The effects of online word of mouth on consumers' purchase intention: A cross-cultural study

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Abstract

When compared to the traditional word of mouth (WOM), the online word of mouth, a new way of share and exchange thoughts about products or companies via the Internet, has proved to be a more effective information source for consumers as well as a more powerful marketing tool for companies. While previous studies have found that online WOM can significantly influence consumers' behavior, this study aims at investigating its effects on consumers' purchase intentions. Based on the results of a self-administered survey, we conclude that both the quality and quantity of online WOM have positive influences on purchase intentions. More importantly, this study is one of the first to examine this relationship in a cross-cultural context at the individual level. By applying the Hofstede's cultural values, we found that online WOM will have different effects on the purchase intentions of consumers who have different cultural orientations. This study also provides meaningful managerial implications for online retailers and directions for future study of online consumer behavior.

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Introduction

Among all of the information sources that consumers can use, the word of mouth (WOM) is inevitably the most influential one: When a consumer wants to know about a particular product, he or she can either look for marketer-generated sources such as third-party endorsements or seek advice from their relatives and friends (King et al., 2014). Since these information sources have used or experienced the products and the brands personally, the WOM is powerful and convincing. More importantly, WOM has direct effects on the image and reputation of a brand or company, which are crucial to their survival. Almost every brand needs to develope good image and reputation in order to keep customers loyal as well as to attract potential customers. Therefore, it is important for marketers and brand managers to learn about the effect of WOM.

In the fields of marketing and consumer research, researchers have been studying the traditional WOM for a relatively long time. Most researchers agreed that the WOM communication is commonly regarded as a type of social influence that affects consumers' purchase intentions, attitudes and purchase decisions (Cheung & Thadani, 2012). With the rapid development of information technology in the past two to three

decades, the Internet has become a useful and effective tool for consumers to search for information on products. Furthermore, the Internet not only significantly changes the way we interact and communicate with each other, but also provides us with various ways to purchase products (King et al., 2014). As a result, a substantial research stream has emerged to concentrate on the online word of mouth or electronic word of mouth. Online WOM is defined as "*Any positive or negative statement made by potential, actual, or former customers about a product or company, which is made available to a multiple of people and institutions via the Internet.*" (Hennig-Thurau, et al., 2004). Unlike the traditional WOM communication that is restrained by the physical distance, the online WOM greatly facilitates communication that is free from the face to face constraint: Online consumers who even do not know each other can share and exchange their knowledge on the products through the Internet.

Many researchers have shed some light on the online reviews that were made by customers on websites such as Amazon and eBay, individual blogs and social media networks. In a survey conducted by Channel Advisor in 2010, over 91% of consumer reported that they tend to look for online reviews before making purchases, and 46%

of respondents said that their purchase decisions were influenced by these reviews (Cheung & Thadani, 2012). These remarkable statistical results suggest that the online WOM can greatly affect consumers' purchase behavior. As a result, my research interest is to examine the effects of online WOM on consumers' purchase intentions. To be specific, the current study is to investigate the online WOM from a cross-cultural perspective, because only a few studies have focused on how consumers from different cultures seek and process online WOM information (Fong & Burton, 2008; Park & Lee, 2009). Also, the national level of culture has been studied for a long time. However, as countries are more heterogeneous under the era of globalization, it would be interesting and necessary to investigate the cultural difference at the individual level.

The rest of this paper will begin with an in-depth literature review that is divided into three parts: articles focusing on characteristics of online WOM, the effect of online WOM on purchase intentiosn and the relationships of individual cultural values and online WOM. The hypotheses will be proposed based on the literature review. The methodology will be discussed, followed by the statistical analyses. Lastly,

conclusions, managerial implications and directions for future research will be presented.

Literature review

1. Characteristics of online WOM

As mentioned, there is a substantial amount of studies on online WOM. The first stream of literature can be categorized as the articles focussing on the characteristics of online WOM, which also include the studies of the antecedents and consequences of online WOM. Since it is a new branch of traditional WOM, it is necessary to review the literature of WOM briefly. One of the earliest articles on WOM was published by Ernest Dichter. In his article he proposed that there are four key motivations that drive individuals to engage in WOM activities: Perceived product involvement, self-involvement, other involvement and message involvement (Dichter, 1966). From then on, many researchers studied the motivations of WOM and its effect on consumer behavior. One of the most comprehensive studies was conducted by Sundaram, Mitra and Webster in 1998. They examined the underlying motives of WOM behavior and concluded that there are two types of motives for WOM: First,

positive motives include altruism, product involvement, self-enhancement. Second, negative motives include altruistic, anxiety reduction, vengeance and advice seeking reasons (Sundaram et al., 1998, King et al., 2014). Since more and more studies implied that consumers' perceived WOM as more persuasive and trustworthy than traditional advertising strategies, marketers realized that WOM communication is a very powerful marketing communication strategy. As a result, there are thousands of articles in the academic and business fields that focus on the effects of WOM on constructs such as consumers' attitudes, consumers' purchase intentions, consumers' purchase decision making process, etc.

Moreover, with the development of online WOM in the past decade, many researchers propose that online WOM communication has unique characteristics when compared to the traditional WOM. First, online WOM is more effective and convenient. The Internet provides various ways for consumers to share their thoughts and opinions. Major studies focused on the online consumer reviews that are generated on e-retailing websites, discussion forums and online rating sites (Cheung & Thadani, 2012). With the emergence of social network in recent years, researchers

also discuss online WOM communication on blogs and social networking sites. See-To & Ho (2014) examined the effect of social networking sites by concluding that social network websites can moderate the impacts of online WOM on consumers' trust in a product, value co-creation and purchase intention. They also develop a model for theory building in online WOM as to better understand how online WOM affects purchase intentions. Second, the online WOM communication is more measurable and visible than the traditional WOM. As many online retailing websites provide rating scales for products, consumers can easily see the popularity of the product and decide whether they want to purchase the product or not. Also, the presentation styles of online WOM are more observable while the quality and quantity are much higher than the traditional WOM (Cheung & Thadani, 2012). Third, the information exchange process of online WOM is more widespread and effective than traditional WOM. Information from one sender can be transferred and read by millions of consumers and it does not need to be exchanged between the sender and receiver at the same time (Karakaya & Barnes, 2010). Lastly, online WOM has more credibility than traditional WOM since the online consumers do not know

each other and they only have mutual interests in a specific product. Because the online WOM information given by a sender is persistent and will reach an almost infinite number of receivers, reviewers must have a good understanding of the product before they make any comment (Godes & Mayzlin, 2004). King et al. (2014) summarized the characteristics of online WOM with 6 aspects: Enhanced volume, dispersion, persistence and observability, anonymity and deception, salience of valence, and community engagement.

In addition to the characteristics of online WOM, other researchers examined the antecedents and consequences of online WOM. Similar to the study of traditional WOM, many researchers discussed the motivations or the antecedents of online WOM. In a synthesis paper of online WOM, King and his colleagues categorize the previous studies into those focusing on the antecedents of senders and those focusing on receivers. To be specific, in the category of "what drive consumers to share online WOM information", many researchers found that the psychological factors such as self-enhancement, innovativeness, self-efficacy and neuroticism play important roles in writing online reviews (King et al., 2014). In another category that "why

consumers will seek for information online", most researchers used survey and experiments to measure the attitudinal and motivational constructs. Key factors that drive consumer to seek online WOM include: To reduce searching time and effort, to avoid uncertain risks, to find social assurances, to enact negativity bias (King et al., 2014). Based on the result of the literature review, they conclude that the full picture of the underlying antecedents of online WOM is yet to be described and requires more research in the future.

It is not surprising that there are more researchers focusing on the consequence or the effects of online WOM, since it is such an influential marketing communication strategy. Most of the previous studies agreed that online WOM influences consumers' purchase decisions from two perspectives: one is that the access to more information before the purchase can help consumers better determine which product and which brand can satisfy their needs (Dellarocas, 2003). Another perspective is that the online WOM information can reduce the perceived risk and search time and effort for consumers (Quintal et al., 2010). Meanwhile, in a literature analysis paper by Cheung and Thadani (2012), they found that the previous studies have shown online WOM

can affect consumers' attitudes, trust and loyalty of consumers toward a company, consumers' perceived usefulness, consumers' willingness to pay, consumers' perceived quality of products, consumers' purchase and repurchase intentions (Cheung & Thadani, 2012). Among all of the constructs, the most attractive one is consumers' purchase intentions, since learning purchase intentions can directly determine whether consumers will choose the product/service or not.

2. Online WOM and Consumers' Purchase Intention:

Almost one third of the articles in the literature of online WOM mentioned the impact of online WOM on consumers' purchase intentions. Due to the limited time and space, we will focus on the most comprehensive and typical articles. To begin with, most researchers agreed that the online WOM information will have positive influence on consumers' purchase intentions. That is to say, if consumers read consumers' online reviews before the purchase, they can learn about the product and are more likely to purchase the product than the one without that information (Dellarocas, 2003, Park et al., 2007, Prendergast & Ko, 2010, See-To & Ho, 2013). Some discovered that information usefulness of online WOM has a positive effect on

the adoption of online WOM (Lin et al., 2012; Fan & Miao, 2012; Cheung & Thadani, 2012). It means that if consumers perceived that online WOM is useful, they tend to use the information for making a purchase, which leads to the conclusion that the adoption of online WOM is positively related to the purchase intentions of consumers. Moreover, whether consumers will adopt the online WOM information also depends on the extent to which an information source is perceived to be believable, competent and trustworthy (Park & Lee, 2007; Cheung & Thadani, 2012).

