ANALYSIS REPORT

INTELLIGENCE SUMMER 2021
INTERNSHIP

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AGENDA

1. Data at the first glance
2. Exploratory data analysis for customer retention
3. Repeat customer rate – Another customers' satisfaction measurement
4. Repeat customer rate analysis
5. Problems of the data sets

Data at the first glance

first_purchases file

- Number of record: 71,257
- Number of unique User_ID: 71,257
- Recheck whether there is any customer having 2 Purchase_ID: NO

Purchases file

- Number of record: 298,714
- Number of unique User_ID: 74,568
- Number of unique Purchase_ID: 298,714
- Check whether there is any duplicate(User_ID and Purchase_ID): NO

Number of unique user ID appear in the purchases file, but not in first_purchases file: 3,311, which is equivalent to 10,145 records. These will not be used in this report

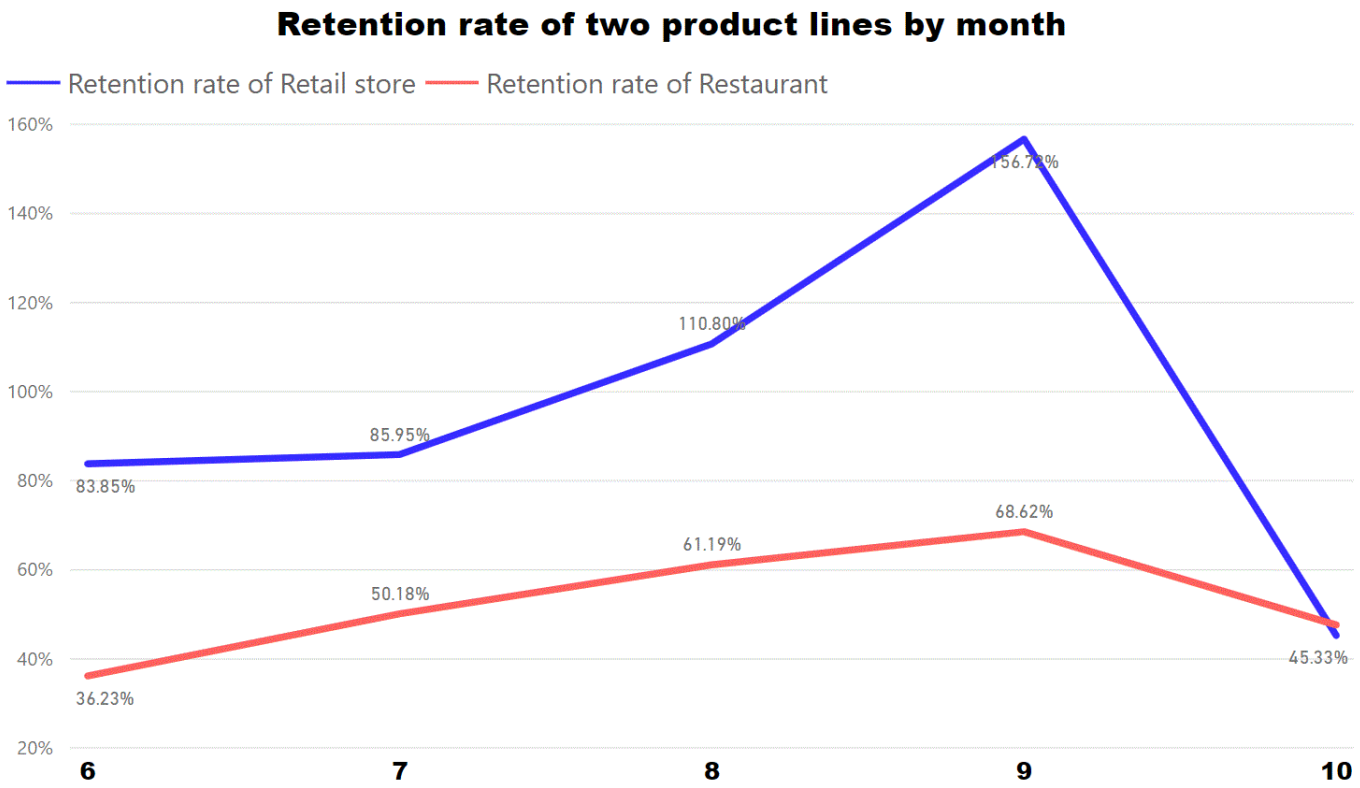
Customer retention analysis

Customer retention is calculated by the formula:

$$\frac{(\text{Number of unique users in the end of month} - \text{Number of new users acquired in that month}) * 100}{\text{Number of unique users in the beginning of the month}}$$

