

Funnel Analysis and Conversion Rates

Introduction

A funnel chart can help demonstrate the flow of users through a business or sales process and recognize potential barriers to conversion. It can visualize the journey a user takes in order to register for a newsletter, purchase a subscription, or buy a product. When used for e-commerce, it can identify where in the process a customer will **click-through** or **drop-off**. A comparison of several funnels can show a **total conversion rate**, which is an overall performance metric that demonstrates the effectiveness of the funnel in leading a customer purchase

Project Objective

Your task is to build useful funnel chart from raw_events table data.

1. Analyze the data in raw_events table. Explore dataset and identify events captured by users visiting the website.
2. Create a query for unique events.
3. Write a new query that aggregates your identified events per top 3 countries.
4. Create a table showing the numbers of events' that you want to use in the funnel analysis. Add event_order and percentage drop off values
5. Create funnel chart(s) based on data you've collected.
6. Share key points/insights that are found.

Data Sources

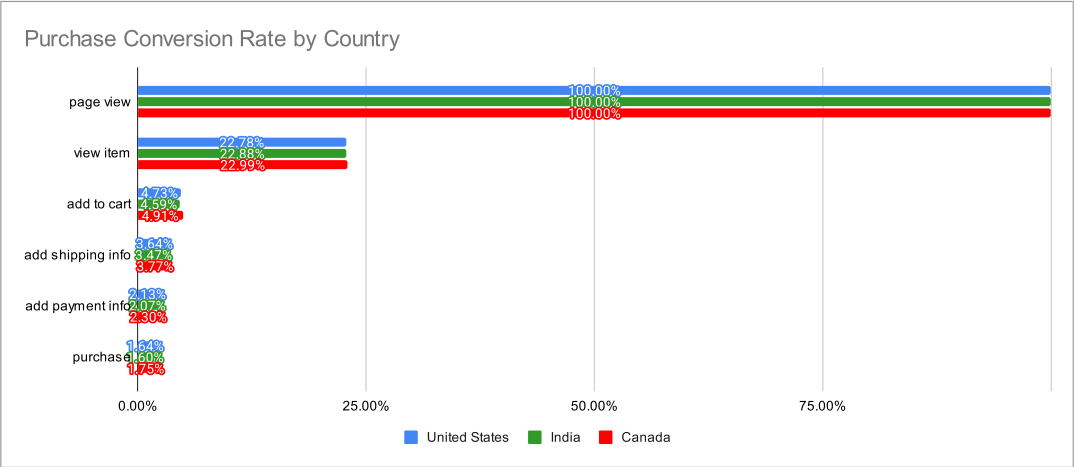
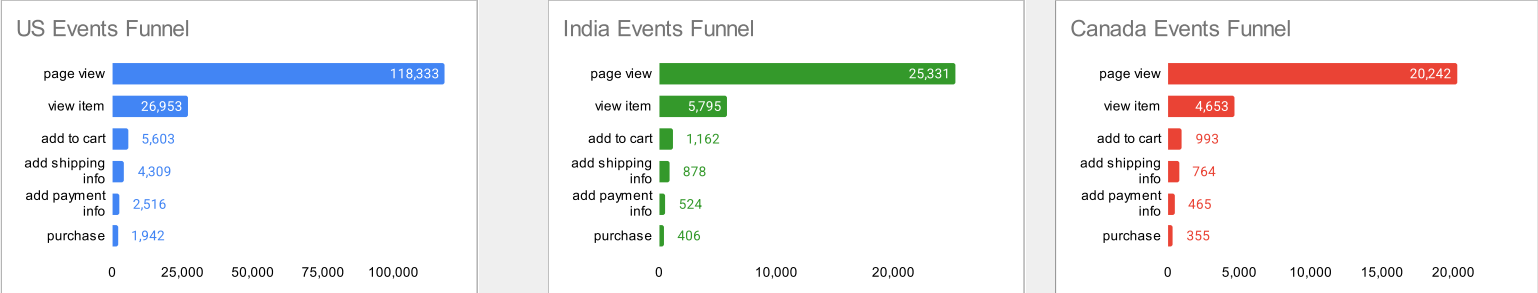
raw_events table hosted in BigQuery project. Data in raw_events table captures user events based on the event date, event timestamp, event name, as well as other extraneous data

field name	type	mode
event_date	STRING	NULLABLE
event_timestamp	INTEGER	NULLABLE
event_name	STRING	NULLABLE
event_value_in_usd	FLOAT	NULLABLE
user_id	STRING	NULLABLE
user_pseudo_id	STRING	NULLABLE
user_first_touch_timestamp	INTEGER	NULLABLE
category	STRING	NULLABLE
mobile_model_name	STRING	NULLABLE
mobile_brand_name	STRING	NULLABLE
operating_system	STRING	NULLABLE
language	STRING	NULLABLE
is_limited_ad_tracking	STRING	NULLABLE
browser	STRING	NULLABLE
browser_version	STRING	NULLABLE
country	STRING	NULLABLE
medium	STRING	NULLABLE
name	STRING	NULLABLE
traffic_source	STRING	NULLABLE
platform	STRING	NULLABLE
total_item_quantity	INTEGER	NULLABLE
purchase_revenue_in_usd	FLOAT	NULLABLE
refund_value_in_usd	FLOAT	NULLABLE
shipping_value_in_usd	FLOAT	NULLABLE
tax_value_in_usd	FLOAT	NULLABLE
transaction_id	STRING	NULLABLE
page_title	STRING	NULLABLE
page_location	STRING	NULLABLE
source	STRING	NULLABLE
page_referrer	STRING	NULLABLE
campaign	STRING	NULLABLE

