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Wangsheng Zhun

Renmin University of China, Zhuws1992@163.com

Liang Zhou

Renmin University of China, zhouliang_bnu@163.com

Kanliang Wang

Renmin University of China, kanliang66@163.com

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Merchants' Replies to Customer Reviews in Online Malls: The Role of Positive Reviews

Research-in-Progress

Wangsheng Zhu

Department of Management Science and Engineering, School of Business, Renmin University of China, Beijing, zhuws1992@163.com

Liang Zhou

Department of Management Science and Engineering, School of Business, Renmin University of China, Beijing, zhouliang_bnu@163.com

Kanliang Wang

Department of Management Science and Engineering, School of Business, Renmin University of China, Beijing, kanliang66@163.com

Abstract

It is common to see merchants reply to customer reviews in online malls. While extant research generally investigates the effects of merchants' replies to negative reviews, the role of positive reviews remains a rather neglected factor in extant studies. In order to better reflect the real conditions in online malls, this study examines the role of positive reviews in the context of merchants' online review response in two aspects. Firstly, we examine whether responding to positive reviews influences merchants' sales by using the panel data collected from taobao.com. Secondly, little attention has been paid to whether the exhibition of positive reviews influences the effectiveness of merchants' responses to negative reviews. Our study extends extant studies by introducing the moderating effect of the percentage of positive reviews. The exhibition of positive reviews is closely related to the generation of positive word-of-mouth and a high percentage of positive reviews can improve customers' perceived credibility of the merchant. Therefore, if merchants gain a high degree of consumers' trust, their responses are generally more effective and influence the sales more significantly.

Keywords: Online review response, positive reviews, source credibility

Introduction

Online reviews have been recognized as an influential source of pre-purchase information (Bambauer-Sachse and Mangold, 2011). Therefore, many online malls provide systems for customers to post their reviews. Apart from enabling customers to post reviews on websites, some malls have adopted systems which also allow their merchants to post replies below those reviews.

Extant research indicates that merchants' replies to negative reviews can serve as effective remedies and defuse the harmful effects of those reviews (e.g., Hong, 2012; Zheng, et al., 2015). However, we argue that despite recent advances concerning merchants' replies to negative reviews, the role of positive reviews is a rather neglected aspect that warrants more attention.

The importance of taking positive reviews into consideration lies in the following two aspects: Firstly, there is a paucity of research as to the effect of responding to positive reviews. Online merchants have adopted different response patterns in terms of the valence (positive or negative) of reviews that are replied. While some sellers only respond to negative reviews, many online merchants provide replies for both positive and negative reviews (Park and Allen, 2013). However, the effects of responding to positive reviews cannot be explained by conclusions in extant research that mainly focuses on how merchants' replies alleviate the bad influences of negative reviews.

Secondly, even if the merchants never respond to positive reviews, we argue that the exhibition of positive reviews may influence the effectiveness of merchants' responses to negative reviews. As previous research indicates, positive reviews are an important form of positive word-of-mouth and contribute to the trust building between customers and merchants (Guo, et al., 2012). Therefore, the exhibition of positive reviews may influence customers' perceived credibility of different merchants and the willingness to accept their replies to negative reviews.

Using the data from taobao.com, this paper extends previous research by answering following questions:

a. Does merchants' replies to positive reviews influence their sales?

b. Does the exhibition of positive reviews influence the effectiveness of responding to negative reviews?

This study is among the first to analyze empirically how the exhibition of positive reviews influences customers' perception of merchants' replies in an online retailing market, which is different from studies conducted in a lab experimental setting. This study has important managerial implications as well. By identifying the moderating effect of the portions of positive reviews, it can help online merchants manage their investment better in replying to customer reviews.

We organize the remainder of this article as follows: We begin by summarizing previous literature on merchant's replies. Then, several hypothesis are developed. In the next part, we present our empirical analysis of data collected from Taobao.com. As a research-in-progress paper, we then talk about limitations of what we have done and the future work. Finally, potential contributions are discussed.

Literature Review

We have yet to find any major research regarding the role of positive reviews in the context of merchants' online review responses. Accordingly, our review of the literature focuses on extant research concerning merchants' responses to negative reviews and the literature on source credibility.

Negative reviews usually report problems (i.e., product quality problems) in disappointing shopping experiences and can be very harmful to merchants (Bambauer-Sachse and Mangold, 2011). Accordingly, some research have drawn on the attribution theory to analyze how merchants' replies can serve as a supplementary source of pre-decision information and influence potential customers' attribution of the disappointing problems. Generally, previous research supports that the provision of responses can

alleviate the detrimental effect of negative reviews. For instance, Zheng, et al. (2015) indicate that effective replies can replace negative reviews as the leading information and make people attribute unfavorable experiences to customers rather than the quality of products or service.

