Electronic Word of Mouth, Cross-Border Logistics Way and Imports Retail E-commerce

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Abstract. This paper mainly discussed how to improve Chinese import retail e-commerce sellers’ competitive strategy. We took Porter's competitive strategy which includes product optimization strategy, cost leadership and reputation priority to analyze the competition through import retail e-commerce sellers. We have done the survey through questionnaire to several import retail e-commerce enterprises from 7 cross-border e-commerce pilot cities. We have chosen 3 kinds of best-selling goods with 150 sellers on Tmall International, observed 27 weeks and collected 4050 samples of business data. We took panel data regression to validate theoretical assumptions, and results support most of theoretical assumptions. We took another 2 variables to do the robustness test. The conclusions and suggestions would help to improve the competition strategy of imports retail e-commerce sellers. Furthermore, it would be a good proposal to the development of Chinese cross-border e-commerce market.

Introduction

In recent years, imports retail e-commerce became the most popular mode of e-commerce because of the following four reasons. First of all, two changes of the external environment brought beneficial opportunities for the development of cross-border e-commerce. One is the change of economic growth power, with the supply-side structural reform, the contribution of consumption to economic growth effect became more and more obvious, it reached 64.6% in 2016. The other is the changing of cross-border trade mode, as the financial crisis of 2008 for the global economy, the traditional mode of cross-border trade growth slowly, large quantities and high frequency of transnational trade was rapidly rising. Import and export trade fell 0.9% year-on-year, while transaction scale of cross-border e-commerce grew 23.5% year-on-year. The decrease of middle segments in the process of trading brought a lot of dividends of growth. Secondly, two changes in consumption patterns promoted swift growth of cross-border e-commerce. One is the switching of offline consumption to online consumption. With the popularization and deepening of e-commerce in people’s life, and the generation after 80s and 90s became the main players in the consumer market. The consumer mode change from standardized offline consumption to personalized online consumption, consumers can spend less money but buy more high quality commodities through cross-border online shopping[1]. The other is the rising of consumption level, the supply of domestic goods can not meet the high demand of middle and high-end consumers for the high level of income and consume, the trend of domestic residents consumed abroad was apparent[2]. Thirdly, imports retail e-commerce has three advantages to physical store sales naturally. One is the lower fixed costs, buyers and sellers could reduce their searching cost due to the information matching by Internet[3], sellers also could reduce the rent of offline shop by selling online[4]. Two is higher quality of commodity, large cross-border e-commerce platform such as Tmall International has certain standard for sellers[5]. Three is the low tax rate, the tax rate of imports retail e-commerce was lower than traditional trade. Fourth, under the circumstance of "Internet + Foreign Trade" strategy, a large number of documents and regulations were issued to promote and standardize the development of cross-border e-commerce, and to support the transformation and upgrading of traditional foreign trade enterprises.
With the constant standardization and promotion of the regulatory system, the import retail e-commerce industry has been reshuffled, and eliminated a large number of enterprises which were irregularly. The import retail e-commerce was on the right track now. So the following problem is how can enterprises improve the competitive advantage themselves.

**Literatures Review**

There are few literatures directly related to our paper so far. But actually theories and methods were studied abundantly. Specifically, literatures review about this paper can divided into three aspects, research subject, research theory and research method.

**Research Subject**

The huge population market in China released demand dividends in 21 century. Cross-border e-commerce developed rapidly in China though began later than western countries. The total transaction scale of import retail e-commerce has reached 305.5 billion with the growth rate of 47.4% year-on-year. A certain contradiction between the rapid development and the imperfect system. So there were few researches involved in cross-border e-commerce and were mainly focus on two fields. One was taken cross-border e-commerce as object of research\[8\]. The other was taken system construction as object of research[9].

**Research Theory**

A lot of researchers have analyzed enterprises’ competitive strategies and also have made remarkable achievements. The most representative one was Porter’s\[10\] competitive strategy theory, which has summarized five main competitive power to enhance enterprises’ competitions, cost leadership, reputation priority, product optimization, clustering and focused strategy. Many scholars\[11-12\] analyzed and verified factors influenced enterprises’ competitive strategy through empirical models based on Porter’s theory. Youzhi Xue[13] has got the conclusion that cost leadership strategy and reputation priority strategy were the basics for cross-border e-commerce enterprises to get competition advantage by using online enterprises on Taobao as samples. The quantity of commodities in import retail e-commerce is less than that in domestic e-commerce.