- Number of unique users in the end of the surveyed month: Total number of users of that month from the purchases file
- Number of unique users in the beginning of surveyed month: Total number of users of previous month from the purchases file
- Number of new users: Total number of users of the surveyed month from the first_purchases file
- May is considered as the starter point. Therefore, the retention rate of May is not calculated.

Customer retention analysis



- Retention rate of retail store product line is much higher than that of restaurant line in most of the time, except in the Oct, retention rate of these two lines shared approximately similar values
- Retention rate of restaurant line increased stably from 36.23% to 68.62% before dropping to 45.33% in the end of period
- Retention rate of retail store witnessed a striking improve from 83.85% in June to 156.7% in Sep. Actually, to make the retention rate over 100% is really hard in reality. It might be because of the artificial dataset

Repeat customer rate – another measurement

- The repeat customer rate is a more actionable metric than customer retention rate. Because it offers insights about the loyalty of the customers. The rest of this report will show insights about repeat customer rate

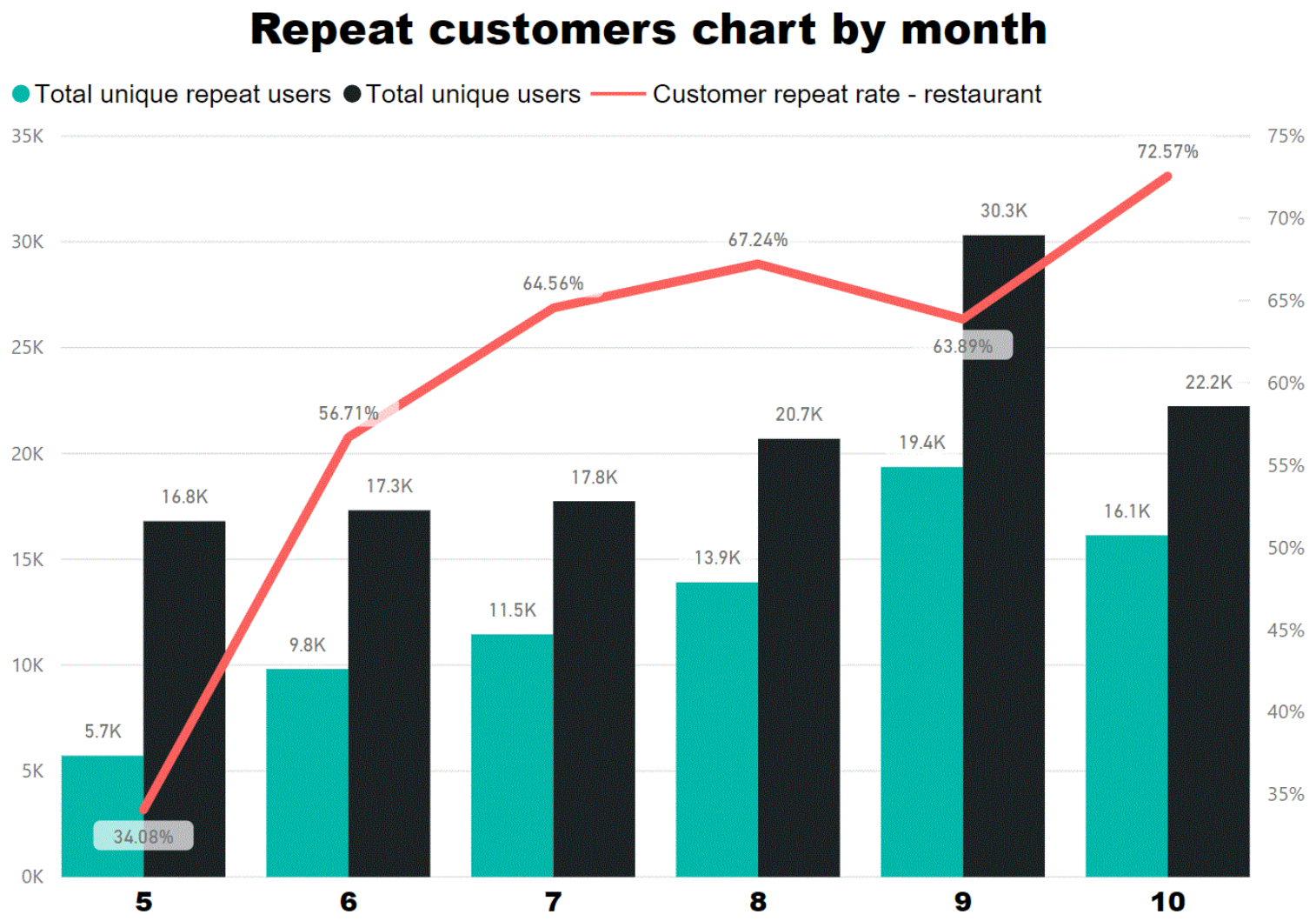
- In the purchases file, in a month, if one user buys more than 1 purchases, it is assumed that these purchases are occurred in different time (different time of the same day or different day). One of these purchases has exact record in the first purchases file.

