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## **1. Executive Summary**

Olist.com operates an online e-commerce site for sellers that connects merchants and their products to main marketplaces of Brazil. An amalgamation of products deck its online stores, consisting in total of 49 product categories from 70,000 sellers. While Olist has enjoyed abundant growth since its establishment in 2015, its exponential sales growth has suffered decline after May 2018. Inherent to all interrupted business growth curve, underlies factors which threw spanners in its work, of which we would probe for the reason. Despite a recent marketing campaign to revive its downwards trajectory, sales figures did not rise and left the marketing team in quandary. As we investigated data from past sales transaction, our analysis revealed heterogeneity of user profile as a possible reason ascribing to Olist's high customer churn and sales decline. Most striking was that majority of customers only made one purchase from Olist before they left.

To tackle the major challenge of high customer churn, we conducted a strategic SWOT analysis for Olist. We hypothesized that Olist business problem could be ameliorated by building loyalty out of its high value customers, of which segmentation was done through K means clustering and RFM methods. An experimental proposal which focused on how Olist could create appropriate marketing strategy to influence high spenders to become loyal customers was then discussed. All in all, although Olist has succeeded so far by dint of its focus on customer acquisition strategy, revolutionary market forces and changing consumer behaviour has heralded a new time for Olist to revamp its marketing strategy.

## **2. Introduction**

The prevalence and intensification of internet usage on mobile devices and digital platforms has seen a concomitant rise in this tool in consumer's shopping decisions. Not only does the internet offer information, it also provides entertainment and serves as a platform for shopping services. Worldwide, the proliferation of internet population has grown more than 200% from 2000, and it has been forecasted to grow beyond 2 billion. In face of such opportunities, myriad companies have included e-commerce as an extension to their growth strategy, generating increased business value while keeping operating cost less expensive than in establishing physical presence (Mahmood, Bagchi & Ford, 2004). Ecommerce has become the main weapon in the arsenal of reaching the maximum potential customers at minimal cost. While such is the boon of technology as an enabler, there also exist the bane of novel challenges e-commerce businesses must face in the Internet economy. We present such a case of the company, Olist, in the following section.

### **2.1 About Olist**

Founded in 2015, Olist is the operator of an online e-commerce site aggregation platform designed to facilitate direct sales on e-commerce sites. They connect entrepreneurs with major online retailers where shopkeepers can advertise and sell in the marketplaces, void of complication. In essence, Olist enables retail companies to reach out to the international marketplaces without hassle. Using Olist's logistic partners, merchants can sell their products through the Olist Store and ship them directly to the customers. Fortifying trade and competitiveness for its partners are its main purpose, and this is accomplished by increasing their chances to land sales in Brazil.

## **3 Business problems**

While Olist has attained feats like securing the investment funds from the likes of Softbanks, generating US\$5 million worth of funds in its Series C financing round, and also has ambitious plans to grow its base of sellers from 70,000 to 100,000, its recent marketing campaign has not been as effective as hoped. As Burgess and Steenkamp (2006) mentioned, thorough understanding of consumer characteristics, behaviours and preferences are the basic requirements for successfully marketing one's products and services. Ahmed (2013) agrees, stating that a lack of understanding about the markets and its consumers contribute largely to its market initiative failures. Thus, in line with helping Olist achieve their main purpose of remaining competitive, our team analysed the dataset Olist made publicly available on Kaggle. Using programs such as Python, we delve into the dataset of 100k orders (from 2016 to 2018) made at multiple marketplaces in Brazil, as we attempt to distil insights and solutions.

Solving this problem is especially perennial in our current times as the reality of Covid19 saw more customers attenuate their spending towards e-commerce. This translates to an ever-pressing need to outdo competitors in the intensified online battlefield, whereby e-commerce players would invest their resources to keep up with the inexorable march of consumers. As Deloitte (2020) mentioned, companies who are courageous and pivot their businesses in tandem with consumer's behavioural change can capture market shares and emerge as market

leaders post pandemic. Olist has historically been the market leader, and thus are given fresh urgency to investigate its marketing campaign as they compete with large players who would do everything in their power to retain newly acquired customers through loyalty programs, subscription models, promotions and expansion of product range. Moreover, Olist resides in the Brazilian e-commerce market, and Lavca (2020) mentioned that the Brazilian e-commerce market reached record sales of BRL 38.8 billion in the first half of 2020. (Lavca, 2020). Olist would then be hard pressed to take a long-term view in crafting effective marketing campaign least it loses its footing by the apparition of competitor.

