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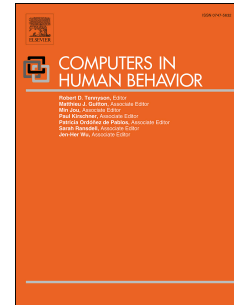
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Abstract

Understanding the textual content of online customer review (OCR) is very meaningful and previous studies suggested that the cross-cultural differences of OCRs exist. This paper proposes the textual content dimensions of OCRs and compares the differences between Chinese and American cultural contexts by conducting two studies. Based on theoretical analysis, expert advice, and online content analysis, 10 dimensions about the textual content of OCRs were proposed in Study 1, namely, seller trustworthiness, logistics quality, and service quality (seller-related), product functionality, price, product quality, and product aesthetics (product-related), emotional attitudes, recommendation expressions, and attitudinal loyalty (consumer-related). The differences in the proposed 10 dimensions mentioned in OCRs between American and Chinese consumers were statistically compared in Study 2. The data was collected from Amazon.com and Amazon.cn, which included 1565 OCRs of six products. The results show that the Chinese are more likely to mention seller trustworthiness, product functionality, price, product quality, and product aesthetics, while Americans are more likely to mention emotional attitudes and recommendation expressions in OCRs. Implications for theory and practice are discussed.

Keywords: online customer review; textual content; cross-cultural; content analysis

1. Introduction

Online shopping flourished and became increasingly popular in recent years (Bagdoniene and Zemblyte, 2015; Clemes, 2014). Most B2C websites support and encourage post-purchase consumers to write reviews on their sites. Online customer reviews (OCRs) reflect the shopping and product usage experiences of consumers.

OCRs provide sellers with genuine, convenient, and low-cost firsthand market information and potential customers with vital decision-making information. Customers read the textual content of OCRs rather than rely only on summarized statistics (Chevalier and Mayzlin, 2006). OCRs are important information sources for sellers to attract new customers and manage regular clients (Chevalier and Mayzlin, 2006; Hu et al., 2008; Sparks and Browning, 2010). The textual content of OCRs is key to understand the effect of these reviews (Godes et al. 2005; Moore, 2012; Shin and Biocca, 2017). Hence, the textual content of OCRs should be urgently examined.

However, previous studies mainly focus on the statistical characteristics of the content of OCRs, such as review valence, quantity, extremity, depth, diversity, density, and length (Cao et al., 2011; Chevalier and Mayzlin, 2006; Hu et al., 2008; Korfiatis et al., 2012; Mudambi and Schuff, 2010; Qazi et al., 2016; Willemsen et al., 2011). Previous works overlooked the narrative content of OCRs (Moore, 2012). According to Hong and Park (2012), narrative OCRs have important effect on consumer attitude toward product as well as statistical OCRs. In practice, consumers rely on both statistical and narrative OCRs when evaluating a product. Sellers rely on narrative OCRs to form comprehensive understanding of consumer experience. Thus, the textual content of OCRs should be explored. In order to understanding the textual content of OCRs more systematically, one aim of the present study is to propose the dimensions of the textual content of OCRs, which has contribution to construct analysis framework of the textual content of OCRs.

On the other hand, companies operate internationally because of globalization. For example, Amazon entered the Chinese market and the Chinese e-commerce company Alibaba entered the U.S. market. Culture affects consumers' behavior and international market (Park and Lee, 2009). Significant differences can be found between Chinese and American cultures, which are representatives of eastern and western worlds, respectively (Hofstede, 2001). Cross-cultural research in OCRs attracted the attention of scholars; some statistical characteristics of OCRs, such as review rate, valence, and extremity, differ between eastern and western cultures (Fang et al., 2013). This study investigates the dimension differences of narrative content of OCRs between the U.S. and China. This study addresses the following two questions:

Research Question 1: What are the dimensions of the textual content of OCRs?

Research Question 2: Are there differences in the proposed dimensions mentioned in OCRs between American and Chinese consumers?

The present study contributes to literature and the industry. Identifying the dimensions of the textual content of OCRs will contribute in developing the analysis framework of the textual content of OCRs. Cross-cultural comparisons of the textual content dimensions of OCRs enrich the literature on cross-cultural eWOM. Moreover, the findings can help managers improve business performance in a specific cultural background. For example, the findings can help managers understand the main concerns of online consumers, and the common and different concerns of them in Eastern and Western cultures.

We then examine previous works on OCRs to identify the research gap in the current literature. Study 1 focuses on the dimensions of the textual content of OCRs, and Study 2 attempts to determine the differences in the OCRs between the contexts of the Chinese and American cultures. Finally, managerial implications and theoretical contributions, as well as suggestions for future research, are provided.

2. Literature Review

2.1. eWOM and OCRs

Hennig-Thurau et al. (2004, p.39) defines eWOM as “any positive or negative statement made by potential, actual or a former customer which is available to a multitude of people via the internet”. eWOM exists in various forms, which differ in accessibility, scope, and source (Duan et al., 2008). eWOM can take place in web-based opinion platforms, discussion forums, boycott web sites, and news groups (Hennig-Thurau et al., 2004). Though OCR is a form of eWOM (Zhang et al., 2010), it has its own unique characteristics. First, shopping websites founded by e-commerce enterprises provide access to publish reviews. According to Jang et al. (2008), consumers exhibit different behaviors in online communities with various hosting types. Consumers’ review modes in shopping websites may differ from those in other online communities founded by consumers and third-party platforms. Second, as the Internet is characterized by openness and anonymity (Sobel, 2000), consumers can

spread various eWOM about the product on non-shopping websites regardless of whether they actually purchased a product or not. However, only consumers who complete transactions in shopping websites can publish OCRs. That is, all the textual content of OCRs come from real consumers of e-retailers. Third, unlike various, eWOM on non-shopping websites is difficult to determine the basis of its content (fact-based or opinion-based), the content of OCRs mainly focuses on actual shopping and product usage experiences of post-purchase consumers (fact-based).