While most of the studies have focused on the effect of online reviews on the retailing websites, other researchers found that different information sources will also moderate the effects of online WOM on consumers' purchase intentions. Online discussion forums and bulletin board systems are widely used by Internet users to communicate with each other since the 1990s. With the emergence of e-commerce and online shopping, many consumers began to use online forums to share their knowledge of the products and brands. These shared experiences are perceived to be reliable because the information sources are consumers, who have no interest in influencing other readers or marketing the products (Prendergast & Ko, 2010).

Moreover, these forum users share similar interests and they will be emotionally attached to each other, which makes the reviews or comments on the online forums more persuasive (Xia & Bechwati, 2008). As proposed by Prendergast and Ko (2010), this kind of similarity between the source and receivers strengthens consumers' purchase intentions with respect to products that are discussed in online forums. More recently, the social networks such as Facebook, Twitter and Google+ are so popular that many companies and brands open their official accounts to interact with consumers. Also the interaction among customers or fans are significantly facilitated by the social networks in forming fans groups to communicate. Similar to the role of online forums, social networks serve as an online platform for consumers to share their expertise and experiences on the products, which become the online WOM information on social networks (Yoon, 2009; Pookulangara & Koesler, 2011; See-To & Ho, 2014). Since the communicators within social networks are members of focal users' personal networks, online WOM information on social networks is perceived as more reliable and trustworthy than the online reviews on retailing websites and traditional WOM (Chu and Choi, 2011, Trusov et al., 2009).

Many researchers try to examine what are the possible moderating and mediating effects in the relationships of online WOM and consumer purchase intentions. Ji & Zhang (2009) found that the brand orientation will moderate the effect of online WOM information on consumers' attitudes and purchase behaviors. Park et al., (2007) discovered the moderating effect of involvement by concluding that low-involvement consumers are influenced by the quantity rather than by the quality of online reviews, while high-involvement consumers are influenced by both quantity and quality of the online WOM. Lin et al. (2010) postulated that the need for cognition will have moderating effects: The purchase intentions of consumers with high need for cognition will be influenced more by the quality of online reviews, while low need for cognition consumers will be influenced by the quantity rather than the quality of the online reviews. Also, gender differences can play a role in the effects of online WOM on consumers' purchase intentions, in that female consumers are more likely to use online WOM to make purchase decision than male consumers (Fan & Miao, 2012).

Furthermore, many researchers found that the quality and quantity of online WOM are important elements to the consumers' purchase intentions. The quality of

online WOM is defined as the quality of a review's contents from the perspective of information characteristics, which include relevance, understandability, sufficiency and objectivity (Park et al., 2007; Park et Kim, 2007; Fan & Miao, 2012). Also, online WOM information that consist of understandable and logical arguments are more persuasive than the emotional and subjective ones (Lin et al., 2011). Meanwhile, the quantity of online WOM information is also important because it is related to the sales volumes and the popularity of the products (Park et al., 2007). The quantity of online WOM information can be measured by the number of online reviews on the retailing websites, as well as the frequency of the product being mentioned on the social networks and forums (See-To & Ho, 2013; Prendergast & Ko, 2010). Also, the quantity of online WOM can serve as a function of risk reduction or uncertainty avoidance: Consumers will perceive less risk and regard the products as reliable if there are many other consumers who purchase and review the products (Money & Crotts, 2003; Sabiote, et al., 2012). Therefore, based on the literature review, we propose that when consumers are seeking information online, both the quality and the quantity will play significant role in the effect of online WOM on consumers'

purchase intentions. Formally:

Hypothesis 1: When consumers are seeking product information online, the quality of online WOM positively influences their purchase intentions toward the product.

Hypothesis 2: When consumers are seeking product information online, the quantity of online WOM positively influences their purchase intentions toward the product.

3. Online WOM and Cultural Differences

As mentioned, many researchers focused on the relationships between online WOM and consumers' purchase intentions. As suggested by many studies, there is a call for cross-cultural studies in online consumer behavior, since the cultural orientation that influence consumers' purchase behavior may be very different from one country to another. Some researchers found that consumers from different cultures use different persuasion styles in writing their online reviews. For example, American consumers are more likely to express their own opinions on products and to include product's specific traits in their reviews (Lai et al., 2013). Some postulate that

there will be different levels of engagement in the information giving and information seeking processes online. Fong & Burton, (2008) argued that discussion boards participants from collectivist cultures will engage in more information seeking than those from individualist cultures, while individualist consumers will engage in higher level of information giving than collectivist consumers. Moreover, Chu and Choi (2011) found that culture affects the involvement of online WOM in social networking sites. They proposed that Chinese social network users engage in a greater level of information-giving, information-seeking and pass along behavior than do their American counterparts (Chu & Choi, 2011). They believe that this difference is caused by social relationship related constructs such as social capital, tie strength, trust and interpersonal influences (Chu & Choi, 2011). Fang et al. (2013) found that Chinese consumers are less likely to engage in the online review systems when compared with their American counterparts, but they tend to have more positive attitudes towards products or services, and provide less extremely negative reviews, and rely more on the negative reviews provided by other online consumers. All in all, it is reasonable to predict that there will be cultural differences in the relationships of

searching information online and consumers' purchase intentions.

Culture is a complex concept that could be defined and interpreted in many different ways. The most widely recognized and used theory are the cultural values proposed by Geert Hofstede. Since the 1960s, he conducted a comprehensive study of how values in the workplace are influenced by culture. He analyzed a large database of employee value scores collected within IBM, which covered more than 70 countries, from which Hofstede first used the 40 countries with the largest groups of respondents and afterwards extended the analysis to 50 countries and 3 regions (Hofstede insights). Initially there were four dimensions included in the proposed model: Individual-Collectivism, Uncertainty avoidance, Power distance and Masculinity-Femininity. Following further research, Hofstede added the fifth and sixth dimensions: Long term orientation and Indulgence-Restraint.

Among all the dimensions Hofstede proposed, the most popular one is the difference between individualism and collectivism. Individualist cultures emphasize self-reliance, independence, and freedom. People with individualistic orientation are more likely to provide information, opinions and recommendation (Laroche et al.,

2005). On the other hand, collectivist cultures encourage people to sacrifice their own benefits for the greater good of the group or society. People with collectivistic orientation are more likely to follow other people's behavior and advice so as to maintain the group harmony (Hofstede, 1984). Based on this difference, previous researchers found that there are differences in the information seeking-process before making purchase decision between two different cultures (Long-Chuan et al., 1999).

Generally, collectivist consumers such as Chinese consumers are more likely to follow other consumers' decisions when searching for information, which suggests that they will let the group make their choices (Doran, 2002). Also, Chinese consumers rely more on information given by the others in the "group", since using this kind of information is regarded as a way of strengthening interpersonal relations (Wong and Chan, 1999). They also engage in a higher level of discussion of the product on the Chinese discussion boards (Fong & Burton, 2008). On the other hand, Individualist consumers such as American consumers are more likely to make purchase decisions based on their personal judgments because they think self-reliance and independence are very important in the process of searching for information

(Ordonez de Pablos, 2005). Based on the literature, we propose that after consumers viewed product reviews online, the collectivist consumers are more likely to buy the product than the individualist consumers. Formally:

Hypothesis 3a: The effects of quality or/and quantity of online WOM on purchase intentions are greater for collectivist customers than for individualist customers.

The second dimension we examine is uncertainty avoidance. It is defined as the degree to which the members of a society can tolerate the unstructured, ambiguous and uncertain future events (Hofstede, 2001). A typical high uncertainty avoidance culture exhibits strong rigid codes of belief and behavior, and are intolerant of unorthodox behavior and ideas (Hofstede Insights). Members of high uncertainty avoidance cultures will expect more threat and difficulty in life and experience higher level of anxiety. They are motivated to reduce the perceived ambiguity and uncertainty in life to lower this kind of anxiety (Doney et al., 1998). A way to mitigate ambiguity and uncertainty is to seek advice from other members (Schumann et al., 2010). Also researchers found that consumers use WOM information to mitigate the risk and uncertainty during the decision making process (Rosen & Olshavsky, 1987).

On the contrast, a lower uncertainty avoidance culture maintains a more relaxed attitude that practices are more important than principles (Hofstede insights). Members of lower level uncertainty avoidance cultures believe that they can control and influence their own lives. They are expected to reduce their anxiety through passive relaxation and self-control of emotions (Hofstede, 2001; Schumann et al., 2010).

