Samba Commerce

Transaction Metrics and Dashboard

By Mega Oceanna

Executive Summary

01 BACKGROUND

There is a huge number of orders in a year with the only 1 unique item bought by the customers

We have 49.5K+ orders in just a year, however it comes from 48K+ customers

02 ANALYSIS

There is a low retention rate with the lowest quantity item per order

48K+ customers only buy 1-2 unique item per order and only 0.33% of them do the repurchase. Average days from customer order to deliver also shows the longest time.

03 RECOMMENDATION

Focus on specific customer to make actions that are much more relevant for their particular behavior.

With RFM analysis, we have 4 customers need to be focused on: Best Customers, Potential to Become Best Customers, Big Spender, and Occasional Buyers.

01 Samba Commerce Business Background

Hi, we're **Samba**! Samba is one of the fastest growing e-commerce in Brazil and launched in 2021

What we have from January 2021 to January 2022:

- GMV **R$6.76M**
- Total Orders **49.5K+**
- Total Customers **48K+**
- Total Sellers **1.7K+**
- Product Category **50+**
- Total Products **15K+**

Based on total payment value (TPV), **Sao Paulo is the most contributed state** to the TPV in Brazil.

02 Outline 2022

Objectives and Key Results (OKR) in 2022: **TRANSACTION**

Objectives:

As a data analyst, **we will build company-wide dashboard for executive level (CEO)** to monitor overall business performance of Samba Commerce through any essential transaction metrics. We can give insight on transaction so we can help the executive make the business decision precise and faster.

Who is the user?

Mr. Ronaldinho as our CEO. Other executive level can also use this dashboard for other purposes.

Why the user needs the dashboard?

CEO needs to know the business performance and overall condition of Samba Commerce and gets insight from more metrics and comprehensive dashboard.

One use case example…

CEO meets with the potential investors and needs to explain the performance of business (based on transaction) through company-wide dashboard, such as scorecard and other supported visualizations.

03 Visualization Flow with Tableau

Visualize transaction metrics and customer behaviour with tableau

[Click to See Tableau Dashboard]

1

Connect the dataset
We have 3 dataset to be visualized, those are orders (to understand the order, seller, and customer), order history (to understand the process of order), and payment (to understand the payment used).

2

Check and clean the dataset in Looker and Tableau
Check and ensure the data type and the data input is already correct.

3

Combine/blend the dataset
Join the dataset between order, order history, and payment with foreign key order_id using INNER JOIN, so we can analyze only the order has order history data and payment data. This combine will be useful to help us do the visualization and aggregation within the dataset.