Many institutions generally considered that cosmetics, mother and infant supplies as representatives of Fast Moving Consumer Goods in cross-border e-commerce\[\text{\footnote{According to the statistics by iResearch, cosmetics, mother and infant supplies were the the top 2 of best-selling categories of online goods in 2016, both proportions exceeded 38\%.}}\]. Moreover, our samples were taken from Tmall International, which was a huge comprehensive cross-border e-commerce platform and made a strict standard for quality of commodities. Therefore, we mainly consider the influence of product optimization strategy, cost leadership strategy and reputation priority strategy to import retail e-commerce enterprises’ competitive strategy.

In the field of cost leadership strategy. Gomez[14] took EU cross-border electricity market as the sample to prove that the cost of cross-border e-commerce was less than traditional trading because the decreasing of the tax rate, rent and information searching cost, but the logistics and waiting cost could not be ignored. CBLS\[\text{\footnote{CBLS means Cross-Border Logistics Service.}}\] was taken to deliver goods between different countries[15]. YH Hsiao[16] found that a good CBLS that could not only promote the cross-border transactions, but also enhance the customer loyalty to the cross-border e-commerce platform. Weian Li[17], Youzhi Xue[13] have verified that the advantage of logistics could enhance online sellers’ competitive advantage. Gomez[14], Juanjuan Wang[18] have figured out that to establish effective supply chain logistics system was efficient to promote business performance. In the fields of product optimization strategy. The sale efficiency of virtual products was higher than physical commodities as they have no logistics cost[13,17]. But virtual products were not allowed to sell in import retail e-commerce channel. So the main factors influence online enterprises’ cost leadership strategy were price, freight, waiting and logistic cost caused by different logistic mode. But there was few literatures on this aspects. In the field of reputation priority strategy. Consumers could easily scan

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1. According to the statistics by iResearch, cosmetics, mother and infant supplies were the the top 2 of best-selling categories of online goods in 2016, both proportions exceeded 38%.
2. CBLS means Cross-Border Logistics Service.
many remarkable information such as price, freight on the import retail e-commerce platform. But such cost like the cost of waiting caused by different logistic mode was not easy to know on website[19]. So other consumers’ online comments would be the best reference resources[20]. Reputation priority was online Word-of-Mouth[21], which meant online comments to commodities or service left by other consumers[19]. The online word-of-mouth was widely used in the field of Internet. Wei Liu[20] analyzed the influence to usefulness of online word of mouth caused by factors such as the richness of information, the readability of online comments and the negativeness of information through empirical research based on the sample of 2372 online comments from Dazhong. Sparks B A, Zhang Y[22-23] analyzed consumers’ mental activities which booking hotels and how could hotels manage negative online comment. Nayak A[24] analyzed the relationship among several variables such as the quality of stock reviews, the reaction of stock reviews and the stock trading volume, expanded the application of usefulness of online reviews in to investment. Actually, the usefulness of online reviews was widely used in online shopping. But until now, most of literatures have done research based on static samples, there were few studies involving dynamic observation and analysis the online reviews through a period of time.

So online word of mouth and logistics mode would be the most two significant factors to affect the competitive advantage of cross-border e-commerce enterprises based on different experiences of consume by customers[18].

Research Method

Panel data method was widely used in many domains such as consume, transportation, medical treatment and energy, because it used two dimensions as time series and sections to improve the regression effect. There were too many results obtained by panel data method to detail here.

In conclusion, this paper have 4 innovations. The first was research direction, we extend the research direction into the hot market of cross-border e-commerce under the background of traditional e-commerce have got many achievements. Made up for the defects that little domestic research involved in cross-border e-commerce. The second was the object of research. Domestic research involved in import retail e-commerce was mostly focus on institutional improvement, there was little research involved in competitions among e-commerce enterprises. This paper made up for this vacancy under the background of the system was maturing and improving. The third was research theory. The competitive strategy of enterprises has always been a hot topic in management research and has got a lot of achievements. This paper summarized seven factors to influence the electronic word-of-mouth and the logistic mode, through theoretical analysis and questionnaire method, based on Porter’s competitive strategy theory. The fourth was research method, we took panel data method into this new domain, observe the sales volume and other related variables of import retail e-commerce enterprises through half a year dynamically, analyzed different effects to the sales volume of different commodities caused by different factors. We provided several strategic suggestions to import retail enterprises to improve competitive performances. It has a certain practical significance.

