

DATA ANALYTICS

GOOGLE MERCH SHOP CASE STUDY

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Data source: Google merch store sales data on GA4

PROJECT BACKGROUND:

I designed this case study as a way to show off my Google Analytics 4 (GA4) skills. I'm using a demo version of the Google Merch Shop's data, which has some limitations in terms of access and features. To make this project more realistic, I came up with some pretend objectives that a sales and executive team might have for this kind of e-commerce business. This gave me a solid framework to analyze the data and demonstrate what I can do.

PROJECT OBJECTIVES:

- **Sales Team:**

- Identify the most popular products that generate the highest revenue in the past 28 days.
- Analyze the purchase funnel to identify any bottlenecks or drop-off points.

- **Executive Team:**

- Analyze key performance indicators (KPIs) such as website traffic, conversion rates, and revenue over the last 12 months.
- Identify trends and patterns in website traffic and sales data to inform business strategy.

Stakeholder: Sales Team

Objectives

1. Identify the most popular products that generate the highest revenue in the past 28 days.
2. Identify any bottlenecks or drop-off points in the purchase funnel. (Examine the steps users take before completing a purchase and pinpoint areas where they abandon their carts.)

Product Performance Analysis (Nov 1 - Nov 28, 2024)

Item name	Items viewed	Items added to cart	Items purchased	↓ Item revenue	Items_Purchased_to_Items_viewed_rate	Items_Added_to_cart_to_Items_viewed_rate
Totals	100,082	68,778	23,683	\$362,721.99	0.24	0.69
1 Chrome Dino Holiday Lodge Sweater	6,891	2,275	398	\$25,469.60	0.06	0.33
2 Google Campus Bike	906	1,947	473	\$20,889.00	0.52	2.15
3 Chrome Dino Holiday Lodge Socks	1,413	2,092	723	\$10,695.60	0.51	1.48
4 Google Dartmouth Quilted Jacket	1,435	207	108	\$9,504.00	0.08	0.14
5 Android Merch Shop Holiday Collectible	3,218	1,619	412	\$8,088.00	0.13	0.5
6 Chrome Dino Holiday Lodge Scarf	771	825	359	\$7,754.40	0.47	1.07
7 Google Charleston Bottle	541	392	304	\$7,070.20	0.56	0.72
8 Google I\m Feeling Lucky Tote	0	0	334	\$6,685.00	0	0
9 Chrome Dino Holiday Lodge Pom Beanie	831	569	273	\$6,564.00	0.33	0.68
10 Super G Quilt Puffer Blanket	418	49	61	\$6,076.00	0.15	0.12

Key Findings

- The top 5 products in terms of both popularity and revenue are the Chrome Dino Holiday Lodge Sweater, Google Campus Bike, Chrome Dino Holiday Lodge Socks, Google Dartmouth Quilted Jacket, and Android Merch Shop Holiday Collectible.

- The top 5 products in terms of Buy-to-Detail Rate (BTDR) are Google Charleston Bottle, Google Campus Bike, Chrome Dino Holiday Lodge Socks, Chrome Dino Holiday Lodge Scarf, and Chrome Dino Holiday Lodge Pom Beanie. These products effectively convert views into purchases.
- The Chrome Dino Holiday Lodge Pom Beanie and Super G Quilt Puffer Blanket have very low revenues among the top 10 products.
- The Chrome Dino Holiday Lodge Sweater, despite being a top-selling product, has the lowest BTDR among the top 10, at only 6%. Google Charleston Bottle ranks 7th by revenue but has the highest Buy-to-Detail Rate.