## 4. Analysing market data

### 4.1 Analysis of current target market:

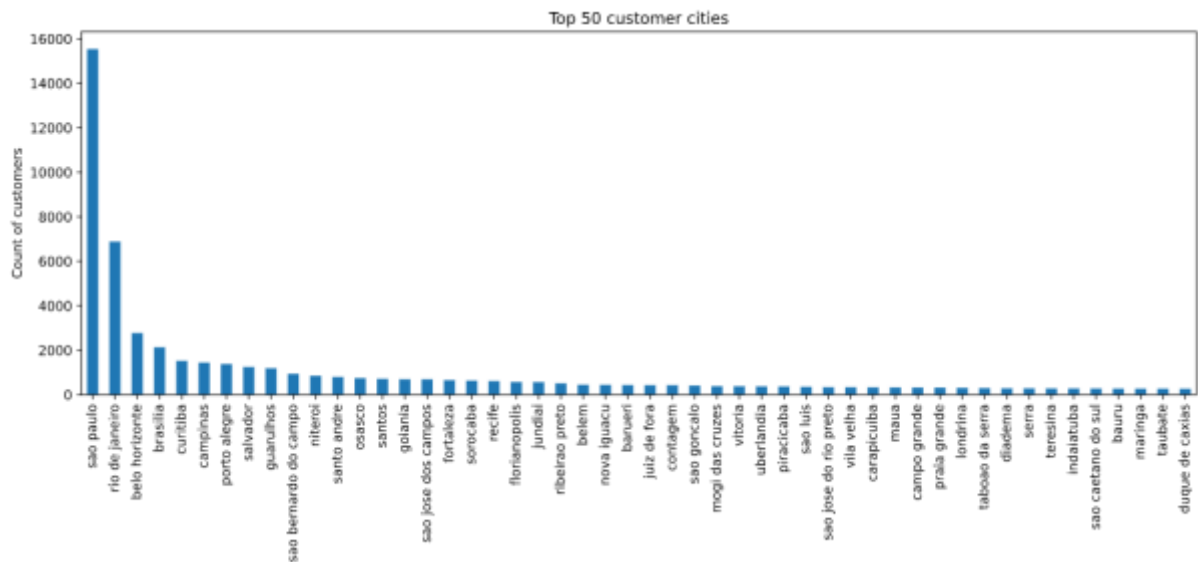


Figure 1 Olist current market

Olist's current market consist mainly of the Brazilian market. Exploratory data analysis in Figure 1 reveals that Olist has over 96,000 customers in 4119 listed cities, with its biggest customer segment living in Sao Paulo. The distribution channel in which the target market utilizes to purchase their products are through the Olist's website. Figure 2 shows that the products range the gamut from non-perishables like watches and bathroom products, to perishables such as food.