Theoretical Analysis

With the coming of import retail e-commerce blue sea and the standardization of system, our research took competitive strategy of enterprises instead of institutional improvement. Therefore, we have done questionnaire to parts of import retail e-commerce enterprises in the first batch of seven pilot cities through visiting, email and telephone. This survey concluded 450 questionnaires, included Chongqing and Hangzhou 100 respectively, another 5 cities 50 respectively. We took back 291 questionnaires, with the recovery rate of 64.67%. 253 effective answers which were 86.94% to the total questionnaires, include 67 in Chongqing, 61 in Hangzhou, 36 in Shanghai, 27 in Shenzhen, 22 in Guangzhou, 21 in Zhengzhou and 19 in Ningbo. These 253 enterprises have been in import

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The appendix list the questionnaire.
retail e-commerce industry for 2 years at least. Most of them have online shops in Tmall International, and have sold cosmetics and infant supplies.

Cost Leadership Strategy

At first, we asked import retail e-commerce enterprises questions about the factors mostly affect the total cost of consumers, after that we summarized three cost variables as price, logistics and waiting period. Many scholars\(^{[13,27]}\) have used price as explanatory variable to do research. The supply of goods would directly affect the price, which was divided into three kinds, cooperated with branding business, cooperated with authorized dealers and sweeping goods in big shopping mall. Cooperated with branding business has the lowest price while with the highest barrier, sweeping goods in big shopping mall has the lowest barrier while with the highest price. Cooperated with authorized dealer was situated between above two modes. We used whether sellers provide free postage to describe the cost of logistics. In addition, we used the expected arriving days to describe the cost of waiting, but it was set subjectively, we used delivery mode of sellers instead of expected arriving days. We took method of single topic selection to do the survey of cost leadership strategy, the results are shown in Table 1:

Table 1. Factors about Cost leadership Strategy of Import Retail E-commerce Enterprises.

<table>
<thead>
<tr>
<th>Categories of Commodities</th>
<th>Factors about Cost leadership Strategy</th>
<th>The Number of Import Retail E-commerce Enterprises</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>136 Enterprises of Mother and Infant Supplies</td>
<td>Price</td>
<td>cooperated with branding business</td>
<td>97</td>
</tr>
<tr>
<td></td>
<td></td>
<td>cooperated with authorized dealers</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>sweeping goods in big shopping mall</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Logistics</td>
<td>free postage</td>
<td>129</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Charge for postage</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>waiting</td>
<td>Stocked in Bonded Area</td>
<td>121</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Delivery from Overseas</td>
<td>15</td>
</tr>
<tr>
<td>178 Enterprises of cosmetics</td>
<td>Price</td>
<td>cooperated with branding business</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>cooperated with authorized dealers</td>
<td>99</td>
</tr>
<tr>
<td></td>
<td></td>
<td>sweeping goods in big shopping mall</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>Logistics</td>
<td>free postage</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Charge for postage</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>waiting</td>
<td>Stocked in Bonded Area</td>
<td>119</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Delivery from Overseas</td>
<td>59</td>
</tr>
</tbody>
</table>

We can draw a few conclusions from Table 1. Firstly, the difference of the supply of goods between Mother and Infant Supplies and cosmetics, which was enterprises of mother and infant supplies mostly cooperate with branding business, while enterprises of cosmetics mostly cooperated with authorized dealers. Because enterprises of mother and infant supplies could easily got authorization aboard as more and more Chinese buying this kind of commodity nowadays. There were many fake cosmetics nowadays so brand business would not authorize, price competition is intense, the pricing is particularly important. Secondly, these two categories of commodities stocked in bonded area before selling, and most of they provided free postage because they were preempting the blue sea of import retail e-commerce.

Reputation Priority Strategy

In the field of electronic commerce, many scholars\(^{[19]}\) have analyzed the impact of electronic word of mouth and have got a lot of achievements. Generally used variables included the amount of online reviews\(^{[19]}\), the negative rate of online review\(^{[19,28]}\), the total number of replies\(^{[19]}\). In addition, the score of online sellers shown in main e-commerce platforms included scores to quality,
service and speed of delivery. In conclusion, we have summarized the factors to reputation priority strategy and have done the questionnaire, which took the method of multiple choice. Import retail e-commerce enterprises chose the most effective factors to electronic word of mouth. The results are shown in Table 2:

Table 2. Factors about Reputation Priority Strategy of Import Retail E-Commerce Enterprises.