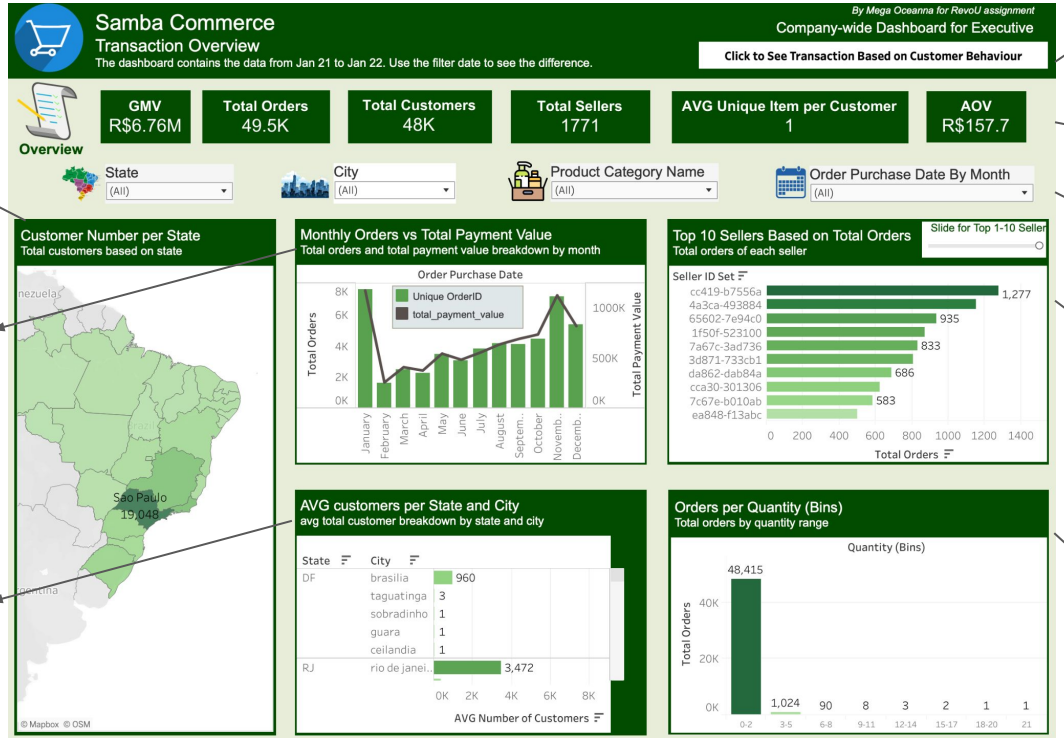
4

Visualize the data and give insight to user
Visualize the data using the right chart, give title and subtitle and use the right color. For this visualization, we will use green as our preferences.

04 How does the user use the dashboard?

The dashboard contains **main dashboard and navigation** to see the detail transaction based on customer behaviour

Main Dashboard



1. Navigation
Navigate to further analysis based on customer

2. Scorecard
A quick insight of the data

3. Filter
To see the preferences detailed based on state, city, product, date

4. Customer per State
To see the customer distribution based on state

5. Monthly Orders vs Total Payment Value
To understand the trend of total order and TPV by monthly

6. Top 10 Sellers Based on Total Orders with Slider
To see which sellers has the highest total orders

7. AVG Customer per State and City
To see the average number of customers based on store and city

8. Orders per Quantity (Bins)
To find which the highest quantity ordered in each bin

4-8. Charts & Visualization: To delve deeper into the data to generate insight. Understand the metrics from the title and subtitle.

04 How does the user use the dashboard?

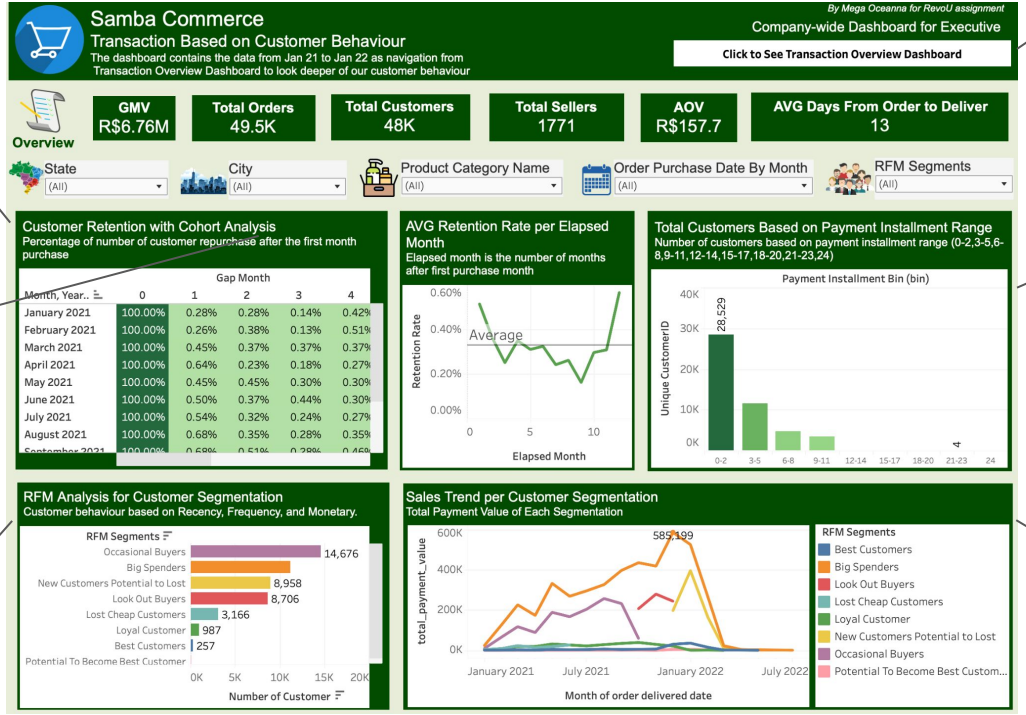
Navigation Dashboard

The dashboard contains **main dashboard and navigation** to see the detail transaction based on customer behaviour

2. Customer Retention
To see how much percentage of our customer repurchase after the first purchase time

3. AVG Retention Rate per Elapsed Month
To understand how much average of our customer retention rate in a different month from first purchase

5. RFM Analysis for Customer Segmentation
To understand the customer behaviour based on Recency, Frequency, and Monetary analysis.