The unique characteristics of OCRs are helpful to consumers and valuable for sellers. First, OCRs benefit sellers in cultivating customer trust and loyalty, providing them with price premium and increased product sales (Chevalier and Mayzlin, 2006; Pavlou and Dimoka, 2006). Second, OCRs can monitor and improve the service and product quality of sellers (Hu et al., 2008; Rose et al., 2012; Yang and Fang, 2004). Third, consumers may describe their disappointment in their shopping experience in OCRs, which may provide basis for service recovery and loyalty plan to retain regular customers (Maurer and Schaich, 2011; Sparks and Browning, 2010). Finally, the contents appearing in OCRs reflect the aspects that customers pay attention to, benefiting sellers in grasping the needs of customers and gaining new customers (Clemons and Gao, 2008).

The characteristics and values of the content of OCRs are unique. Hence, the textual content of OCRs should be explored and understood. Various studies examine eWOM, but these studies mainly focus on the antecedents (Chun and Lee, 2016; De Matos and Rossi, 2008; Fu et al., 2017; Hennig-Thurau et al., 2004; Hussain et al., 2017; Yuan et al., 2016) and consequences (Cheung et al., 2007; Erkan and Evans, 2016; Hennig-Thurau et al., 2003; Lee and Koo, 2012; Zhu et al., 2016; Shin and Chung, 2017) of eWOM and many of them mixed OCRs and eWOM. In addition, though previous studies have paid attention to the statistical characteristics of OCRs (Mudambi and Schuff, 2010; Qazi et al., 2016), such as review valence, quantity, extremity, depth, diversity, density, and length, study on the dimensions of textual content of OCRs is scarce. Yang and Fang (2004) indicated that listening to customers' voices is the initial step to improve product and service quality. Hence, the present study attempts to propose the dimensions of the textual content of OCRs.

Table 1 summarizes the key findings of recent literature on OCRs.

Table 1 Summary of key findings on OCRs of recent literature

Authors	Data source	Main findings
Yang and Fang (2004)	epinion.com, gomez.com	By content analysis of 740 OCRs, this study uncovered 52 items across 16 major service quality dimensions.
Chevalier and Mayzlin (2006)	Amazon.com, Barnesandnoble.com	An improvement in a book's reviews leads to an increase in relative sales; the impact of one-star reviews is greater than the impact of five-star reviews; and customers read review text rather than relying only on summary statistics.
Hu et al. (2008)	Amazon.com	Consumers pay attention to contextual information (reviewer reputation and reviewer exposure) when they read OCRs. The impact of OCRs on sales diminishes over time.
Zhang et al. (2010)	Amazon.com	The consumption goals that consumers associate with the reviewed product moderate the effect of review valence on persuasiveness.
Mudambi and Schuff (2010)	Amazon.com	Review extremity, review depth, and product type affect the perceived helpfulness of OCRs. Product type moderates the effect of review extremity on OCRs' helpfulness.
Cao et al. (2011)	CNETD	The semantic characteristics are more influential than basic and stylistic characteristics in affecting OCRs' helpfulness votes. OCRs with extreme opinions receive more helpfulness votes than those with mixed or neutral opinions.
Willemsen et al. (2011)	Amazon.com	The argumentation diversity and density and review valence of the content of OCRs are significant predictors of its perceived usefulness.
Ghose and Ipeirotis (2011)	Amazon.com	The extent of subjectivity, informativeness, readability, and linguistic correctness in OCRs influence sales and perceived usefulness.
Korfiatis et al. (2012)	Amazon.co.uk	Review readability has a greater effect on the helpfulness ratio of a OCR than its length.
Schindler and Bickart (2012)	Amazon.com, Bn.com	Moderate review length and positive product evaluative statements, non-evaluative product information, information about reviewer, and expressive slang and humor elements contribute to OCR helpfulness.
Baek et al. (2012)	Amazon.com	Both peripheral cues (review rating and reviewer's credibility) and central cues (the content of reviews) influence OCRs helpfulness.
Moore (2012)	Amazon.com	Compared to nonexplaining language, explaining language influences storytellers by increasing their understanding of consumption experiences.
Ludwig et al. (2013)	Amazon.com	The influence of positive affective content on conversion rates is asymmetrical. Positive changes in affective cues and increasing congruence with the product interest group's typical linguistic style directly and conjointly increase conversion rates.
Huang et al. (2015)	Amazon.com	Word count has a threshold in its effects on OCR helpfulness, and reviewer cumulative helpfulness and product rating are predictors of OCR helpfulness.
Felbermayr and Nanopoulos (2016)	Amazon.com	This study extracted the dimensions of emotion content from OCRs and identified trust, joy, and anticipation are the most decisive emotion dimensions.
Qazi et al. (2016)	TripAdvisor	The number of concepts contained in a review, the average number of concepts per sentence, and review type affect OCRs' perceived helpfulness.
Zhou et al. (2016)	Amazon.com, Amazon.cn	Chinese often use euphemistic expressions, care more about general feelings, and focus on external features of products, while American express opinions more directly, pay more attention to product details, and care more about the internal features of products.

2.2. Culture

Hofstede (1980, p.19) defined culture as “the interactive aggregate of common characteristics that influence a group’s response to its environment.” Culture affects consumers’ behavior and international market (Park and Lee, 2009). Samiee (1998, p.18) asserted that “the single most important factor that influences international marketing on the Internet is culture.”

Scholars have developed several theories for cross-cultural studies. For example, Hofstede (1980, 1981, 2001) proposed five dimensions for conducting cultural comparison: individualism-collectivism, power distance index, masculinity-femininity, uncertainty avoidance, and long-term orientation. Schwartz (1992, 1994, 1999) developed a values scale and defined conservatism, intellectual autonomy, affective autonomy, hierarchy, mastery, egalitarian commitment, and harmony as the seven cultural-level value dimensions. Among these studies, Hofstede’s culture dimensions are widely recognized and used, and they are confirmed to be universal and representative when comparing characteristics of cultures (Choi et al., 2016). According to Hofstede (1980, 1981, 2001), power distance index refers to the extent to which people coincide with the levels of formal hierarchy. Individualism-collectivism is the degree to which people are integrated into groups in a society. Uncertainty avoidance reflects the extent to which people in a society attempt to cope with anxiety by minimizing uncertainty. Masculinity-femininity pertains to the extent to which people in a society seek for achievement, heroism, assertiveness, and material rewards for success. Long-term orientation is described as the extent to which people in a society practice tradition, perseverance, and benevolence.

