

Business Intelligence's
Study Case

Funnel & Cohort

Analysis

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Funnel Analysis

What is Funnel Analysis?

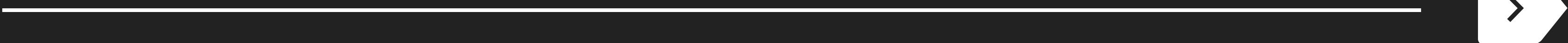
Funnel analysis is a method used in marketing and analytics to track the flow of users or customers through a series of steps or stages, often represented metaphorically as a funnel. The goal of funnel analysis is to understand and optimize the conversion rates at each stage of the funnel, ultimately improving the overall efficiency of a process, such as a sales journey or user journey on a website or app.



Project Overview

Funnel analysis project, the objective is to understand and optimize the conversion rates of users as they progress through different stages of a sales or user journey. This involves analyzing data related to user interactions, such as viewing products, adding items to the cart, and completing purchases.

The dataset provided contains information on user activities at each stage of the funnel, including the number of users at each stage and the conversion rates between stages. Using Tableau, students will create visualizations to illustrate the flow of users through the funnel and identify areas for improvement.



Process

1

Defining the Funnel: The first step is to define the stages of the funnel, which represent key actions or milestones that users or customers must complete to achieve a desired outcome. For example, in an e-commerce context, the stages might include "View Product," "Add to Cart," "Initiate Checkout," and "Complete Purchase."

2

Collecting Data: Data is collected on the number of users or customers who enter each stage of the funnel. This data can come from various sources, such as website analytics tools, customer relationship management (CRM) systems, or transaction databases.

3

Analyzing Conversion Rates: Conversion rates are calculated for each stage of the funnel by dividing the number of users who progress to the next stage by the number of users who entered the current stage. This helps identify where users are dropping off or where the funnel is leaking.

4

Identifying Bottlenecks: By analyzing the conversion rates at each stage, marketers and analysts can identify bottlenecks or points of friction in the funnel where users are getting stuck or abandoning the process. This might indicate usability issues, barriers to entry, or areas where messaging or incentives could be improved.



