Factors Affecting Buyers in Leaving Feedbacks in Online Marketplaces: Evidence from China’s Taobao.com

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Online reputation systems have been at the center stage of research on the mechanism design of electronic markets since the inception of electronic commerce at about 20 years ago. While abundant knowledge has been accumulated on the effectiveness of different mechanisms from the perspective of platform providers such as eBay, recently an emerging research literature starts to focus on the influence of feedbacks provided by experienced buyers. This study aims at analyzing the factors affecting buyers in leaving feedbacks after the transaction is completed. The transaction platform in this study is Taobao.com, the leading C2C market player in China. Established in 2003 by the Alibaba group, Taobao has caught the attention of the world by driving eBay out of the Chinese market, relying on the adoption of a unique business model which provides free services to both buyers and sellers. In contrast with most of the studies which rely on survey data or information through snapshot search on the transaction platform, we have collected complete transaction related data as well as information on the characteristics of all the sellers and buyers, which cannot be observed through search on the front end of the transaction platform. Our finding will answer questions such as: which factors are more important in motivating buyers to leave feedbacks, the characteristics of buyers or those of the sellers? How are the features of transactions affecting the quality and quantity of feedbacks? How can the platforms providers leverage the mechanism of buyers’ feedbacks to increase market efficiency? etc.

Data Collection
We randomly selected 200 sellers who sell notebook computers, MP3, iPod, cell phones, USB, and storage devices. Based on the sellers, we randomly selected 300 buyers who have done businesses with these sellers. Transaction and feedback data for these buyers were collected by Taobao for the period between September 8, 2011 to October 20, 2011.

The data contain 6,000 records of transactions/products. In the original data set, if a transaction has multiple products, each product is also listed. According to Taobao’s rule, each transaction can receive a reputation rating as well as a detailed seller rating (DSR). If a transaction has multiple products, each product can receive a text feedback.

We first combine the data and create a transaction or order level data set. In creating the data set, we code the transaction with a text feedback if it receives at least one text feedback. Second, we removed the records without transaction information such as buyer and sellers. We also removed 126 transactions that have the “suspended” status. After data cleaning, we have a total 3,654 valid transactions.
Data Description
Of the 3,654 transactions, 69.6% or 2,542 transactions received reputation ratings. 33.2% of the transactions, or 1,214 orders, received text feedbacks. 53.7% of the transactions, or 1,961 transactions, received DSR ratings. Most of the reputation ratings are positive. Only 3 transactions received negative ratings, and 9 received neutral ratings.

Almost all of the buyers who have provided text feedbacks or DSR ratings are from the group that left reputation ratings. Only 2 transactions have text feedbacks, but no reputation ratings. Similarly, only 1 transaction has DSR score but no reputation score. Buyers are more likely to leave DSR ratings than text feedbacks. Of all the transactions, about 25% have both DSR and text feedbacks. 38.1% of the transactions have neither of them; 28.8% have DSR ratings but no text feedbacks, and 8.3% have text feedbacks but no DSR ratings.

The text feedbacks are usually brief. The average length of a product level text feedbacks is about 18 words. We aggregate product level text feedbacks for transactions that have more than one product. The average transaction level text feedbacks is 25 words.

Analysis
We find that a small number of buyers provide majority of the ratings and feedbacks. The top 63, or 21%, ratings providers provided 61% of the reputation ratings. The top 64, or 21.5%, feedback providers wrote 70% of the text comments. The top 66, or 22.2%, rating providers left 66% of the DSR scores.

From the correlation analysis, we can see that whether a buyer leaves ratings or text feedback is more correlated with the buyer and the transaction level heterogeneity, than with the seller characteristics. The correlation between the ratings and feedback with a typical seller characteristic variable is usually below 5% with the exception of instant message reply speed and ratio. We find the higher instant message reply speed and ratio, the lower level of ratings and feedbacks.

We developed binary choice models to estimate the decision for a buyer to leave (i) a reputation rating, (ii) a text feedback, (iii) a DSR score. We also estimate the factors that affect the length of text feedbacks.

Table 1: Estimation Results

<table>
<thead>
<tr>
<th></th>
<th>Reputation Rating</th>
<th>Text Feedback</th>
<th>DSR Rating</th>
<th>Text Feedback Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log(buyer age)</td>
<td>-0.048</td>
<td>-0.186**</td>
<td>-0.036</td>
<td>-2.150**</td>
</tr>
<tr>
<td>Virtual product</td>
<td>-0.177</td>
<td>-0.435***</td>
<td>-0.134</td>
<td>-9.820***</td>
</tr>
<tr>
<td>Number of transactions</td>
<td>-0.010</td>
<td>-0.012***</td>
<td>-0.005</td>
<td>-0.111***</td>
</tr>
<tr>
<td>Average Product Price</td>
<td>-0.0003*</td>
<td>-0.0003*</td>
<td>-0.0004***</td>
<td>-0.005**</td>
</tr>
<tr>
<td>Transaction value</td>
<td>0.0002</td>
<td>0.0002</td>
<td>0.0003*</td>
<td>0.005**</td>
</tr>
<tr>
<td>Log(seller age)</td>
<td>0.007</td>
<td>0.031</td>
<td>-0.003</td>
<td>-0.239</td>
</tr>
<tr>
<td>Log(seller reputation)</td>
<td>-0.019</td>
<td>-0.040</td>
<td>-0.023</td>
<td>0.467</td>
</tr>
</tbody>
</table>
We have the following findings:

- Buyer and transaction level heterogeneities, rather than seller characteristics, are the major factors affecting whether a buyer leaves a rating or feedback.
- Buyers with less experience at Taobao are more likely to leave text feedbacks and leave longer texts. As buyers have more experience, they are less likely to leave comments. With more experience, even if they leave comments, the comments are likely to be shorter.
- Frequent buyers are less likely to leave comments. Even if they leave comments, the comments are shorter.
- It is more likely for a transaction with physical product, rather than virtual product, to receive text feedbacks.
- The lower the product price, the more likely for a buyer to leave ratings and feedbacks.
- The higher transaction value of an order, it is more likely for a buyer to leave text comments and leave longer comments.

**Conclusion**

In conclusion, the results suggest buyers with less experience, who are bargain hunters for physical products, are more likely to leave ratings and feedbacks. Frequent buyers with longer experience usually know their sellers well. They may also have a higher marginal cost of time. It is less likely to them to leave comments. It is also possible that they only leave comments for some of their transactions that they feel impressed.