Furthermore, many researchers proposed that members of high level of uncertainty avoidance cultures will engage in a higher level of information seeking and opinion-sharing in the decision making process (Dawar et al., 1996; Lam et al., 2009; Schumann et al., 2010). People with higher levels of uncertainty avoidance will seek more sources of information than lower level of uncertainty avoidance people (Vannessa et al., 2010). They also wish to have a large amount of information before they make purchase actions (Jordan et al., 2012). While members of lower uncertainty avoidance cultures are less involved in the information seeking behavior, and eventually they are less influenced by external information on their consumer behaviors (Dawar et al., 1996; Money et al., 1998; Schumann et al., 2010). Since

online WOM served as a new type of information seeking channel for consumers when making purchase decisions, we believe the difference between high and low levels of uncertainty avoidance is similar in the case of online WOM. As a result, we proposed that:

Hypothesis 3b: The effects of quality or/and quantity of online WOM on purchase intentions are greater for consumers with high levels of uncertainty avoidance than for consumers with low levels of uncertainty avoidance.

According to Hofstede's theory, power distance, a dimension often applied to organizations and institutions, refers to the degree to which the less powerful members of a society accept and expect that power is distributed unequally (Hofstede insights). A high power distance culture tends to be more hierarchical, members share the beliefs that power, wealth, talents and capabilities are unequally distributed (Hofstede, 2001). Some studies argue that the information seeking and sharing process are unequal as well: People with high power distance are more likely to engage in information seeking and rely on the information in decision making process than those in low power distance culture because of the higher level of external locus

of control (Dawar et al., 1996; Lam et al., 2009). They also rely more on received WOM referral from credible people who have experience and knowledge of the services and products (Schumann et al., 2010). On the other hand, people with low power distance are less likely to express their thoughts and receiving from others, because they tend to view everyone as equal and a high level of internal locus of control. Hence they are prone to make decisions and evaluations based on their own experiences (Lam et al., 2009; Schumann et al., 2010). As a result, we propose that people with high levels of power distance are more likely to buy a product than people with low levels of power distance, after they viewed the online WOM information. Formally:

Hypothesis 3c: The effects of quality or/and quantity of online WOM on purchase intentions are greater for consumers with high levels of power distance than for consumers with low levels of power distance.

The dimension of Masculinity-Femininity indicates how a culture defines the gender roles of male and female in a society and the extent to which a society emphasize achievement or nurture (Hofstede, 2001). A masculine culture represents a

preference in society for achievement, heroism, assertiveness and material rewards for success. The role in a masculine culture is distinctive: Men are supposed to be assertive, tough, and focused on material rewards, while women are supposed to be more modest tender and concerned with the quality of life (Hofstede, 2001). On the contrary, a feminine culture stands for a preference for cooperation, modesty and stronger relationship orientations (Schumann et al., 2010). It is a culture in which social gender roles overlap, men and women are supposed to be modest, tender and concerned with the quality of life.

In the literature of both traditional and online WOM, only very few studies have emphasized the dimension of masculinity-femininity specifically. Most of them agreed that because a masculine culture is possession-oriented and materialistic, members of masculine cultures are more likely to engage in higher levels of information seeking and sharing activities than feminine cultures in the pre-purchase stage. (Dwyer et al., 2005; Liu et al., 2001; Schumann et al., 2010). Lam et al. (2009) also proposed that a consumer who values masculinity is more likely to engage in WOM information seeking and sharing with both social in-groups (friends and

families) and social out-groups (Strangers). Based on the characteristics of masculinity-femininity and the limited results from previous studies, we propose that masculine consumers are more likely to buy a product based on the online WOM information than the feminine consumers. Formally:

Hypothesis 3d: The effects of quality or/and quantity of online WOM on purchase intentions are greater for consumers of masculine cultures than for consumers of feminine cultures.

As the fifth dimension in Hofstede's cultural values theory, long term orientation was proposed by Hofstede and Bond in 1998. It is also known as the Confucian Dynamism, since it is a work based on the characteristics of Chinese values. A long term orientation culture is defined as a culture that emphasize the future, thrift and persistence, which also include values such as ordering relationships by status and having a sense of shame (Hofstede et Bond, 1998). It also takes a more pragmatic approach by encouraging innovation and adaptation, and efforts in education as a way to prepare for the future (Hofstede insights). A short term orientation refers to a culture that values the personal steadiness and stability, short feedback cycles, respect

for tradition and reciprocation of greetings, favours and gifts. Based on the data from Hofstede and Bond, (1998), most would agree that collectivist cultures in Asia such as China, Japan and Korea are defined as long term orientation cultures; while most of the European and North American countries, who are identified as individualist cultures, score low in this index. Therefore, it is reasonable to predict that consumers of long term orientation cultures will have some similar purchase behaviors as collectivist consumers, while consumers of short term orientation are similar to individualist consumers.

As a relatively new dimension in Hofstede's model, not many researchers have applied this dimension particularly in their studies. Nevertheless, some researchers have proposed and found evidence to support that long term orientation makes a difference in terms of consumers' behaviors. Some argue that the long/short term orientation influence the ways of information seeking and decision making processes: People with long term orientation tend to trust the typical literate Internet-facilitating features such as information from search engines and product reviews, while people with short term orientation trust more their in-group circles such as family and friends

(Mooji, 2014). Some proposed that trust in online product reviews for making purchase intentions will be positively correlated with long term orientation, because the relationships among long term orientation, literacy and newspaper circulation may point at a higher degree of non-personal information seeking in long term oriented cultures (Kimmel & Kitchen, 2016). A study also found that consumers from long term oriented culture have a higher intention to engage in the WOM seeking and giving process after they experience positive service (Liu et al., 2001). As a result, we propose that the purchase intentions of consumers from long term oriented culture are more likely to be influenced by online WOM information than the purchase intentions of consumers from short term orientation. Formally:

Hypothesis 3e: The effects of quality or/and quantity of online WOM on purchase intentions are greater for consumers with long term orientation than for consumers with short term orientation.

The last and latest dimension in Hofstede's model is Indulgence-Restraint. It was proposed by Michael Minkov after he conducted a worldwide survey on 93 societies with the World Values Survey during 1995-2004. The indulgence-restraint dimension

was introduced into Hofstede's model in 2010, with the aim of covering the aspects that are not explained by the other five dimensions. An indulgent culture refers to a society which allows relatively free gratification of basic and natural human desires, which lead to enjoy life and having fun (Hofstede & Minkov, 2010). The characteristics of an indulgentculture includes: Members tend to believe that they have greater control of personal life and participation in life activities, and that the leisure time is very important; They tend to have more extraverted personalities; Freedom of speech is regarded as very important. In contrast, a restraint culture stands for a society that control gratification of needs and regulates it by means of strict social norms (Hofstede & Minkov, 2010). The characteristics of a restraint culture includes: A perception of helplessness, freedom of speech is not a primary concern; positive emotions are less freely expressed and happiness. Members of a restraint culture perceive that their actions are restrained by social norms and feel that indulging themselves is wrong.

Since the indulgence-restraint is a new dimension in Hofstede's model, there is a lack of empirical studies in the fields of online consumer behavior. Nevertheless,

studies have found that members of an indulgent culture are more likely to express their positive feelings, they are more likely to display behavior and be influenced by others (Korsakiene & Curina, 2012). Consumers in an indulgent culture may feel happier after their shopping experiences and spending (Yaseen & Omoush, 2012; Yildirim & Barutcu, 2016). Moreover, since the optimism of indulgent consumers increases their trust in online environments, their online behavior such as searching for information on products, online purchase and payment are handled more easily than consumers from restraint cultures (Schaupp et Carter, 2010). Because the social networking sites provide platforms for consumers to share and exchange information on the product, indulgent consumers are more likely to engage in social commerce at a higher level, which implies that indulgence has positive effect on social commerce expenditure (Yildirim & Barutcu, 2016). Therefore, we proposed that the indulgent consumers are more likely to purchase products than restraint consumers after they viewed online WOM information. Formally:

Hypothesis 3f: The effects of quality or/and quantity of online WOM on purchase intentions are greater for indulgent consumers than for restrained consumers.

Hypotheses statements

Based on the literature reviews, we postulated the below hypotheses:

Hypothesis 1: *When consumers are seeking product information online, the quality of online WOM positively influences their purchase intentions toward the product.*

Hypothesis 2: *When consumers are seeking product information online, the quantity of online WOM positively influences their purchase intentions toward the product.*

Hypothesis 3a: *The effects of* ***quality or/and quantity of*** *online WOM on purchase intentions are greater for collectivist customers than for individualist customers.*

Hypothesis 3b: *The effects of online WOM (quality or/and quantity) on purchase intentions are greater for consumers with high levels of uncertainty avoidance than for consumers with low levels of uncertainty avoidance.*

Hypothesis 3c: *The effects of* ***quality or/and quantity of*** *online WOM on purchase intentions are greater for consumers with high levels of power distance than for consumers with low levels of power distance.*

Hypothesis 3d: *The effects of* ***quality or/and quantity of*** *online WOM on purchase intentions are greater for consumers of masculine cultures than for consumers of*

feminine cultures.

