SMU558

# TEACHING NOTE

# SMU-19-0043TN AMAZON: FACING LOW CUSTOMER SATISFACTION IN SINGAPORE


## BY ASSOCIATE PROFESSOR MARCUS ANG TECK MENG AND CHEN YONGCHANG



*This teaching note was written by Associate Professor Marcus Ang Teck Meng and Chen Yongchang at the Singapore Management University. This teaching note is designed to be used with case: SMU-19-0043. The case was prepared solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.*





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# AMAZON: FACING LOW CUSTOMER SATISFACTION IN SINGAPORE

This note serves as a facilitator's guide to the ***Amazon: Facing Low customer Satisfaction in Singapore*** case study. After a brief case synopsis, the note describes the learning objectives and key lessons. Assignment questions are listed and a teaching plan to guide the discussion and answer the questions is presented.

## Case Synopsis

This case is set in 2018. The Institute of Service Excellence (ISE) at Singapore Management University conducted surveys in Singapore to measure customer satisfaction across 20 industries comprising more than 100 companies, and released the results as Customer Satisfaction Index of Singapore (CSISG) every quarter.

In the latest CSISG report of the e-commerce sub-sector, Amazon was ranked last in terms of customer satisfaction in Singapore. The results were surprising as Amazon, the global leader in online retail, usually topped the customer satisfaction surveys conducted in the US. Puzzled by its lacklustre performance, James Mckally, senior partner at a Singapore-based marketing consultancy on e-retail, had requested ISE for a detailed analysis.

John Lim, as the lead analyst at ISE, was in the process of reviewing the data collected and the analysis that had been generated, in order to derive some useful insights before the proposed meeting.

## Learning Objectives

This case can be used in both undergraduate and graduate classes. It reinforces students' skills in data processing, numerical computations, and use of Excel with the default Data Analysis Add-in tool. Students will learn to derive a suitable regression model that explains the drivers of Amazon, conduct regression analysis and use techniques such as spreadsheet modelling. After completing the assignment questions, the students will be able to:

- Understand the impact of data analysis in making decisions.
- Propose a regression model to explain the explanatory variables and evaluate a company's performance using the data collected.
- Evaluate the performance of two companies using regression analysis.

This case is written with the limitations of Excel in mind. However, it can also be used in conjunction with other software such as R and SPSS. Doing so will enable students to focus more on the interpretation of the results.

An Excel worksheet has been attached for the instructors benefit.

## Suggested Lesson Plan

*Suggested Seminar Outline*

| Activity | Instructional Strategy | Duration (min) |
|---|---|---|
| Discussion about the e-retail sector, organisational background and existing issues. | Class Discussion | 30 |
| Discussion about the challenges. | Class Discussion | 15 |
| Introduction of regression analysis and how to use it | Lecture | 15 |
| Discussion of the assignment questions | Group Discussions | 30 |
| | **Total** | **90 min** |

## Student Assignment Questions

1. a. Companies often benchmark themselves on various key performance indicators' ratings. How does Amazon.com perform on these key metrics as compared to its competitors?
   - Customer Satisfaction
   - Willingness to Recommend
   - Average customer spend
   - Frequency of visit

   b. From the data, what are the reasons for Amazon's performance ratings?
   - Which areas did Amazon perform well in?
   - Which areas did Amazon perform poorly in?
2. What should Amazon do to improve its customer satisfaction performance?
3. Compare the performance of Amazon with that of Qoo10.
   a. How is Qoo10 performing relative to Amazon?
   b. What should Amazon do to improve its performance?
   c. What should Amazon do to better compete with Qoo10?

## Case Analysis and Teaching Plan

*Answers to Student Assignment Questions*

**1. a. Companies often benchmark themselves on various key performance indicators' ratings. How does Amazon.com perform on these key metrics as compared to its competitors?**

- **Customer Satisfaction**
- **Willingness to Recommend**
- **Average customer spend**
- **Frequency of visit**

**b. From the data, what are the reasons for Amazon's performance ratings?**

- **Which areas did Amazon perform well in?**
- **Which areas did Amazon perform poorly in?**

For the analysis, the instructor may focus only on the companies that have 200 data points, and calculate the following values based on the data given:

**Table 1: Key Metrics**

| Key Metrics | Customer Satisfaction | Willingness to Recommend | Average customer spend | Frequency of visit |
|---|---|---|---|---|
| Company | Avg. of 'satis' | Avg. of 'recomm' | Avg. of 'Q9D' | Avg. of 'Q9C_P' |
| AMAZON | 7.48 | 7.17 | 154.45 | 2.13 |
| CAROUSELL | 7.49 | 7.27 | 202.90 | 2.24 |
| EBAY | 7.69 | 7.39 | 206.42 | 2.05 |
| FAVE | 7.70 | 7.35 | 130.22 | 2.77 |
| QOO10 | 7.58 | 7.29 | 138.90 | 2.23 |
| TAOBAO/TMALL | 7.58 | 7.32 | 149.15 | 2.39 |
| ZALORA | 7.74 | 7.27 | 149.99 | 2.19 |

