviews).

Ensure that the following are visible in the screenshot:

- Top 10 Pages
- Pageviews
- Average page load time

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

Page		Page Views	Avg. Page Load Time (sec) (compared to site average)	
		4,984,247 % of Total: 100.00% (4,984,247)	3.84 Avg for View: 3.84 (0.00%)	
1.	/home	696,265		47.58%
2.	/basket.html	469,962	-20.62%	
3.	/store.html	292,287	-7.20%	
4.	/google+redesign/apparel/mens	245,874	-8.63%	
5.	/google+redesign/apparel/mens/quickview	186,805	-17.22%	
6.	/signin.html	155,350	-35.07%	
7.	/google+redesign/new	146,728	-11.96%	
8.	/asearch.html	123,541		53.80%
9.	/google+redesign/apparel	118,983		20.88%
10.	/store.html/quickview	111,381	-15.63%	



Comparison Display: Behavior

Based on the screenshot, Identify any trouble spots related to speed page timings.

The Average Load time on some pages (Home, Search and Apparel page) are way higher than the average load time for the pages on the site.

Having the highest number of views, the Home page creates the customer's first impression interaction with the company. A high load time on an ecommerce site negatively impacts the company's revenue. It is imperative that these pages are optimize to reduce the load time which will reduce Exit Rate and ultimately increase Sales.



Part Four: Segmentation



Segmentation: Instructions

Segmentation helps provide clarity, insight, and confidence in data by making it more specific and actionable.

To demonstrate your knowledge:

- Identify and show **three different audience segments** compared to All Users. Create the following three custom segments:
 - One segment based on **Audience Demographics**
 - One segment based on **Technology**
 - One segment based on **User Behaviors**
- **Take screenshots showing each of your segments applied to the data and explain the segment and the results in the notes section. Place these items on the slides that follow.**



Audience Segment: Demographics

Insert the screenshot of a view (such as the Audience Overview) that includes both your Audience Demographic segment as well as “All Users.” Write down or include a screenshot of the values used to create the segment.

Everyone in the Americas Continent

In Americas Demographics

SaveCancelPreview

Demographics1

Technology

Behaviour

Date of First Session

Traffic Sources

Enhanced E-commerce

Advanced

Conditions

Sequences

Demographics

Segment your users by demographic information.

Age18-2425-3435-4445-5455-6465+

GenderFemaleMaleUnknown

Languagecontains

Affinity Category (reach)contains

In-Market Segmentcontains

Other Categorycontains

LocationContinentcontainsAmericas

Demographics
Language
Country
City
System
Browser
Operating System
Service Provider
Mobile
Operating System
Service Provider
Screen Resolution

Country	Users	% Users
1. United States		
All Users	309,960	44.50%
In Americas Demographics	309,960	82.10%
2. India		
All Users	60,357	8.67%
In Americas Demographics	0	0.00%
3. United Kingdom		
All Users	38,981	5.60%
In Americas Demographics	0	0.00%
4. Canada		
All Users	37,041	5.32%
In Americas Demographics	37,041	9.81%



Audience Segment: Technology

Insert the screenshot of a view (such as the Audience Overview) that includes both your Technology segment as well as “All Users.” Write down or include a screenshot of the values used to create the segment.

Save Cancel Preview

Demographics

Technology 1

Behaviour

Date of First Session

Traffic Sources

Enhanced E-commerce

Technology

Segment your users' sessions by their web and mobile technologies.

Operating System ?

contains ▼ Android ⓘ

Operating System Version ?

contains ▼

Browser ?

contains ▼

Demographics	Country	Users	% Users
Language	1. United States		
Country	All Users	309,960	44.50%
City	Use Android Technology	45,001	35.01%
System	2. India		
Browser	All Users	60,357	8.67%
Operating System	Use Android Technology	24,206	18.83%
Service Provider	3. United Kingdom		
Mobile	All Users	38,981	5.60%
Operating System	Use Android Technology	7,326	5.70%
Service Provider	4. Canada		
Screen Resolution	All Users	37,041	5.32%
	Use Android Technology	5,835	4.54%
	5. Japan		
	All Users	14,750	2.12%
	Use Android Technology	2,891	2.25%



Audience Segment: User Behavior

Insert the screenshot of a view (such as the Audience Overview) that includes both your user behavior segment as well as “All Users.” Write down or include a screenshot of the values used to create the segment.

Session Behaviour | Save Cancel Preview

Demographics

Technology

Behaviour 1

Date of First Session

Traffic Sources

Enhanced E-commerce

Advanced

Conditions

Behaviour
Segment your users by how often they visit and conduct transactions.