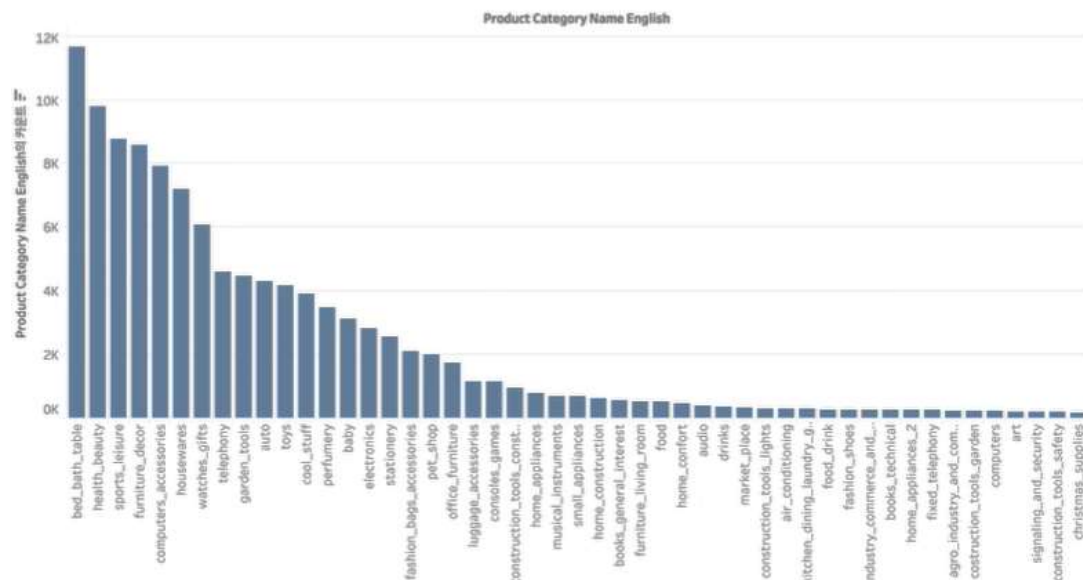


Figure 2 Product categories on Olist

## 4.2 Current Performance in the Market:

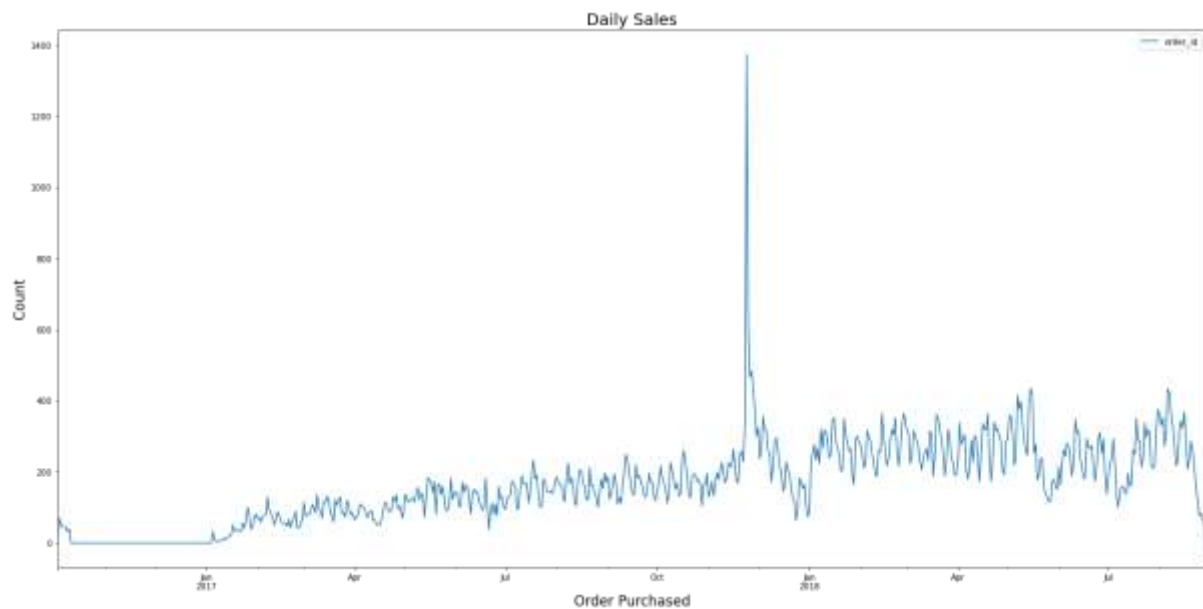


Figure 3 Olist's daily sales from 2017 to 2019

In Figure 3 above, we can see Olist's daily sale from 2017 to 2019, which conveys an exponential growth. We can see that the proliferation of Olist's sales has increased from January 2017 to June 2018, after which its latter time period has saw a decline in daily sales volume. Notably, we see a spike in sales volume on November 2017, the point in time where Black Friday sales occurred. Although sales volume declined in December 2017 and January 2018, it recovered post January 2018. Overall, it has enjoyed steady growth in sales volume, and foreboding of its decline only happened in June 2018.

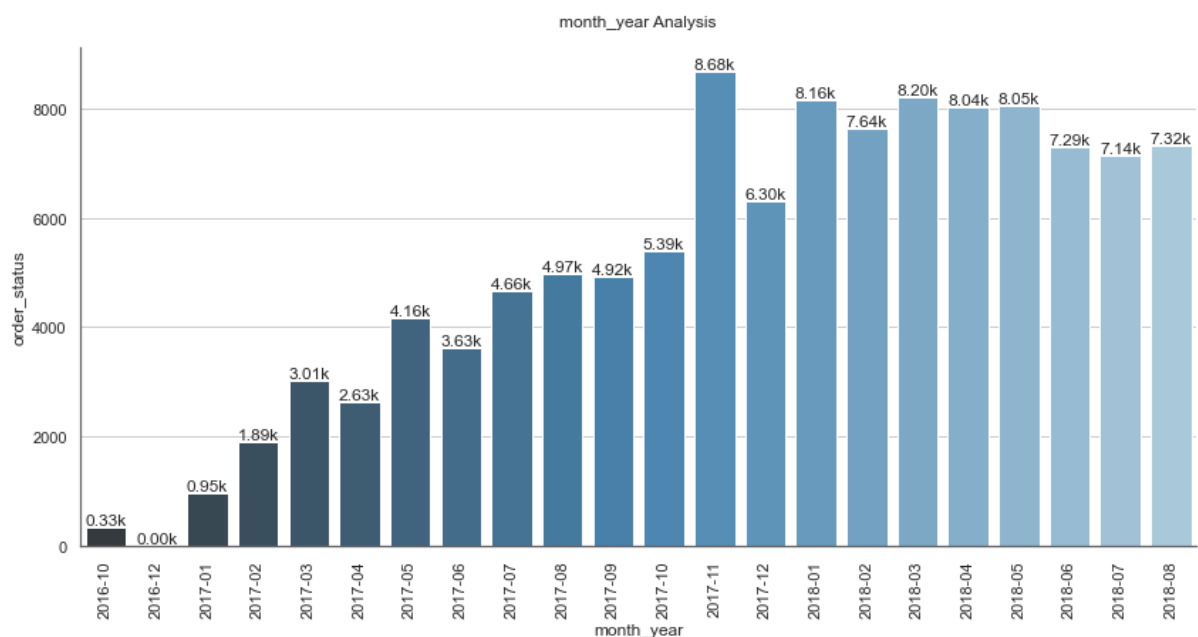


Figure 4 Olist monthly order count from 2016 to 2018

Similarly, in Figure 4, monthly order count shows exponential growth from 2016 October to May 2018, however after which it saw a decline. As Olist's business aim is to increase chances of landing sales in Brazil, the decrease in sales figure does not accord with its business objectives To cultivate a marketing plan for Olist, we explore Olist's strengths and weaknesses to utilize resources more efficiently, thereby increasing its sales.