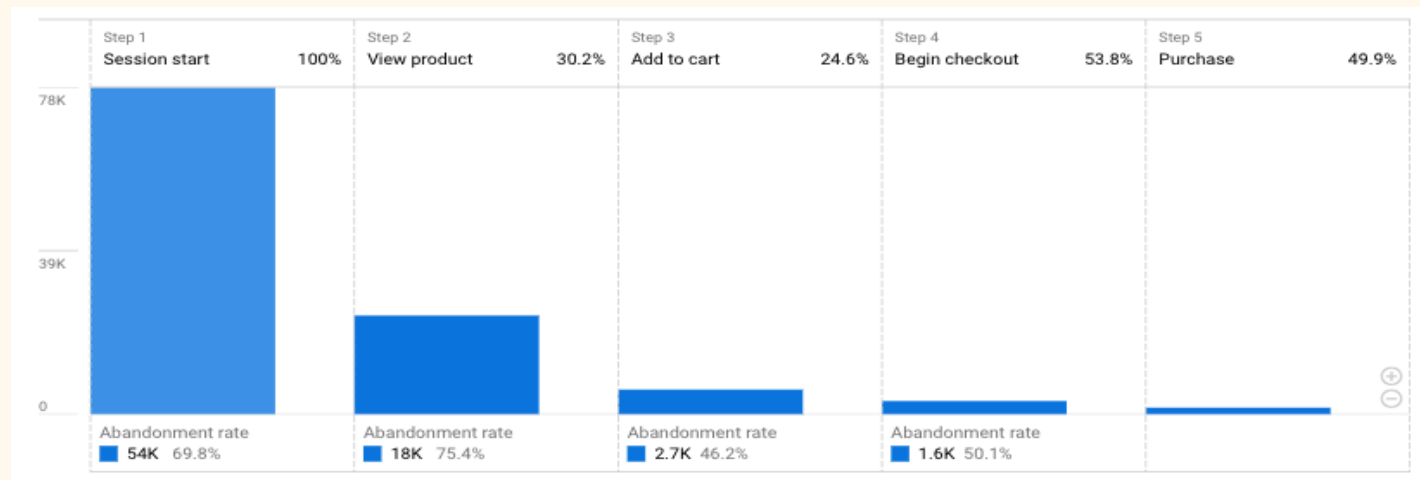
Insights

- The most popular products generate the highest revenue.
- A high Buy-to-Detail Rate (BTDR) indicates that a product page is effective at convincing visitors to buy, while a low BTDR suggests areas for improvement.

Recommendations

- Prioritize optimizing product pages for low-performing products based on BTDR, especially the Chrome Dino Holiday Lodge Sweater, which has high potential due to its popularity. Improve product images, descriptions, and calls to action.
- Market Google Charleston Bottle due to its high Buy-to-Detail Rate.
- Conduct A/B testing on different versions of product pages to identify elements that drive the highest BTDR.
- Consider creating product bundles or promotions that combine popular products with low-performing ones to boost sales of the latter.

Analysis of Purchase Journey



Analysis of Landing Page

Landing page	↳ Sessions	Bounce rate	Active users	New users	Average engagement time per session	Key events	Total revenue	Session key event rate
Totals	105,934	38.24%	77,340	71,296	1m 00s	122,639	\$327,761.42	30%
1 /	59,174	45.63%	47,201	43,598	57s	52,107	\$119,167.34	18.45%
2 /shop/collections/holiday	8,686	23.38%	7,443	5,200	1m 18s	14,131	\$29,454.17	39.43%
3 /canada	2,102	57.47%	1,922	1,269	42s	1,105	\$809.69	13.7%
4 /shop/apparel	1,818	34.87%	1,609	1,199	1m 19s	2,415	\$4,695.23	29.92%
5 /shop/new	1,777	24.59%	1,326	448	1m 50s	4,428	\$10,188.74	41.14%
6 /store.html	1,647	98.36%	1,643	1,968	0s	0	\$0.00	0%
7 /shop/stationery	1,508	15.12%	1,365	1,021	2m 02s	3,482	\$13,580.21	47.02%
8 /shop/apparel/headgear	1,171	28.69%	1,088	896	1m 31s	1,789	\$6,330.15	34.67%
9 /shop/lifestyle	1,151	27.54%	1,023	781	1m 27s	1,643	\$3,316.48	35.97%
10 /product/chrome-dino-holiday-lodge-sweater-ggoegxxx2371	1,135	3.96%	852	566	46s	2,280	\$2,083.24	96.48%

Key Findings

- Significant drop-offs occur at each step of the purchase funnel, with the 2 largest between
 - "Session start" and "View product" (69.8%), and
 - "View product" and "Add to cart" (75.4%)
- The top landing page is the homepage, with a significant lead over other pages. However, many users don't reach a product page after landing on the homepage. The bounce rate for the homepage is 45.63%.
- A considerable drop-off (46.2%) occurs between 'Add to cart' and 'Begin checkout,' indicating cart abandonment issues.