***Hypothesis 3e**: The effects of **quality or/and quantity of** online WOM on purchase intentions are greater for consumers with long term orientation than for consumers with short term orientation.*

***Hypothesis 3f:** The effects of **quality or/and quantity of** online WOM on purchase intentions are greater for indulgent consumers than for restrained consumers.*

Methodology

1. Survey construction

In order to test the hypotheses, we conducted a 2 (high quality vs low quality) x 2 (large quantity vs small quantity) between subject factorial design with a self-administered structured online survey. The survey was generated on the platform of Qualtrics and the total expected time for participants to finish it is 10 minutes, and they are not allowed to take it again once finished. The survey consists of three parts: 1. Demographical questions. 2. A manipulated scenario with questions to measure the effects of online WOM on purchase intentions. 3. The questions to measure individual

cultural values.

When participants began the survey, they first were asked to provide their age, gender, usage and experience of online shopping and social media. Second, participants were given a scenario in which they are going to buy a new phone that they have never used before, they want to know more about it and start to look at the website of this phone on Amazon.com. Based on the differences of the quality and quantity of the online reviews posted by former customers, participants were randomly assigned to one of the four groups: 1, high quality x high quantity. 2, high quality x small quantity. 3, low quality x large quantity. 4, low quality x small quantity.

In previous studies, the review quality was measured by the objectivity, credibility, understandability, sufficiency of the content (Park et al., 2007). As a result, in this study, five emotional, insufficient and ambiguous reviews were selected as the manipulation for low quality, while three detailed, objective and organized reviews were selected as the manipulation for high quality (See appendix 1). We used uneven numbers of reviews for the manipulation of high quality and low quality because they

appeared to have similar length in the survey. As for the quantity of the review, we chose the stimulus based on the results of previous studies (Park et al., 2007, Lin et al., 2011): Large quantity was manipulated by showing customers that there are 1830 customer reviews and 768 answered questions, while in the condition of small quantity the numbers are 5 customer reviews and 3 answered questions (See appendix 1).

After viewing the scenario, participants were asked 5 questions that served as the manipulation check for the reviews' quantity and quality: questions whether they agree that the number of the reviews is large and whether they agree that the reviews are useful, objective, and understandable. Then the purchase intentions of the participants is measured by three questions that are frequently used in previous studies: 1. Whether they desire to purchase this phone after reading the reviews; 2. Whether they are likely to buy this phone in the near future; 3. Whether they recommend this phone to friends. All questions in this part were measured based on a 5 point likert scale that ranges from 1="strongly disagree" to 5="strongly agree".

The final part of the survey was designed to measure the cultural orientations of

the participants. As mentioned before, we applied Hofstede's individual cultural values in this study. In total there are 34 items were included in this part, which cover the six dimensions: Power Distance, Collectivism-Individualism, Uncertainty Avoidance, Long Term Orientation, Masculinity-Femininity, and Indulgence-Restraint. The items of first five dimensions were adopted from the CVSCALE, which was generated by Boonghee Yoo and his co-worker in 2011. Their goal is to develop a psychometrically sound measure of Hofstede's cultural value at the individual level. Furthermore, in their research, the CVSCALE shows adequate reliability, validity, cross-sample and national generalizability (Yoo et al., 2011). In addition, the items of indulgence-restraint were adopted from Heydari, Laroche, Habibi, and Richard (2017). Based on a 5-point likert scale that range from 1= "strongly disagree" to 5= "strongly agree" (For the items of long term orientation, 1= "not at all important" to 5= "extremely important"). Participants were asked to choose the answers they relate most for each question.

2. Sampling and Statistical analysis

Unlike the previous cross-cultural studies that focused on the group or country

level, this study aims at exploring the cultural differences at the individual level. As a result, there were no specific conditions in terms of the nationality and ethnicity of participants. The only prerequisite is participants must have a certain knowledge of online shopping or social media, we used the questions of “Do you have experience in social media?” and “Do you have experience in online shopping” to satisfy this prerequisite.

The survey was finished in August 2017 on the online survey platform Qualtrics and was published and distributed for two months for collecting responses. The distribution channels include social media, personal invitations and the website of Crowdflower. In total 496 responses were received, in which there were 38 responses that were not finished or failed to satisfy the prerequisite. Therefore, 458 responses were analyzed through SPSS. The coding of variables and the analysis of variance (ANOVA) were employed to test the hypotheses.

First, we analyzed the demographic responses of the respondents. Out of 458 responses, 1 (0.02%) participant is under age of 18; 221 (48.3%) participants are between the age of 18 to 30; 172 (37.3%) participants are between the age of 31 to 45

and 64 (14.1%) participants are above the age of 45. In terms of gender, there are 303 (66.2%) male participants and 155 (33.8) female participants. All participants have experience in social media and online shopping. In addition, in the question “In average how many hours per day have you spent on online shopping/social media?” 48 (10.5%) participants spend less than 1 hour; 194 (42.3%) participants spend 1 to 3 hours per day; 125 (27.3%) participants spend 3 to 5 hours per day and 91 (19.9%) participants spend more than 5 hours per day. This result shows that the majority of participants have heavy usage in social media and online shopping every day, which proves that the sample is adequate for this study.

Second, since a between subject factorial design requires randomly assigning the participants to one of the cells, we used Qualtrics to fulfill this requirement with the condition of assigning the participants to each cell as evenly as possible. As a result, 117 (25.6%) participants were assigned to the cell high quality x large quantity; 115 (25.4%) were assigned to the cell high quality x small quantity; 115 (24.9%) were assigned to the cell low quality x large quantity and 111 (24.1%) participants were assigned to the cell low quality x small quantity. Based on which cells they were

randomly assigned, we coded participants into two level for quality and quantity respectively: small quantity as 1, large quantity as 2, low quality as 1 and high quality as 2.

Furthermore, we coded the six dimensions of cultural values respectively. For each dimension, we calculated the means of participants' answers for related questions. Then based on the group mean we dichotomized the participants for each dimension: Participants were coded as 1 if they scored lower than group mean; those who scored higher than group mean coded as 2. Although many studies suggest using the method of median split, in this study we found that too many participants score the same as median in some dimensions, which will not give us two equal size of sample. By using the group means, we have two almost equal sized samples for each dimension: Long term orientation: group mean = 4.064, percentages of two sample size are 49.3% vs 50.7%; Uncertainty avoidance: group mean = 4.231, percentages of two sample size are 48.3% vs 51.7%; Individualism-collectivism: group mean = 3.715, percentages of two sample size are 47.4% vs 52.6%; power distance: group mean = 2.595, percentages of two sample size are 53.3% vs 46.7%; masculinity-

femininity: group mean = 3.097, percentages of two sample size are 48% vs 52%; Indulgence-restraint: group mean = 3.861, percentages of two sample size are 42.1% vs 57.9%.

The meaning of scoring high or low in each dimension is different. Specifically, in dimension of individualism and collectivism, high score means the participant is more a collectivist and low score imply he or she is more an individualist. For power distance and uncertainty avoidance, high score means the participant is high power distance or high uncertainty avoidance, low score refers to low power distance or low uncertainty avoidance. For long term orientation, high score means the participant regards long term orientation as an important value; low score means the participant has a short term orientation. In dimension of masculinity and femininity, if participant score high, he or she is associated to masculinity, and participant with low score is tied to femininity. For indulgence and restraint, high score means participant is an indulgent person; low score means he or she is a restrained person. All in all, the quality of online reviews, the quantity of online reviews and the individual cultural values are three independent variables in this study.

Lastly, the dependent variable of this study were the means of the three questions that measure the purchase intentions of participants, which were analyzed through ANOVA. In addition, the five questions served as the manipulation check for the quality and quantity of online reviews were analyzed as well. By using ANOVA in the statistical software SPSS, statistical significance and *p*-value, main effect, interaction effect, and group means were analyzed for manipulation check and hypotheses testing.

3. Manipulation checks

As mentioned, we used two questions as the manipulation check for the quantity of online WOM and three questions as the manipulation check for the quality of online WOM. We used the average score of these questions as the dependent variable and the categories of large vs small quality and high vs low quality as the independent variables. Then we ran two one-way ANOVA to test the manipulation checks through SPSS. The results are presented in appendix 2. For quality, the result shows that there is a statistically significance, $F(1, 456) = 348.359$, $p < 0.0005$. The mean of small quantity groups is 2.75; the mean of large quantity group is 4.308. Hence the quantity of online

WOM was successfully manipulated. As for quality, there is a statistically significance, F (1, 456) = 19.927, $p < 0.0005$. The mean of low quality is 3.947, the mean of high quality is 4.207. Therefore, the quality of online WOM was successfully manipulated.