- For users who have 1 purchase in a month, there are two possibilities:
  - New users acquired in a certain month: We will not count as repeat customers in that month
  - Old users (acquired from previous months) order in certain month: We will count as repeat customers in that month

- For users who have more than 1 purchases: They might be either new users in a certain month or old users. However, regardless they are new customers or not, we will count them as repeat customers in that month

- In monthly basic, repeat customer rate is calculated:
  - (Total unique repeat users * 100)/ Total unique users
  - Total unique repeat users = Number of unique users having more than 1 purchases (Old and new users) + Number of unique old users having 1 purchase

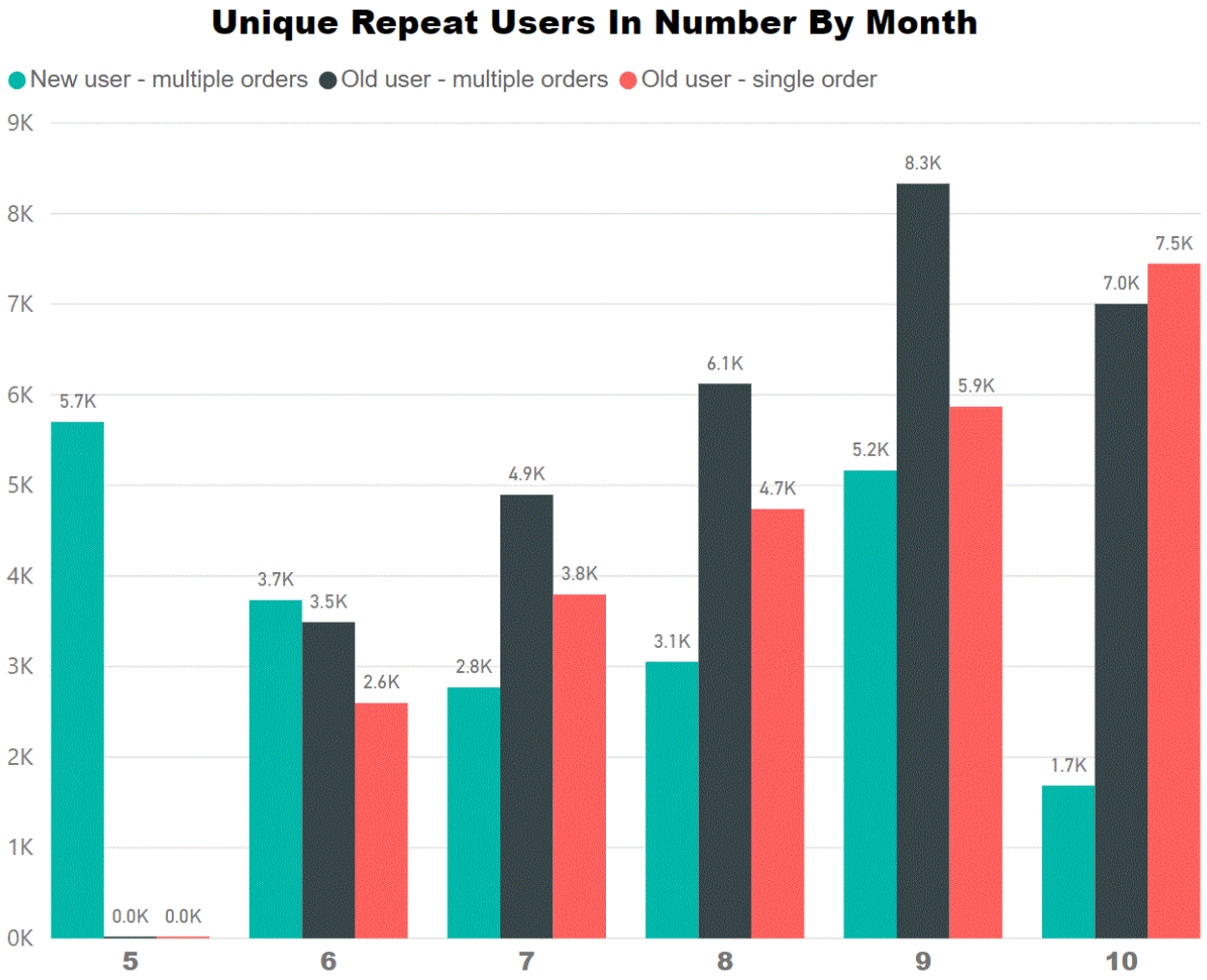
Repeat customer analysis

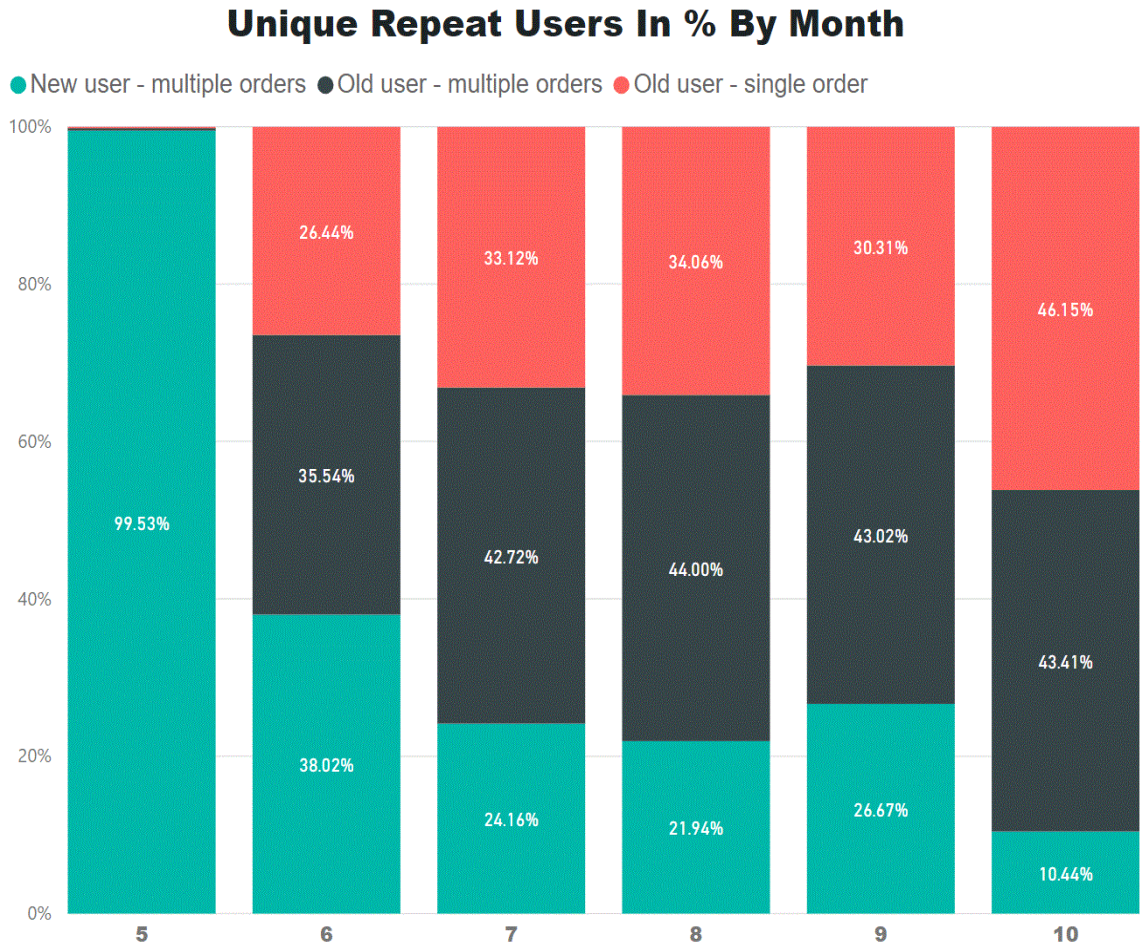


- The number of unique repeat customers and total unique users shared similar pattern: stably increased from May to Sep before reduced considerably in Oct
- Repeat customer rate witnessed a tremendous increase (about double) during mentioned period even there was a slight decline in Sep