1. Navigation
Navigate to main dashboard

4. Payment Installment Range Based on Total Customers
To understand our customer behaviour based on installment, which installment brings the highest customers

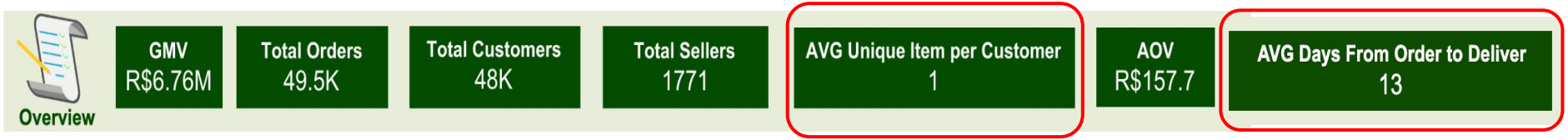
6. Sales Trend per Customer Segmentation
To see monthly total payment value trend based on customer segmentation

2-6. Charts & Visualization: To delve deeper into the data to generate insight. Understand the metrics from the title and subtitle.

05 Problem Discovery

From scorecard overview of transaction dashboard

Click to See Tableau Dashboard



With total orders are 49.5K+ and total customers 48K+, **our customers tend to buy only 1 unique items in their orders.** This is a problem that we need to delve deeper about the reason. Seeing from overall transaction, **average difference days from customer order to deliver is 13 days.**

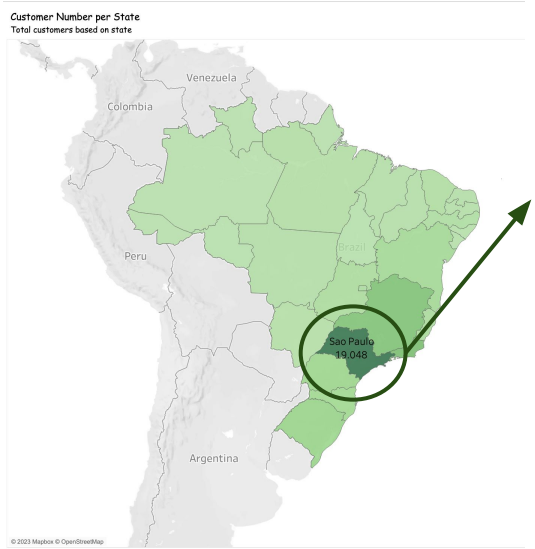
Question

What is the problem with our customer so they do not repurchase after the first purchase timee?

06 Exploratory Data Analysis

Customer distribution based on state

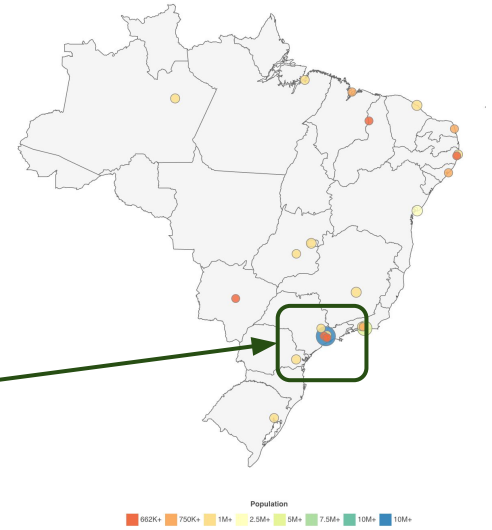
[Click to See Tableau Dashboard]



Customer Distribution Based on State

Maps visualization shows **Sao Paulo has the highest total customers (19K+ customers)** than others (shown with the darkest color of green). This can be happened because **Sao Paulo is a vibrant financial center in Brazil** and predicated as the most populous city in Brazil (more than 10M++ people(*) as the shown in the next picture).