To have better visualization, the following graphs can be plotted:

**Figure 1: Average Customer Satisfaction**

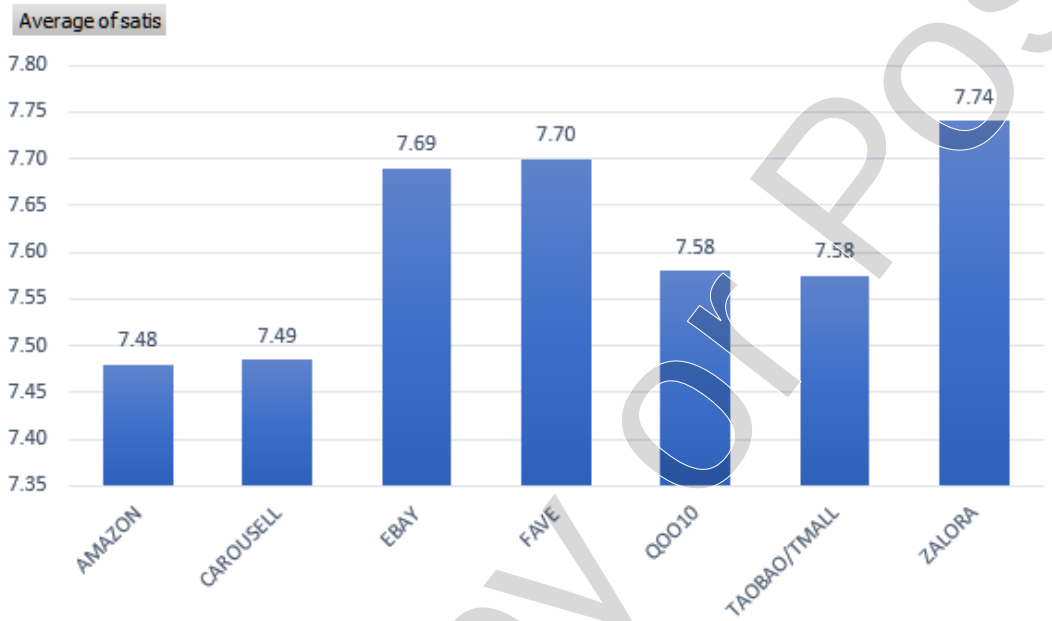


**Figure 2: Average Amount Spend per Visit**

**Figure 3: Average Rating on Likelihood to Recommend**

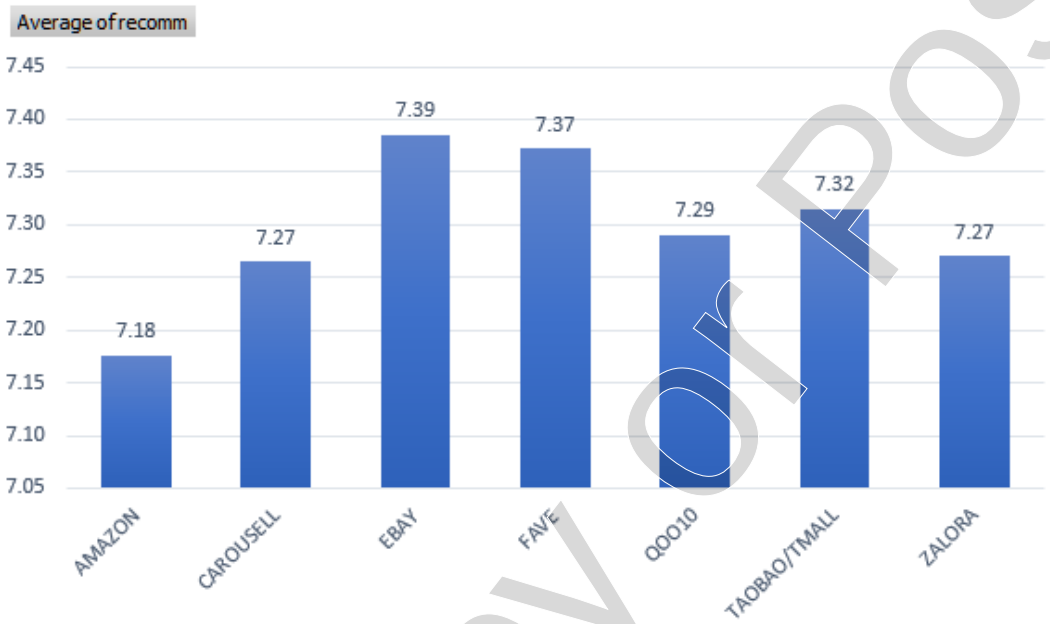


**Figure 4: Average Times of Purchases in the Last 6 Months**

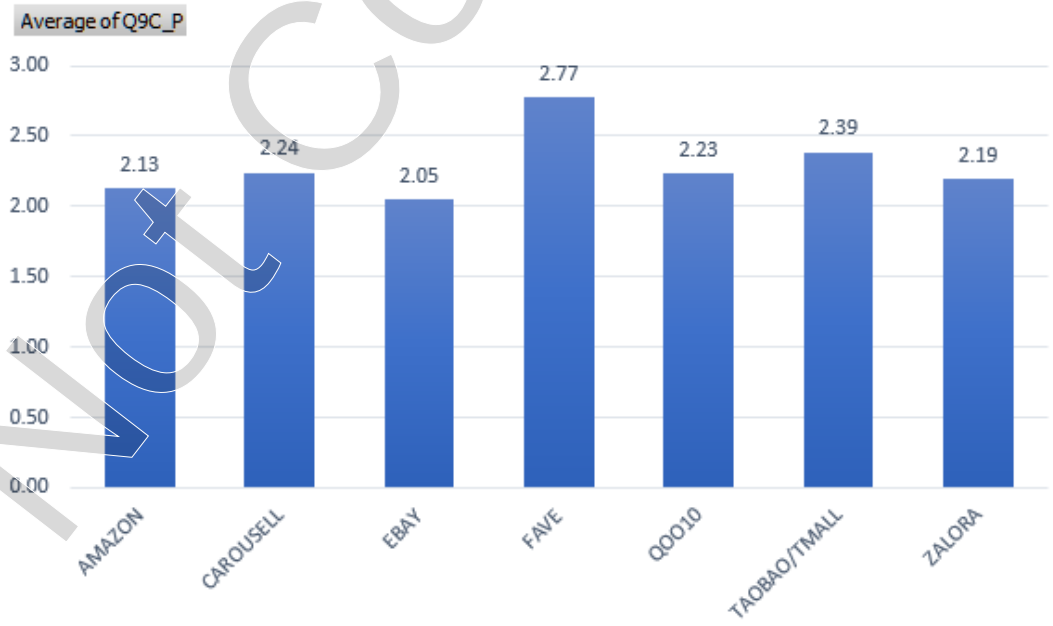

**Figure 5: Amazon's Performance Benchmarked against the Industry's Average**

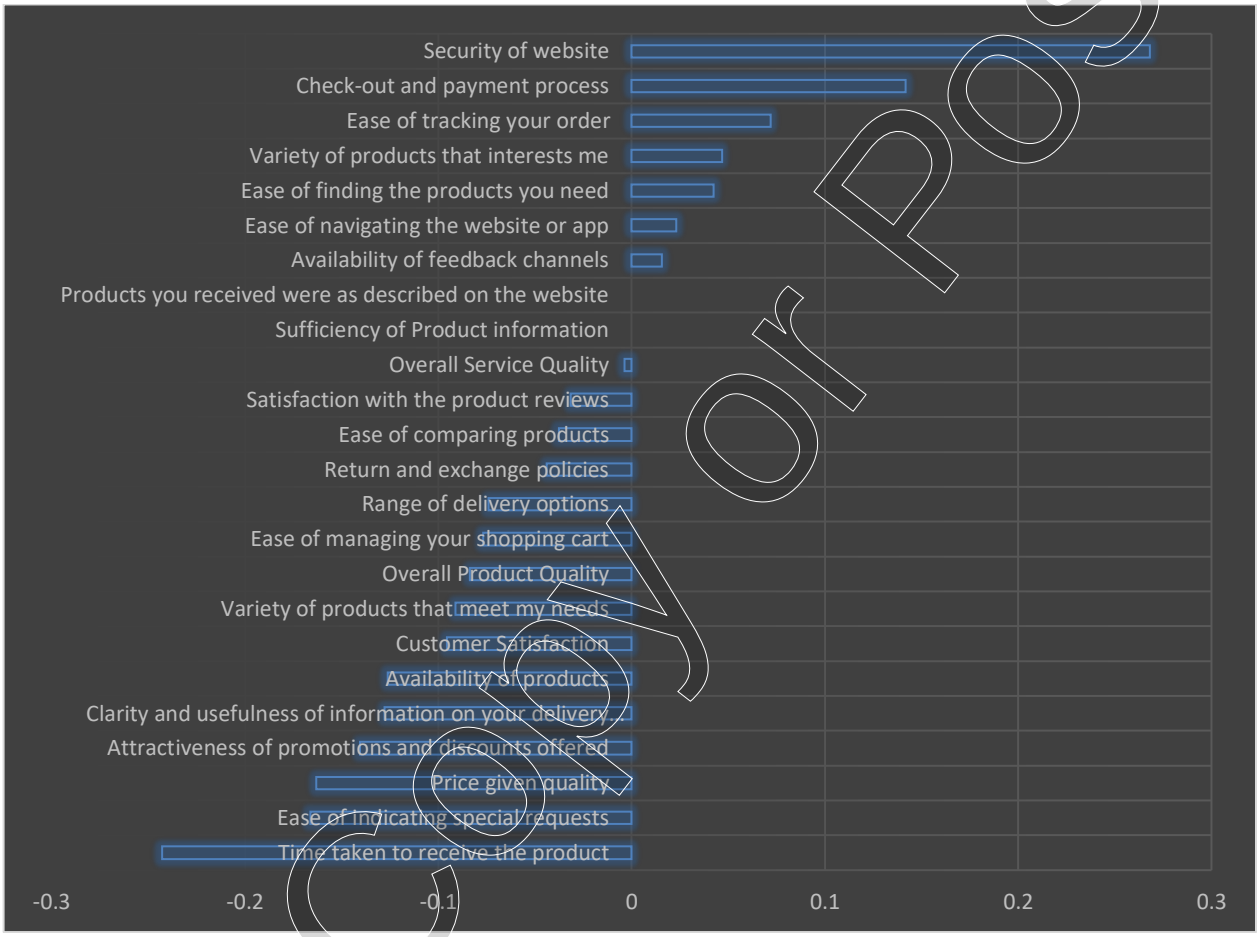


Figure 5 presents the results from the survey questions. It compares Amazon's performance against the industry's average performance, and shows its deviation from the industry average. It can be seen that Amazon performed relatively well in the following areas based on the top five attributes:

- Providing consumers a secure website
- The ease of the payment process
- The ease of tracking the orders
- The variety of products
- The ease of finding the products

However, it performed poorly in areas such as (bottom five attributes):

- Time taken to receive the product
- Average ease of indicating special requests
- Price given quality

- Attractiveness of promotions and discounts offered
- Information on delivery

