



**SMU**

SINGAPORE MANAGEMENT  
UNIVERSITY

**ANLY482 AY2017-18 Term 2**

**Analytics Practicum**

**Shopee Analysis –  
Improving Customer Satisfaction**

**Prepared for:**

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## **1. Overview**

Shopee is the largest E-commerce site in the Southeast Asian region in terms of daily orders. Its parent company Sea Ltd has recently completed an initial public offering in NYSE, bringing about a cushion of cash. Yet despite the influx of cash, their profitability remains questionable due to the high marketing costs incurred in expanding consumer base. Hence there is a need to for Shopee to strengthen its market position against many other e-commerce competitors and examine ways for the company to cut costs and maximize their resource for business longevity .

## **2. Motivation**

It is noted that Shopee generates less than 15% of the revenue of Sea Ltd, yet takes up 78% of the company's total marketing and sales expense. This could be attributed to price being the main determining factor when customers engage in online purchase. Thus, e-commerce companies like Shopee have to resort to discounts to lure new customers and maintain current ones, further reducing the already low profit margin.

In addition, an article from Harvard Business Review reported that it is 5 to 25 times more expensive to keep an existing customer than to acquire a new one. In order to become profitable in the long run, it is imperative for Shopee to distinguish themselves not just through price competitiveness, but also through improving customer satisfaction to entice them to continue using the service.

## **3. Objectives**

This project aims to provide clarity of what factors are more (or less) important in optimizing Shopee's improvement efforts. Identifying these factors will play a key role in our prescriptive analytics to provide Shopee with key business insights on 1) how to enhance customer satisfaction and 2) improve their ability to retain existing customers. The project deliverables include:

- i. Industry best practices for driving customer satisfaction and loyalty
- ii. Quantified key drivers of customer satisfaction (specific to Shopee)
- iii. Recommendations on how to improve customer satisfaction

#### 4. Data

We will be working with data entailing the problems customers face while using Shopee and how it was solved. A preview of the column metadata can be seen below:

Column Name	Data Type
Time_problem_raised	Time
Time_problem_solved	Time
Method_used	String
Count_interactions	Numeric
Issue_type	Numeric
Final_customer_review	Numeric

*This metadata was obtained through our communications with Shopee Human Resources Team. However, they have notified us that they would require more time to verify with their internal Data Engineering and Operations teams before they can give us the final metadata as well as the preview of the dataset.*

#### 5. Methodology

Before performing any data analysis, it is critical to perform exploratory data analysis to understand the data better. Subsequently, we would have to handle missing data, create dummy variables for categorical features and check for correlated features.

Afterwards, feature selection methods such as ANOVA and recursive feature selection will be used to determine if the given variables are enough for us to pinpoint what has the strongest influence on the final customer review. Then, dimensionality reduction techniques such as Principal Component Analysis would be utilized to see if there is a need to create a combination of variables. Lastly, we would explore the use of Natural Language Processing and deep learning to increase personalization of the customer experience for Shopee.

## **6. Scope of Work**

This report has identified the need to go beyond pricing strategies to maximize profit. There is a need for Shopee to focus on ensuring consumers' satisfaction to encourage returning patronage. This report will focus on analyzing Shopee's past interactions with consumers to improve overall customers' experience. We will adopt a cradle-to-grave approach by analyzing customers' interaction with Shopee throughout their time on the site.

The report will 1) identify factors that will severely influence a customer's experience when shopping on Shopee, and 2) suggest recommendations on how Shopee can improve their standard operating procedures to ensure customers' satisfaction to retain their customers.