### 4.3 SWOT Analysis

#### 4.3.1 Company Strength:

First of all, Olist's strengths lies in areas such that it is able to attract huge customer base and diversified product offerings

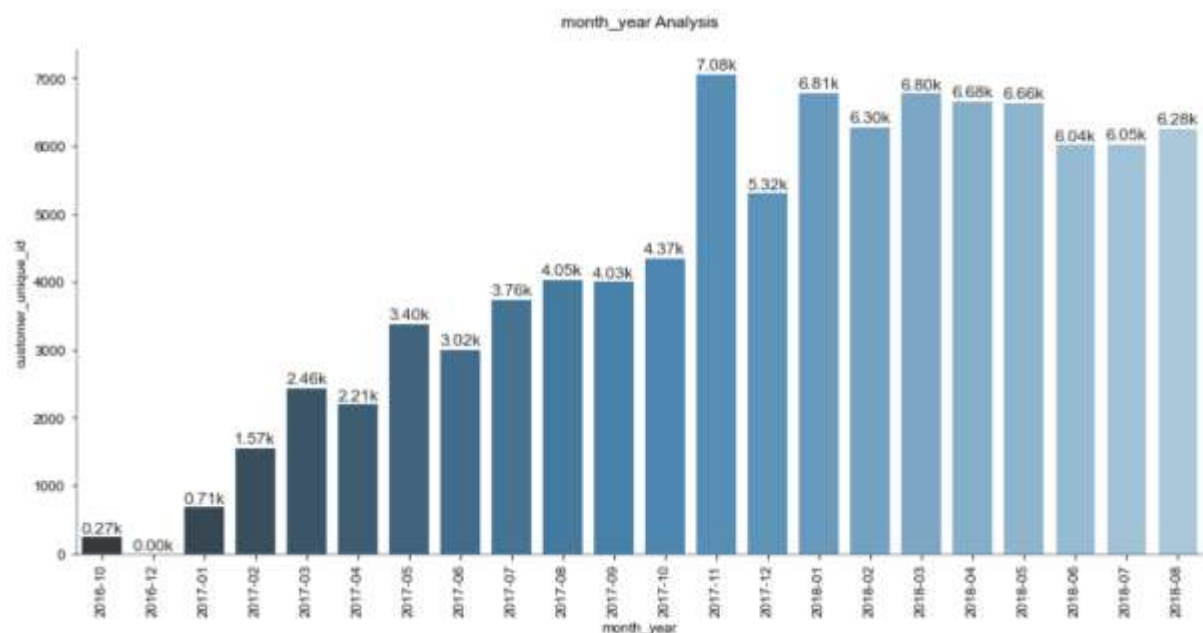


Figure 5 Monthly active customers from 2016 to 2018

As evidenced by Figure 5, reflecting its monthly active customer, Olist was able to continually capture a huge market base. For the reason that Olist allowed merchants to immediately access an extremely fragmented customer base across all Brazilian marketplaces, it also allowed the fragmented customer base all over Brazil the same convenience. In large part, it has been found that convenience was the highest attraction to online shopping (Girard, Korgaonkar & Silverblatt, 2003), and the business model of Olist affords this convenience as a value proposition.

With more than 12,000 merchants on the platform, Olist offers diverse product offerings which satiates its user. Rohm and Swaminathan (2004) has found that internet shoppers tend to be variety seekers who are substantially motivated by variety seeking across retail alternatives and product types. This means a higher likelihood of spurring consumers to use their website, capturing market share to potential new users as long as delivery to the geographic location is available.

#### 4.3.2 Company Weakness:

While the driver of a business fortifies potential to elevate the company by the fulcrum of its strategic choices, there might exist a clarion call to review its strategy, in line with challenges that the passage of time brings. When data reflects declining market share, it necessitates, in

all ramifications, what brought Olist to the peak of its streak might not bring it beyond.