Different from the above research, Sparks, et al. (2016) build an understanding of the effects of merchants' replies to negative reviews based on the correlation-based inferences of Kardes (Kardes, et al., 2004). They have found that responding to negative reviews can improve customers' positive inference of merchants' level of trustworthiness and concern for their consumers because customers tend to think how merchants respond to negative reviews is correlated with these two attributes.

The understanding based on the correlation-based inferences suggests that prospective customers not only analyze the quality of products or service by obtaining information from various means, but also use different signals (i.e., the status of responder) to infer how reliable the merchants are, which is captured as the credibility in previous literature. When shopping on the Internet, prospective customers usually face a tangle of second-hand information from different sources. In this context, consumers usually put more weight on information from high-credibility sources (e.g., Kim and Choi, 2012).

Source credibility refers to audience's attitudes towards information providers. Research on source credibility derives from studies of "prestige" in which subjects are asked about whether they agree with statements from different sources (Hovland and Weiss, 1953). These studies indicate that people tend to agree with messages from prestigious people. Source credibility has four components including homophily, objectivity, expertness and trustworthiness (Wu, 2013). The first is related to similarity between sources and recipients in terms of status and value, while the second refers to the fairness of a statement. Perceived expertness focuses on a source's ability to offer proper information and is related to his/her professional knowledge. Finally, perceived trustworthiness emphasizes on whether a source is willing to provide accurate information. In electronic environment, questions such as how much time the providers devoted to online discussions and how fast they respond to inquiries might be important cues assisting in judging the provider's trustworthiness (Wu, 2013).

In this study, we treat positive reviews and merchants' replies to them as two cues to infer merchants' credibility. Based on the lack of research on the role of positive reviews, we explore how responding to positive reviews influences sales and how the exhibition of positive reviews influences the effects of responding to negative reviews by improving the inference of merchants' credibility

Hypothesis Development

Merchants' Replies to Positive Reviews

When merchants reply to positive reviews, it indicates merchant's willingness to gather feedbacks from customers, showing merchant's concerns for consumers. In previous literature, such concerns are captured as empathy (Parasuraman, et al., 1988). So replying to online reviews can make potential customers produce an empathetic imagery of merchants. Additionally, posting replies is a signal of merchants' active participation in after-sale communications. Being highly engaged in after-sale interactions, combined with an empathetic imagery, makes merchants perceived to be attentive and responsive to customer needs and feelings, increasing the perceived trustworthiness, one components of perceived credibility, of merchants (Wu, 2013). Therefore, the following statement is hypothesized:

H1: In online malls, the provision of merchants' replies to positive reviews will increase their sales.

Positive Reviews and Merchants' Replies to Negative Reviews

Some studies have analyzed the impact of merchants' responses to negative reviews, but most of them

controlled the distribution of the valence of reviews in the lab experiments. When it comes to the electronic malls who provide statistical data about reviews, such designs cannot reflect all the truth. Customers usually gather pre-purchase information in two stages (Hu, et al., 2014). On the first period, customers use information easy to deal with and form a pre-decision attitude. On the second period, customers dig into the information requiring more cognitive resources with the pre-decision attitude. Such attitude is important because of the pre-decisional information effect (e.g., Russo, et al., 1998). If a person has a favorable attitude towards a product, he tend to put more weight on positive information about it and interpret the information they have gathered as overall positive (Xie, et al., 2011).

In the context of online malls, customers firstly read the prominent information such as prices and the percentages of positive reviews, and generate a pre-decision attitude. Then, they dig into the content of reviews and replies with this pre-decision attitude. As the positive review is indicative of merchants' reputation, its percentage is an indicator of customers' overall attitude towards merchants (Guo, et al., 2012). Therefore, prospective customers are apt to generate a positive pre-decision attitude towards a merchant with a high percentage of positive reviews. Then in line with the above literature, customers tend to interpret merchants' replies as truth and more willing to purchase their products.

H2: When merchants respond to negative reviews, replies from a merchant who has a high percentage of positive reviews, versus from a merchant who has a relatively low percentage of positive reviews, will increase sales more significantly.

Method

Data

We collected a panel data set about 300 T-shirts from taobao.com from January 4th to February 10th, 2017. We finally use the data of 188 T-shirts and dropped the data of other T-shirts because: 1) They have no reviews; 2) Special discounts were offered during our data collecting process. Our data set contains the following variables:

Variable	Description	Variable	Description
WRP_{ij}	a zero or one factor. " $WRP_{ij}=1$ " means that the merchant of T-shirt i responds to positive reviews at time j	WRN_{ij}	a zero or one factor. " $WRN_{ij}=1$ " means that the merchant of T-shirt i responds to negative reviews at time j
SF_{ij}	The shipping fee of T-shirt i at time j	Pr_{ij}	The price of T-shirt i at time j
TS_{ij}	Total sales of T-shirt i at time j	PPR_{ij}	The percentage of positive reviews of T-shirt i at time j
TR_{ij}	Total reviews of T-shirt i at time j		