<table>
<thead>
<tr>
<th>Categories of Commodities</th>
<th>Factors about Reputation Priority Strategy</th>
<th>The Number of Import Retail E-commerce Enterprises</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>136 Enterprises of Mother and Infant Supplies</td>
<td>Online Reviews</td>
<td>The Amount of Online Reviews</td>
<td>107</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Negative Rate of Online Review</td>
<td>129</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Total Number of Replies</td>
<td>121</td>
</tr>
<tr>
<td></td>
<td>Score to enterprises</td>
<td>The Quality of Commodity</td>
<td>121</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Service</td>
<td>117</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Speed of Delivery</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Others</td>
<td>39</td>
</tr>
<tr>
<td>178 Enterprises of cosmetics</td>
<td>Online Reviews</td>
<td>The Amount of Online Reviews</td>
<td>143</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Negative Rate of Online Review</td>
<td>171</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Total Number of Replies</td>
<td>156</td>
</tr>
<tr>
<td></td>
<td>Score to enterprises</td>
<td>The Quality of Commodity</td>
<td>133</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Service</td>
<td>147</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Speed of Delivery</td>
<td>159</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Others</td>
<td>61</td>
</tr>
</tbody>
</table>

We could easily got conclusions from Table 2. Answers from two types of goods have the same trend. The rate of three factors to online reviews all exceeded 75% and the most important factor was the negative rate of online review. While the rate of three factors to score to enterprises exceed 70% and was shown fairly close. As the number of sample to our survey was limited, we would use Python method to take more samples from Tmall International based on the analysis above, and would do the regression to the competitive advantages of import retail e-commerce enterprises with explanatory variables to cost leadership strategy and reputation priority strategy.

Research Design

Data Sources

Tmall international is the largest import retail e-commerce platform in China in 2016 according to the statistics of IIMedia consultative machineries. Commodity class of makeup, maternal and kid were the best-selling top 2 in import retail e-commerce, so we can take them as the representatives of import retail e-commerce commodities. This paper used Python to collect data on Tmall International from Nov. 20th, 2016 to Jul 16th, 2017. Considering the webpage was more static[5], it would be more accurate to our research result. So the collecting time we chose 0 o’clock at every Monday morning. In order to eliminate the “sample noise” caused by heterogeneity of the commodity and different groups of buyers. We chose sample not on the mere consideration of the big commodity category, but on consideration of all types of concrete commodities under the big commodity category. Commodities we chose were "German Aptamil 1 newborn infant milk powder 800g" (hereinafter referred to as the "Milk Powder"), "54 pieces of Japanese Kao XXL diapers" (hereinafter referred to as "Diaper") and "10 pieces of Korea Sakura Jayjun Brand mask" (hereinafter referred to as the "Mask"). But the webpage has changed frequently, some e-commerce enterprises closed and commodities were off the shelf day by day. At last, we have got
4500 samples from 50 sellers after took away many invalid abnormal data, the sample acquisition period was 27 weeks from November 27, 2016 to May 28, 2017.

**Variable Access**

We combined Porter’s competitive strategy theory[10] and results obtained by Weian Li[17] and Youzhi Xue[13] got from analyzing Taobao. Based on import retail e-commerce enterprises’ competitive strategy, we took "Expected Arrival Days" (hereinafter referred to as the “ETA”) and "whether goods allowed to return" (hereinafter referred to as the “Return”) as variables to analyze the product optimization strategy; we took “the price of commodity” (hereinafter referred to as the “Price”) and “whether sellers would pay the postage” (hereinafter referred to as the “Freight b”) to analyze the cost leadership strategy; we took “total online comments” (hereinafter referred to as the “Judge”), “negative comments rating” (hereinafter referred to as the “NR”), “total customers’ replying” (hereinafter referred to as the “Reply”) and “sell’s delivery speed score” (hereinafter referred to as the “Speed”) to analyze the reputation priority strategy.

<table>
<thead>
<tr>
<th>Table 3. Descriptive Statistics of Variables.</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>Sales</td>
</tr>
<tr>
<td>ETA</td>
</tr>
<tr>
<td>Return</td>
</tr>
<tr>
<td>Price</td>
</tr>
<tr>
<td>Freight b</td>
</tr>
<tr>
<td>Judge</td>
</tr>
<tr>
<td>NR</td>
</tr>
<tr>
<td>Reply</td>
</tr>
<tr>
<td>Speed</td>
</tr>
</tbody>
</table>

**Product Optimization Strategy**

Cost of logistics was the most influential factor among e-commerce sellers according to Youzhi Xue[13], who has reached the conclusion that selling virtual goods could enhance the strategic superiority of e-commerce sellers. However, for the moment, due to policy regulation import retail e-commerce channel could not sell virtual goods. As mentioned above, the logistics channel of import retail e-commerce now could divide into 2 ways: traditional importing and stocking in bonded area. Traditional importing means goods were delivered directly to China Mainland form aboard, while stocking in bonded area means import retail e-commerce enterprises stocked up goods in bonded area before selling. When customers ordered online they could deliver goods one by one to domestic area. As stocking in bonded area has many advantages such as the expected arrival days were usually shorter than traditional importing way, it was more convenient for consumers to return goods. Therefore, this paper made following assumptions:

H1: “The expected arrival date” (ETA) is inverse association to the “sales volume of goods” (Sales).