Insights

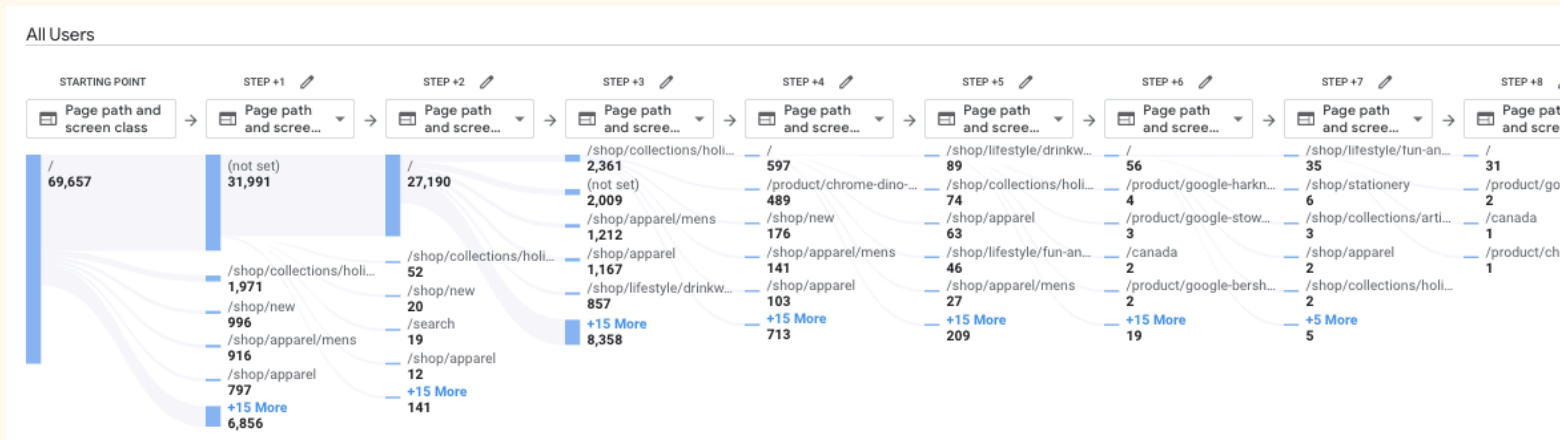
- The homepage needs improvement to effectively guide users to product pages.
- Investigate the reasons for cart abandonment, such as unexpected costs or a complicated checkout process.

Recommendations

- Conduct A/B testing on different homepage designs to identify elements that drive more users to product pages.
- Implement automated emails to remind users of abandoned carts and offer incentives to complete purchases.
- Simplify the checkout process, offer guest checkout, and provide various payment options to reduce cart abandonment.

Path Exploration

Where do viewers go from the homepage?



Key Findings

- The homepage is the primary entry point for most users.
- Users tend to follow a linear path from the homepage to specific product or category pages, indicating limited exploration of the site.
- Users seem to browse back and forth between pages without adding items to their cart, suggesting potential difficulties in finding desired products or navigating the site effectively.

Insights

- Users might have difficulty finding what they're looking for or understanding the site's navigation.
- Product pages might not be effectively showcasing items or encouraging add-to-cart actions.

Recommendations

- Redesign the navigation menu to be more intuitive and user-friendly. Consider freezing the navigation bar for easy navigation.
- Enhance the homepage by featuring top trending, top-selling, and discounted products with prominent 'Add to Cart' buttons to encourage direct purchases. Include sections for budget-friendly items, such as 'Gifts under \$5.'
- Enhance product pages with additional details like reviews, blog features, and aesthetic photos. Add call-to-action buttons and product recommendations, such as 'People who bought this also bought' and 'bundle deals,' to promote upselling opportunities.

Stakeholder: Executive team

Objectives

1. Analyze key performance indicators (KPIs) such as website traffic, conversion rates, and revenue.
2. Identify trends and patterns in website traffic and sales data to inform business strategy.