Population Distribution in Brazil (*)

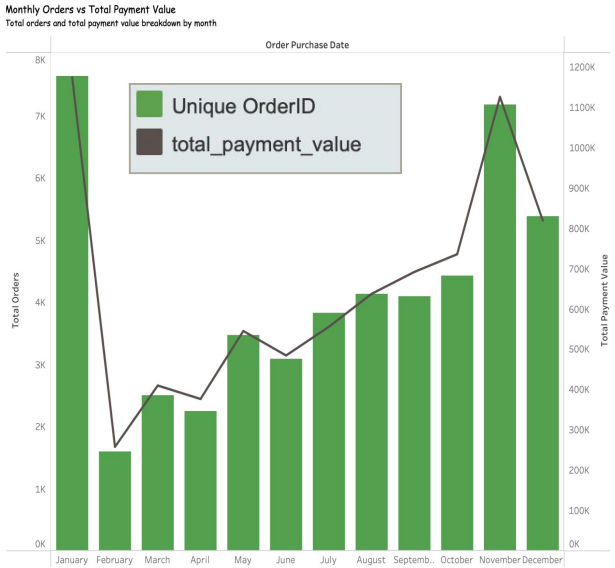


06 Exploratory Data Analysis

Total orders

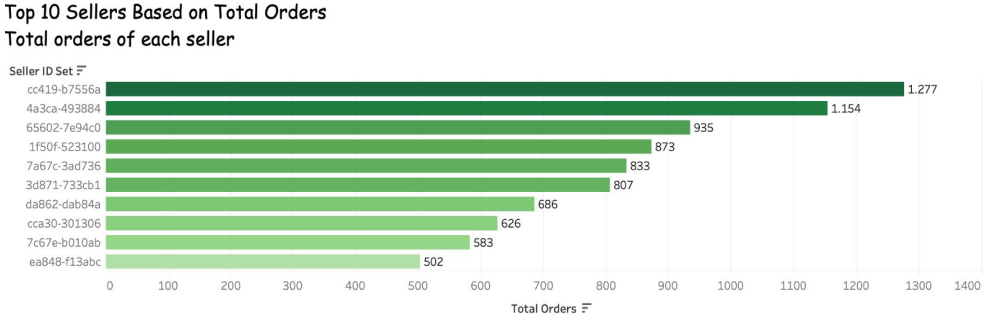
[Click to See Tableau Dashboard]

Monthly Orders vs Total Payment Value



Orders and Total Payment Value (TPV) show the same trend. It means when **the orders increase, TPV also increases.**

Top 10 Sellers Based on Total Orders

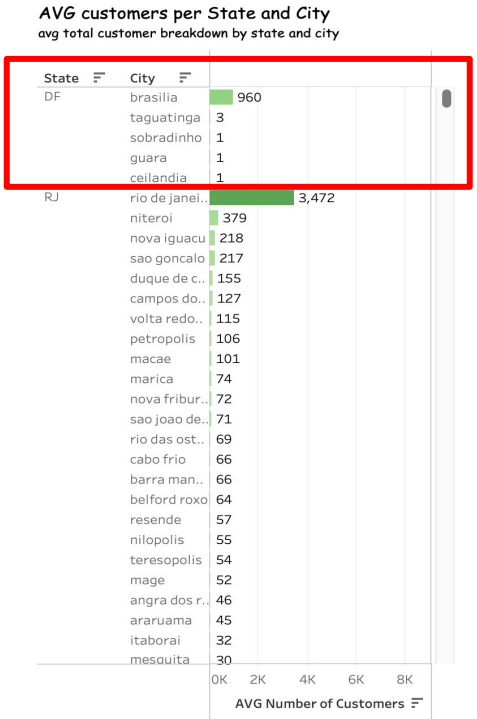


Seller ID **cc419-b7556a has the most orders** (1277 orders in a year).

06 Exploratory Data Analysis

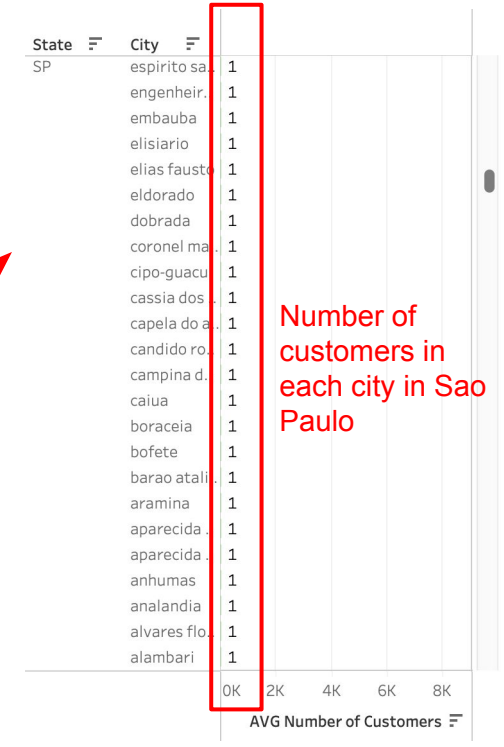
Number of customers based on state and city

[Click to See Tableau Dashboard]



Based on average, **Distrito Federal (DF) state has the highest average number of customers in a state and city.** This shows **inverse number with the highest total customers from Sao Paulo (SP) state.**

This can be happened because SP has many cities with only 1 customer, so it will affect the average number of customers per state and city.