H2: “Whether goods allowed to return” (Return) is positively proportional to the “sales volume of goods” (Sales).

**Cost Leadership Strategy**

Many scholars took the price of commodity (Price) as explanatory variables [13,17] to do empirical research. Price and sales volume were related according to the Theory of Demand and Supply. So this paper took “price” (Price) as explanatory variables to “sales volume of goods” (Sales) as well. Furthermore, as customers pay much attention to whether sellers would pay the postage (Freight b), it was also included in the explanatory variables. So we made following assumptions:

H3: “The price of goods” (Price) is inverse association to the “sales volume of goods” (Sales).
H4: “Whether sellers would pay the postage”(Freight b) is positive proportional to the “sales volume of goods”(Sales).

Reputation Priority Strategy

As we mentioned above, online word-of-mouth was a very useful explanatory variable to sales volume of goods. The most widely used indicators including “total online comments” (Judge) [4,19,29], “negative comments rating”(NR)[28], “total customers’ replying”(Reply)[30]. This paper also took these variables as explanatory variables because customers’ comprehension degree was not at the same level compare to traditional e-commerce such as tax rate, logistics ways and so on. Other customers’ online word of mouth is so essential. Furthermore, the score consumers for sellers was important too. There were three categories of score on Tmall International, “description is in conformity with actual”(hereinafter referred to as the “Description”), the “service quality” (hereinafter referred to as the “Service”) and “sells’ delivery speed”(hereinafter referred to as the “Speed”). We found there was a strong correlation among three scores through the correlation analysis because many customers has strong subjectivity when scoring and three scores often would be the same(here omit the process of proving). And with the foregoing description of the logistics advantage in Product Optimization Strategy, this paper chose the seller’s delivery speed score (Speed) as one of the explanatory variables. Made the following assumptions:

H5: “Total online comments”(Judge) is positively proportional to the “sales volume of goods”(Sales).

H6: “Negative comments rating”(NR) is inverse association to the “sales volume of goods”(Sales).

H7: “Total customers’ replying”(Reply) is positively proportional to the “sales volume of goods”(Sales).

H8: “Sell’s delivery speed score”(Speed) is positively proportional to the “sales volume of goods”(Sales).

Adjusting Variables

We chose “Milk Powder”, “Diaper” and “Mask” three fast-selling goods to set up three models respectively in order to analyze influential factors of import retail e-commerce sellers. Model 1 to 3 analyzed 50 “Milk Powder” sellers, 50 “Diaper” sellers and 50 “Mask” sellers respectively during 27 weeks. These three commodities we chose was not only for the representativeness for import retail fast selling goods, but also considering the contrast among different commodities. First, to compare the influential affect of different between mother and kid commodities(Milk Powder and Diaper) and makeup commodities(Mask) on sales volume. Second, to compare the influential affect of different attribute of commodities between the perishable goods with a short shelf life(Milk Powder) and durable goods with a long shelf life(Diaper and Mask). On the Product Optimization Strategy, because of short quality guarantee period, the later customers received, the closer the maturity is. So customers focus on short expected arrival date too much. On the Cost Leadership Strategy, customers group of makeup products were mostly young women, they bothered about “price”(Price) and “whether sellers would pay the postage”(Freight b) much more. On Reputation priority Strategy, as customers were not familiar enough to the process of buying online cross border and the quality of goods. Moreover, the main point made them buying aboard was the lack of confidence to the quality of domestic commodity. Online word of mouth is so essential to them to consult, this phenomenon was more obvious on mother and kid commodity. Therefore, we made following assumptions.

H9a: Perishable goods with a short shelf life has stronger negative effect to “Expected Arrival Days”(ETA).

H9b: Makeup commodities play a stronger role in cost leadership strategy.

H9c: Mother and kid products play a stronger role in reputation priority strategy.