Amazon appears to be performing well in areas relating to the website including web security, processing of orders and variety of products. However, for products from the US, the delivery of the product to customers in Singapore may take a longer time (comparatively). The uncertainty of the delivery time is attributed to any possible delays in the shipment. The initial delivery issues relating to the launch of Amazon Prime Now in mid-2017 may have also contributed to the relatively lower ratings for delivery.

Most products in Amazon belong to more reputable companies, and hence they could potentially command a higher selling price. On the other hand, the products offered by Amazon's competitors (such as Qoo10) may be Original-Equipment-Manufacturer (OEM) and can be purchased by customers at a lower price. This explains the low performance in "Price given quality". In addition, the heavy discount and promotional activities of local e-commerce players may have also caused the prices and attractiveness of promotions and discounts for Amazon to perform relatively lower than the industry average.

Amazon, which is based in the US, is unable to respond to customers' requests effectively in Singapore. Moreover, most of Amazon's successful promotions in US may not even be applicable to the customers in Singapore, as the customers in both regions look for different items. For example, winter clothing is not applicable to customers in Singapore.

**2. What should Amazon do to improve its customer satisfaction performance?**

To understand more about the factors which affect Amazon, it is important to first identify the key drivers of Amazon's performance. In order to do so, the instructor may ask the students (in groups of 3 to 4) to treat customer satisfaction as the dependent variable and perform multiple linear regression.

First inspection of the data reveals that there are several values that are non-consistent. Specifically, respondents who did not provide an answer have values of 97, 98 or 99. There are a few methods to treat this. One option is to replace these values with the averages of that explanatory variable for the company, while another is to remove the entire row of values. The instructor may recommend the use of the latter method in the current analysis.

Students should first conduct correlational analysis of the variables available in the dataset to find out the key explanatory variables for 'Customer Satisfaction' (refer to **Table 2**). It can be observed from Table 2, no correlation values between the explanatory variables are greater than 0.7. Hence, this rules out the possibilities of multi-collinearity.