4. Reliability testing

We used Cronbach's α to test the reliability of each measured constructs through SPSS. The following table show the results: (See appendix 3 for SPSS output)

Table 1: Reliability test

Constructs	**Adopted from**	**Used items**	**Cronbach's α**
Quantity	Park et al., (2007)	2	0.728
Quality	Park et al., (2007)	4	0.690
Purchase intention	Lin et al., (2011)	3	0.885
Individualism-Collectivism	Yoo et al., 2011	6	0.865
Uncertainty Avoidance	Yoo et al., (2011)	5	0.787
Power Distance	Yoo et al., (2011)	5	0.893
Masculinity-Femininity	Yoo et al., (2011)	4	0.827
Long term orientation	Yoo et al., (2011)	6	0.697
Indulgence-Restraint	Laroche et al., (2017)	8	0.846

As we can see, the Cronbach's α of all constructs except "Quality" and "Long term orientation" are > 0.7, which indicate the constructs reach a satisfied level of internal consistency. Although the Cronbach's α of "quality" (0.690) and "long term orientation" (0.697) are slightly lower than 0.7, we decided to keep them because previous studies have shown they are reliable constructs. (Park et al., 2007; Yoo et al, 2010)

5. Hypotheses testing

After coding our variables, we used two-way ANOVAs through SPSS to test hypotheses 1 and 2. First, we examined the three assumptions of ANOVA: Outliers, normality and homogeneity (Results in appendix 4). By inspecting the results of boxplots, there are no significant outliers in the four cells of independent variables. The normal Q-Q plots of residuals show that the data is normally distributed. As for the homogeneity of variance, we used Levene's test of equality of error variance. We rejected the null hypothesis that the error variance of the dependent variable is equal since the statistical significance level is < 0.05. But some researchers argue that when the group sample sizes are large and equal or almost equal, and there is normality and

the ratio of the largest group to the smallest group variance is less than 3, the two-way ANOVA can be conducted, because to some extent it is robust to the heterogeneity of variance in this kind of situation (Jaccard, 1998).

The table of tests of between-subject effects (Appendixs 5) shows that there is a statistically significant interaction between the quality and the quantity of reviews on purchase intention, $F(1, 454) = 5.151$, $p = 0.024$, at the significance level of 0.05. Since the plot shows that we have an ordinal interaction, it is meaningful to investigate the results of main effects: There is a statistically significant main effect of quality on purchase intentions, $F(1, 454) = 12.822$, $p < 0.0005$; there is also a statistically significant main effect of quantity on purchase intention, $F(1, 454) = 21.339$, $p < 0.0005$.

Furthermore, the table below shows the weighted marginal means of each cell:

Table 2: Group Means of two-way ANOVA

	Low quality	High quality	
Small quantity	3.1682	3.658	3.4131
Large quantity	3.7449	3.8547	3.7998
	3.45655	3.75635	

By inspecting the differences in means, we can see that respondents who viewed high quality online WOM have higher purchase intentions than those who viewed low

quality online WOM for both small quantity and large quantity. Respondents who viewed large quantity have higher purchase intentions than those who viewed small quantity for both low quality and high quality. Furthermore, as the ANOVA presents a statistically significant interaction effect, we found that the difference between low quality and high quality in the large quantity condition (0.1098) is smaller than that in the small quantity condition (0.4892), which suggests that when the online WOM has a smaller quantity, the quality has more influence on the purchase intentions. Also, the difference between small quantity and large quantity in the high quality condition (0.1967) is smaller than that in the low quality condition (0.5767), which suggests that when the online WOM has a low quality, the quantity has more influence on purchase intention. From the results above, we conclude that both quality and quantity positively influence the purchase intentions of respondents, hence hypothesis 1 and 2 are supported.

We tested hypothesis 3a, 3b, 3c, 3d, 3e, 3f individually through three-way ANOVA. For hypothesis 3a, the table (Appendix 6) shows that there is no statistically significance for the three-way interaction, $p = 0.074 > 0.05$. Among the two-way

interactions, only the interaction between quality and quantity has a statistically significance, F (1, 450) = 6.598, $p = 0.011 < 0.05$. All three main effects have statistical significance. Individualism - Collectivism: F (1,450) = 32.321, $p < 0.0005$; quality: F (1,450) = 10.6, $p = 0.001$; quantity: F (1,450) = 22.22, $p < 0.0005$. Table below shows the means of each cell:

Table 3: Group Means of three –way ANOVA (Individualism-collectivism)

	Individualism			Collectivism		
	Low quality	High quality	Total	Low quality	High quality	Total
Small quantity	2.9591	3.3512	3.15515	3.3889	3.9492	3.66905
Large quantity	3.457	3.7222	3.5896	4.0818	3.9289	4.00535
Total	3.20805	3.5367		3.73535	3.93905	

The results show that for collectivism, the purchase intentions of small quantity and large quantity do not differ when they viewed high quality reviews (3.9492 vs 3.9289). The purchase intentions of low quality and high quality only have a small difference in the condition of large quantity (4.0818 vs 3.9289). By comparing the means and inspecting the plots of quantity and quality (Appendix 6), we can see that the purchase intentions of collectivist respondents are higher than those of individualist respondents in each condition. However, the interaction effect between individualism-collectivism and quality ($p = 0.445$) and the interaction effect between

individualism-collecitivism and quantity ($p = 0.549$) are both not statistically significant. We cannot conclude that individualism-collectivism moderates the effect of online WOM on consumer purchase intentions. Hence, hypothesis 3a is not supported.

For hypothesis 3b, the table (Appendix 7) shows that there is no statistically significance for the three-way interaction, $p = 0.379 > 0.05$. Among the two-way interactions, only the interaction between quality and quantity has a statistically significance, F (1, 450) = 5.442, $p = 0.02 < 0.05$. All three main effects have statistical significance. Uncertainty avoidance: F (1,450) = 11.019, $p = 0.001 < 0.05$; quality: F (1,450) = 12.797, $p < 0.0005$; quantity: F (1,450) = 22.104, $p < 0.0005$. Table below shows the mean of each cell:

Table 4: Group Means of three –way ANOVA (Uncertianty avoidance)

	Low uncertainty avoidance			High uncertainty avoidance		
	Low quality	High quality	Total	Low quality	High quality	Total
Small quantity	3.0252	3.4583	3.2477	3.2989	3.8475	3.5755
Large quantity	3.592	3.784	3.4691	3.9006	3.9153	3.9083
Total	3.3086	3.62115		3.59975	3.8814	

By comparing the means and inspecting the plots of quantity and quality (Appendix 7), we can see that the purchase intentions of high uncertainty avoidance respondents are higher than those of low uncertainty avoidance respondents after they

viewed online WOM. The result also implies that for high uncertainty avoidance respondents, there is no difference in terms of quality when they are exposed to large quantity of online WOM information (3.9006 vs 3.9153). But a large difference between low quality and high quality in the small quantity condition (3.2989 vs 3.8475). However, both the interaction effect between uncertainty avoidance and quality ($p = 0.853$) and the interaction effect between uncertainty avoidance and quantity ($p = 0.503$) are not statistically significant. We cannot establish that uncertainty avoidance will moderate the effect of WOM on consumer purchase intention. Hence, hypothesis 3b is not supported.

For hypothesis 3c, the table (Appendix 8) shows that there is no statistical significance for the three-way interaction, $p = 0.982 > 0.05$. Among the two-way interactions, the interaction between quality and quantity has a statistically significance, $F(1, 450) = 5.788$, $p = 0.017 < 0.05$. All three main effects have statistically significance. Power distance: $F(1,450) = 8.725$, $p = 0.003 < 0.05$; quality: $F(1,450) = 13.562$, $p < 0.0005$; quantity: $F(1,450) = 21.212$, $p < 0.0005$. The table below shows the means of each cell:

Table 5: Group Means of three –way ANOVA (Power distance)

	Low Power distance			High Power distance		
	Low quality	High quality	Total	Low quality	High quality	Total
Small quantity	2.9455	3.5538	3.24965	3.3869	3.7933	3.5901
Large quantity	3.6222	3.8333	3.72775	3.8788	3.8805	3.87965
Total	3.28385	3.69355		3.63285	3.8369	

By comparing the means and inspecting the plots of quantity and quality (Appendix 8), we can see that the purchase intentions of high power distance respondents are higher than those of low power distance respondents after they viewed online WOM. The table also show that for high power distance respondents, the effects of quality does not differ when they were exposed to large quantity of online WOM (3.8788 vs 3.8805). Since the interaction effect between power distance and quantity ($p = 0.258$), and the interaction effect between power distance and quality ($p = 0.218$) do not have statistical significance, there is no evidence to support the moderation effect of power distance. Hence, hypothesis 3c is not supported.