Finally, after introducing Adjusting Variables, the analytical framework diagram of influential factors to sales volume of import retail e-commerce sellers was shown in Fig. 1.
Research Models and Results

Research Model

Before the regression, we consulted the method used by Youzhi Xue[13] to standardize the data because a part of value of “sales volume of goods”(Sales), “total comments”(Judge) and “total customers’ replying”(Reply) were 0. Took a natural logarithm to each value after it plus 1. We used Stata 12.0 to do the panel-regression for 3 categories of commodities, the regression model as shown in formula (1).

\[
\ln(Sales) = \alpha_1 \cdot ETA + \alpha_2 \cdot Return + \alpha_3 \cdot Price + \alpha_4 \cdot Freight + \alpha_5 \cdot \ln(1 + Judge) + \alpha_6 \cdot NR + \alpha_7 \cdot \ln(1 + Reply) + \alpha_8 \cdot Speed + \varepsilon
\]  

Regression Result Analysis

Using regression model above could get following results:

Table 3. Regression Results of Influential Factors to Sales Volume of Import Retail E-commerce Sellers.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETA</td>
<td>-0.02***</td>
<td>-0.06***</td>
<td>-0.08***</td>
</tr>
<tr>
<td></td>
<td>(-2.65)</td>
<td>(-4.35)</td>
<td>(-6.80)</td>
</tr>
<tr>
<td>Return</td>
<td>0.44**</td>
<td>-0.72***</td>
<td>-0.21**</td>
</tr>
<tr>
<td></td>
<td>(2.42)</td>
<td>(-3.42)</td>
<td>(-2.39)</td>
</tr>
<tr>
<td>Price</td>
<td>0.01***</td>
<td>-0.05***</td>
<td>0.02***</td>
</tr>
<tr>
<td></td>
<td>(3.55)</td>
<td>(-9.16)</td>
<td>(6.18)</td>
</tr>
<tr>
<td>Freight</td>
<td>0.05</td>
<td>0.87***</td>
<td>0.22</td>
</tr>
<tr>
<td></td>
<td>(0.52)</td>
<td>(6.92)</td>
<td>(1.41)</td>
</tr>
<tr>
<td>Ln(1+Judge)</td>
<td>0.19***</td>
<td>0.12***</td>
<td>0.17***</td>
</tr>
<tr>
<td></td>
<td>(5.34)</td>
<td>(3.33)</td>
<td>(7.27)</td>
</tr>
<tr>
<td>NR</td>
<td>0.03</td>
<td>0.17</td>
<td>0.23*</td>
</tr>
<tr>
<td></td>
<td>(0.20)</td>
<td>(1.29)</td>
<td>(1.77)</td>
</tr>
<tr>
<td>Ln(1+Reply)</td>
<td>-0.04</td>
<td>-0.03</td>
<td>0.05***</td>
</tr>
<tr>
<td></td>
<td>(-1.28)</td>
<td>(-0.88)</td>
<td>(3.99)</td>
</tr>
<tr>
<td>Speed</td>
<td>2.06***</td>
<td>0.47</td>
<td>0.03</td>
</tr>
<tr>
<td></td>
<td>(9.07)</td>
<td>(2.13)</td>
<td>(0.14)</td>
</tr>
<tr>
<td>NR</td>
<td>-5.92</td>
<td>9.23</td>
<td>3.85</td>
</tr>
<tr>
<td></td>
<td>(-5.28)</td>
<td>(7.02)</td>
<td>(3.47)</td>
</tr>
<tr>
<td>Number</td>
<td>1350</td>
<td>1350</td>
<td>1350</td>
</tr>
<tr>
<td>R2</td>
<td>0.3055</td>
<td>0.263</td>
<td>0.3544</td>
</tr>
</tbody>
</table>

From Model 1 which analyzed influencing factors of total sales volume of Milk Powder could get that, Expected Arrival Days(ETA), “whether goods allowed to return”(Return), price of commodity (Price), “total online comments”(Ln(1+Judge)) and sell’s “delivery speed score”(Speed) have all passed the t-test, and their symbols of coefficient were the same direction as we expected except “price of commodity”(Price). Therefore, assumptions H1, H2, H5, H8 were tested in Model 1.

From Model 2 which analyzed influencing factors of total sales volume of Diaper could get that,
“Expected Arrival Days” (ETA), “whether goods allowed to return” (Return), “price of commodity” (Price), “whether sellers would pay the postage” (Freight b) and total online comments (Ln (1+Judge)) have all passed the t-test, and their symbols of coefficient were the same direction as we expected except “whether goods allowed to return” (Return). Therefore, assumptions H1, H3, H4, H5 were tested in Model 2.

From Model 3 which was analyzing influencing factors of total sales volume of Mask could get that, “Expected Arrival Days” (ETA), whether goods allowed to return (Return), “price of commodity” (Price), “total online comments” (Ln (1+Judge)) and “total customers’ replying” (Ln(1+Reply)) have all passed the t-test, and their symbols of coefficient were the same direction as we expected except “whether goods allowed to return” (Return) and “price of commodity” (Price). Therefore, assumptions H1, H5, H6, H7 were tested in model 3.

