



# Towards effective online review systems in the Chinese context: A cross-cultural empirical study

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## ABSTRACT

Online reviews, as one kind of quality indicator of products or service, are becoming increasingly important in influencing purchase decisions of prospective consumers on electronic commerce websites. With the fast growth of the Chinese e-commerce industry, it is thus indispensable to design effective online review systems for e-commerce websites in the Chinese context, by taking into account cultural factors. In this paper, we conduct two empirical studies on online reviews. Firstly, we study how culture differences across countries (i.e., China and the USA) impact the way in which consumers provide online reviews. Secondly, we investigate the impact of online reviews on product sales in the Chinese context, and show that directly copying the ideas of successful online review systems in the USA will deteriorate the effectiveness of the systems in China. Finally, we propose several suggestions for the development of effective online review systems in the Chinese context based on the results of our two empirical studies and the findings in previous studies.

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## 1. Introduction

Nowadays, more and more people in China choose to shop in online stores rather than in traditional ones. According to the report by China Internet Network Information Center (CNNIC) (2012), the number of online shoppers in China has reached 194 million by the end of 2011. The proportion of online shoppers in total Internet users increased from 35.2% to 37.8% in the same period with a steady growth every year. These numbers demonstrate that the Chinese e-commerce industry has shown great potential through its fast development.

With the advent of web 2.0, users have been particularly productive in providing opinions (i.e., online reviews) of virtually every product ranging from televisions, cars, hotels, restaurants, books and movies to mobile apps (Dellarocas 2003). These online reviews, compared with those provided by merchandisers themselves, convey more consumer-oriented product information about purchase and usage experiences (Lee et al. 2008). On the other hand, it has long been recognized that these reviews are of great use to prospective users of these products (Lee et al. 2008), leading to substantial efforts being devoted to harnessing them. Resnick and Zeckhauser (2002) point out that consumers' online reviews have a direct impact on transactions. Chevalier and Mayzlin (2006) demonstrate that online

reviews have a significant influence on book sales on Amazon US ([www.amazon.com](http://www.amazon.com), the largest e-commerce website in the United States). Online merchandisers also have begun to embed consumers' online reviews in product advertisements in the form of complement to product introduction (Lee et al. 2011).

Due to the significance of online reviews, it is critical to design an effective online review system, where all the activities (i.e., review contribution and review harness) happen. In this paper, we aim to shed some light on how to develop effective online review systems in the Chinese context. It has been recently recognized that the effectiveness of online review systems in a country is also influenced by its national culture (Koh et al. 2010). However, many e-commerce websites in China tend to directly copy ideas from those world's leading ones in another country (e.g., the United States) without considering the culture differences. It has been proven that the ignorance of culture differences will cause the failure of those systems (Bricks 2006). Thus, it is important for e-commerce sites in China to consider culture differences seriously when adopting others' experience. Hence, the first thing we need to do is to investigate how culture across countries (China and the United States specifically) could impact the online review systems, and confirm that directly coping ideas of online review systems from the US context will not work well in the Chinese context, through exploring the culture differences between the US and China in terms of the behavior of providing reviews. Based on the confirmation, we then need to make clear how exactly online reviews theoretically impact consumers' purchasing behaviors, especially in the Chinese context. Without knowing of

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this correlation, it is impossible to establish an effective online review system that could positively influence consumers' products choosing process, strengthen trust among consumers and boost product sales. We intend to especially investigate the correlation between online reviews and product sales in order to build a more effective review system. In the end, our findings, together with the comparative analysis of our findings with those of other studies in the US context (differences are explained by the results in our cultural study), can further provide significant implications for the development of effective online review systems in the Chinese context.

We conduct two empirical study in this paper. Our first study aims to investigate the effects of national culture on consumers' review providing behavior by exploring the review systems on Amazon US and Amazon China ([www.amazon.cn](http://www.amazon.cn)) respectively. In particular, we investigate the differences across countries on various properties of online reviews, and seek to theoretically explain these differences in the framework of dimensions of national culture proposed by Hofstede et al. (Hofstede 1980, 2001; Hofstede et al. 2010). We find that: (1) the way in which consumers provide online reviews is influenced by culture differences; (2) compared with those consumers in US, consumers in China tend to be less engaged in online review systems, provide less negative reviews, and value negative reviews more. In the second study, we establish a multi-dimensional review-related research framework, and create a panel data econometric model to explore the correlation between online reviews and product sales from the perspectives of number of reviews, quality of reviews, reputation of reviewers and the emotional tendency of reviews based on dataset collected from the Dangdang Books ([book.dangdang.com](http://book.dangdang.com), one of the largest Chinese online bookstores) (Fang et al. 2011). Our results show that: (1) number of reviews, emotional tendency of reviews and spotlight reviews are all positively correlated with product sales, while reviewer rank and length of reviews have negative effect on product sales; (2) the review voting mechanism of Dangdang is not significantly correlated with product sales. Based on the results of the two studies, we further provide several important guiding suggestions towards the development of effective online review systems in the Chinese context. These systems should pay attention to emotional tendency of reviews, reviewer ranking mechanisms, spotlight reviews, review format and review voting mechanisms.