Hofstede (2001) explained that Chinese and American culture are significantly different in three dimensions: individualism-collectivism, power distance index, and long-term orientation. In the dimension of individualism-collectivism, the American society advocates the value of individualism, whereas the Chinese society is a collective one. In terms of power distance index, the Chinese are less likely to

question authority and more likely to accept the current status of social power distribution, whereas the Americans demonstrate a higher tendency to challenge authority and seek for the equal distribution of power. With a higher long-term orientation score, the Chinese are generally more pragmatic in preparing for the future, whereas Americans value tradition and steadiness. These remarkable distinctions in the three dimensions summarize the cultural differences between China and the U.S. This study analyzes the differences of the textual content of OCRs between China and the U.S. based on the findings of Hofstede (2001).

2.3. Cross-cultural research in OCRs

According to Hofstede (2001), a significant cultural difference exists between China and the U.S. Scholars conducted several cross-cultural studies on eWOM, which confirmed the differences of eWOM in cross-cultural contexts (Table 2). For example, Fong and Burton (2008) found that participants on the China-based discussion boards engaged in higher levels of information-seeking and discussion regarding products' country-of-origin and lower levels of information-giving than the U.S. Obal and Kunz (2016) found that Asians are more likely to rely on advice from an online reviewer and more forgiving of non-experts, while North Americans are more skeptical of and less reliant on non-expert reviewers. However, only a few cross-cultural studies concentrated on OCRs and mainly compared the statistical characteristics of OCRs, such as review rate, valence, extremity, and source (Fang et al., 2013; Koh et al., 2010). In addition, though Zhou et al. (2016) compared the cognitive differences between Chinese and American based on multi-granularity opinion mining techniques by collecting reviews from Amazon.com and Amazon.cn, they focused on analyzing overall sentiment, brand preferences, and purchase decision factors on digital cameras, smartphones, and tablet computers. The present study investigates the differences of the narrative content of OCRs between the U.S. and China from the perspective of the dimensions of the textual content of OCRs.

Table 2 Summary of key findings on eWOM in cross-cultural contexts of recent literature

Authors	Data source	Cultures	Main findings
Fong and Burton (2008)	eBay, Yahoo, Google, Sina, EachNet, Netease	China vs. U.S.	Participants on the China-based discussion boards engaged in higher levels of information-seeking and discussion regarding products' country-of-origin and lower levels of information-giving than their U.S. counterparts.
Park and Lee (2009)	In-depth Reviews	South Korea vs. U.S.	An attitude-oriented marketing communication strategy is more effective for Korean while a behavior-oriented strategy is more effective for American. Language, different thinking logic, and different levels of perceived credibility of voluntarily shared knowledge made Chinese contribute less frequently than their American counterparts.
Li (2010)	In-depth Reviews	China vs. U.S.	Westerners are more likely to post extreme ratings, while Chinese were less likely to express their dissatisfaction and thus they posted average ratings.
Koh et al. (2010)	imdb.com, douban.com	China vs. U.S. vs. Singapore	National culture affects consumers' engagement in eWOM in SNSs in the two countries.
Chu and Choi (2011)	Questionnaire	China vs. U.S.	Compared with American, Chinese are less engaged in the online review systems and "helpfulness" voting mechanism, tend to provide positive reviews towards books, provide less extremely negative reviews, and pay more attention to the negative reviews provided by other online consumers.
Fang et al. (2013)	Amazon.cn, Amazon.com	China vs. U.S.	Asians are more likely to rely on advice from online reviewers, while North Americans are more skeptical of and less reliant on non-expert reviewers.
Obal and Kunz (2016)	Questionnaire	North American vs. Asian	Chinese often use euphemistic expressions, care more about general feelings, and focus on external features of products, while American express opinions more directly, pay more attention to product details, and care more about the internal features of products.
Zhou et al. (2016)	Amazon.cn, Amazon.com	China vs. U.S.	

3. Study 1: Textual content dimensions of OCRs

Study 1 aims to explore the textual content dimensions of OCRs. In this study, we propose the textual content dimensions of OCRs via two steps. The first step is to propose preliminary dimensions by conducting theoretical analysis, online content analysis, and consulting marketing professors. The second step involves checking inter-coder reliability to determine formal dimensions.

3.1 Preliminary dimensions

OCR is a common type of storytelling through which post-purchase consumers translate and interpret their consumption experiences (Moore, 2012). Consumption experience pertains to a consumer's purchase of an item in a store. The variables of a consumer's purchase of an item in a store can be identified and incorporated in a unifying research paradigm, namely, the stimulus-organism-response (S-O-R)

paradigm (Buckley, 1991). The S-O-R paradigm is used as a framework to propose the textual content dimensions of OCRs in the present study.

According to the S-O-R paradigm, an external stimulus can trigger people's psychological reactions, which in turn affect their behavioral response (Mehrabian and Russell, 1974). Buckley (1991) indicated that the purchase of a product in a store involves consumer, product, and seller attributes. The psychological reactions and behavioral responses of consumers are influenced by external stimuli from products and sellers during online shopping. Thus, we deduce that consumer, product, and seller attributes, which are the components of consumption experiences, will be mentioned in OCRs. Hence, we plan to propose the textual content dimensions of the OCRs from the product, seller, and consumer aspects based on the S-O-R paradigm.

In the aspect of product, previous studies indicated that product quality, functionality, price, and aesthetics are factors that influence consumers' purchase decisions (Chen and Chu, 2012; Liu, 2003; Park and Gunn, 2016; Tractinsky, 2004; Zhu et al. 2015). Hence, we deduce that product quality, functionality, price, and aesthetics are mentioned in OCRs.

In the aspect of seller, previous studies found that seller trustworthiness (Hong and Cho, 2011; Shin et al., 2017), service quality of pre-purchase and post-purchase (Melián-Alzola and Padrón-Robaina, 2007; Petre et al., 2006), and delivery services (Petre et al., 2006) are facets that are greatly important to customers. Hence, we deduce that seller trustworthiness, service quality, and logistics quality are mentioned in OCRs.