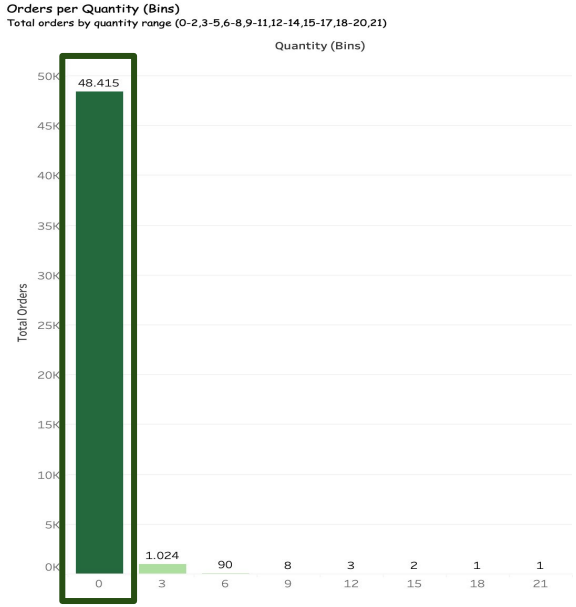
Number of customers in each city in Sao Paulo

06 Exploratory Data Analysis

Range of quantity ordered and payment installment

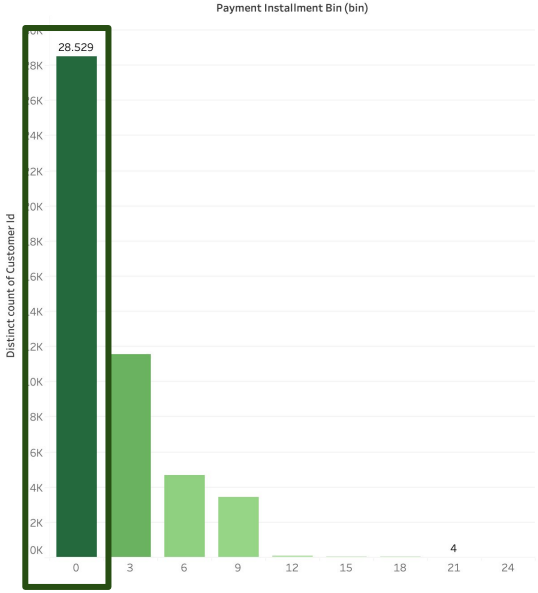
[Click to See Tableau Dashboard]

Total Orders per Quantity Range (Bins)



Based on quantity range, **our customers tend to have orders with 0-2 quantity item (48K.4+ orders)**. This means every customers only order for 1-2 items in their orders.

Total Customers Based on Payment Installment Range



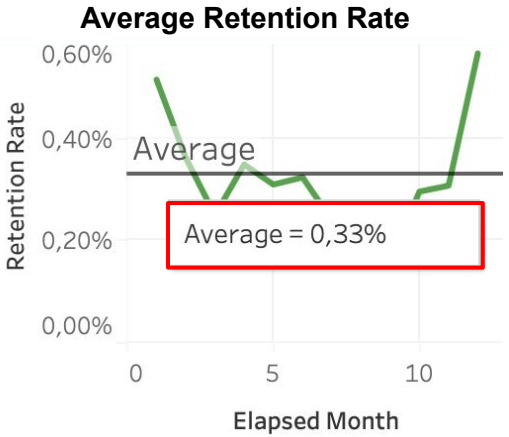
From the visualization, we can understand that most of our **customers use payment installment in range 0-2 (28.5K+ Customers).**

06 Exploratory Data Analysis

Cohort analysis to see customer retention (repurchase after the first purchase time)

[Click to See Tableau Dashboard]