Compared these three models we could easily get that 3 types of products’ “Expected Arrival Days” (ETA) were statistically significant at the 99% level. Milk Powder’s regression coefficient was the maximum, Mask’s was minimum, while Diaper’s was at the middle, it was contrary to H9a. In terms of cost leadership strategy, 3 types of products’ price were statistically significant at the 99% level. Mask’s regression coefficient was the maximum, it was consistent with the H9b hypothesis. But only diapers’ value that “whether sellers would pay the postage” (Freight b) was significantly positive correlation, H9b has not yet been proved. On strategic reputation priority, “total online comments of 3 categories of goods” (Ln(1+Judge)) were statistically significant in the 99% significance level, and the coefficient of makeup products is the maximum, so it is not consistent with the H9c hypothesis.

Robustness Test

In order to verify the model results were robust and reliable, this paper took “consistency of commodities’ description score” (Describe) instead of “sell’s delivery speed score” (Speed) to analyze the influence of online word of mouth to total sales. Took “delivery mode” (Way) (0 stand for traditional importing; 1 stand for stocking in bonded area) as variable instead of “whether sellers would pay the postage” (Freight b). The results showed that “consistency of commodities’ description score” (Describe) was statistically significant only in Model 1, and the regression coefficient of Milk Powder was maximum, Mask’s was minimum, while diapers’ was at the middle. It was consistent with the above results. “Delivery mode” (Way) was statistically significant in 3 models, and the operation symbol was contrast to above results meant that stocking in bonded area could make a shorter Expected Arrival Days, it was positively proportional to the total sales, also verified the above results.

Conclusions and Implications

Research Conclusions

On product optimization strategy, H1 has been validated in 3 models, showing that when consumers were really concerned with the “Expected Arrival Days” (ETA) in the cross-border online shopping, waiting too long tends to reduce the consumers’ shopping motivation, and even make some consumers who were lack of patience to the loss of the seller's stickiness and loyalty. In the cross-border shopping process, “Expected Arrival Days” (ETA) became the focus of attention of consumers so many cross-border e-commerce platforms such as Tmall international and Jingdong tried their best to reduce the “Expected Arrival Days” (ETA). Therefore a complete logistics system is so essential to import retail e-commerce platform. Jingdong has achieved a place in the fierce competition by setting up its own logistics system. Then Tmall has consummated its logistics system through Green hand’s establishment. H2 has only been verified in model 1, showing that when customers was not familiar enough with the quality of goods and sellers’ reputation when buying imported Milk Powder. If there was a quality problem of Milk Powder, it would be bad to infants’ health. It was a certain strike to touched customers’ bottom line. They would require returning to protect consumers' rights. So whether goods allowed to return (Return) is positively
proportional to the sales volume of milk powder. But for Diapers and Mask, if goods were allowed
to return, customers would think that there was something wrong with the quality of goods in
shopping psychology, and they tend to misunderstand that sellers were using some
promotion means to attract customers’ attention. There was psychological game process between
buyers and sellers. The stronger negative effect at Expected Arrival Time(ETA) to durable goods
with a long shelf life, it was against the hypothesis of H9a. On the one hand, as mentioned above,
consumers are expected to receive goods earlier; on the other hand, it also showed that customers
were lack of capacity of discernment. After fake in bonded area was reported by media, customers
always judge the authenticity of goods’ quality through the length of Expected Arrival Time(ETA),
because they thought the longer they received goods, the more likely the goods were from abroad.
This was one of the biggest difference between cross-border e-commerce shopping psychology and
domestic e-commerce shopping psychology.

On cost leadership strategy, H3 was only verified in Model 2. The operation symbol of Model 1 and
Model 3 were contrast to expectations. After a careful analysis, we reached the following
conclusions. First, the price of Diapers was inversely proportional to total sales, and it was
consistent with classic supply and demand theory. Second, the price of Milk Powder and Mask was
positively proportional to total sales, which was consistent with the description of “Giffen goods” in
economics, because of the strong focus on quality of milk powder and lack of discernment capacity,
customers would simply think that “expensive goods are of high quality naturally”. Third, Diapers
belonged not only to mother and kid commodity but also to durable goods with a longer shelf life.
There were 23 sellers selling diapers and milk powder in our samples. It was consistent with the
theory of clustering of enterprises competitive strategy from Porter[10] and Youzhi Xue[13], so a lot
of customers would purchase these two commodities at the same time. They would regard that Milk
Powder in a way that “expensive goods were of high quality naturally” but there was no relationship
between price and sales volume to Diapers. H4 was only tested in Model4, as the description of H3,
only Diapers’ customers were sensitive to the price. Furthermore, the regression coefficient of
makeup commodities was maximum. According to the report by Chinese Internet Center, customers
participated in cross-border shopping were generally women under the age of 35, which confirmed
the previous conclusions that women concerned for the price more, consistent with the H9b
hypothesis.