For hypothesis 3d, the table (Appendix 9) shows that there is no statistical significance for the three-way interaction, $p = 0.746 > 0.05$. Among the two-way interactions, the interaction between quality and quantity has a statistically significance, $F(1, 450) = 4.652$, $p = 0.032$. The interaction between Masculinity-

Femininity and quantity also has a statistically significance, F (1, 450) = 6.057, p = 0.014. All three main effects have statistical significance. Masculinity-Femininity: F (1,450) = 23.320, $p < 0.0005$; quality: F (1,450) = 12.405, $p < 0.0005$; quantity: F (1,450) = 17.953, $p < 0.0005$. The table below shows the mean of each cell:

Table 6: Group Means of three –way ANOVA (Masculinity-Femininity)

	Femininity			Masculinity		
	Low quality	High quality	Total	Low quality	High quality	Total
Small quantity	2.8978	3.3778	3.1378	3.5102	3.9636	3.7369
Large quantity	3.6522	3.7244	3.6883	3.8068	3.959	3.8829
Total	3.275	3.5511		3.6585	3.9613	

By comparing the means and inspecting the plots of quantity and quality (Appendix 9), we can see that the purchase intentions of masculinity respondents are higher than those of femininity respondents after they viewed online WOM. It also indicates that for masculinity respondents, the purchase intentions of small quantity and large quantity do not differ when they are exposed to high quality online WOM (3.9636 vs 3.959). For femininity respondents, the difference between small quantity and large quantity in low quality condition (0.7544) is higher than those in high quality (0.3466). Since the interaction between masculinity-femninity and quantity has a statistical significance, we can conclude that masculinity-femininity moderates the effect of online WOM on purchase intentions: Respondents with mascuninity

orietantion will be influenced more by quantity of online WOM than the respondents with femininity orientation. Therefore, hypothesis 3d is supported.

For hypothesis 3e, the table (Appendix 10) shows that there is no statistical significance for the three-way interaction, $p = 0.212 > 0.05$. Among the two-way interactions, the interaction between quality and quantity has a statistically significance, $F(1, 450) = 4.563$, $p = 0.033 < 0.05$; the interaction between long term orientation and quality also has a statistically significance, $F(1, 450) = 6.267$, $p = 0.013 < 0.05$. All three main effects have statistically significance. Long term orientation: $F(1,450) = 35.895$, $p < 0.0005$; quality: $F(1,450) = 13.919$, $p < 0.0005$; quantity: $F(1,450) = 20.366$, $p < 0.0005$. The table below shows the means of each cell:

Table 7: Group Means of three –way ANOVA (Long term orientation)

	Short term orientation			Long term orientation		
	Low quality	High quality	Total	Low quality	High quality	Total
Small quantity	2.8701	3.4425	3.1538	3.5064	3.8772	3.7003
Large quantity	3.358	3.7879	3.5749	4.0874	3.914	4
Total	3.11405	3.6152		3.7969	3.8956	

By comparing the means and inspecting the plots of quantity and quality (Appendix 10), we can see that the purchase intentions of long term orientation

respondents are higher than those of short term orientation respondents after they viewed online WOM, which indicate that hypothesis 3e is supported. The result also implies that for short term orientation respondents, there is a large difference in terms of low quality and high quality (3.11405 vs 3.6152), as well as small quantity and large quantity (3.1538 vs 3.5749). For long term oriented respondents, the difference between small quantity and large quantity is small when the reviews have high quality (3.8772 vs 3.914). While there is a large quantity review, the effects of low quality and high quality do not differ (4.0874 vs 3.914). With the difference of mean and the statistically significant interaction effect between long term orientation and quality, hypothesis 3e is supported. Respondent with long term orientation will have stronger purchase intentions than those with shor term orientation when they are exposed to the online WOM.

For hypothesis 3f, the table (Appendix 11) shows that there is no statistical significance for the three-way interaction, $p = 0.518 > 0.05$. Among the two-way interactions, only the interaction between quality and quantity has a statistically significance, $F(1, 450) = 5.841$, $p = 0.016 < 0.05$. All three main effects have

statistically significance. Indulgence-Restraint: F (1,450) = 28.864, $p < 0.0005$; quality: F (1,450) = 15.163, $p < 0.0005$; quantity: F (1,450) = 23.688, $p < 0.0005$.

Same as appendix, the table below shows the means of each cell:

Table 8: Group Means of three –way ANOVA (Indulgence-restraint)

	Restraint			Indulgence		
	Low quality	High quality	Total	Low quality	High quality	Total
Small quantity	2.8527	3.3922	3.12245	3.3676	3.8698	3.6187
Large quantity	3.4533	3.7007	3.577	3.9692	3.9657	3.96745
Total	3.153	3.54645		3.6684	3.91775	

By comparing the means and inspecting the plots of quantity and quality (Appendix 11), we can see that the purchase intentions of indulgent respondents are higher than those of restraint respondents after they viewed online WOM. The table also shows that for indulgence respondents, the quality does not influence differently when they are exposed to high quantity online WOM (3.9692 vs 3.9657). Also, in high quality condition, the purchase intentions of small quantity and large quantity do not differ (3.8698 vs 3.965). However, the interaction effect between indulgence-restraint and quantity ($p = 0.522$), and the interaction effect between power distance and quality ($p = 0.383$) do not have statistical significance, there is no evidence to support the moderation effect of indulgence-restraint. Hence, hypothesis 3f is not

supported.

As shown below, 4 out of 8 of our hypotheses were supported by the interpreting results of ANOVA. In addition, we ran multiple linear regression to see whether we will reach different conclusion. The major difference in the model of linear regression is that we kept the original score of the individual cultural values of respondents, instead of dichotomizing them like we did in the ANOVA test. But the results were similar to those from ANOVA: Hypotheses 1, 2, 3d and 3f were supported. As a result, we decided to report the result of ANOVA because we believe it is more suitable for the design of this study.

Table 9: Summary of Results

Hypothesis	**Three-way interaction**	**Two-way interactions**	**Main effects**	
1	N/A	$p = 0.024$	Quality: $p < 0.0005$	Supported
2	N/A	$p = 0.024$	Quantity: $p < 0.0005$	Supported
3a: Individualism - Collectivism	$p = 0.074$	Quality*quantity: $p = 0.011$ Quality*IC: $p = 0.445$	Quality: $p = 0.001$ Quantity: $p < 0.0005$ IC: $p < 0.0005$	Not supported

		Quantity*IC: p = 0.549		
3b: Uncertainty avoidance	p = 0.611	Quality*quantity: p = 0.020 Quality*UA: p = 0.853 Quantity* UA: p =0.503	Quality: p < 0.0005 Quantity: p < 0.0005 UA: p = 0.001	Not supported
3c: Power distance	p = 0.982	Quality*quantity: p = 0.017 Quality*PD: p = 0.218 Quantity*PD: p = 0.258	Quality: p < 0.0005 Quantity: p < 0.0005 PD: p =0.003	Not supported
3d: Masculinity-Femininity	p = 0.746	Quality*quantity: p = 0.032 Quantity*MF: p = 0.014 Quality*MF: p =	Quality: p < 0.0005 Quantity: p < 0.0005 MF: p < 0.0005	Supported

		0.871		
3e: Long term orientation	$p = 0.212$	Quality*quantity: $p = 0.033$ Quality*LTO: $p = 0.013$ Quantity*LTO: $p = 0.503$	Quality: $p < 0.0005$ Quantity: $p < 0.0005$ LTO: $p < 0.0005$	Supported
3f: Indulgence-Restraint	$p = 0.518$	Quality*quantity: $p = 0.016$ Quality*IR: $p = 0.383$ Quantity*IR: $p = 0.522$	Quality: $p < 0.0005$ Quantity: $p < 0.0005$ IR: $p < 0.0005$	Not supported

Discussions

As online shopping and online communication become the daily routine for consumers, previous studies have called for further studies of online consumer behavior. This study tries to answer the call and contributes to the literature of online consumer behavior. Based on the supported hypotheses 1 and 2, we conclude that online WOM, a new and more effective way for consumers to share and exchange

their opinions on the product, can significantly influence consumers' purchase intentions based on the quantity and quality of the online WOM. Our results show that after the consumers viewed the online reviews that are objective, understandable and credible rather than ambiguous and emotional, they are more likely to buy the product. Also, after consumers viewed the product that has a large amount of reviews, their purchase intentions increased as well. The interaction effect between the quality and quantity of online WOM indicates new findings as well. Former studies suggest that a large quantity of low quality reviews on products will decrease consumers' purchase intentions (Petty et al., 1983). But our results show that when consumers are exposed to a large quantity of low quality online reviews, their purchase intentions are higher than a small quantity of low quality. Meanwhile, the difference between small quantity and large quantity is smaller in the condition of high quality reviews. It indicates that when a product does not have high quality reviews, retailers should emphasize the quantity of reviews so as to increase viewers' purchase intentions. Furthermore, we discovered that when a product has a small quantity of reviews, the high quality reviews can have greater positive influence on the purchase intentions

compared to the low quality reviews. In contrast, when the product has a large quantity of reviews, both the low quality and high quality reviews conditions score high in terms of purchase intentions.