Table 1 The definitions of variables

Model

To test H1, we use two econometric models. In the second equation, we include historical sales, price, shipping fee and total reviews as control variables according to extant research.

$$\ln(TS_{ij}) = \alpha_0 + \alpha_1 WRP_{ij} + \varepsilon_0 \quad (1)$$

$$\ln(TS_{ij}) = \beta_0 + \beta_1 WRP_{ij} + \beta_2 \ln(TS_{i(j-1)}) + \beta_3 \ln(TR_{i(j-1)}) + \beta_4 \ln(P_{ij}) + \beta_5 SF_{ij} + \beta_6 \ln(PPR_{ij}) + \varepsilon_1 \quad (2)$$

To test H2, we use $\ln(PPR_{ij}) * WtRN_{ij}$ to represent the moderating effect of the percentage of positive reviews on the effects of merchants' responding to negative reviews.

$$\ln(TS_{ij}) = \gamma_0 + \gamma_1 WRN_{ij} + \gamma_2 WRN_{ij} * \ln(PPR_{ij}) + \gamma_3 \ln(TS_{i(j-1)}) + \gamma_4 \ln(TR_{i(j-1)}) + \gamma_5 \ln(P_{ij}) + \gamma_6 SF_{ij} + \gamma_7 \ln(PPR_{ij}) + \varepsilon_2 \quad (3)$$

In three equations, α_0 , β_0 and γ_0 are the fixed effects respectively to control for unobserved heterogeneity across T-shirts. ε_0 , ε_1 , ε_2 are the residual error terms.

Preliminary Results

The first equation is estimated by the ordinary least squares regression. Because the second and third equations contain more than one independent variable, they are estimated by the partial least squares regression (PLS). Preliminary results appear in Table 2.

		Equation 1	Equation 2	Equation 3
Independent Variable	WRP_{ij}	0.487***	0.211***	-
	WRN_{ij}			0.304***
	$\ln(PPR_{ij}) * WtRN_{ij}$	-	-	0.213**
Control Variable	$\ln(TS_{i(j-1)})$	-	0.516***	1.741***
	$\ln(TR_{i(j-1)})$	-	0.262**	0.294**
	$\ln(P_{ij})$	-	-0.519***	-0.508***
	SF_{ij}	-	-	-
	$\ln(PPR_{ij})$	-	0.132*	0.104*
Constant		5.461***	5.076	2.862***
Model R ²		0.018	0.548	0.601
Adjusted R ²		0.015	0.531	0.588
F-statistics		5.887***	32.981***	46.744***

Table 2 Models Estimates (Dependent Variable: $\ln(TS_{ij})$)

*Standardized coefficients. Significance: *** $p < .001$; ** $p < .01$; * $p < .05$

Results of both equation 1 and 2 support H1. Results in column 3 indicate that the provision of merchants' replies to positive reviews can significantly influence their sales. After adding other control factors to our model, the effects of merchants' replies to positive reviews are still significant. While much of the previous research indicates that responding to negative reviews can increase the sales, this study shows that the merchants' replies to positive reviews can also produce a positive effect on merchants' sales. Based on Table 2, we also highlight the moderating effect of the percentage of positive reviews. As in column 5, the coefficient of $\ln(PPR_{ij}) * WtRN_{ij}$ is 0.213, indicating that a high portion of positive reviews can strengthen the positive effect of merchants' replies to negative reviews. Such moderating effect has not been analyzed in extant research and it suggests that it is not a good strategy for merchants to invest in responding to negative reviews when they have a low percentage of positive reviews.

Potential Contribution

This paper is among the first to analyze the role of positive reviews in the perception of merchants' replies. In contrast to extant studies that only analyze replies to negative reviews, our study suggests merchants' replies to positive reviews contribute to sales. Besides, this study has found that with a high portion of positive reviews, merchants' replies produce more significant effects.

This study also has managerial implications. Our study highlights the moderating effect of positive reviews. With high portions of positive reviews, investing in the provision of replies are worthwhile. Conversely, such investment may be lost than gained.

Limitations and future work

Our study analyze the role of positive reviews when merchants respond to customer reviews. Specifically,

we analyze the effects of merchants' responses to positive reviews and the moderating effect of the percentage of positive reviews on the impact of responding to negative reviews. However, although we analyze possible mechanisms behind these effects based on the literature of source credibility, these mechanisms cannot be confirmed by the work we have done if no more mental evidence is provided. Lab experiments are needed in the future work to address this problem.

Besides, the data set only contains one product category. Previous research proves that prospective customers' perceptions of online reviews and merchants' responses are influenced by product categories (e.g., Hu, et al., 2014). In the future work, product categories in the data set should be expanded in order to acquire a holistic understanding of the role of positive reviews.

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