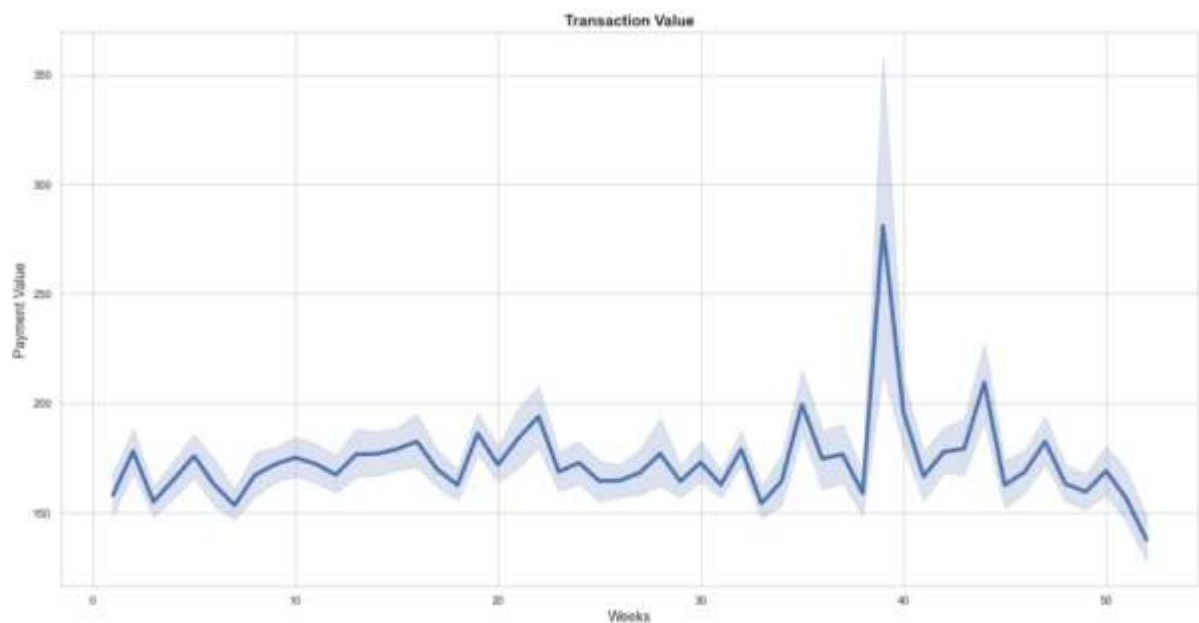


Figure 6 Sales value transaction from 2016 to 2018

Attracting more clients underscores the business' main strategy, however an analysis of the data shows that Olist is undergoing a two-pronged hit to its sales volume, as evidenced first by the decline in sales volume after August 2018, and second, by the decline in its average sales transaction volume. This suggest that Olist might be losing their footing in terms of competitive advantage and drivers of its success might not endure.

### 4.3.3 Company's Threats

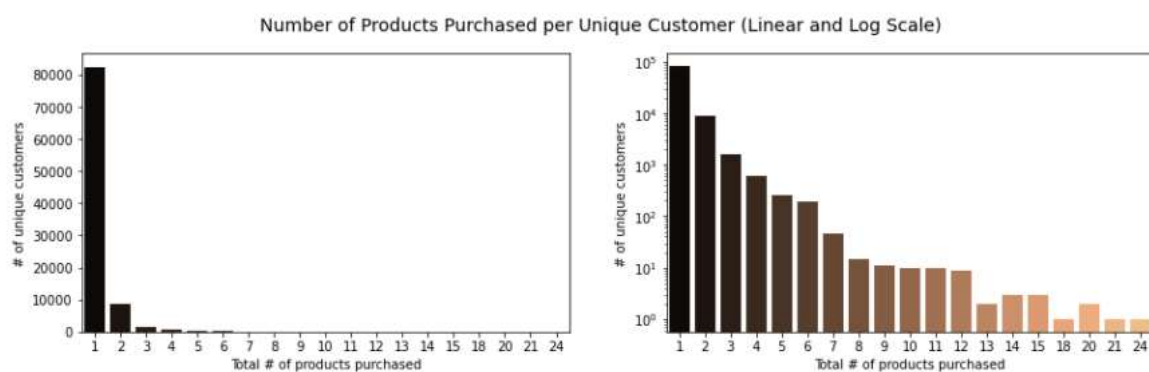


Figure 7 Frequency of customer purchase

An analysis of the products purchased per unique customer in Figure 7 shows that most customers are inclined to purchase only once. This suggests lack of customer loyalty, that the customer churn rate is high and they leave the platform after their first purchase. This sort of behaviour reflects a possible unhealthy business model which relies heavily on new sign ups to run, which can incur high business cost to Olist. In the traditional process, where reaching more customers and expanding customer is of priority, businesses can be siphoned of its revenue through high acquisition cost of obtaining new customers. Thus, it makes better

sense to conduct business with current customers. In doing so, the marketing trajectory shifts from focusing on breadth of customer base to the depth of each customer's needs. Of course, with each crisis comes opportunities, thus we investigate areas where Olist can seize opportunities in growing its business, and subsequently, devise a marketing plan.

