

## E-Commerce Analysis

### Description

I have been hired as a junior analyst at an e-commerce company! After searching for months, the company has finally found the right candidate to analyze their raw transaction logs and they want you to get started immediately.

### Task

The executive team is interested in understanding how well the website is converting product page views into purchases. Your first job is to create a conversion funnel to better understand how users interact with the website.

The company wants you to build acquisition cohorts based on the month of a user's first purchase, and they want you to track cohort metrics month by month.

The last steps of the analysis are to aggregate the purchase data into cohorts and then calculate retention rates for each cohort month by month.

### Analysis

#### Conversion Funnel

<i>event_type</i>	COUNTUNIQUE of user_id	CR	total_conversion
view	10453		
shopping_ cart	3036	29.04%	29%
purchase	1081	35.61%	10%

## Cohort Analysis

COUNT UNIQUE of cohort_age user_id					
first_purchase_month	0	1	2	3	Grand Total
2020-09	32	4	2		32
2020-10	187	14	7	1	187
2020-11	238	13	7	1	238
2020-12	203	9	6		203
2021-01	233	16			233
2021-02	188				188

## Retention Rates

	1	2	3	4
2020-09	13%	6%	0%	3%
2020-10	7%	4%	1%	1%
2020-11	5%	3%	0%	0%
2020-12	4%	3%	0%	0%
2021-01	7%	0%	0%	0%

## Recommendations

To address these challenges, several improvements are recommended. Streamlining the checkout process, offering guest checkout, and using cart abandonment recovery strategies—such as reminder emails or limited-time offers—can help increase conversions. Strengthening post-purchase engagement through personalized communication, loyalty programs, and retargeting campaigns may also improve retention. Moreover, collecting user feedback can help identify and resolve usability or trust issues, while onboarding strategies like welcome discounts and educational content can better support first-time buyers. These actions can collectively improve both conversion rates and long-term customer retention.

## Conclusion

The e-commerce analysis revealed critical insights into user behavior and conversion performance. Out of 10,453 users who viewed product pages, only 29% added items to their shopping cart, and a mere 10% completed a purchase. This indicates a significant drop-off at each stage of the conversion funnel, particularly from cart to purchase. Additionally, the cohort analysis shows a steep decline in user retention after the first month, with most cohorts displaying little to no activity by the second or third month. Although user acquisition peaked between October 2020 and January 2021, retention remained low across all groups, suggesting issues in maintaining user engagement beyond the initial purchase.