Restaurant line

Repeat customer analysis





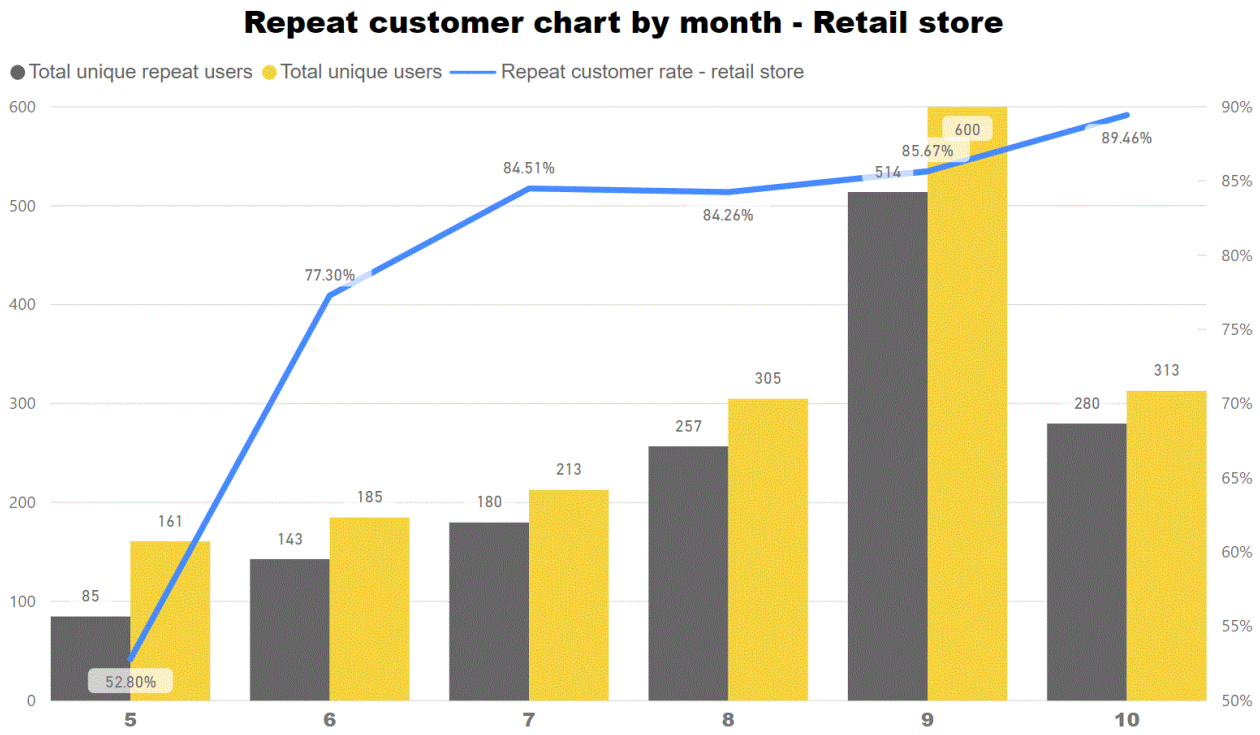
Repeat customer analysis

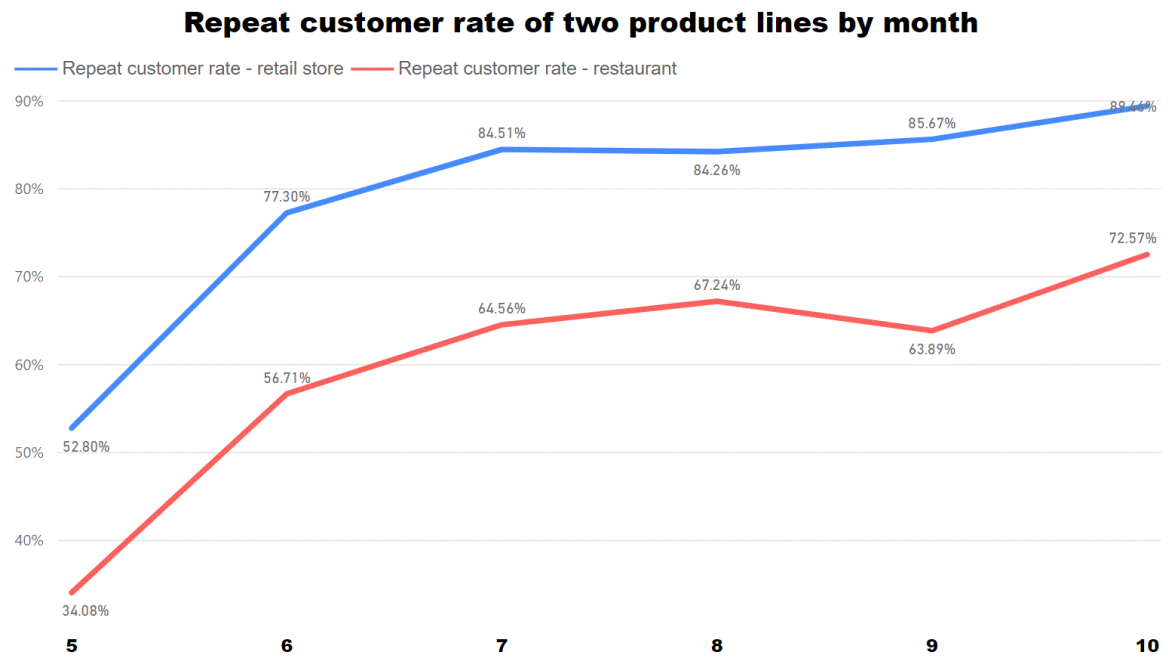
- From the two bar charts, number of old users making an order and multiple orders showed the increasing trend. Especially, in the Sep, number of old users making multiple orders reached peak at more than 8,300 during the period. Similarly, the percentage of these two factors compared to total repeat users every month also increased. It can be said that managers at Wolt had done great job in engaging existing customers to continue the service after the first purchase. Because the number of old users from previous months keep ordering increased stably. It is **hypothesized** that the customer service of Wolt has been operated well.

- However, number of new users who keep ordering in the same month after the first purchase fluctuated during the period and reduced significantly in Oct. It is **assumed** that the promotion program (coupons, discount, free-delivery, etc.) is not attractive enough to motivate the new users make another purchase in the same month as the first one.