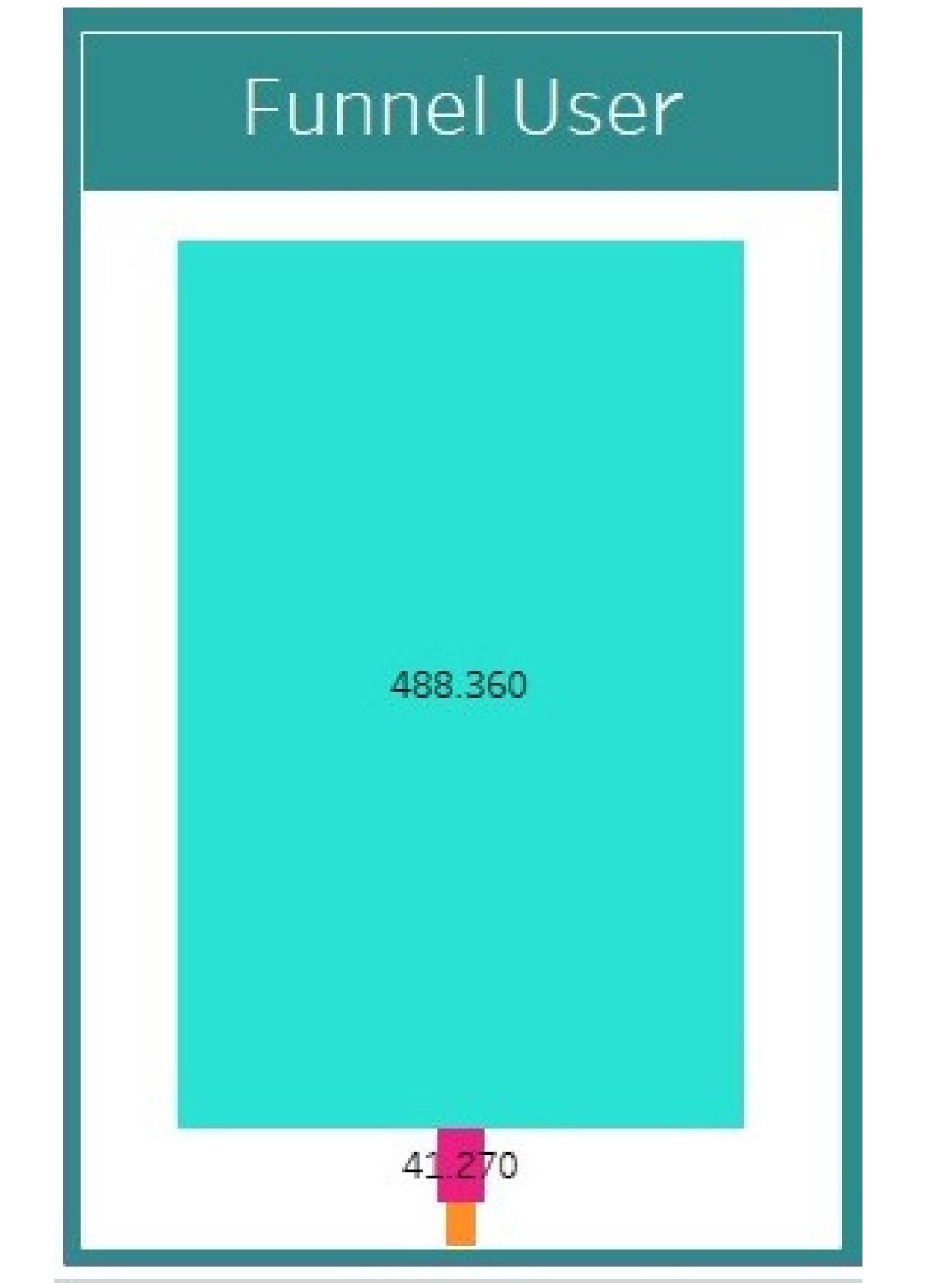
Data Overview

ex	event_time	event_type	product_id	category_id	category_code	brand	price	user_id	user_session
0	2020-09-24 11:57:06 UTC	view	1996170	2144415922528452715	electronics.telephone	NaN	31.9	1515915625519388267	LJuJVLEjPT
1	2020-09-24 11:57:26 UTC	view	139905	2144415926932472027	computers.components.cooler	zalman	17.16	1515915625519380411	tdicluNnRY
2	2020-09-24 11:57:27 UTC	view	215454	2144415927158964449	NaN	NaN	9.81	1515915625513238515	4TMArHtXQy
3	2020-09-24 11:57:33 UTC	view	635807	2144415923107266682	computers.peripherals.printer	pantum	113.81	1515915625519014356	aGFYrNgC08
4	2020-09-24 11:57:36 UTC	view	3658723	2144415921169498184	NaN	cameronsino	15.87	1515915625510743344	aa4mmk0kwQ

- **event_time**: Timestamp of the event.
- **event_type**: Type of event (e.g., view).
- **product_id**: ID of the product involved in the event.
- **category_id**: ID of the product category.
- **category_code**: Hierarchical category of the product (e.g., electronics.telephone).
- **brand**: Brand of the product.
- **price**: Price of the product at the time of the event.
- **user_id**: ID of the user involved in the event.
- **user_session**: Session ID associated with the user's activity.