More importantly, we found that cultural differences play an important role in the effects of online WOM on consumers' purchase intentions. The six dimensions of Hofstede's cultural values have been widely used and examined at the national level: For example, all Chinese consumers are categorized as collectivist and high uncertainty avoidance while American consumers are defined as individualist and indulgent. However, recent studies have shown that the national cultural values may fail to apply to all individuals and misleading the business strategy in these regions. Therefore, the cultural values at the individual level is more useful in segmenting the global market and understanding more precisely why individuals from different regions respond differently to marketing strategies (Yoo et al., 2011). This study is one of the first to apply the six dimensions of Hofstede's cultural values at individual level in the online environment. By collecting responses online, we tested and found evidence to support two of our hypotheses related to the cultural values: When

consumers are exposed to the online WOM, the masculinity consumers are more likely to make purchases than the femininity consumers when they are exposed to a large quantity of online WOM. Moreover, consumers with long term orientation are more likely to make a purchase than those with short term orientation, especially when they are presented by the high quality of online WOM. On the other hand, in each dimenstion of individual cultural values, the difference of group mean indicates that consumers with different cultural values responds to the online WOM information differently, which lead to the difference in purchase intentions. Although we did not find statistical significance of the *p*-value to support the rest of our hypotheses, this study provides a solid first step for future studies to investigate the moderation effects of individual cultural values.

This study also provides practical managerial implications for online retailers. Based on our findings, we suggest that retailers encourage former customers to share their opinions of their products, which can be done by offering rewards and incentives. Since the online reviews function both as informants and recommenders, customers will have more confidence on the product and obtain the information they

want easily from customers who actually purchased it (Park et al., 2007). Moreover, website design is an important element in online shopping. Retailers should have different priority in showing the online reviews based on the quantity and quality: We conclude that when a product has a large quantity of high quality online reviews, the purchase intentions can be significantly increased. However, if a product has a large amount of low quality reviews, the numbers should be highlighted on the webpage. If a product does not have a large quantity of reviews, high quality reviews should be prioritized on the webpage. By reviewing the online reviews, potential customer can have a better knowledge of the product and hence the perceived quality of product will be increased, and eventually increase the likelihood of purchasing these products.

Moreover, consumer segmentation is always an important topic in the field of international marketing. The national cultural values have been proved to be a useful segmentation tool when a company want to enter a new market. However, with the rapid growth of the Internet, it would be more effective for online retailer to target and segment consumers based on their individual cultural values instead of the stereotypical national cultural values. With the application of individual cultural

values, companies are able to identify a consumer segment across countries and apply a similar business program worldwide (Yoo et al., 2011). Since we found that masculine-oriented consumers and long term oriented ones will be significantly influenced by the online WOM in terms of the quality and quantity before they make their purchase decisions. When companies want to launch products that are targeted to consumers with the above orientations, they should spend more efforts on the online WOM communication strategy with these potential consumers.

Limitations and Future Directions

The results of this study provide meaningful insights for the research of online consumer behavior, but based on the aspects that are not covered in this study, there are several directions for future research. First, when discussing the quality of online WOM information, this study did not separate the positive and negative reviews. We used them both to mitigate the effect of positive/negative review: Two positive and one negative in the high quality condition and three positive and two negative in low quality condition. In general, positive reviews will increase the perceived quality of the product and then increase consumers' purchase intentions. Negative reviews will decrease purchase intentions, as some studies have shown that most of the negative

comments are emotional and irrational, so that consumers may not adopt them as useful information. However, some studies show that when a product has a small amount of reviews but with a high quality, consumers may perceive either these reviews are selected or the negative reviews are deleted by retailers. Hence the purchase intentions may decrease (Park et Lee, 2007). Therefore, it will be meaningful to further investigate the effects of positive and negative reviews separately as well as their interaction, to examine whether consumers who have different cultural values will perceive the two types of reviews differently.

Second, when examining the effect of online WOM on purchase intentions, the self-administered survey we created only focused on the information-seeking process of consumers: We asked participants to imagine they are looking for the WOM information of a mobile phone. In fact, the information-giving process of real world environment WOM was investigated in many studies (Laroche et al., 2005; Fong & Burton, 2008). As a result, it will be fruitful to examine how the information-giving process is different in an online environment. The psychometric mechanisms, the precedents and the consequences in the online information-giving process are also

interesting topics to be investigated.

Third, in this study, we use the information of an unnamed mobile phone on Amazon.com as the stimulus. But as there are increasing number of online shopping websites and a variety of products to be sold online, it is possible to conducts a cross product category study to see whether the effects of online WOM on purchase intentions are the same in different categories. For example, an online retailer of grocery products may be completely different from an online retailer for cars in terms of consumer segmentation, which will require different measurement of quantity and quality of online WOM, and eventually lead to the differences in purchase intentions.

Fourth, in this study we only concentrate on the online reviews from former customers on an online shopping website. Future research can also shed light on the comparisons of information sources of online WOM to examine which way is the most effective channel for marketers to communicate with consumers. As social media websites and applications became the daily communication tools for consumers, it will be interesting to investigate how the online WOM information generated by companies and shared by customers on social media have impact on

consumers' purchase intentions. The advantages and disadvantages of different social media platforms (Twitter, Facebook, Instagram, etc.) can be examined as well. On the other hand, online reservations and online ratings are widely used in service industries such as hotel, restaurant, entertainment industries. Customer rating mobile applications such as Trip advisor and Yelp also provide substantial information as well as users-generating reviews for consumers. Therefore, the online WOM information on these websites are worth to be further studied, since the customer-retailer relation is very important to the service industries.

Fifth, as many previous studies have investigated the moderating effects (the need for cognition, the role of involvement, the role of gender, etc) in the relations of online WOM and purchase intentions. Future studies can also include other potential moderators to improve the not supported hypotheses in this model. For example, it will be meaningful to examine whether male consumers and female consumers with different cultural orientations will react to the online reviews differently. The credibility and trustworthy of online WOM will be another interesting topic to examine, especially for the dimension of uncertainty avoidance.

There are several limitations of the measurement we used for the individual cultural values. Due to the limited time and resources, we collected 496 responses, which is not a very large amount when compared to former cross-cultural studies. Another concern with the sample is that we did not ask the ethnicity of the respondents. Therefore, we did not know if the sample was multicultural for the variation of cultural dimesnions, which could lead to a high level of homogeneous sample and accounted for why some hypotheses were not supported. In terms of statisticall method, we used the group means of each dimension to code participants into the lower level or the upper level. However, a problem with this method is that a participant who scores lower than the group mean may not truly mean he or she belongs to that category. For example, in the dimension of individualist-collectivism, if a participant scores 3.56, he or she belongs to the level of individualism in our study. But according to previous study, a respondent with this number may be identified as a collectivist rather than an individualist. Therefore, the generalizability should be examined in future study based on a larger sample and different statistical methods.

Furthermore, we focused on the individual level of cultural values in this study; in the future, researchers can replicate the model on the national level of cultural values. Although we did not differentiate the effects of quantity and quality in the hypothesis of each cultural dimension due to the lack of support from the literature, the results show that the different effects of quality and quantity are worthy of being further studied. For example, will the quantity have a larger influence on the collectivist consumers than the quality of online reviews? Will that be the same case for individualist consumers? These potential question can be applied to other dimensions and should be answered by future studies, so as to further develope the literature of online WOM. Meanwhile, the interaction effects between cultural dimensions would be meaningful to investigate in the future. The literature of the online WOM and online consumer behavior are far from mature, there are still many gaps to be discovered and filled by future researchers.

Appendices

Appendix 1: Stimulus

High quality reviews:

You scrolled down the website and below are some reviews you found:

1. I love this phone. Reasonable price, build quality is good and the metal edges and glass back make the phone look and feel more premium. It performs well and has good battery life. The screen is a good size and the picture is sharp. The camera on this phone is impressive. Pictures look sharp and It works well in low light conditions, which I wasn't expecting. Having a microSD card slot is convenient for expanding storage.

2. The phone is incredibly fast and has lots of internal storage. The camera also has a fast shutter and takes incredible pictures when the lighting is just right. The SIM and SD card tray is a little odd until you figure out what's going on, but once you figure it out and slide the tray back in, the phone recognized both no problem. Also the newer features are very welcome

3.
PROS:
-Beautiful design, with a strikingly reflective back no matter which color you choose
-Incredible battery life, rivaling the Pixel: I can easily get 4-5 hours of screen on time during a full day of use and have juice left over. Standby drain is basically not there.
-Camera quality is on point, turning out serviceable photos every time and amazing photos maybe three quarters of the time. Dual cameras is not just a gimmick: the depth of field effect it provides is wonderful!
CONS:
-GPU performance is lackluster, so gaming isn't really ideal. The phone handles relatively intense games but throw anything heavier you'll start seeing a drop in frame rate and quality.
-Video recording is poor: no 4K, no OIS, no frills. If you need to record more than the occasional video, this isn't for you.
-The phone does heat up after several minutes of use. This is regardless of whether you are just browsing the web, listening to music or playing a game.

Low quality reviews:

You scrolled down the website and below are some reviews you found:

1. Great phone looks good and works good has great features. Price is good.

2. Amazing!!! LOVE this phone SO much!!! It does EVERYTHING I want for it to do!

3. This is a beautiful phone, very fast with fantastic graphics and great memory.

4. Extremely slippery. Easily cracked screen. So the design and finish doesn't matter, you have to buy a big case for it.

5. I was scammed!

Large quantity:

Imagine you want to buy a new mobile phone that you never used before. You want to know more about it from previous users and you started to search information about it.
On the website of this mobile phone on Amazon: 1,830 customer reviews | 768 answered questions
You found that there are in total 1830 customer reviews and 768 answered questions.