Key Performance Indicators (KPIs) - Analysis of Year-over-Year Performance (Nov 29, 2023 - Nov 28, 2024 vs. Nov 29, 2022 - Nov 28, 2023)

Total revenue	Session key event rate purchase ▼	↓ Total users	New users	Average engagement time per active user
\$2,117,718.07 vs. \$369,654.06 ↑ 472.89%	1.2% vs. 1.14% ↑ 4.64%	742,792 vs. 159,984 ↑ 364.29%	701,974 vs. 125,982 ↑ 457.2%	1m 20s vs. 118.41 ↓ -31.99%

Key Findings

- Total Revenue: \$2,117,718.07, reflecting a 472.89% year-over-year growth.
- Session Key Event Rate (Purchase): 1.2%, a 4.64% increase.
- Total Users: 742,792, a 364.29% increase.
- New Users: 701,974, a 457.2% increase.
- Average Engagement Time per Active User: 1 minute 20 seconds, a 31.99% decrease

Insights

- The significant increase in revenue may be attributed to effective marketing and promotional strategies or successful product launches. The high growth rate suggests that a larger user base or higher-value transactions are driving this growth.
- The sharp rise in total and new users indicates a successful user acquisition strategy.

- The drop in average engagement time per user suggests potential challenges in retaining user attention or optimizing content.

Recommendations

Focus on Retention Strategies:

- Introduce personalized content or recommendations to keep users engaged. Implement gamification or loyalty programs to encourage longer site visits.

Optimize User Experience:

- Review website navigation and content to ensure ease of use and relevance. Address potential bottlenecks or friction points in the user journey.

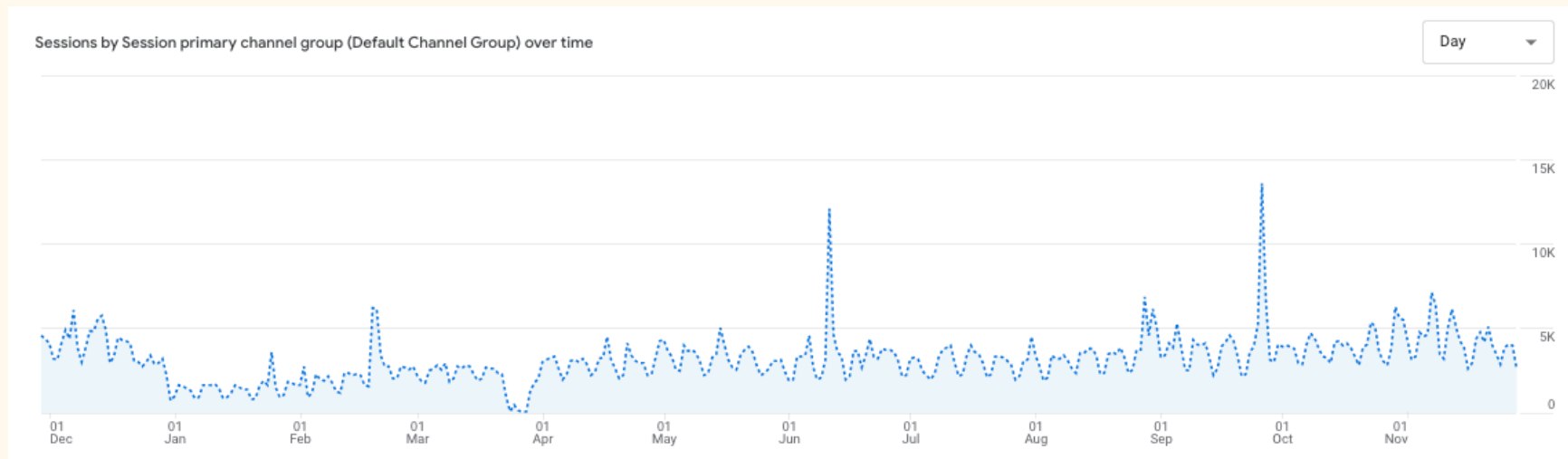
Scale Conversion Improvements:

- While a 4.64% increase in the session purchase rate is positive, further improvement can be achieved by testing targeted conversion rate optimization (CRO) strategies, such as simplified checkout processes or limited-time offers.

Sustain Traffic Growth:

- Maintain momentum in user acquisition efforts while investing in remarketing campaigns to convert new users into repeat customers.

Trends and Patterns in Website Traffic



Key Findings

- Website traffic shows fluctuating growth throughout the year, with periods of both increases and plateaus.
- Two significant spikes in website traffic occurred:
 - June 11th: Likely coinciding with the launch of a new product line or a summer sale promotion.
 - September 26th: Likely driven by back-to-school shopping or early holiday promotions.