#### 4.3.4 Company's Opportunities

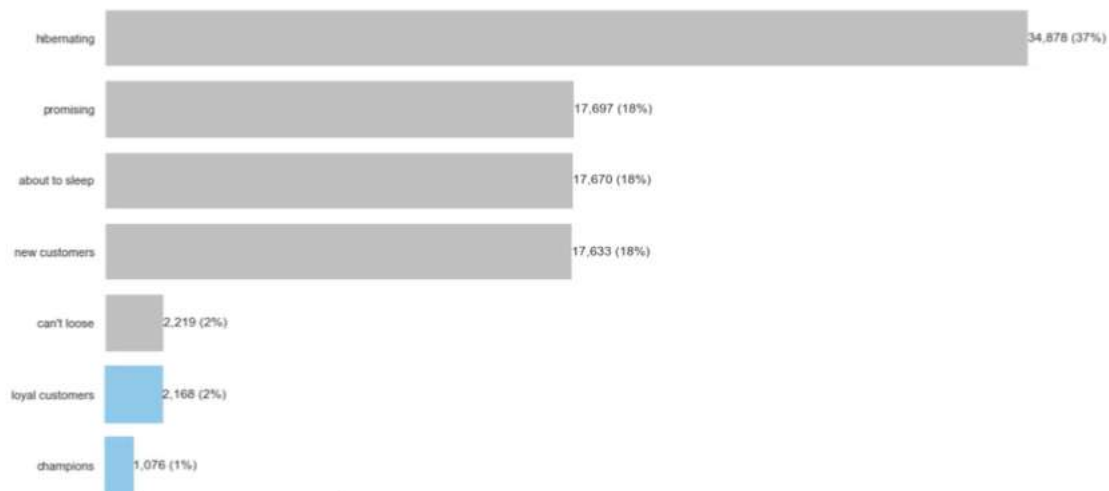


Figure 8 Types of customers in Olist

A kaleidoscope of opportunities for application of marketing strategies reveals itself through analysis of the user types available in Olist (Figure 8). As illustrated, 1% of their customers are champions of Olist, 2% are loyal customers, while the remaining 97% affords us replete possibilities of exploration through experimental methods to encourage repeated customer purchase, of which we would detail in the following sections. In doing so, we can seek ways to develop and deepen customer relationships rather than just close sales. As Rygielski et al (2002) mentioned, businesses should not just deal with customers as conducting transactions, rather, to turn this opportunity as an endeavor to establish a long-term relationship with each customer. This is especially perennial with the rise of B2C marketplace, which also sees surfeit of demands from consumers.

Historically, there is every incentive for business to retain existing customers as customer retention has proven to be highly profitable, where attracting new clients can cost five to six times more than retaining current customers, (Colgate & Danaher, 2000). Profitability is higher for long term customers as they tend to be less sensitive to competitive marketing activities and are less costly to serve. This scenario where Olist is losing its customers after its first purchase, translates to a situation where loss of opportunity cost is huge. This conveys managerial implications such that a plan to retain customer should be established.

## 5. Implementing Analysis: Managerial implications

In the words of Verbeke, Martens and Baesen (2011), customer retention permits an efficient use of limited marketing budgets to reduce churn and increase the return on marketing investment. With 96,000 customers in Olist, devising a marketing campaign to target all the customers might be a fool's errand. Thus, we seek to segment our customer base and roll out our marketing campaign gradually. As Poel and Lariviere (2004) mentioned, even a small improvement in customer retention may yield significant returns.

As with Olist, heterogeneity of user profiles is one of the major problems facing online service providers, such that marketing campaigns not targeted at the right audience might not be as effective as they had hoped. Consumers pay attention to varying types of information, and exhibit different behaviour based on their cognitive and demographic profile. In extension, in order to facilitate customer retention, developing capabilities to meet unique needs of each segment is pivotal (Fazlollahi, 2002). Thus, to determine the target market towards which we will organize our marketing effort, we seek to segment the customer through K-means Clustering methods and RFM distribution.

### Executing K means

To identify the optimal K, we utilized the elbow method where 5 optimal clusters were identified in Figure 9.

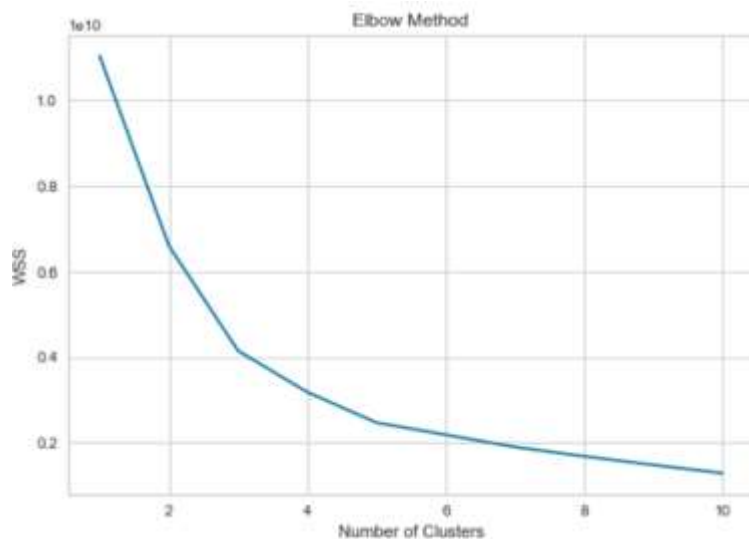


Figure 9 Optimal numbers of clusters

	Cluster_ID	Amount_mean	Frequency_mean	Recency_mean
0	0	547.259992	1.001512	252.352414
1	1	94.658474	1.000000	279.895879
2	2	123.337092	1.000000	101.345017
3	3	232.335795	2.354614	253.097230
4	4	134.790756	1.000000	485.327151