	Gap Month												
Month, Year o..	0	1	2	3	4	5	6	7	8	9	10	11	12
January 2021	100,00%	0,28%	0,28%	0,14%	0,42%	0,14%	0,42%	0,14%			0,42%	0,14%	0,57%
February 2021	100,00%	0,26%	0,38%	0,13%	0,51%	0,19%	0,32%	0,26%	0,13%	0,26%	0,19%	0,38%	
March 2021	100,00%	0,45%	0,37%	0,37%	0,37%	0,12%	0,16%	0,33%	0,33%	0,08%	0,33%		
April 2021	100,00%	0,64%	0,23%	0,18%	0,27%	0,27%	0,32%	0,32%	0,32%	0,18%			
May 2021	100,00%	0,45%	0,45%	0,30%	0,30%	0,33%	0,42%	0,15%	0,24%				
June 2021	100,00%	0,50%	0,37%	0,44%	0,30%	0,40%	0,33%	0,23%					
July 2021	100,00%	0,54%	0,32%	0,24%	0,27%	0,22%	0,32%						
August 2021	100,00%	0,68%	0,35%	0,28%	0,35%	0,53%							
September 20..	100,00%	0,68%	0,51%	0,28%	0,46%								
October 2021	100,00%	0,68%	0,26%	0,07%									
November 2021	100,00%	0,56%	0,37%										
December 2021	100,00%	0,19%											
January 2022	100,00%												



Cohort Analysis Insight

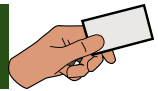
Based on cohort analysis table, our customer retention is no more than 1%. Average Retention Rate shows **our retention to customer is only about 0.33% in average**. This shows we have more churn customer rather than retention. This means many customers only purchase for the first time and don't come back to repurchase. **This could be a serious problem if we didn't solve it soon.**

07 RFM Analysis as a Recommendation

Click to See Tableau Dashboard

Low retention rate shows us there are various customer behaviour behind, hence we use RFM analysis to allow marketers to target specific clusters of customers with actions that are much more relevant for their particular behavior.

RFM analysis is used to quantitatively rank and group customers based on the recency, frequency and monetary total of their recent transactions to identify the best customers.

Recency  How recent was the customer's last purchase?

Frequency  How often did this customer make a purchase in a given period?

Monetary  How much money did the customer spend in a given period?

For this recommendation, we will use 10 customer segmentation to understand the detail behaviour of our customers. Best Customers and Potential to Become Best Customers are the top 2 customers that we expect to the highest contribution. The detail segmentation will be explained in the next slide.

07 RFM Analysis as a Recommendation

10 customer segmentation

Click to See Tableau Dashboard

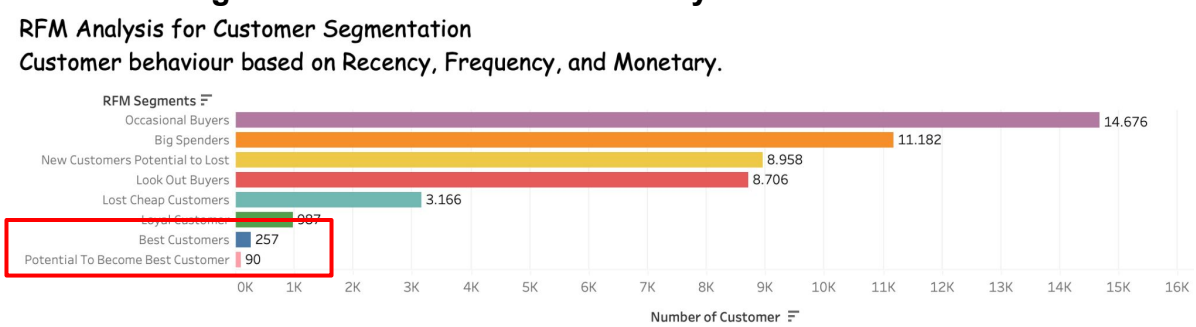
Segmentation	Characteristics (from highest to lowest)
Best Customers	Best in recency, frequency, and monetary (the best customer)
Potential To Become Best Customer	Best in recency with medium frequency of buying and medium monetary spend.
Loyal Customer	Best in frequency of buying with the diversity of monetary and recency
Big Spenders	Best in monetary spend to our platform with the diversity of frequency and recency.
New Customers Potential to Lost	Good recency with medium to bad frequency and monetary.
Look Out Buyers	Medium recency with diversity of frequency and monetary.
Occasional Buyers	Medium to bad recency and frequency time.
Almost Lost	Have medium recency, but have best frequency and monetary.
Lost Customers	Have bad recency, but have best frequency and monetary.
Lost Cheap Customers	Bad recency, frequency, and monetary (the bad customer)