**Table 2: Correlation Table of Amazon's Explanatory Variables**

| | poverq | pq | TP01 | TP02 | TP03 | TP04 | TP05 | TP06 | TP07 | TP08 | TP09 | TP10 | TP11 | TP12 | TP13 | TP14 | TP15 | TP16 | TP17 | TP18 | TP19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| poverq | 1.00 | | | | | | | | | | | | | | | | | | | | |
| pq | 0.67 | 1.00 | | | | | | | | | | | | | | | | | | | |
| TP01 | 0.47 | 0.44 | 1.00 | | | | | | | | | | | | | | | | | | |
| TP02 | 0.44 | 0.38 | 0.48 | 1.00 | | | | | | | | | | | | | | | | | |
| TP03 | 0.47 | 0.43 | 0.50 | 0.31 | 1.00 | | | | | | | | | | | | | | | | |
| TP04 | 0.51 | 0.47 | 0.48 | 0.50 | 0.53 | 1.00 | | | | | | | | | | | | | | | |
| TP05 | 0.37 | 0.36 | 0.28 | 0.21 | 0.43 | 0.42 | 1.00 | | | | | | | | | | | | | | |
| TP06 | 0.49 | 0.45 | 0.41 | 0.27 | 0.36 | 0.38 | 0.26 | 1.00 | | | | | | | | | | | | | |
| TP07 | 0.49 | 0.46 | 0.46 | 0.34 | 0.37 | 0.43 | 0.51 | 0.36 | 1.00 | | | | | | | | | | | | |
| TP08 | 0.43 | 0.43 | 0.47 | 0.44 | 0.43 | 0.36 | 0.35 | 0.32 | 0.42 | 1.00 | | | | | | | | | | | |
| TP09 | 0.51 | 0.56 | 0.37 | 0.33 | 0.48 | 0.59 | 0.38 | 0.43 | 0.45 | 0.47 | 1.00 | | | | | | | | | | |
| TP10 | 0.48 | 0.49 | 0.33 | 0.24 | 0.32 | 0.30 | 0.37 | 0.35 | 0.35 | 0.36 | 0.40 | 1.00 | | | | | | | | | |
| TP11 | 0.38 | 0.47 | 0.35 | 0.43 | 0.39 | 0.41 | 0.31 | 0.28 | 0.36 | 0.48 | 0.54 | 0.32 | 1.00 | | | | | | | | |
| TP12 | 0.46 | 0.50 | 0.33 | 0.38 | 0.33 | 0.35 | 0.28 | 0.33 | 0.38 | 0.37 | 0.47 | 0.42 | 0.55 | 1.00 | | | | | | | |
| TP13 | 0.45 | 0.46 | 0.34 | 0.29 | 0.33 | 0.42 | 0.43 | 0.38 | 0.40 | 0.42 | 0.47 | 0.49 | 0.34 | 0.38 | 1.00 | | | | | | |
| TP14 | 0.47 | 0.54 | 0.34 | 0.26 | 0.35 | 0.43 | 0.40 | 0.39 | 0.34 | 0.32 | 0.58 | 0.36 | 0.41 | 0.31 | 0.51 | 1.00 | | | | | |
| TP15 | 0.55 | 0.58 | 0.46 | 0.41 | 0.36 | 0.45 | 0.36 | 0.38 | 0.47 | 0.50 | 0.50 | 0.45 | 0.53 | 0.51 | 0.47 | 0.47 | 1.00 | | | | |
| TP16 | 0.45 | 0.57 | 0.28 | 0.25 | 0.30 | 0.38 | 0.36 | 0.35 | 0.42 | 0.33 | 0.50 | 0.35 | 0.44 | 0.34 | 0.49 | 0.42 | 0.46 | 1.00 | | | |
| TP17 | 0.46 | 0.48 | 0.29 | 0.35 | 0.32 | 0.38 | 0.43 | 0.31 | 0.48 | 0.30 | 0.41 | 0.34 | 0.46 | 0.40 | 0.35 | 0.35 | 0.50 | 0.56 | 1.00 | | |
| TP18 | 0.38 | 0.51 | 0.34 | 0.33 | 0.32 | 0.28 | 0.36 | 0.37 | 0.35 | 0.46 | 0.42 | 0.34 | 0.42 | 0.41 | 0.44 | 0.45 | 0.58 | 0.41 | 0.40 | 1.00 | |
| TP19 | 0.57 | 0.58 | 0.44 | 0.31 | 0.52 | 0.49 | 0.46 | 0.47 | 0.48 | 0.45 | 0.64 | 0.39 | 0.52 | 0.47 | 0.52 | 0.61 | 0.56 | 0.46 | 0.51 | 0.62 | 1.00 |

Using domain knowledge, the following variables are excluded from the correlation analysis: 'Likelihood to repurchase', 'Likelihood to recommend', and 'Recommended ecommerce site to family and friends in the last 3 months'. These variables do not contribute to the explanation of customer satisfaction levels, and rather appear to be the direct consequences of high customer satisfaction. Additionally, 'Overall experiences satisfaction with <company name>' is omitted because it is a broad construct that does not provide any actionable insights for Amazon to work on. The categorical variables such as 'Method Used most frequently to shop at (INSERT NAME)' and 'Method of payment do you prefer most for shopping online at (INSERT NAME)' are also excluded for the sake of accuracy, as using categorical variables in correlation can yield inaccurate results because correlation is typically used to investigate the relationship between two continuous variables.