The rest of the paper is organized as follows. Section 2 provides an overview of related works on online consumer reviews as well as those on the influence of national culture on e-commerce and online review systems. In Section 3, we provide a high level introduction of our methodology. We then describe the details of our two empirical studies in Sections 4 and 5 respectively. After that, we provide several suggestions towards effective online review systems in the Chinese context in Section 6. Finally, we conclude our current work and propose future work in Section 7.

## 2. Related work

In this section, we focus on reviewing previous works on exploring the impact of online reviews on products sales, and the inconsistent results regarding the impact of online reviews in the Chinese context and the US context. We then investigate the national culture differences between China and the US, which is considered as the most probable factor of the inconsistent findings about the effect of online review systems in previous studies, as well as the related cross cultural empirical studies in the literature.

### 2.1. Online consumer reviews

Previous research on online reviews mostly concentrates on six aspects: connotation (Hennig-Thurau et al. 2004), motivation

(Picazo-Vela et al. 2010), content (Ye et al. 2007, Korfiatis et al. 2011), effect (Chevalier and Mayzlin 2006, Chen et al. 2007, Park and Kim 2008, Utz et al. 2011), management (Hennig-Thurau et al. 2004, Park and Kim 2008), and individual differences (Chen 2008, Resnick and Zeckhauser 2002, Doh and Hwang 2005, Hu et al. 2011, Ba and Pavlou 2002). These aspects almost cover the whole life cycle of online consumer reviews.

Although there are many studies on the *effect* aspect focusing on the exploration of the impact of online reviews on the sales of products or service, only a few of them are conducted in the Chinese context. One of them is the work done by Hao et al. (2008), who have made use of movie panel data and emotional tendency of online reviews. Their findings include: (1) online reviews have different impact on movie box office at the different stages of movies' life cycle, and the impact reaches its peak after 3 weeks; (2) emotional tendency of online reviews plays a more significant role on movie box office than quantity of reviews; (3) positive influence of five-star reviews has overtaken the negative influence of one-star reviews; (4) there is no significant influence of reviews having two-star to four-star. Another study is conducted by Zhang et al. (2010), who aim to address the question of whether consumer-written-reviews and professional editor-written-reviews have different influences on the online consumers' purchasing intention. Based on the real data collected from dianping.com (one of the leading consumer advice websites in China), they find that, in the Chinese context, consumers' ratings on quality of food, environments and services of restaurants and the number of reviews are positively correlated with the online popularity of restaurants, whereas professional reviews have a negative relationship with consumers' purchasing intention. Different from these studies, our work in the Chinese context considers a more comprehensive framework, including different perspectives of online reviews such as review's quality and reviewer's rank, for the investigation on the impact of online reviews on book sales. Besides, we also explore the consumers' reviews providing behavior by taking the national culture factor into consideration. Thus, we expect to achieve reasonable solutions on the question of how to build an effective online review system in the Chinese context.

Some studies conducted in non-Chinese context lead to the inconsistent conclusions with those in the Chinese context. For example, Duan et al. (2008) discuss the effect of online reviews on movie box office from the perspectives of pervasive effect and awareness effect. The result turns out to be that online reviews cannot influence sales directly. Meanwhile, they use various methods to explore the correlation between product sales and different aspects of reviews. Chevalier and Mayzlin (2006) declare that online reviews have positive effect on book sales of both Amazon and Barnesandnoble.com. High quality reviews can improve sales, and reviews of one star have more significant effect on product sales than reviews of five stars, which is opposite to the study of Hao et al. (2008). Based on the Transaction Cost Theory and Uncertainty Reduction Theory, Hu et al. (2008) use a combinative analysis to exploit the effect of online reviews on sales of Amazon videos and books. Ghose and Ipeirotis (2010) use an econometric approach, text mining and technology of model predictive control to discuss the correlation between product sales and characteristics of reviews including average helpfulness of historical reviews, information richness and readability. They find that reviews mixed with objective sentences and subjective sentences have less impact on product sales than reviews containing only objective sentences or subjective sentences. Besides, Dellarocas et al. (2007) try to figure out how to predict movie box office based on historical reviews.

Overall, the research on the effect of online reviews on product sales results in many inconsistent conclusions in different culture contexts. Besides, most of the studies are conducted in the US

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