07 RFM Analysis as a Recommendation

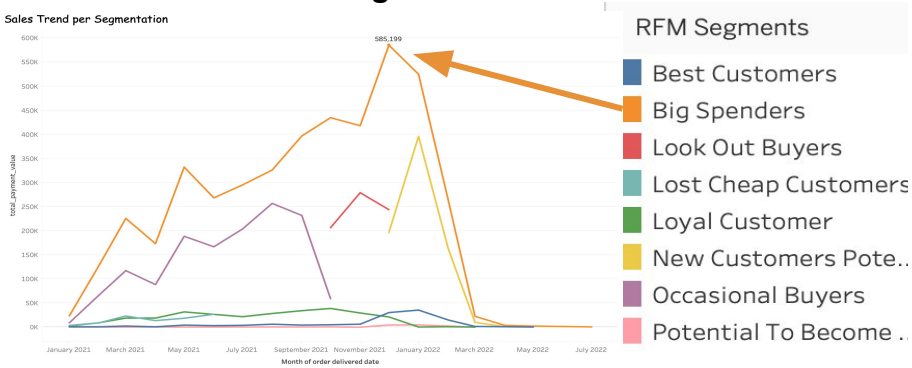
RFM insight and recommendation

[Click to See Tableau Dashboard]

Customer Segmentation Based on RFM Analysis



Sales Trend Based on Segmentation



RFM Analysis Insight

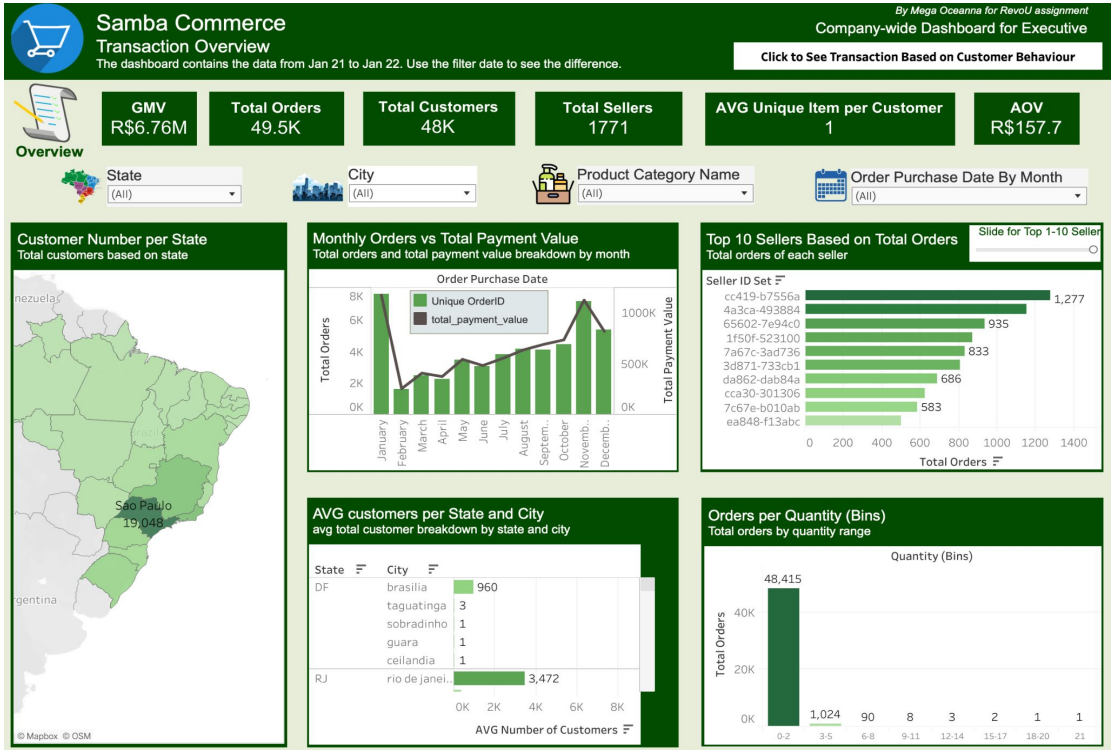
Most of our customers are occasional buyers (Recency > 2 and Frequency > 2). However, the **best segmentation is customers with Recency 1, Frequency 1, and Monetary 1 that predicated as 'Best Customer', but we only have 257 Best Customers.** Based on Sales Trend per month, **Big Spenders has a big role to our total payment value (up to R$585K+ a month),** Big Spenders have Monetary 1 (the highest total spend amount).