Methodology

Analysis Results

Funnel by Top 3 Countries (United States, India, & Canada)



Results

event_order	event_name	first_country_events_US	second_country_events_India	third_country_events_Canada	full_perc	first_country_perc_drop	second_country_perc_drop	third_country_perc_drop
1	page view	118,333	25,331	20,242	100.00%	100.00%	100.00%	100.00%
2	view item	26,953	5,795	4,653	22.82%	22.78%	22.88%	22.99%
3	add to cart	5,603	1,162	993	4.73%	4.73%	4.59%	4.91%
4	add shipping info	4,309	878	764	3.63%	3.64%	3.47%	3.77%
5	add payment info	2,516	524	465	2.14%	2.13%	2.07%	2.30%
6	purchase	1,942	406	355	1.65%	1.64%	1.60%	1.75%

Event Counts by Top 3 Countries Split by Device

category	event_order	event_name	num_events_US	num_events_India	num_events_Canada
desktop	1	page_view	68,984	14,730	11,737

	2 view_item	15,748	3,387	2,688	79.54%	users who did not add to cart after viewing item
	3 add_to_cart	3,223	682	559	20.46%	added to cart after viewing item
	4 add_shipping_info	2,510	513	418		
	5 add_payment_info	1,471	309	251		
	6 purchase	1,115	235	198	34.68%	purchased when added to cart
desktop Total		93,051	19,856	15,851		
mobile	1 page_view	46,700	9,996	8,054		
	2 view_item	10,593	2,273	1,842	78.75%	users who did not add to cart after viewing item
	3 add_to_cart	2,254	461	410	21.25%	added to cart after viewing item
	4 add_shipping_info	1,714	344	329		
	5 add_payment_info	999	202	205		
	6 purchase	792	160	151	35.30%	purchased when added to cart
mobile Total		63,052	13,436	10,991		
tablet	1 page_view	2,649	605	451		
	2 view_item	612	135	123	80.57%	users who did not add to cart after viewing item
	3 add_to_cart	126	19	24	19.43%	added to cart after viewing item
	4 add_shipping_info	85	21	17		
	5 add_payment_info	46	13	9		
	6 purchase	35	11	6	30.77%	purchased when added to cart
tablet Total		3,553	804	630		
Grand Total		159,656	34,096	27,472		
Desktop view item > purchase conversion rate		7.08%	6.94%	7.37%	7.09%	average conversion rate across top 3 countries on Desktop
Mobile view item > purchase conversion rate		7.48%	7.04%	8.20%	7.50%	average conversion rate across top 3 countries on Mobile
Tablet view item > purchase conversion rate		5.72%	8.15%	4.88%	5.98%	average conversion rate across top 3 countries on Tablet
Overall add to cart > purchase conversion rate		34.66%	34.94%	35.75%	34.84%	average conversion rate across top 3 countries, without regards to device

Insights

Barriers and facilitators to completing a purchase

There is a large drop off of users after adding shipping information. Look into shipping rates and options for top 3 countries as high rates could indicate deterrant from adding payment info. Once users add payment info there is a 77% conversion to completing a purchase. This suggests that the users who enter payment info have a high likelihood in completing a purchase. Facilitate adding payment info by minimizing distractions such as pop-up forms or excessive navigation during checkout.

User engagement through website journey

Once users add to cart, they are 34-36% likely to complete a purchase, with highest rate of 35.75% in Canada. However, there are a large number of users (~80% of users) who are not adding an item to their cart once viewed. It would be beneficial to investigate what limits a user from adding to their cart. Do they need to click on the item and then add to cart or is there a quick add to cart option?

Type of device used affects purchase conversion rate

Mobile and desktop users have the higher purchase conversion rate after viewing an item (6.9%-8.2%)
Tablet users have lower average purchase conversion rate after viewing an item (5.98%)
 21% of desktop users add to cart after viewing an item while mobile and tablet rates are lower, 19% and 20% respectively.
 35% of desktop users complete purchase after adding to cart.
 This could signify better user engagement and experience when website is viewed on a desktop, irregardless of user country.

Absolute vs. percent conversion by Country

Absolute purchase conversion was highest in the US (1,942 out of 118,333) but overall there were a greater number of events for each stage of funnel. India was in second place and Canada in third. Percent purchase conversion was highest in Canada (1.75%), followed by US (1.64%), and lastly India (1.60%)