Note that we did not consider soverq as it is a general attribute (Service Quality). This attribute might have limited actionability and it could be argued that it should be excluded from the analysis. However, if students were not taught to argue from domain knowledge, they may include the variable as part of the correlation matrix.

**Table 3: Regression Analysis Summary Output**

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.891 |
| R Square | 0.794 |
| Adjusted R Square | 0.786 |
| Standard Error | 0.587 |
| Observations | 147 |

| ANOVA | *df* | *SS* | *MS* | *F* | *Sig. F* |
|---|---|---|---|---|---|
| Regression | 6 | 186.496 | 31.083 | 90.184 | 0.000 |
| Residual | 140 | 48.252 | 0.345 | | |
| Total | 146 | 234.748 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
|---|---|---|---|---|---|---|
| Intercept | -0.886 | 0.388 | -2.287 | 0.024 | -1.652 | -0.120 |
| pq_Az | 0.324 | 0.053 | 6.159 | 0.000 | 0.220 | 0.428 |
| VN_1009_TP19_Az | 0.188 | 0.061 | 3.087 | 0.002 | 0.068 | 0.309 |
| VN_1009_TP07_Az | 0.117 | 0.048 | 2.438 | 0.016 | 0.022 | 0.212 |
| VN_1009_TP08_Az | 0.232 | 0.049 | 4.725 | 0.000 | 0.135 | 0.329 |
| VN_1009_TP14_Az | 0.157 | 0.049 | 3.182 | 0.002 | 0.059 | 0.254 |
| VN_1009_TP15_Az | 0.103 | 0.056 | 1.853 | 0.066 | -0.007 | 0.214 |

Next, regression analysis is carried out (refer to **Table 3**). For clarity, we add suffix _Az to the attributes to denote that the data on Amazon is used for the regression analysis. Students should try out a few combinations (perhaps 2 to 3) of the explanatory variables to derive their final model. They should also state the reasons for their final chosen model. Arguments for their final model can include points on (1) p-value of variables (2) higher R-square, and (3) domain knowledge of which explanatory variables should be included/excluded.

Our results above show that the regression output gives R-square 0.794. Hence, the key drivers of Amazon's customer satisfaction are:

**Price given quality** - products that offer better quality or price than expected will increase customer satisfaction

**Sufficiency of product information** - The availability of product information will help customers find the exact product they need, reducing unexpected surprises and increasing customer satisfaction.

**Ease of comparing products** - Enabling customers to seek the best deal through an easy process will improve the satisfaction rate.

**Range of delivery options** - Provides customers different delivery alternatives that best meet their needs, thus driving up their customer satisfaction levels.

**Ease of tracking your order** - Gives customers peace of mind as they avoid missing their parcels

**Return and exchange policies** - A lenient policy will provide customers with some flexibility and a safety net when buying online

While Amazon needs to focus on all these key drivers, it should set aside additional resources specifically for providing a wider range of delivery options, and flexible return and exchange policies.

**3. Compare the performance of Amazon with that of Qoo10.**

**a. How is Qoo10 performing relative to Amazon?**

**b. What should Amazon do to improve its performance?**

**c. What should Amazon do to better compete with Qoo10?**

Amazon is underperforming compared to Qoo10 in a number of attributes as highlighted in the table below.

**Table 4: Comparison of Amazon with Qoo10**

| Variable | Attribute | Amazon | Qoo10 | Difference |
|---|---|---|---|---|
| VN_1009_TP16 | Time taken to receive the product | 7.49 | 7.80 | -0.31 |
| pq | Price given quality | 7.41 | 7.56 | -0.15 |
| VN_1009_TP09 | Ease of indicating special requests | 7.38 | 7.53 | -0.15 |
| VN_1009_TP17 | Products you received were as described on the website | 7.85 | 8.00 | -0.15 |
| VN_1009_TP01 | Variety of products that interests me | 7.91 | 8.04 | -0.13 |
| poverq | Overall Product Quality | 7.49 | 7.61 | -0.12 |
| VN_1009_TP23 | Satisfaction with the channels available to communicate with the seller(s) | 7.60 | 7.71 | -0.11 |
| VN_1009_TP13 | Clarity and usefulness of information on your delivery methods and fees | 7.48 | 7.58 | -0.09 |
| VN_1009_TP02 | Variety of products that meet my needs | 7.51 | 7.55 | -0.04 |
| VN_1009_TP05 | Availability of products | 7.59 | 7.59 | 0.00 |