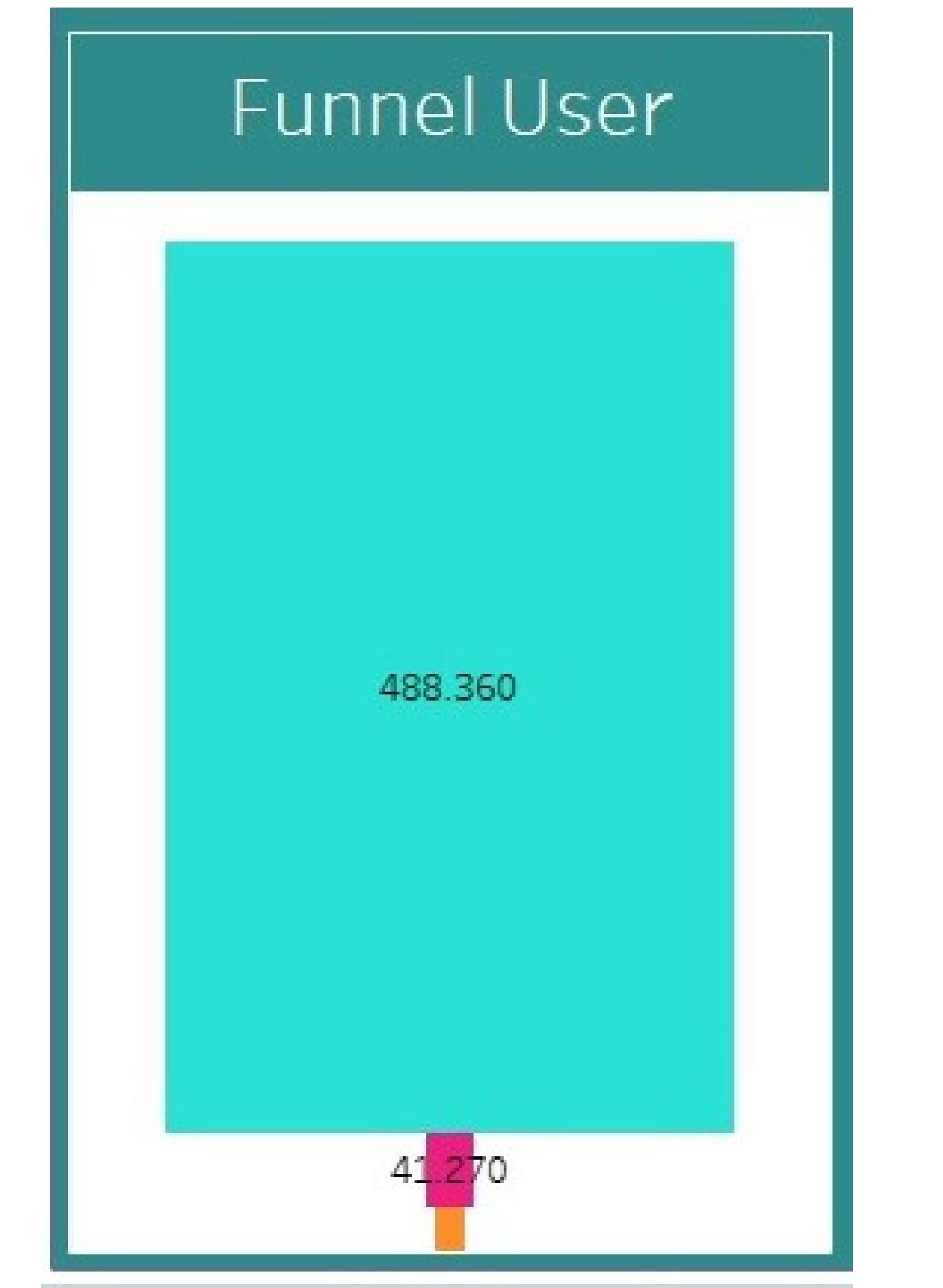
Funnel User Analysis

- View: A large number of sessions (488,360) involve users viewing products. This is the initial step in the user journey on the platform.
- Cart: A significant drop is observed as 41,270 sessions included adding items to the cart. This indicates a typical funnel drop-off but still represents a strong interest in the products.
- Purchase: The final conversion to purchase is made in 24,344 sessions. This conversion rate from viewing to purchase can be considered in the context of typical e-commerce conversion rates.



Funnel User Analysis

- The view-to-cart conversion rates are generally low, ranging from around 1% to 10%, indicating that a large portion of visitors are not adding items to their carts.
- The cart-to-purchase conversion rates are much higher, ranging from around 40% to 90%, suggesting that customers who add items to their carts are more likely to complete a purchase.
- The view-to-purchase conversion rates are relatively low, ranging from around 2% to 6%, indicating that a significant number of visitors are not making it all the way through the funnel to complete a purchase.