Retail store line

Repeat customer analysis

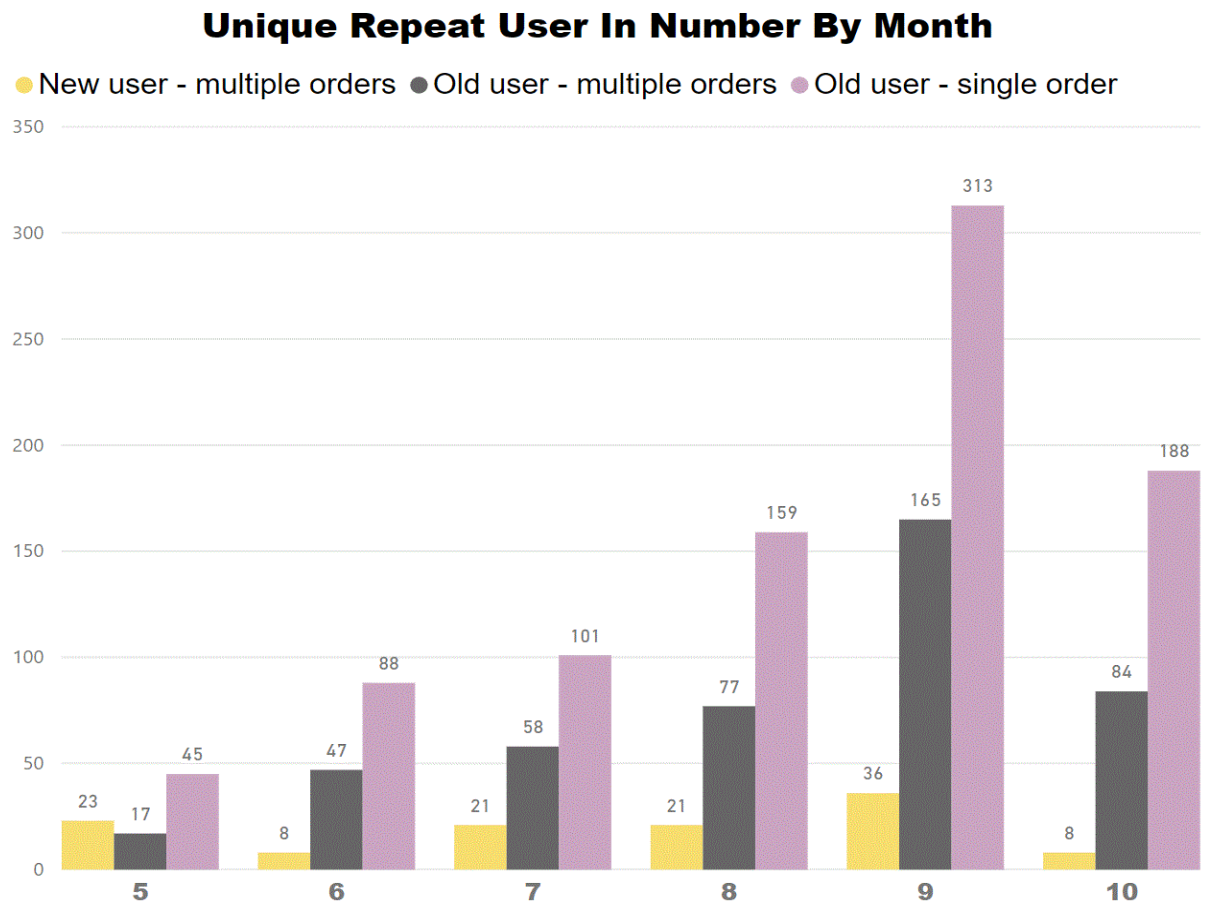


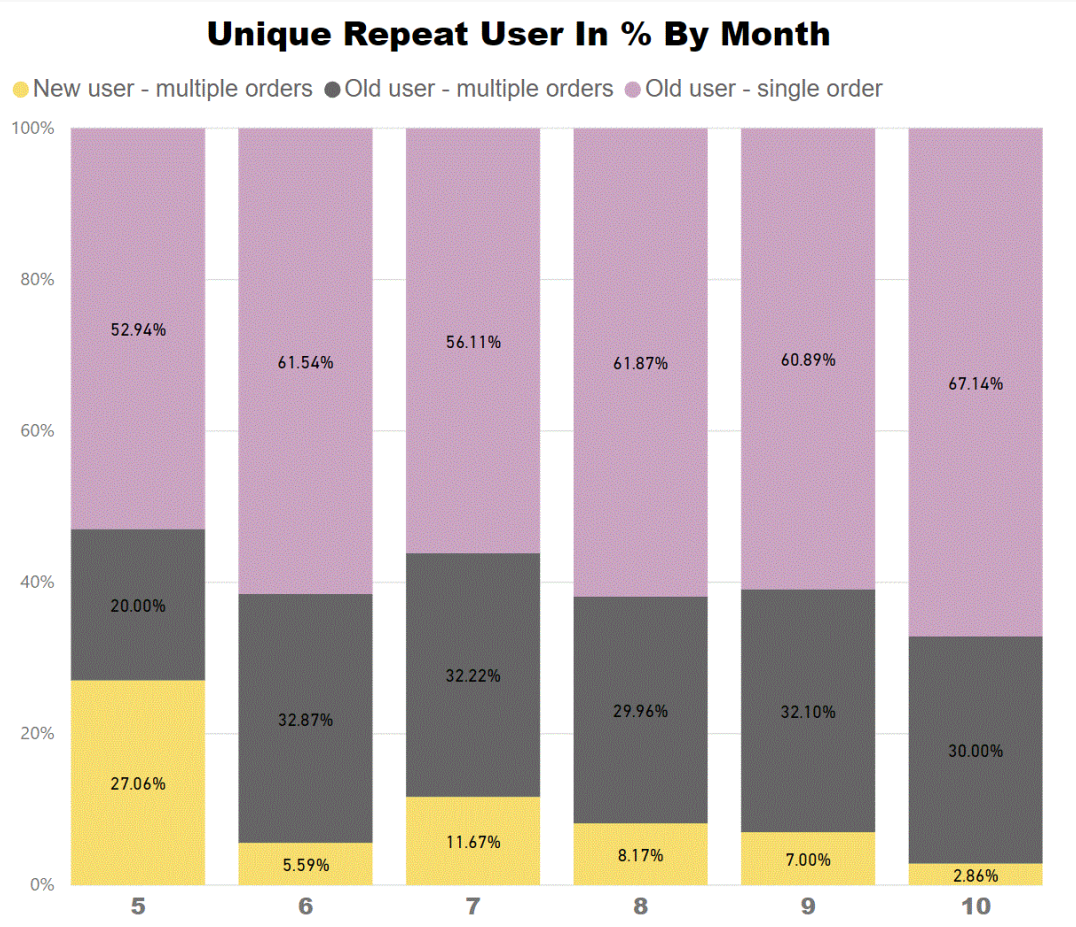


- Number of unique repeat customers and total unique users of retail store line shared similar patterns to those of restaurant line. However, their values are much smaller.
- Repeat rate from retail stores increased sharply to 77.3% in June and then kept rising slightly and reached to approximately 90% in Oct
- From the line chart, repeat customer rate of retail stores product line is much higher than that of restaurant line (around 20% higher) every month during the surveyed period.

Retail store line

Repeat customer analysis





- In retail stores line, we can see the similar patterns as restaurant line: the number of old user having single and multiple orders witnessed increasing trend during the period while it was contrast for the new users purchased multiple orders.
- Old Users from previous months occupied majority of total unique repeat user every month while less and less new users back to order in same month

Repeat customer analysis

- Repeat customer rate of this product line is well-managed, which is reflected through stabe increase during the period. Even it is 20% higher than that of restaurant line. Moreover, older users contributed majority in total repeat customers. It can be said that they are loyal customers.
- This product is potential. Wolt should focus on increase the number of users for this line. Because the monthly number of users is still low (maximum is 600 in Sep)
- For loyal users, Wolt should offer more promotion program to motivate them to buy more orders. The aim is to reduce the number of old user with single order while increase the number of old user with multiple orders

Problem of the data set

first_purchases file	Purchases file	Problem	Note
Unique User_ID: 71,257	Unique User_ID: 74,568	There are no records of 3,311 User_ID in first_purchases file	Will not use the records of these 3,311 users in this report
➢ Number of unique User_ID of Restaurant line: **70,822** ➢ Number of unique User_ID of Retail store: **435**	➢ Number of unique User_ID of Restaurant line (*not count 3,311 users mentioned above*): **71,040** ➢ Number of unique User_ID of Retail store: **1,344** (*not count 3,311 users mentioned above*)	There are 1,127 unique User_ID using both restautant and retail store in the purchases file. However, the first_purchases file just mentioned the record whether one unique customer using either restaurant or retail store	

THANK YOU

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