Sessions ? = 2

Days Since Last Session ? =

Transactions ? per user =

Session Duration ? per user =

Country		Users	% Users
1.	United States		
	All Users	77,261	<div></div> 41.70%
	Session Behaviour	9,354	<div></div> 48.09%
2.	India		
	All Users	16,060	<div></div> 8.67%
	Session Behaviour	1,163	<div></div> 5.98%
3.	Canada		
	All Users	11,497	<div></div> 6.21%
	Session Behaviour	870	<div></div> 4.47%
4.	United Kingdom		
	All Users	11,495	<div></div> 6.20%
	Session Behaviour	1,040	<div></div> 5.35%
5.	France		
	All Users	4,369	<div></div> 2.36%
	Session Behaviour	573	<div></div> 2.95%



Part Five: Analysis and Suggestions



Analysis and Suggestions: Instructions

Using your existing data (selected in part 1) you will analyze the current state of your business and provide recommendations for how to improve it in a variety of ways. If you are using the Google Analytics demo account and not your own business, you will be provided with example data to use.

To demonstrate your knowledge:

- Using the cost, revenue, and ROAS for campaigns, determine how you might be able to achieve 20% growth.
- Identify eCommerce changes that could be used to improve the business.
- Create an updated technology stack



Analysis and Suggestions: Business Sales Growth

Analyze your existing marketing campaigns to grow your business. In order to complete this section using your own data, you must have the required data (Campaign, Cost, Revenue, ROAS) for a minimum of two campaigns. If you do not have at least two campaigns or are missing some of the necessary data, you can use the Google Analytics demo account or the [2021 GSMM Solar YouTube Ad Sales Funnel Campaigns Pitch Deck](#) to answer this question. You are also welcome to add additional data beyond what is specified.



Analysis and Suggestions: Business Sales Growth

Based on the data and other information provided, how might the campaigns be realigned and improved to potentially achieve a 20% YOY sales growth? You can assume that the c\data will remain consistent over the projected time frame. Please reference specific data to support your answer like metrics and campaigns.

Campaigns

BMM | Txt ~ AW – Hoodies

MIX | Txt ~ AW-Brand (US/Cali)

Campaign ?	Users ?	Sessions ?	Impressions ?	Clicks ?	Cost ?	CTR ?	CPC ?	RPC ?	ROAS ?
	683,230 % of Total: 100.00% (683,230)	987,635 % of Total: 100.02% (987,419)	33,637,130 % of Total: 100.00% (33,637,130)	170,670 % of Total: 100.00% (170,670)	US\$178,261.48 % of Total: 100.00% (US\$178,261.48)	0.51% Avg for View: 0.51% (0.00%)	US\$1.04 Avg for View: US\$1.04 (0.00%)	US\$16.29 Avg for View: US\$16.29 (0.00%)	1,559.84% Avg for View: 1,559.84% (0.00%)
1. (not set)	589,958 (85.91%)	866,162 (87.70%)	0 (0.00%)	0 (0.00%)	US\$0.00 (0.00%)	0.00%	US\$0.00	US\$0.00	0.00%
2. Test	36,212 (5.27%)	42,834 (4.34%)	33,201,463 (98.70%)	97,556 (57.16%)	US\$30,751.86 (17.25%)	0.29%	US\$0.32	US\$0.09	29.26%
3. MIX Txt ~ AW-Brand (US/Cali)	11,608 (1.69%)	22,048 (2.23%)	21,847 (0.06%)	9,202 (5.39%)	US\$6,380.60 (3.58%)	42.12%	US\$0.69	US\$15.65	2,257.10%
4. BMM Txt ~ AW - Hoodies	8,445 (1.23%)	8,990 (0.91%)	114,200 (0.34%)	12,587 (7.38%)	US\$10,734.17 (6.02%)	11.02%	US\$0.85	US\$0.07	8.78%

Campaign ?	Acquisition			Behaviour			Conversions E-commerce		
	Users ?	New Users ?	Sessions ?	Bounce Rate ?	Pages/Session ?	Avg. Session Duration ?	E-commerce Conversion Rate ?	Transactions ?	Revenue ?
	96,095 % of Total: 14.06% (683,230)	93,357 % of Total: 13.70% (681,433)	121,473 % of Total: 12.30% (987,419)	66.66% Avg for View: 46.02% (44.83%)	3.27 Avg for View: 5.05 (-35.23%)	00:01:40 Avg for View: 00:03:20 (-49.76%)	1.57% Avg for View: 2.54% (-38.17%)	1,910 % of Total: 7.61% (25,111)	US\$204,472.78 % of Total: 7.35% (US\$2,780,590.33)
1. Test	36,212 (37.44%)	36,383 (38.97%)	42,834 (35.26%)	84.07%	1.67	00:00:37	0.23%	97 (5.08%)	US\$8,996.98 (4.40%)
2. MIX Txt ~ AW-Brand (US/Cali)	11,608 (12.00%)	9,556 (10.24%)	22,048 (18.15%)	26.42%	7.59	00:04:41	5.65%	1,245 (65.18%)	US\$144,016.73 (70.43%)
3. BMM Txt ~ AW - Hoodies	8,445 (8.73%)	8,430 (9.03%)	8,990 (7.40%)	88.13%	1.38	00:00:15	0.09%	8 (0.42%)	US\$942.10 (0.46%)