Suggestion

We can maintain our **Best Customers by giving them reward**. Offer **Potential to Best Customers a membership** or loyalty programs or recommend related products to upsell them and help them become a Best Customers. For **Occasional Buyers and Big Spenders, send reactivation campaigns** to them to reconnect and offer renewals and helpful products to encourage another purchase.

08 Overall Insight and Recommendation

From tableau dashboard (**main dashboard**)



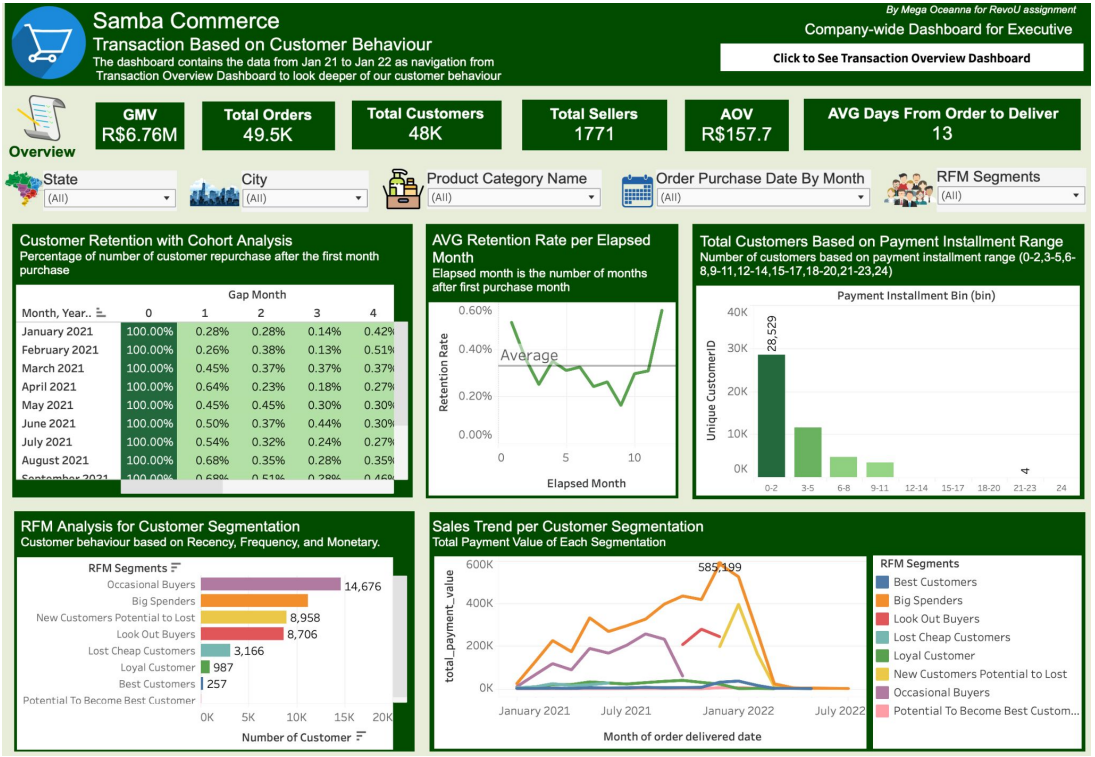
[Click to See Tableau Dashboard]

Overall findings:

- With GMV R$6,76M and AOV R$157,7, we still have a lack that **our customers tend to buy only 1 unique item in their orders and only 0-2 quantities per order in a year**.
- Even though SP State has the highest number of customers and TPV, the highest average number of customers comes from Distrito Federal (DF).
- Order and TPV show the same monthly pattern.

08 Overall Insight and Recommendation

From tableau dashboard (**navigation dashboard**)



Click to See Tableau Dashboard

Overall findings:

- **Most of our customers only order 1 unique item in average and the retention rate is no more than 1%.**
- Based on customer segmentation, we only have a few Best Customers and many Occasional Buyers.
- **If seeing from days difference from customer order date to delivery date, it shows the longest time (until 13 days) that will cause our customer satisfaction decrease.**
- As a suggestion based on customer, **give reward to Best Customers, offer membership to Potential to Become Best Customers, and activate more campaign for Occasional Buyers and Big Spenders.**
- As a suggestion for seller, we can also **make a regulations to sellers to immediately send the orders within 2 days.**


Thank You