Funnel Revenue Analysis

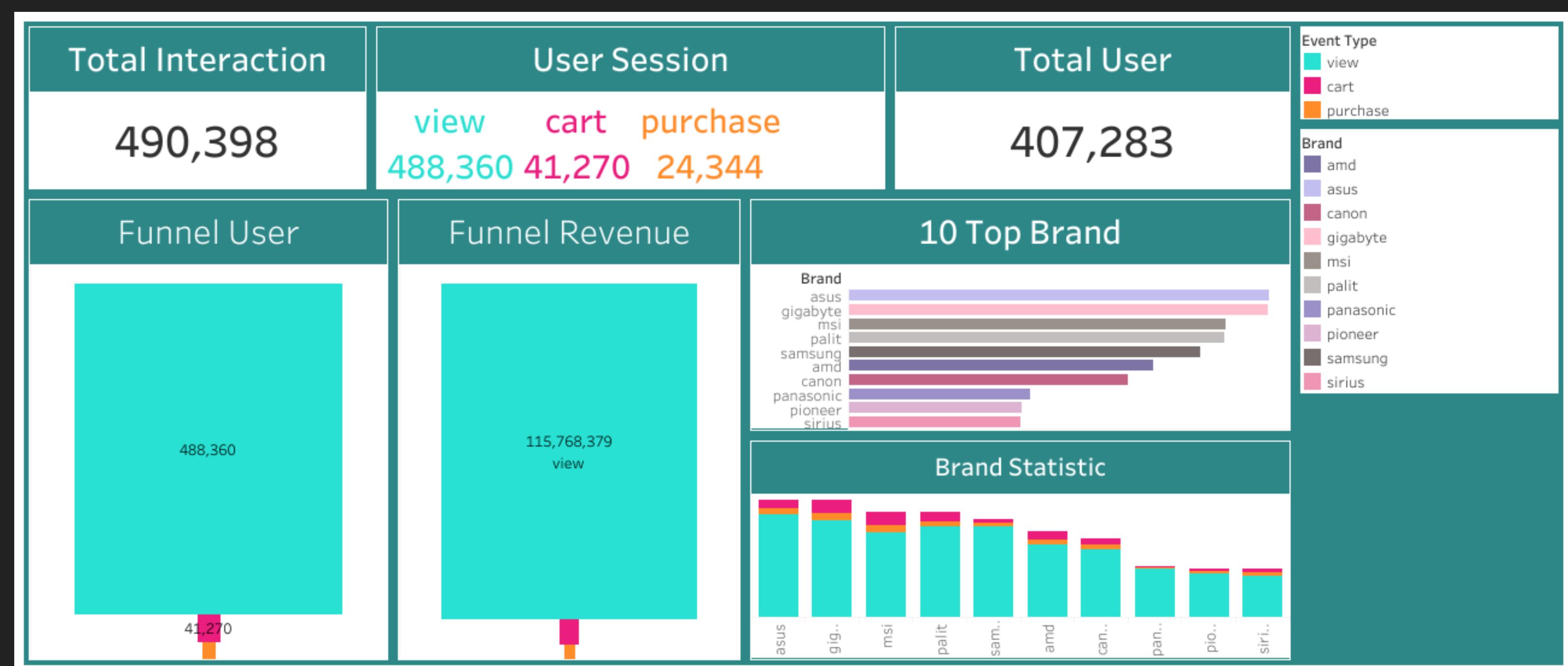
- The "Viewer," an individual embarking on exploration within the digital marketplace. At this initial stage, the potential for revenue stands impressively at 115,768,379, symbolizing the wealth of opportunities presented by user engagement.
- Transitioning to the intermediary stage, known as the "Cart," users indicate their intention to purchase by adding items to their virtual baskets. While the revenue potential diminishes slightly to 8,626,014 at this point, it underscores the importance of facilitating seamless transactions.
- The culmination of the purchase—a moment where revenue is realized, albeit reduced to 5,125,396. Here, the successful navigation of the funnel is evidenced by decisive user action and tangible conversion.