Insights

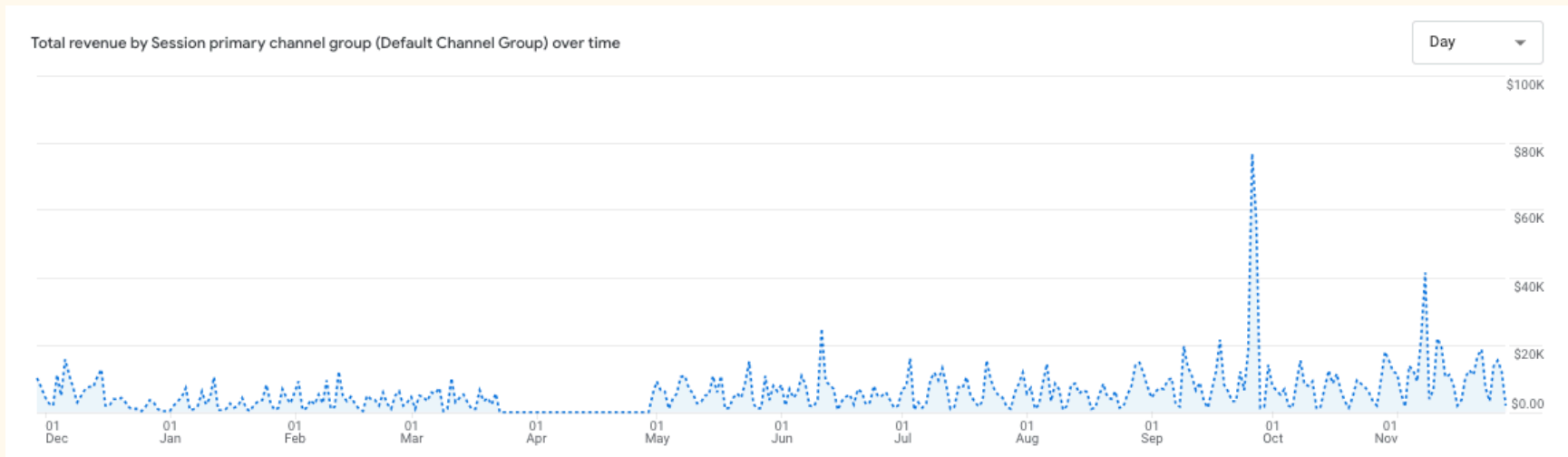
- The spikes highlight the importance of seasonality and specific events in driving website traffic. Capitalizing on these periods is crucial for maximizing sales.

- Further analysis is needed to understand the specific factors contributing to the June and September spikes and replicate their success in future campaigns.

Recommendations

- Develop targeted marketing campaigns and promotions around key events and seasonal peaks to maximize traffic and sales.
- Conduct in-depth analysis of the June and September spikes to identify the specific factors driving their success. Replicate these strategies in future campaigns.
- Continuously monitor and optimize marketing channels to maintain consistent traffic growth.
- Ensure website content and user experience are optimized to engage visitors and encourage conversions during peak traffic periods.

Analysis of Overall Revenue Trends



Key Findings

- There's a seasonality pattern in revenue throughout the year with weekly fluctuations except for a period of no revenue:
 - Period of Low Revenue: There's a noticeable period of very low revenue from approximately April to June. This needs further investigation.
- Two major revenue spikes occurred:
 - September 26th, 2024: This aligns with the spike in website traffic we saw earlier, likely driven by back-to-school or early holiday promotions.
 - November 8th, 2024: This spike could be attributed to pre-holiday sales or special promotions leading up to Thanksgiving.

Insights

- The spikes highlight the significant impact of seasonality, promotions, and specific events on revenue generation.
- The period of low revenue suggests potential missed opportunities or challenges during that time.
- The alignment of revenue spikes with traffic spikes indicates effective marketing campaigns driving sales.

Recommendations

- Develop targeted marketing campaigns and promotions around key events and seasonal peaks to maximize revenue.
- Analyze the April-June period to understand the factors contributing to low revenue and identify areas for improvement.
- Conduct in-depth analysis of the September and November spikes to identify successful strategies and replicate them in future campaigns.
- Ensure sufficient inventory levels to meet demand during peak seasons and avoid stockouts.
- Continuously evaluate pricing and promotion strategies to optimize revenue generation.