On reputation priority strategy, we have chosen 4 variables to do research according to the influence
of online word-of-mouth to sales volume of import retail e-commerce supplier[19,25,30,31]. H5 has
been verified in three models, showing that online word-of mouth was the most useful learning
resource to customers when we purchasing goods online. Most of cross-border e-commerce
platforms have a sorting function according to the total sales, which means the more sellers have
sold, the more comments they have got, which was also consistent with conclusions of our article.
H8 has been verified only in model 1. It was correspond to H9a that described the variables of
product optimization strategy. On the one hand, customers preferred Milk Powder which was
directly delivered from overseas as the thought this kind of goods’ quality was assured, on the other
hand,

Customers got goods much earlier, the fresher they can enjoy the perishable goods with a short
shelf life such as Milk Powder. H6 and H7 were only tested in the Model 3, female consumers tend
to compare goods again and again when shopping online, so they not only focus on the quantity of
total comments, but also pay much attention to the quality of comments, negative comments
rating(NR) and other customers’ replying(Reply). This has undoubtedly become the focus of their
attention. In the adjusting variables, as we mentioned above, learning motivation of female
customers was stronger when shopping online. H9c have not been verified.

Inspiration and Prospect

First of all, based on the Product Optimization Strategy, Cost Leadership Strategy and Reputation
Priority Strategy which Porter[10] proposed before, we tested under the import retail e-commerce
circumstance, provided a theoretical basis to the competition among import retail e-commerce
sellers. Secondly, different strategies made different affects to different commodities’ total sales volume, and different kinds of commodities have adjusting affects to the strategy. Finally, sellers could adjust competitive strategy by adjust the categories of commodities dynamically.

Of course, the sample of this research derived from Tmall International, which was recognized as the largest Chinese cross-border e-commerce platform, has representative with no doubt. But it was difficult to get rid of the inherent characteristics of the platform sellers and consumers. So conclusions of this study need to be validated in a wide range of classes. Secondly, we have selected almost all sellers in top 2 of the best-selling commodities. But as the development of import retail e-commerce in China has just started, lots of public data accumulated has not been fully formed yet. These problems can be considered in future studies.

In general, we applied Porter’s competitive strategy theory into competition among import retail e-commerce sellers, has taken a breakthrough into the field of microscopic theory of import retail e-commerce. We got many dynamic representative sample in Tmall International by using Python technology, then verified conclusions by the panel data regression method. The conclusion of the study has a certain theoretical and practical significance for development of the import retail e-commerce business.

References


Appendix

Questionnaire

1. How low have you managed this shop?
   A. Less than two years      B. Two years (included) to two and a half years
   C. Two and a half years (included) to three years   D. More than three years
2. What platforms did you set in?  (Multiple Choices)
   A. Tmall International    B. NetEase Kaola    C. JD Worldwide   D. VIPshop International
   E. Others______
3. What categories of commodities did you sell?  (Multiple Choices)
   A. Cosmetics    B. Mother and Infants Supplies    C. Dress and shoes
   D. Nutrition and health care    E. Digital household appliance
   F. Others______
4. Where did your commodities come from?
   A. Cooperated with branding business      B. Cooperated with authorized dealers
   C. Sweeping goods in big shopping mall   D. Others______
5. How did you delivery your goods?
   A. Stocked in bonded area first     B. Traditional Import   C. Both
6. Whether did you provide free postage?
   A. Yes         B. No
7. What factors did you think were most affect customers’ choice when online shopping?  (Multiple Choices)
   A. The total amount of online reviews     B. The total amount of online replies
   C. The negativeness rate of online review   D. Others______
8. What kinds of score did you think most affect consumers’ choice when online shopping?  (Multiple Choices)
   A. Commodities’ Quality      B. Sellers’ Service      C. Delivery Speed
9. Besides online reviews and score to online shop, what kinds of factors did you think most affect consumers’ choice when online shopping?  (Open Answer)

____________________________________________________________________

10. Besides the supply of goods, logistics and online reviews, what kinds of factors did you think most affect import retail enterprises’ competitive advantages?  (Open Answer)