In the aspect of consumer, according to the S-O-R paradigm, consumers exhibit psychological and behavioral responses by experiencing stimuli from products and sellers. Previous studies showed that consumers show emotional and cognitive reactions when they evaluate services (Liljander and Strandvik, 1997). Hence, consumers may mention their emotional and cognitive attitudes toward the stimuli of products and sellers in OCRs. As consumers use OCRs to communicate their consumption experiences with other consumers (Moore, 2012), they may directly persuade other consumers to buy or not buy the product they purchased. Cheung et al. (2007) demonstrated that consumer recommendation expressions could be observed

in eWOM. Hence, we suggest that consumers may provide recommendation in OCRs. In addition, we speculate that some consumers use OCRs to communicate with sellers who sold products to them and state their subsequent relationship intention with the sellers. These statements may reflect their attitudinal loyalty toward the sellers. Therefore, we believe that cognitive attitude, emotional attitudes, recommendation expressions, and attitudinal loyalty of consumers are mentioned in OCRs.

Attitudinal loyalty refers to “the psychological component of a consumer’s commitment to a brand and may encompass beliefs of product/service superiority as well as positive and accessible reactions toward the brand” (Liu-Thompkins and Tam, 2013, pp. 22); attitudinal loyalty pertains to the psychological response of consumers. Though the measure of “attitudinal loyalty” often includes aspect of “recommendation” in previous studies, it focuses on the psychological intention of recommendation (e.g., “I would recommend this store to others.” Liu-Thompkins and Tam, 2013, pp. 26). However, the contents of recommendations in OCRs are almost actual recommendation behaviors (e.g., “Highly recommend these to anyone! You won’t be disappointed!”), but not psychological intention. Hence, we believe that separating “recommendation expressions” from “attitudinal loyalty” is a rational approach. We use previous studies as references and obtain 11 candidate dimensions to conduct further testing.

We then analyzed 100 OCRs of a book randomly collected from amazon.cn using netnography method. Netnography method can offer substantial insight into the virtual space in relation to consumers’ needs and wants, choices, and symbolic meanings (Xun and Reynolds, 2010). Netnography is more cost-effective in terms of time and money than traditional methods (e.g., focus group and in-depth interview). Scholars use this technique to conduct content analysis of online reviews (Yang and Peterson, 2002; Yang and Fang, 2004). Online content analysis is “part of netnography in the sense that it is based on content created by online customers and intends to understand their needs and wants” (Yang and Fang, 2004, p.310). As recommended by Kozinets (2002), netnography has five stages and procedures, namely entrée, data collection, analysis and interpretation, research ethics, member checks. Two bilingual research assistants, who majored in marketing and are not

aware of the 11 textual content dimensions of OCRs, were invited to propose facets from the collected 100 OCRs separately. Table 3 shows the results. We combined these facets into a standardized form and then classified these facets into the dimensions deduced from literature.

Table 3 Preliminary analysis of facets of OCRs

Researcher	Results
1	Delivery timeliness, delivery personnel attitude toward customers, delivery accuracy, seller trustworthiness, return and refund services, product functionality, product traits, product aesthetics, product after-sale service, product durability, product conformity, recommendation expressions, website attitude, product attitude, overview for ambiguous object, emotional attitude, price, payment options, website customer service system
2	Logistics quality, website service quality, product quality, product functionality, product aesthetics, recommendation expressions, seller trustworthiness, loyalty
Combination	Delivery timeliness, delivery personnel attitude toward customers, delivery accuracy, seller trustworthiness, return and refund services, product functionality, product aesthetics, product quality, product price, recommendation expressions, website attitude, loyalty, product attitude, overview for ambiguous object, emotional expressions, payment options, website customer service system

An insider who is actively involved in writing and reading OCRs was invited to conduct member-check. The 11 proposed dimensions were evaluated, and the cognitive attitude dimension was deemed unnecessary. We further consulted three marketing professors on the proposed dimensions. The professors also suggested disregarding the cognitive attitude dimension. Cognitive attitudes are reflected in OCRs because the valence of an OCR represents the cognitive attitude of a reviewer. To minimize within-dimension content variances and maximize between-dimension variances, we removed the cognitive attitude dimension as conducted by Ji (2016). Thus, the model has 10 dimensions. By referring to the dimensions defined in previous studies and based on the current research purpose, the two research assistants and the authors discussed whether the combined facets in Table 3 can be classified using the proposed 10 dimensions. The result showed that the proposed 10 dimensions cover all the facets, which proves the systematic and comprehensive of the proposed 10 dimensions.

3.2 Formal dimensions

Two research assistants read the content of the 100 OCRs successively and independently using the proposed 10 dimensions and their respective facets. Whenever the research assistants find an OCR that contains a certain dimension, they mark this dimension tag “1”. We subsequently check inter-coder reliability using two popular indicators, namely, percentage agreement and Cohen’s Kappa. We first verified the coding agreement and determined a high agreement of 99.3%; Cohen’s Kappa coefficient is 0.973, which indicated an almost perfect agreement (Stemler, 2001). The results indicate good consistency and reliability, thereby confirming the dimensions of the content of OCRs.

The formal dimensions were established after comprehensively considering the dimensions deduced from theoretical analysis and proposed using netnography method based on the opinions of marketing professors. By determining the content of each dimension, we categorized the dimensions into three aspects, namely, seller-related aspects, product-related aspects, and customer-related aspects. Table 4 lists these dimensions and their definitions. Table 5 provides samples of real OCRs for each dimension from Amazon.cn and Amazon.com, respectively.

Table 4 Formal dimensions of textual content of OCRs

Dimension	Aspect	Definition
Seller trustworthiness (ST)	Seller	Descriptions regarding product authenticity and product freshness.
Logistics quality (LQ)	Seller	Descriptions regarding logistics quality provided by the website, such as delivery speed, delivery accuracy, et al.
Service quality (SQ)	Seller	Descriptions regarding services provided by the website, such as payment choice, return and refund services.
Product functionality (PF)	Product	Descriptions focusing on product usage, performance, usefulness, et al.
Price (PR)	Product	Descriptions regarding product price or promotions.
Product quality (PQ)	Product	Descriptions regarding the quality of a product, such as product durability, product conformity, et al.
Product aesthetics (PA)	Product	Descriptions regarding product appearance, such as product package, product design, et al.
Emotional attitudes (EA)	Customer	Emotional descriptions that express personal or others’ feelings.
Recommendation expressions (RE)	Customer	Expressions about advising others to buy or not to buy a product.
Attitudinal loyalty (AL)	Customer	Expressions regarding predisposition, commitment and attitudinal preference towards a product and the willingness to repurchase it.