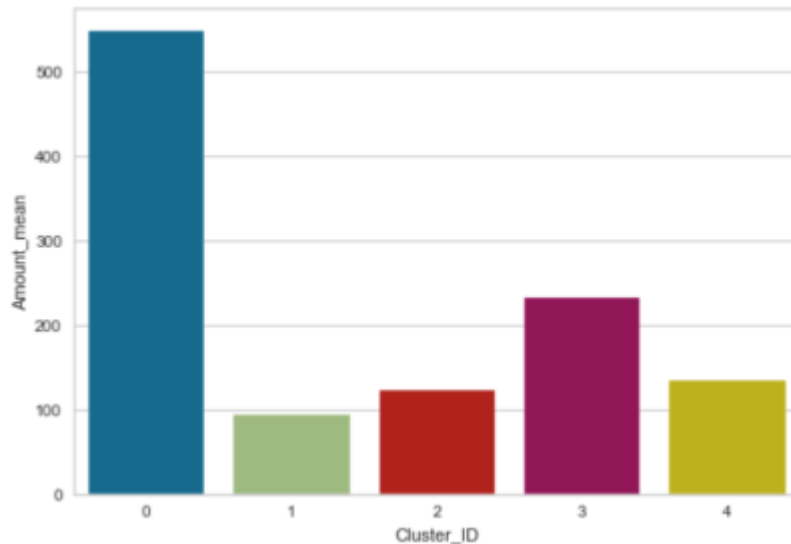


Figure 10 Mean spend per cluster

As observed in Figure 10, our data analysis resulted in market segmentation approach with five different clusters, whose variable deferred on the mean average spending. We labelled these five clusters High spenders, Low spenders, Average spender, Loyal Spender, and Above Average Spender. The figure above portrays representative members of the four identified consumer clusters. As Cluster 0 shows the highest average mean amount spent, and in order to maximize our resources for returns, thus we would dedicate our marketing effort towards this segment which has the tendency of higher spending power.

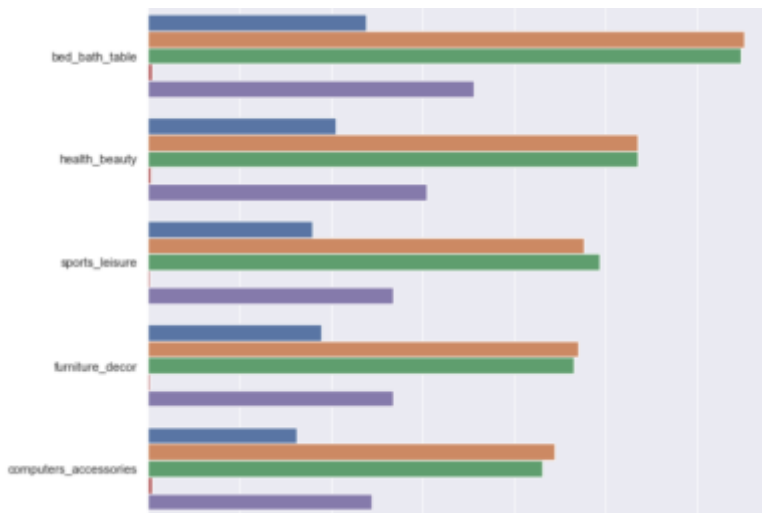


Figure 11 Types of items most purchased for each cluster

While the dataset did not have their demographic data with regards to age, gender, geographical locations and earning power, we were not able to construct a demographic profile which reflects those. However, Williamson, Guo and Yin (2021) mentioned that we can form a segment from their psychographic, in this case which we extolled customer knowledge based on their purchased item history. As we can see from Figure 10, cluster 0 has the highest mean spending. The top five products they purchased were related to lifestyle items such as bed, bath, table, decoration which suggest they have the money to spend

beyond their basic needs, and that they take pride to adorn their homes (Figure 11). Additionally, they also spend money on beauty and leisure, suggesting they invest money in taking care of themselves. This suggest that they belong to the affluent group, where they have income to spend beyond basic necessities.

To remain competitive, we must launch strong foray into our targeted segments to deliver value such that our big spenders stay. Henceforth, marketing methods to cater to the needs and buying behaviour of customers in high-value market segment of Cluster 0 would be discussed.