| | | | | |
|---|---|---|---|---|
| VN_1009_TP14 | Range of delivery options | 7.52 | 7.52 | 0.01 |
| VN_1009_TP04 | Ease of finding the products you need | 7.79 | 7.76 | 0.03 |
| VN_1009_TP06 | Attractiveness of promotions and discounts offered | 7.62 | 7.59 | 0.04 |
| soverq | Overall Service Quality | 7.55 | 7.51 | 0.04 |
| VN_1009_TP19 | Return and exchange policies | 7.36 | 7.32 | 0.05 |
| VN_1009_TP07 | Sufficiency of Product information | 7.59 | 7.54 | 0.05 |
| VN_1009_TP10 | Ease of managing your shopping cart | 7.57 | 7.52 | 0.05 |
| VN_1009_TP03 | Ease of navigating the website or app | 7.66 | 7.58 | 0.08 |
| VN_1009_TP22 | Satisfaction with the product reviews | 7.59 | 7.50 | 0.09 |
| VN_1009_TP18 | Availability of feedback channels | 7.58 | 7.47 | 0.11 |
| VN_1009_TP11 | Check-out and payment process | 7.84 | 7.68 | 0.17 |
| VN_1009_TP08 | Ease of comparing products | 7.65 | 7.46 | 0.19 |
| VN_1009_TP15 | Ease of tracking your order | 7.61 | 7.41 | 0.20 |
| VN_1009_TP12 | Security of website | 8.10 | 7.89 | 0.21 |

To understand Qoo10's performance and how best Amazon can compete with it, we first carry out a regression analysis to obtain the key explanatory variables. Similarly, students should try out a few combinations of the explanatory variables to derive their final model. We add suffix _Qoo to the attributes to denote that the data on Qoo10 is used for the regression analysis.

**Table 5: Summary Output of Qoo10**

| ***Regression Statistics*** | |
|---|---|
| Multiple R | 0.873 |
| R Square | 0.761 |
| Adjusted R Square | 0.752 |
| Standard Error | 0.596 |
| Observations | 160 |

| **ANOVA** | ***df*** | ***SS*** | ***MS*** | ***F*** | ***Significance F*** |
|---|---|---|---|---|---|
| Regression | 6 | 173.568 | 28.928 | 81.349 | 0.000 |
| Residual | 153 | 54.407 | 0.356 | | |
| Total | 159 | 227.975 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
|---|---|---|---|---|---|---|
| Intercept | -0.503 | 0.413 | -1.220 | 0.224 | -1.319 | 0.312 |
| pq_Qoo | 0.395 | 0.047 | 8.432 | 0.000 | 0.302 | 0.487 |
| VN_1009_TP04_Qoo | 0.106 | 0.051 | 2.093 | 0.038 | 0.006 | 0.206 |
| VN_1009_TP05_Qoo | 0.097 | 0.047 | 2.038 | 0.043 | 0.003 | 0.190 |
| VN_1009_TP07_Qoo | 0.094 | 0.048 | 1.980 | 0.050 | 0.000 | 0.188 |
| VN_1009_TP14_Qoo | 0.097 | 0.046 | 2.115 | 0.036 | 0.006 | 0.187 |
| VN_1009_TP19_Qoo | 0.291 | 0.051 | 5.687 | 0.000 | 0.190 | 0.392 |

Given the above results, in order for Amazon to compete better with Qoo10, the approach should be two pronged as follows:

1. **Maintain/improve explanatory variables that have a significant effect on Amazon's customer satisfaction** – This is with reference to the variables identified in response to Question 2. This allows Amazon to continue to improve the satisfaction levels of its existing customers, and broadly improve its performance.

2. **Meet/Outperform Qoo10 in explanatory variables that have a significant effect on Qoo10's customer satisfaction** – To compete better with Qoo10, Amazon will need to identify what matters most to Qoo10's customers through a regression analysis of Qoo10's customers. Doing well on these factors would allow Amazon to outperform Qoo10 and thus potentially acquire Qoo10's customers. In particular, emphasis should be on overlapping variables that have an effect on both Amazon and Qoo10. These overlapping variables should be hotly contested and are a "must-win" for Amazon, since underperformance by the company in these variables may result in Qoo10 gaining an opportunity to acquire Amazon's customers by addressing their pain-points.

*Comparison Based on Qoo10's Significant Variables*

As can be seen from the response to question two, 'Price given quality' is a variable that drives Amazon's customer satisfaction rating. Thus, Amazon has to put in extra effort to focus on this variable by improving overall product quality (which is also highly correlated to customer satisfaction) to increase customer's perceived value, or/ and by providing discounts or promotions to reduce the price of the product.