Table 5 Examples of real OCRs from Amazon.cn and Amazon.com

Dimension	Example (Amazon.cn)	Example (Amazon.com)
ST	手机是正品行货，已验证，开机后一直运行正常流畅。	Product was 100% authentic. Works perfectly with any carrier.
LQ	快递员很负责，问我买了什么，然后看了证件才给我手机，很赞。	The iPhone 6S that I bought it arrived very quickly and in sealed box.
SQ	充电显示已充满，但就是开不了机器。找亚马逊和 beats 官方售后服务，均未能联系上。使用不到三个月（且未每天使用，一周也只是用几次），1400 元钱就这样没了？这是什么神产品？什么神服务？	Beats/Apple would NOT cover an out of the box defective item under warranty. They wanted to charge \$70 MORE than the headphones cost to repair them. Ended up paying a third-party repair company to fix that one.
PF	音质不错，没有蓝牙功能，噪音有点大。	Work well for noise canceling.
PR	看了所有店，对比了所有实体店，网店，亚马逊上的最便宜，而且便宜好多！	I didn't want to spend that much money for headphones. But these for \$200 (the black headphones) is well worth it.
PQ	戴了不到两个星期，就出现了 4 次突然没声音输出和线控失灵的问题！	I got these headphones and used them maybe 5 times and now the power button to turn them on isn't working.
PA	外观很精致。	These headphones look really cool.
EA	很开心收到这么棒的耳机。	So excited.
RE	众大神可以放心买。	Highly recommend these to anyone! You won't be disappointed!
AL	很棒的！下一款还会继续买的！	I love these headphones may buy another pair.

4. Study 2: Cross-cultural comparison of the textual content dimensions of OCRs

Based on the 10 proposed dimensions in Study1, Study 2 aims to investigate the distinctness of OCRs produced by Chinese and American consumers to provide insight into the behavioral cultural gap in posting OCRs. In this study, we first developed hypotheses about the differences in the proposed dimensions mentioned in OCRs between American and Chinese consumers based on Hofstede's culture theory and then processed the obtained data using netnography method. Finally, by statistically comparing the OCR dimensions of the two countries, we identified several dimensions that significantly differed between the two cultural groups.

4.1. Research hypotheses

4.1.1. Cross-cultural comparison of seller-related aspects of OCRs

Previous studies found that individualists treated in-group and out-group members more equally than collectivists did (Doney et al., 1998; Iyengar et al., 1999; Triandis and Suh, 2002). Given their complicated social connections and dependence, collectivists are more sensitive to the in-group and out-group boundary and thus have lower levels of trust toward out-group members than individualists (Triandis, 1989; Yamagishi, 1988; Yamagishi et al., 1998). In-group members consist of people with common goals, fate, and external threats, whereas out-group members are those who compete with in-group members or are not trusted (Triandis, 1989). Yamagishi (1988) conducted a comparative study between major individualistic and collectivistic nations---the U.S. and Japan---and found that the Japanese held lower levels of trust toward strangers than Americans did. Sellers are generally regarded as out-group members of buyers (DeMotta et al., 2013). We believe that individualists trust sellers more than collectivists do before purchase. In addition, consumers place a high value on trustworthiness in the interaction with computers (Skulmowski et al., 2016). There are many counterfeit products in the e-commerce market in China. Hence, the Chinese may be more willing to review the trustworthiness of sellers. We propose the following hypothesis:

H1: The Chinese are more likely to mention seller trustworthiness than Americans in OCRs.

Hofstede (2001) explained that people with a low power distance culture are willing to pursue equal distribution of social power. China has a significantly higher power-distance index than the U.S. (Hofstede, 2001), which indicates that the Chinese are less willing to pursue equal distribution of social power. Donthu and Yoo (1998) argued that most services involved a certain power of service providers over customers; this power originated from expertise or professional knowledge and skills (e.g., financial, attorneys, consultants, and bankers), equipment (e.g., airlines, cinema, and shopping malls), or both (e.g., hospitals, restaurants, and education). By helping customers solve problems competently and catering to their needs, service providers exert power over customers to a certain extent (Emerson, 1962). Consumers in

countries with a high power-distance index tend to accept existing service quality from service providers because of their tolerance toward the inequality of power. Past studies confirmed that power distance is negatively related to expectations in service quality (Donthu and Yoo, 1998; Kueh and Voon, 2007; Ladhari et al., 2011). Donthu and Yoo (1998) argued that individualists are more reluctant to receive low-quality service. Hence, Chinese individuals who have a high power-distance index may be less willing to review the logistics and service quality of sellers. We then propose the following hypotheses:

H2: Americans are more likely to mention logistic quality than Chinese individuals in OCRs.

H3: Americans are more likely to mention service quality than Chinese individuals in OCRs.

4.1.2. Cross-cultural comparison of product-related aspects of OCRs

Udo et al. (2012) focused on e-service adoption and found that people with highly espoused power distance prefer the usefulness of e-service unlike those with low espoused power distance. From the aspect of individualism-collectivism, Faqih and Jaradat (2015) determined that collectivisms pay more attention on the usefulness of mobile commerce technology than individualists when deciding to adopt a mobile commerce technology. The usefulness of products is embodied in their functionality. Krishnan and Subramanyam (2004) found that North American customers emphasize the usability of software products, but Japanese customers prefer functionality. Chinese society has a collective culture similar to that of the Japanese and the Chinese have a higher power distance culture than Americans (Hofstede, 2001); thus, we infer that the Chinese are more likely to mention product functionality than Americans when making OCRs. Thus, we propose the following hypothesis:

H4: The Chinese are more likely to mention product functionality than Americans in OCRs.