BMM | Txt ~ AW – Hoodies

The cost for this ad campaign was US\$10,734.17, the revenue generated was US\$942.10 and ROAS was 8.78%. The company ran at a loss; hence, this campaign was unsuccessful.

To achieve a 20% YOY sales growth, this campaign needs to be realigned and improved to give a better yield on ROAS by:

- Ensure that the campaign is targeting the right audience. In appealing to the right audience, sometimes customers need to be segmented and targeted with varying design ads.
- Redesign your landing page taking into consideration your buyer persona and their user experience. The landing page should have a good loading speed so that the customer doesn't abandon the page before converting.
- Retarget previous site visitors
- Generate more revenue from existing customers by increasing their Average Order Value. This can be accomplished by upselling, offering discount on minimum purchases, free shipping on minimum purchases, customer points etc.



MIX | Txt ~ AW-Brand (US/Cali)

This campaign was a very successful campaign with a total cost of \$6,380.60 and revenue was \$144,016.73, ROAS was 2,257.10%. Considering how profitable this turned out to be, I would recommend the following:

- Investing more in the cost of advertising
- Retarget previous site visitors
- Generate more revenue from existing customers by increasing their Average Order Value. This can be accomplished by upselling, offering discount on minimum purchases, free shipping on minimum purchases, customer points etc.



Analysis and Suggestions: eCommerce

Now you will evaluate the current state of eCommerce for your business and how it might be improved.

Based on the google analytics data, the bounce rate (52%) on the Home Page which has the highest number of views on the website is quite high. The data shows that the page sees a drop-off of 905k from the first interaction on the Home page. To reduce the bounce rate, we need to redesign the Home page in a way that it helps move the customers along to the next stage of interaction.

UX change:

From my interaction, the home page lacks clarity and potentials customers may find it confusing. One way to improve on this page is to redesign the page to have a high-level categorization of what the Google Merchandise store sells. For example, the categories should be in sync with the header links; Apparel, Lifestyle, Stationery and Collection for uniformity.

Images on the Home page should be made more user friendly by making them clickable

Other eCommerce change or addition:

The customer should be able to add products to cart without having to visit the cart every time a product is added. This will encourage more purchases and a smoother shopping experience.



Analysis and Suggestions: Technology

Now you will look at your existing technology stack and make recommendations for the future. This should include at least two additional technologies that are not currently utilized, one of which is a new emerging technology.

If using your own business, provide both the existing technology stack and the recommended update which.

If you are not using your own business or do not currently have a technology stack, you can use the [GSMM 2021 Marketing Technology and Channels Spreadsheet](#) to answer this question or as a template to create your own.

Provide a link to your technology stack or place a screenshot below. Make sure that the screenshot clearly shows a minimum of 2 new additional technologies, one of which is emerging, and a total stack of no less than 10.



TECHNOLOGY STACK

1	GSMM 2021 Technology Stack	Yearly Cost	Monthly Cost
2	Quickbooks	540	50
3	Gusto	696	58
4	Typeform	996	99
5	Zapier	588	73.5
6	GoHighLevel	2976	297
7	Storyblocks	360	30
8	Screencastify	150	12.5
9	VidIQ Pro	90	7.5
10	AdZoola	1000	50
11	Bluehost	\$183	\$15
12	WP Forms	\$399	5
13	Google Workspace	0	0
14	Google Search Console	0	0
15	<u>Google Analytics</u>	0	0
16	Deposit Photo	0	0
17	Legal Zoom	0	0
18	Hootsuite	0	0
19	istockphoto	0	0
20	<u>Scop.io</u>	0	0
21	Storyblocks	0	0
22	Paypal	0	0
23	Calendly	0	0
24	Adobe Premiere Pro	0	0
25	Final Cut Pro X	0	0
26	Microsoft Office Suite	0	0
27	Manychat	120	10
28	Twillio	0	0
29	iPhone 12 Pro	600	50
30	Macbook Pro 2017	0	0
31	Hubspot	50	540
32	Shopify	38	
33	Jarvis	40	

	Existing technologies
	Additional technologies