Funnel Revenue

115,768,379
view



Dashboard Result



Insight & Recomendation

- **1. Value of Engaged Users :**

The revenue generated from users who reached the cart stage (\$8,626,014) and completed a purchase (\$5,125,396) highlights the importance of engaging users beyond just viewing products. Emphasize strategies to encourage users to interact with the cart, such as offering incentives, showcasing related products, or providing a seamless checkout experience.

- **2. Potential Revenue Capture :**

The gap between revenue at the view stage and revenue at the cart stage indicates potential missed opportunities to capture additional revenue. Explore strategies to increase conversion rates from views to cart, such as optimizing product recommendations, simplifying the add-to-cart process, or implementing persuasive messaging.

- **3. Revenue Recovery Opportunities :**

Analyze reasons for abandonment at the cart stage to identify revenue recovery opportunities. Implement tactics like cart abandonment emails, retargeting ads, or personalized offers to encourage users to complete their purchases.

- **4. Effectiveness of Upselling/Cross-selling :**

Assess the revenue increase from the cart stage to the purchase stage to understand the effectiveness of upselling or cross-selling strategies. Optimize product recommendations or bundle offers to maximize revenue potential during the checkout process.

- **5. Mobile vs. Desktop Performance :**

Compare revenue metrics between different device types (e.g., mobile vs. desktop) to identify any discrepancies or opportunities for optimization. Ensure that the user experience is consistent across devices and address any device-specific issues affecting conversion rates.

- **6. Seasonal Trends or Campaign Impact :**

Analyze the funnel revenue over time to identify seasonal trends or the impact of marketing campaigns or promotions. Adjust marketing strategies or inventory management based on seasonal fluctuations to capitalize on peak revenue periods.



Cohort Analysis

What is Cohort Analysis?

Cohort analysis is a method used to understand the behavior and retention of a group of users or customers over time. In cohort analysis, users are grouped into cohorts based on a common characteristic or event, such as the date they signed up, the date of their first purchase, or their demographic information. These cohorts are then tracked and analyzed to identify trends, patterns, and insights related to user behavior, engagement, and retention.



Project Overview

In the Cohort Analysis part of the project, the objective is to understand user retention and behavior over time by grouping users into cohorts based on their signup or acquisition date. This involves analyzing data related to user activity and engagement within each cohort.

The dataset provided contains information on user signups or acquisitions, as well as their subsequent activities over time. Using Tableau, will create visualizations to track user retention, cohort behavior, and trends over time.



Process

1

Defining Cohorts : The first step in cohort analysis is to define the cohorts based on the characteristic or event of interest. For example, if you're analyzing user retention, you might define cohorts based on the month or quarter in which users signed up for your service or made their first purchase.

2

Collecting Data : Data is collected on the behavior and activities of users within each cohort over time. This data can include metrics such as retention rate, engagement metrics (e.g., frequency of visits, time spent on site), conversion rate, and revenue generated.

3

Creating Cohort Analysis : Cohort analysis involves visualizing and analyzing the behavior of each cohort over time. This typically involves creating cohort tables or charts that show how key metrics change over time for each cohort. For example, you might create a retention curve that shows the percentage of users from each cohort who are still active over time.

4

Identifying Trends and Insights : By analyzing the cohort data, you can identify trends, patterns, and insights related to user behavior and retention. For example, you might discover that users who signed up in a certain month have higher retention rates compared to users who signed up in other months, or that users who made their first purchase within a certain time frame are more likely to become long-term customers.