Long-term oriented societies value thriftiness and they focus on the future. People in these societies usually have a high savings rate (Bearden et al., 2006). In a long-term oriented society such as China, practicing thriftiness is important, which influences people's expectations of future life, as well as the behavior of their descendants. People in long-term oriented societies practice diligence and frugality for the long-term prosperity of the society and individuals (Hofstede 2001). Hofstede also claimed that China is a country with extreme long-term orientation, whereas the U.S. is a short-term oriented country. Thus, we assume that price is a crucial factor for Chinese consumers. Keown et al. (1984) also found that over 50% of stores in collectivistic societies, such as Hong Kong, Taiwan, and Singapore, allow bargaining; this phenomenon may be related to the relatively strong price sensitivity of collectivists. To practice thriftiness, collectivists focus on the quality of products because enhanced product quality leads to long product lifetime. These individuals save money, which is consistent with their long-term oriented values. By contrast, people in a short-term oriented society, such as the U.S., emphasize consumption and enjoy the present. Li and Gallup (1995) found that the Chinese are quite price conscious and pragmatic shoppers for private consumption. Ackerman and Tellis (2001) determined that Chinese take time to search per item purchased and examine more items per purchase than Americans do to save more money on a purchase; this finding indicates that Chinese focus more on product price and quality than Americans. In addition, there are many counterfeit products with unreliable quality in the e-commerce market in China. Given that good product quality implies long product duration and high product worth for consumers, the Chinese may pay more attention to product quality than Americans. In addition, Moon et al. (2013) posited that culture significantly influences product design evaluation and found that the effect of aesthetic design innovation on customer-related values was significantly stronger in Korea than that in the U.S. Shin (2012) determined that perceived aesthetic exhibits a greater influence on the attitude of Koreans toward smart phones than Americans. China and Korea share similar eastern cultures. Moreover, product aesthetics is associated with the assessment of consumers on the attributes of products (Park and Gunn, 2016; Tractinsky, 2004). We suggest that the Chinese focus on

product-related attributes, such as functionality, quality, and price. Hence, we deduce that Chinese pay more attention to product aesthetics than Americans do in OCRs. Therefore, we propose the following hypotheses:

H5: The Chinese are more likely to mention price than Americans in OCRs.

H6: The Chinese are more likely to mention product quality than Americans in OCRs.

H7: The Chinese are more likely to mention product aesthetics than Americans in OCRs.

4.1.3. Cross-cultural comparison of customer-related aspects of OCRs

Koh et al. (2010) argued that members of individualistic societies are more likely to value freedom of expression, whereas those in collectivistic societies are more likely to seek group consensus rather than express their opinion directly. Collectivistic cultures discourage the expression of feelings or emotions to out-group members (Samovar, 1997). For instance, Americans tend to have various emotional expressions because they believe in expressing personal emotions and feelings. By contrast, the Chinese usually pretend to be calm in an effort to prevent exposing their attitudes and emotions to others. Hence, the Chinese may be less willing to display their emotional attitudes and attitudinal loyalty in OCRs. Individualists are more willing to make friends with strangers, whereas collectivists tend to keep distance from them (Triandis, 1995). Fong and Burton (2008) have found that the U.S.-based discussion boards had a significantly higher number of recommendations per request than the China-based discussion boards. In the online review context, review readers are out-group members for reviewers because they are anonymous strangers for each other. As individualists treat in-group members and out-group members more equally than collectivists (Doney et al., 1998; Iyengar et al., 1999; Triandis and Suh, 2002), we expect that Americans are more willing to display their recommendation expressions to online strangers (review readers) in OCRs. Therefore, we propose the following

hypotheses:

H8: Americans are more likely to mention emotional attitudes than Chinese individuals in OCRs.

H9: Americans are more likely to mention recommendation expressions than Chinese individuals in OCRs.

H10: Americans are more likely to mention attitudinal loyalty than Chinese individuals in OCRs.

4.2. Research Methods

4.2.1. Data collection

We collected data from Amazon.cn and Amazon.com, both of which belong to the multinational company Amazon.com, Inc. that owns good market shares in China and the U.S., respectively. Amazon.cn and Amazon.com are also quite similar in website design, product introduction, and service quality assurance systems. Using data from these websites not only grants an adequate sample size but also reduces bias derived from different reviewer behaviors caused by distinct review systems (Fang et al., 2013; Kozinets, 2002). To ensure the robustness of the research results, we selected six different product types: smartphone, headphone, perfume, moisturizing lotion, backpack, and candy bar. These products were selected because they were all sold in Amazon.com and Amazon.cn, and they have no major difference in terms of size, quality, and package. Therefore, we can minimize bias caused by the differences between the products in the two countries. Another concern when selecting these products was the representativeness of the sample. Based on the theory of Nelson (1970), who categorized products into search products and experience products, the samples we selected were three search products (smartphone, headphone, and backpack) and three experience products (perfume, moisturizing lotion, and candy bar). Price was also a major factor when sampling: smartphone, headphone, and perfume were products with high prices, whereas moisturizing lotion, backpack, and

candy bar were products with low prices.

The review data of the six products in Amazon.com and Amazon.cn were crawled. Each review consisted of product name, product price, review post time, title of the review, reviewer's ID, review valence, textual content of the review, and number of helpfulness votes. The total number of reviews of the six products was 8,385. Considering the feasibility of this research, we selected reviews posted within a certain time range. However, the number of reviews in a certain range in Amazon.com was not an approximation of that in Amazon.cn for a certain product. Some products have more reviews in Amazon.com than that in Amazon.cn, and some products otherwise reverse. To make the sample size approximate and comparable, we adjusted the time range for each product in each country to make sure that the numbers of reviews from Amazon.com and Amazon.cn were approximately the same. The final samples were 788 reviews from Amazon.cn and 788 reviews from Amazon.com, which were quite ideal for further study.

4.3. Open Coding

The coding procedure employed in the present study is similar to that in Study 1. We retain the original texts of OCRs to preserve the naturalistic characteristics, which is considered the key merit of netnography (Kozinets, 2006); invalid or irreverent reviews and those without any characters were removed; our final dataset consisted of 785 reviews from Amazon.cn and 780 reviews from Amazon.com.

The research assistants coded the data. A high percent agreement at 95.5% and a high Cohen's Kappa coefficient at 0.843 were obtained, which indicated good consistency and reliability (Stemler, 2001). The results cross-validated the proposed dimensions in Study 1.

4.4. Descriptive statistics

Table 6 provides the descriptive statistics of the reviews collected for this research. The table shows that the deviations of sample sizes of each product between the two countries only vary within a small range, and the Chinese sample size is significantly close to the U.S. sample size, indicating that the sampling is generally as

good as expected.