## 6. Experimental Design

### 6.1 Literature review

Prior research has shown that the absence of customer loyalty retention strategy is a major factor which cause customer churn, and customer satisfaction is a key predictor of loyalty. According to de Ruyter & Wetzels (2000), customer satisfaction is defined as the “general customer evaluative judgement based on purchase and consumption experiences with goods. Pleasurable fulfilment of needs or positive emotional response from customer’s evaluation of products or services impels companies to grow the base of their loyal customer. Thus, in customer satisfaction, positive affective response is a precursor to customer loyalty (Newman & Werbel, 1973). In our proposed experiment to incite repurchase behaviour, we thus seek to devise a loyalty program in which would capture such positive responses from our buyers.



Figure 12 Listing price of products over 60 weeks

In considering from the plethora of possibilities for our loyalty program, we eliminated price promotions as we must remember that the best loyalty program is one which customer care about. Insights from the veracity of our data showed that price is not a factor which would delight customers, as evidenced by Figure 12. Despite a decrease in average listing price throughout the years, price drop has proven to be insufficient in retaining customers. Beyond price, Kotler, Kartajaya and Setiawan (2010) mentioned that customer segments should be viewed as having minds, hearts, and spirits, in which we can target to influence consumption

behaviour. Thus, to circumvent possible disinterest from our consumer segment, we consulted popular products category which they frequently purchased from.

Figure 13 Types of product mostly purchased by each cluster

With the trifecta of considerations in place, and in accordance to prior literature review, we thus hypothesized that implementing loyalty program with rewards that our customer segment cared about would increase repurchasing behaviour:

## 7 Study 1

From Figure 13, we can see that customers in cluster 0 most frequently purchased computer, computer accessories, and health and beauty products. In devising our loyalty program, we chose to create perks that included health and beauty products, mainly because we require our loyalty program to contribute to solving our business problem of declining sales. Logically, health and beauty products garner more frequent repurchase than high value items like computers in general. In the instance where we were to capture our high value loyal customers, we want their loyalty to be pledged to products which they purchase often, ensuring sustained repurchasing frequency in the long run.



Twenty percent of customers from Cluster 0 would be randomly selected to participate in our experiment. Of this subsample, fifty percent would be assigned to the experimental condition where they would receive an email with points as perks of a loyalty program, while the other fifty percent in the control group would receive an unrelated email (NGO email). The outcome variable is dependent on whether they would repurchase from Olist after three months of receiving the email.

### **7.3 Data analysis and predicted results**

A paired-samples t-test would be conducted to compare scores the control group and treatment group. There would be a significant difference in the repurchase scores for the group where loyalty program was applied ( $M=5.17$ ,  $SD=1.22$ ) and to the group where loyalty program was not applied ( $M = 4.00$ ,  $SD = 1.44$ );  $t(59)=10.07$ ,  $p = <.001$ . The effect size for this analysis ( $d = 1.56$ ) was found to exceed Cohen's (1988) convention for a large effect ( $d = .80$ ).

### **8. Decision and conclusion**

Since  $p < .001$  is less than our chosen significance level  $\alpha = 0.05$ , we can reject the null hypothesis, and conclude that repurchase behaviour for the control and treatment group is significantly different. The average score for the treatment group would higher than the control group.

### **9. Limitation**

Our study presented a major limitation, of which includes inadequate data, lack of generalizability, and possible confounding effects.

Firstly, the scarcity of readily available consumer data would impede us from reflecting a full-bodied picture of our customer's demographic profile. This restricts us from appropriately tailoring a marketing strategy true to their spending patterns, education level, gender, age and other variables which are important in consumer-focused marketing strategy.

Secondly, the inaccurate profile generated from our study might affect generalizability of our results to the population. We note that research conducted on inferred customer profile characteristics would be at best, speculative. Future research could attempt to collect primary data instead of relying on secondary data with missing values for real world application.

Lastly, the serendipitous dissemination of a loyalty program might induce demand effect, in which customers might easily decode the implicit message that we are aiming to stimulate repurchase behaviour. In turn, this might cause them to sabotage our marketing campaign.

### **10. Conclusion**

Central to the idea of customer retention lies in the fact that profitable customer retention can be achieved through marketing strategies, with equal parts owing to perceptive insight and equal parts devising strategic marketing decision which adheres closely to said insights. Indeed, customers require more than just a variety of products to be satisfied, and customers



might not be inclined to repurchase based on price alone. As the business landscape changes, Olist would do well to avoid getting ensnared in the trap of merely acquiring customers, and could consider loyalty program relevant to its customer segment as methods to resurrect its sales figures. Indeed, as Reichheld (2018) mentioned, a 5 percent increase in customer retention could increase a firm's profits at a range between 25 and 85 percent. Therefore, if permanence of old ways and missed market opportunities are factors upon which Olist predicate business success, they might ultimately lose its buoyant market position.

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