Although availability for products is a significant variable for Qoo10, it is not for Amazon. This could be due to market positioning of Amazon as a foreign company, while that of Qoo10 as a local company. Therefore, customers' expectation from Amazon in terms of availability of products could be lower than from Qoo10. However, this could be a potential area of improvement should Amazon aim to penetrate further into the local market. To improve its product availability and match that of Qoo10, Amazon needs to improve its supply chain responsiveness in Singapore. This is further supported by the domain knowledge that Qoo10 products are more accessible in Singapore compared to Amazon; the latter has stricter regulations and many of its products cannot be shipped to Singapore.

**Table 6: Comparison of the Explanatory variables of Qoo10 and Amazon**

| Qoo10 Results | Coefficient | Amazon Results | Coefficient |
|---|---|---|---|
| pq_Qoo | 0.324 | pq_Az | 0.395 |
| VN_1009_TP19_Qoo | 0.232 | VN_1009_TP08_Az | 0.291 |
| VN_1009_TP04_Qoo | 0.188 | VN_1009_TP19_Az | 0.106 |
| VN_1009_TP14_Qoo | 0.157 | VN_1009_TP14_Az | 0.097 |
| VN_1009_TP05_Qoo | 0.117 | VN_1009_TP07_Az | 0.097 |
| VN_1009_TP07_Qoo | 0.103 | VN_1009_TP15_Az | 0.094 |
| | | | |

It can be seen from the analysis in Table 6, Amazon and Qoo10 have the following significant independent variables in common: price given quality (pq), the sufficiency of product information (TP07), return and exchange policies (TP19) and range of delivery options (TP14).

For the range of delivery options, the regression coefficient of the attribute for Amazon is larger than that of Qoo10. This suggests that improving the range of delivery options has a larger effect on Amazon than Qoo10. Amazon should also investigate what delivery options it should introduce in order to improve its performance. The instructor may also highlight that the regression coefficient changes when a different combination of independent variables is considered. Thus, further investigation is required before a business decision can be made. This could be on account of Amazon and Qoo10 appealing to distinctive customer segments. As Qoo10 is considered a local operator, the responsiveness of delivery might be less important to the domestic customers as they know the distances are short in the city-state. Hence, lead time for different delivery options could be fairly similar. Similarly, to improve Amazon's performance, the company should conduct research to gain a better understanding of its customer segment's characteristics and needs.
For return and exchange policies, the regression coefficient of the attribute for Amazon is smaller than that of Qoo10. Hence, improvement in the exchange policies has a smaller impact on Amazon. This suggests that Amazon customers are relatively less sensitive to improvements in this area as compared to Qoo10. This is usually either due to (1) a relatively lower use of such policies, perhaps due to a good quality of products received by the customers, or (2) a relatively good returns and exchange policy resulting in lower variation in ratings. Table 4 shows that the product attributes for Amazon tend to be rated lower than Qoo10. This suggests that the lower impact is likely due to point 2. Moreover, Amazon is known for a relatively good returns and exchange policy (https://www.businessinsider.com/amazon-prime-return-policy), and this is supported by the fact that comparing the ratings with Qoo10, Amazon slightly outperforms in this area (See Table 4). Despite its lower coefficient, this attribute is ranked relatively high (Rank 3). As such, Amazon would do well to ensure that it continues to exceed Qoo10 in this attribute.

Based on the regression coefficients, the attribute 'price given quality', is found to be the most important factor for both Amazon and Qoo10. Thus, it is critical for Amazon to improve the price-quality equation of the products offered on its site. For the attribute 'sufficiency of product information', the regression coefficient of Amazon ranks higher (rank 5) than that of Qoo10. (rank

6). This suggests that 'sufficient product information' has a greater impact on satisfaction for Amazon than Qoo10. The instructor may point out that Amazon should investigate which additional information or features would be able to improve customer satisfaction significantly. For example, visual description and augmented reality function may help to give users a better understanding of the products, providing the company a competitive advantage over Qoo10.

The discussion on the other explanatory variables can go in few directions. Students may discuss various strategies for Amazon in case of explanatory variables that are drivers of Qoo10 but not Amazon. Since these explanatory variables are not significant for Amazon, competing in these dimensions may allow Amazon to target new market segments. This will also enable the company to nullify Qoo10's points of differentiation. And, in case of explanatory variables that are significant for Amazon but not for Qoo10, it is essential that the company maintains or improves its performance. However, given the limited resources, Amazon Singapore will have to prioritise and focus on a select few.

## Wrap-Up

In this case, students learn how to identify the main factors (explanatory variables) that affect the performance of a firm (dependent variable) using multiple regression analysis. More importantly, they gain an understanding of the significant role played by market research and data analysis in strategy formulation and implementing course-correction.

## Suggested Readings

Albright S. Chrisian and Wayne Winston, "Business Analytics Data Analysis and Decision Making (7e)", San Francisco, CA: Cengage, 2019.