Table 6 Descriptive statistics for products

			Smartphone	Headphone	Perfume	Moisturizing Lotion	Backpack	Candy Bar	Total
Country	China	Count	104	104	160	128	136	153	785
		Percentage	13.25%	13.25%	20.38%	16.31%	17.32%	19.49%	100%
	the U.S.	Count	131	118	118	147	148	118	780
		Percentage	16.79%	15.13%	15.13%	18.85%	18.97%	15.13%	100%
Total	Count	235	222	278	275	284	271	1565	
	Percentage	15.01%	14.19%	17.76%	17.57%	18.15%	17.32%	100.00%	

The dimensions were marked 2,621 times, specifically 1,502 times from 785 Chinese reviews and 1,119 times from 780 U.S. reviews. Figure 1 shows the percentage of each dimension of textual content between the Chinese and American OCR data.

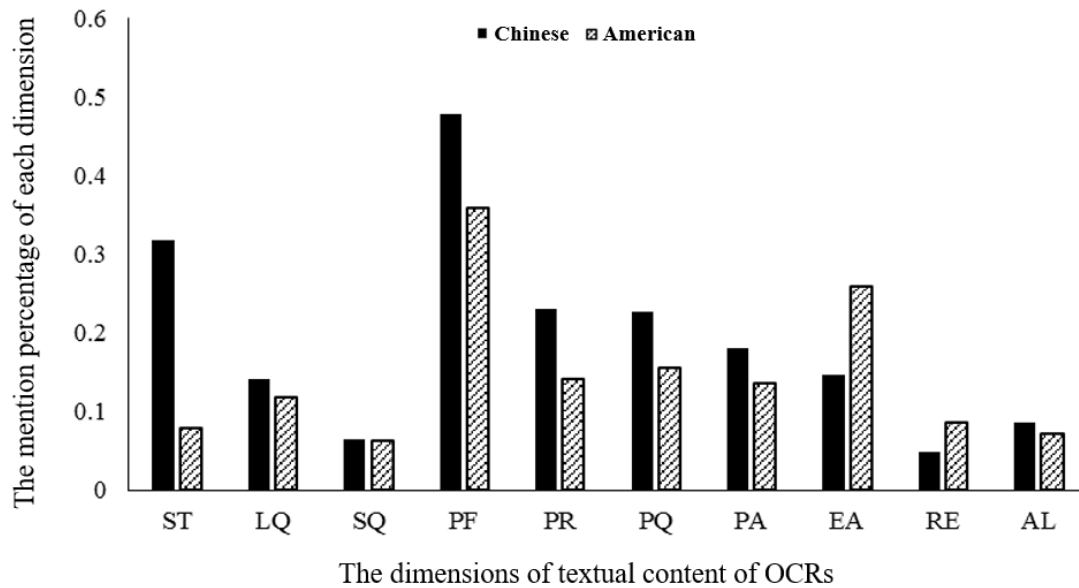


Figure 1 Percentage comparison of the ten dimensions between China and the U.S.

4.5. Research results

We applied independent sample *t*-tests to analyze the differences. Independent sample *t* test was widely used to test differences of online review content (Fang et al., 2013; Fong and Burton, 2008; Obal and Kunz, 2016). We set the Chinese dataset as group 1, and the American dataset as group 2. The results are listed in Table 7.

As for the seller-related aspects, the results indicated that the mention of seller trustworthiness ($t=12.476$, $p<0.01$) was different between the two groups in OCRs, whereas logistics quality ($t=1.451$, $p>0.1$) and service quality ($t=0.116$, $p>0.1$) showed no significant difference. As we hypothesized that Chinese are significantly more likely to mention seller trustworthiness than Americans and Americans are significantly more likely to mention logistics quality and service quality in OCRs, hypotheses H1 was supported but H2 and H3 were not.

In product-related aspects, the results showed that Chinese consumers mentioned product functionality ($t=4.945$, $p<0.01$), price ($t=4.570$, $p<0.01$), product quality ($t=3.594$, $p<0.01$), and product aesthetics ($t=2.503$, $p<0.05$) more frequently than Americans in OCRs. As we hypothesized that Chinese are significantly more likely to mention product functionality, price, product quality, and product aesthetics, hypotheses H4, H5, H6, and H7 were supported.

In consumer-related aspects, the results indicated that the mentions of emotional attitude ($t=-5.546$, $p<0.01$) and recommendation expressions ($t=-2.849$, $p<0.01$) were different between the two groups, whereas attitudinal loyalty showed no significant difference ($t=1.128$, $p>0.1$). As we assumed that American consumers expressed significantly more emotional attitude, recommendation expressions, and attitudinal loyalty than their Chinese peers, H8 and H9 were supported but H10 was not.

Table 7 The results of hypotheses

Dimension	China (n=785)			U.S. (n=780)			t value	p value	Tested Hypothesis	Has passed test?
	Mean	Std. Deviation	S.E. Mean	Mean	Std. Deviation	S.E. Mean				
ST	0.32	0.47	0.02	0.08	0.27	0.01	12.476	0	H1	Y
LQ	0.14	0.35	0.01	0.12	0.32	0.01	1.451	0.147	H2	N
SQ	0.07	0.25	0.01	0.06	0.24	0.01	0.116	0.908	H3	N
PF	0.48	0.50	0.02	0.36	0.48	0.02	4.945	0	H4	Y
PR	0.23	0.42	0.02	0.14	0.35	0.01	4.570	0	H5	Y
PQ	0.23	0.42	0.01	0.16	0.36	0.01	3.594	0	H6	Y
PA	0.18	0.38	0.01	0.14	0.34	0.01	2.503	0.012	H7	Y
EA	0.15	0.35	0.01	0.26	0.44	0.02	-5.546	0	H8	Y
RE	0.05	0.21	0.01	0.09	0.28	0.01	-2.849	0.004	H9	Y
AL	0.09	0.28	0.01	0.07	0.26	0.01	1.128	0.260	H10	N

4.6. Discussion

Results show that the Chinese are more likely to mention seller trustworthiness than Americans in OCRs, whereas logistic quality and service quality do not significantly differ. Previous studies argued that collectivists and individualists variably react on trust toward out-group members (Triandis, 1989; Yamagishi, 1988; Yamagishi et al., 1998). The result on seller trustworthiness is consistent with the conclusion of the previous studies. Previous studies confirmed that consumers with different levels of power distance variably react to service quality (Donthu and Yoo, 1998; Kueh and Voon, 2007; Ladhari et al., 2011); China has a significantly higher power-distance index than the U.S. (Hofstede, 2001). However, the present study shows that the frequency of citing logistic quality and service quality in OCRs between the Chinese and Americans does not significantly differ. We further analyzed the special content of OCRs. We found that unlike Americans who mentioned various valences of logistic quality and service quality, most contents of the Chinese about service quality are related to complaints about service failure. Moreover, contents pertaining logistic quality are related to the praise of the speediness of logistics. Previous studies showed that Asian consumers are more likely to spread negative word-of-mouth than Western consumers on service failures (Chan and Wan, 2008; Liu and McClure, 2001). This behavior may be the reason that the frequency of citing service quality in OCRs between the Chinese and Americans does not significantly differ. In addition, consumers with high power distance have low service quality expectations (Donthu and Yoo, 1998; Kueh and Voon, 2007; Ladhari et al., 2011); thus, the Chinese will be impressed by quick deliveries, which may drive them to mention logistic quality information in OCRs. This finding may be the reason that the frequency of citing logistic quality in OCRs between the Chinese and Americans does not significantly differ.