Data Overview

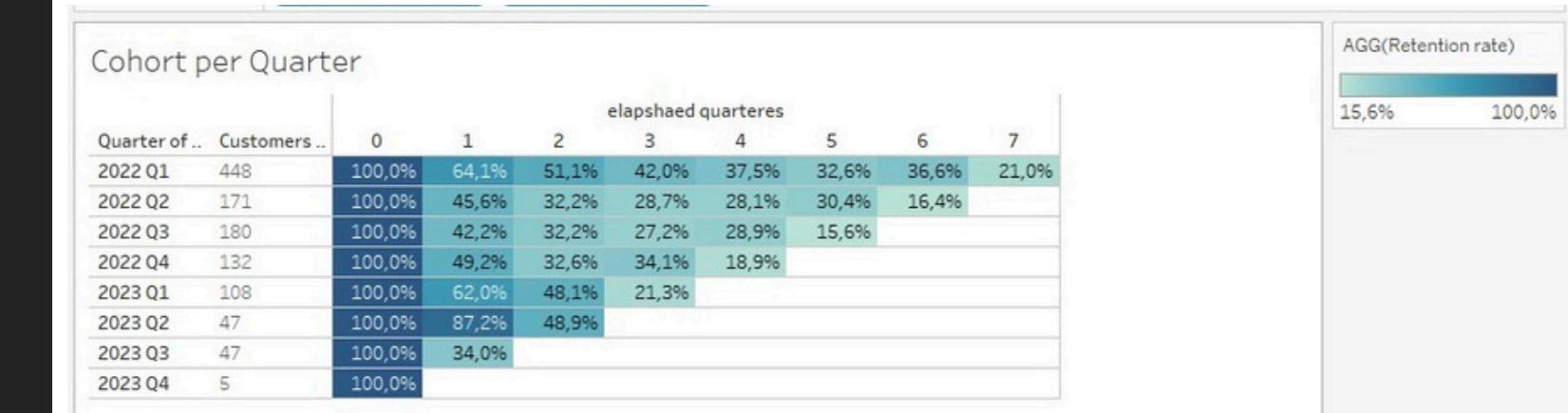
	month_of_transactions	username	business_type	registration_channel	total_revenue	total_transactions
0	2023-09-01	otokxxxxx	CORPORATE	DASHBOARD	2.769976e+05	435
1	2023-09-01	famixxxxx	CORPORATE	DASHBOARD	0.000000e+00	3445
2	2023-09-01	cdmdxxxxx	CORPORATE	DASHBOARD	0.000000e+00	3096
3	2023-04-01	bimaxxxxx	CORPORATE	DASHBOARD	1.414825e+07	56608
4	2022-11-01	julixxxxx	CORPORATE	DASHBOARD	8.592000e+05	2512
5	2023-07-01	avesxxxxx	CORPORATE	DASHBOARD	4.433292e+05	1004
6	2022-12-01	kasixxxxx	CORPORATE	DASHBOARD	7.355000e+04	108
7	2023-05-01	simpxxxxx	CORPORATE	DASHBOARD	1.348750e+05	711
8	2022-03-01	zymexxxxx	INDIVIDUAL	DASHBOARD	2.211275e+04	490
9	2022-09-01	pcpaxxxxx	INDIVIDUAL	DASHBOARD	3.100000e+04	31
10	2022-09-01	kanoxxxxx	CORPORATE	DASHBOARD	0.000000e+00	333
11	2023-03-01	luckxxxxx	CORPORATE	DASHBOARD	5.174850e+05	2590
12	2023-03-01	swypxxxxx	CORPORATE	DASHBOARD	2.013500e+03	2
13	2023-10-01	echoxxxxx	CORPORATE	DASHBOARD	1.415189e+07	19179
14	2023-05-01	cimbxxxxx	CORPORATE	DASHBOARD	4.304375e+06	74357
15	2023-08-01	malbboxxx	CORPORATE	DASHBOARD	3.931506e+08	1104510
16	2022-12-01	anisxxxxx	CORPORATE	DASHBOARD	8.743270e+05	1286
17	2023-06-01	voucxxxxx	CORPORATE	DASHBOARD	1.589467e+08	536774
18	2022-09-01	credxxxxx	CORPORATE	DASHBOARD	2.130129e+06	2043
19	2023-01-01	tranxxxxx	CORPORATE	DASHBOARD	2.868987e+07	86398

The data from the sheet includes the following columns:

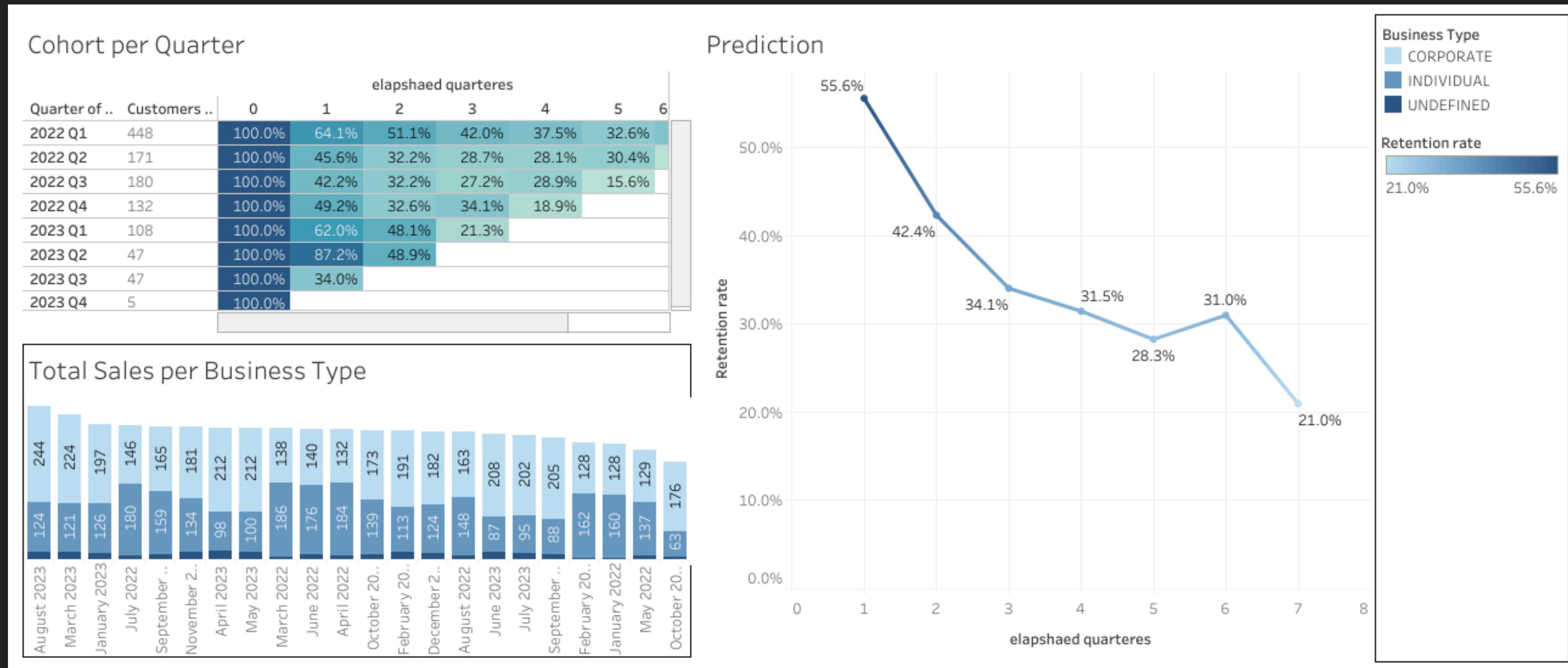
- **month_of_transactions**: The month when transactions occurred.
- **username**: Identifier for the user.
- **business_type**: Type of business.
- **registration_channel**: The channel through which the user registered.
- **total_revenue**: Total revenue generated by the user.
- **total_transactions**: Total number of transactions made by the user.

Result

- **Quarter Trends:** There appears to be a substantial amount of revenue and transactions occurring in the early quarter of the year, particularly in February for corporate accounts. This could indicate seasonal trends or a result of annual budget allocations and spending.



Dashboard Result



Insight & Recomendation

- **Focus on Corporate Accounts:** Given the high volume of transactions and revenue from corporate accounts, strategies to further engage this segment could be beneficial. This might include tailored marketing campaigns, loyalty programs, or enhanced support services.
- **Seasonal Marketing:** Leverage the apparent seasonal trends by planning marketing and sales initiatives around these peak times to maximize revenue.
- **Expand Individual Engagement:** While corporate accounts are lucrative, there's room to grow the individual account sector. Consider introducing competitive pricing, promotions, or personalized services to increase engagement from individual users.



Thank You