The Chinese are more likely to mention product functionality, price, product quality, and product aesthetics than Americans do in OCRs. These results are consistent with the findings of previous studies that consumers with high power distance and collectivism culture pay more attention to product functionality (Faqih

and Jaradat, 2015; Krishnan and Subramanyam, 2004; Udo et al., 2012); these findings also indicate that consumers with long-term orientation and collectivistic culture are more sensitive to price, product quality, and product aesthetics (Ackerman and Tellis, 2001; Keown et al., 1984; Kueh and Voon, 2007; Li and Gallup, 1995). The results suggest that Chinese individuals pay more attention to product-related attributes in OCRs.

Americans are more likely to mention emotional attitude and recommendation expressions than Chinese consumers in OCRs, but difference on attitudinal loyalty was not observed. The results on emotional attitude and recommendation expressions are consistent with the findings of previous studies that consumers in individualist cultures are more likely to express feelings or emotions to out-group members than collectivist cultures (Fong and Burton, 2008; Koh et al., 2010; Samovar, 1997). Nevertheless, the result on attitudinal loyalty is inconsistent with the hypothesis. The analysis of the special content of OCRs from the Chinese indicates that most contents about attitudinal loyalty are related to positive loyalty intention. Buyer-seller business relationships can transform into close relationships when consumer loyalty to sellers is developed (Berry and Parasuraman, 1991; Grayson, 2007; Price and Arnould, 1999); thus, individuals in collectivist societies shift sellers whom they have attitudinal loyalty from out-group members to in-group members. People in collectivist societies will likely identify themselves with in-group members (Chen et al., 2002; Nisbett, 2003). Collectivist cultures discourage the expression of emotions to out-group members (Samovar, 1997), but individuals in these cultures may express emotions of attitudinal loyalty to a seller who is regarded as an in-group member as individualistic people. This behavior may be the reason that the frequency of citing attitudinal loyalty in OCRs between the Chinese and Americans does not significantly differ.

5. Contributions, Limitations, and Future Research

5.1. Theoretical contributions

We proposed the 10 dimensions of the textual content of OCRs in Study 1. Previous studies mainly focused on the statistical characteristics of the content of OCRs (e.g., valence, quantity, extremity, depth, diversity, density, and length) to

investigate the effect of OCRs (e.g., product sales, review persuasiveness, and perceived helpfulness). However, the narrative content of OCRs was overlooked. The current study focuses on identifying the dimensions of the textual content of OCRs, which will contribute in developing the analysis framework of the textual content of OCRs.

In Study 2, we compared the differences in the dimensions mentioned in the textual content of OCRs between American and Chinese consumers. By using the proposed 10 dimensions from Study 1 and applying Hofstede's culture theory, we demonstrate cross-cultural differences in the textual content of OCRs between the U.S. and China. The findings enrich the literature on cross-cultural eWOM.

5.2. Managerial implications

Listening to customers' voice is the initial step to improve service and product quality (Yang and Fang, 2004). Understanding the textual content dimensions of OCRs in Eastern and Western cultures has great significance for practitioners.

First, the data show that product functionality is the dimension mentioned the most times in OCRs in the U.S. and China. This finding means that consumers attached significantly high importance on product functionality regardless of culture context. Therefore, we suggest manufacturers put product functionality in a core position in both Eastern and Western cultures.

Second, marketers should adopt different marketing strategies for distinct markets. Nakata and Sivakumar (2001) asserted that markets of different cultures have divergent marketing concepts; thus, distinct marketing strategies should be implemented. The differences of the seven textual content dimensions between Chinese and American OCRs illustrated that Chinese reviewers have dissimilar comment behaviors and needs from American reviewers, that is, firms ought to develop marketing plans based on the cultural characteristics of customers. The dimensions proposed in this study can be useful cut-in points. For example, sellers in China should emphasize building a reputation as a reliable seller, which is a response to consumers' greater focus on sellers' integrity; sellers in China can also take advantage of price promotion due to Chinese consumers' greater sensitivity on price;

sellers in the U.S. are suggested to exert additional effort to encourage consumers to express their attitude and provide recommendations in the OCRs because American consumers are willing to express their feelings and recommend product to others, which could benefit the sellers implicitly.

5.3. Limitations and future research

This study features a few limitations. First, although we analyzed ten textual content dimensions of OCRs, we have not yet considered review valence. Understanding review valence may contribute to the improvement of product and service quality, for example, firms can understand what consumers are satisfied and dissatisfied and take up corresponding tactics accordingly. Future studies should analyze review valence to enhance the understanding of the content of OCR. Second, despite our selection of six products that were sold in the U.S. and China, these products remained different in terms of brand awareness, target customers, and customer loyalty, which may influence the accuracy of the results. Future studies can further investigate the effect of product categories. Third, as the data used for statistical analysis were collected from Amazon.com and Amazon.cn, individual-level data of samples, such as personal cultural preferences, psychological and demographic characteristics, are not considered in the present study. These factors should be examined in the future to improve the effectiveness of findings. Fourth, the present study investigated the dimension differences of narrative content of OCRs between the U.S. and China simply from the perspective of cultural differences. Future studies can further investigate the differences from other perspectives.

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Highlights

>We propose the textual content dimensions of OCRs in Study 1. >The textual content of OCRs contains 10 dimensions. >We compare the differences in the dimensions between the U.S. and China in Study 2. >Seven dimensions mentioned differ in OCRs between the U.S. and China.