Small quantity:

Imagine you want to buy a new mobile phone that you never used before. You want to know more about it from previous users and you started to search any information about it. On the website of this mobile phone on Amazon: 5 customer reviews | 3 answered questions
You found that there are in total 5 customer reviews and 3 answered questions.

Appendix 2:

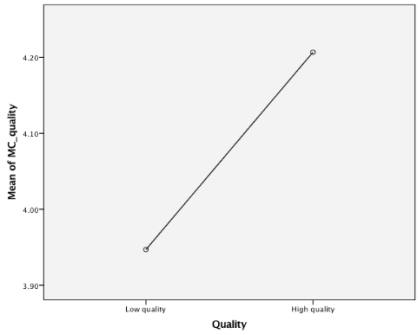
Quality:

Descriptives

MC_quality

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum	Between-Component Variance
						Lower Bound	Upper Bound			
Low quality		226	3.9469	.76474	.05087	3.8467	4.0471	1.33	5.00	
High quality		232	4.2069	.65304	.04287	4.1224	4.2914	1.67	5.00	
Total		458	4.0786	.72141	.03371	4.0124	4.1448	1.33	5.00	
Model	Fixed Effects			.71035	.03319	4.0134	4.1438			
	Random Effects				.13001	2.4267	5.7305			.03159

Means Plots



ANOVA

MC_quality

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.739	1	7.739	15.336	.000
Within Groups	230.098	456	.505		
Total	237.837	457			

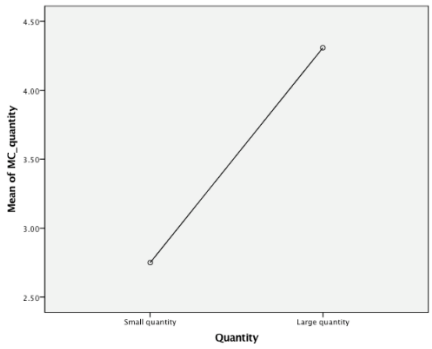
Quantity:

Descriptives

MC_quantity

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum	Between-Component Variance
						Lower Bound	Upper Bound			
Small quantity		226	2.7500	1.06693	.07097	2.6101	2.8899	1.00	5.00	
Large quantity		232	4.3082	.68286	.04483	4.2199	4.3965	1.00	5.00	
Total		458	3.5393	1.18506	.05537	3.4305	3.6481	1.00	5.00	
Model	Fixed Effects			.89325	.04174	3.4573	3.6213			
	Random Effects				.77916	-6.3609	13.4395			1.21049

Means Plots



ANOVA

MC_quantity

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	277.953	1	277.953	348.359	.000
Within Groups	363.839	456	.798		
Total	641.793	457			

Appendix 3:

Quantity:

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.727	.728	2

Quality:

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.689	.690	4

Purchase intention:

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.884	.885	3

Individualism-collectivism:

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.864	.865	6

Uncertainty avoidance:

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.787	.787	5

Power distance:

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.893	.893	5

Masculinity-femininity:

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.826	.827	4

Long term orientation:

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.691	.697	6

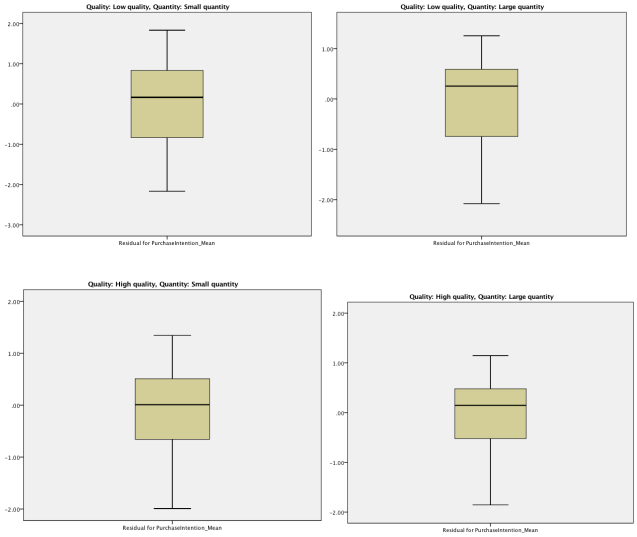
Indulgence-restraint:

Reliability Statistics

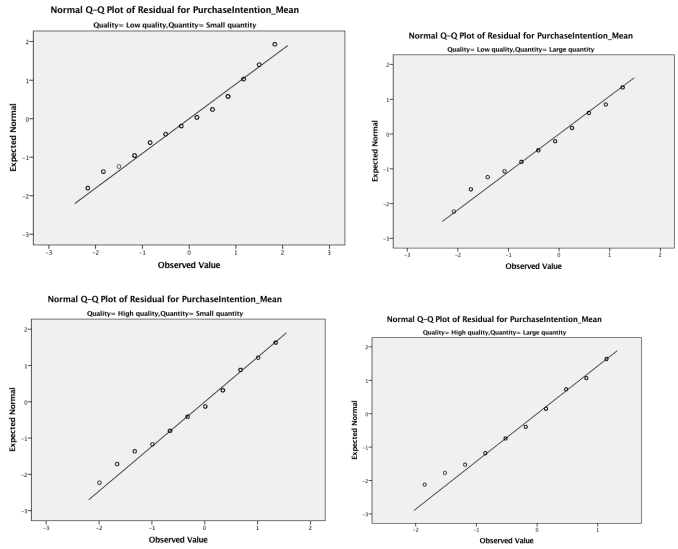
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.847	.846	8

Appendix 4:

Outliers:



Q-Q Plots：



Levene's test :

Levene's Test of Equality of Error Variances[a]

Dependent Variable: PurchaseIntention_Mean

F	df1	df2	Sig.
12.627	3	454	.000

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Quantity + Quality + Quantity * Quality

Appendix 5:

Tests of Between-Subjects Effects

Dependent Variable: PurchaseIntention_Mean

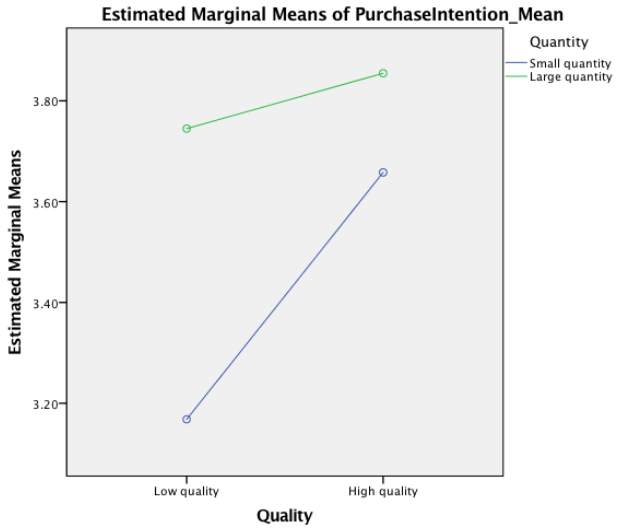
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	31.032[a]	3	10.344	12.893	.000	.079
Intercept	5954.756	1	5954.756	7422.329	.000	.942
Quality	10.287	1	10.287	12.822	.000	.027
Quantity	17.120	1	17.120	21.339	.000	.045
Quality * Quantity	4.133	1	4.133	5.151	.024	.011
Error	364.233	454	.802			
Total	6368.444	458				
Corrected Total	395.265	457				

a. R Squared = .079 (Adjusted R Squared = .072)

Descriptive Statistics

Dependent Variable: PurchaseIntention_Mean

Quality	Quantity	Mean	Std. Deviation	N
Low quality	Small quantity	3.1682	1.11090	111
	Large quantity	3.7449	.91801	115
	Total	3.4617	1.05538	226
High quality	Small quantity	3.6580	.81346	115
	Large quantity	3.8547	.70083	117
	Total	3.7572	.76349	232
Total	Small quantity	3.4174	.99941	226
	Large quantity	3.8003	.81582	232
	Total	3.6114	.93001	458



Appendix 6:

Tests of Between-Subjects Effects

Dependent Variable: PurchaseIntention_Mean

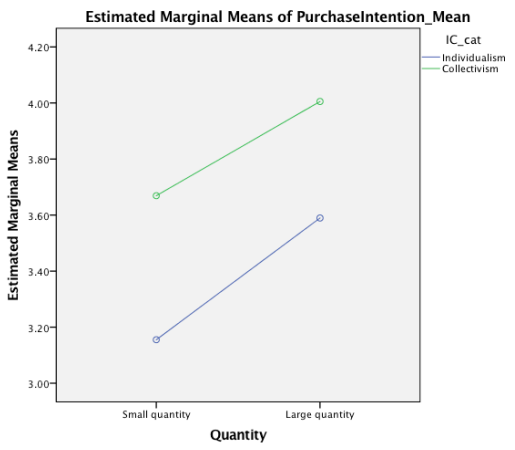
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	58.731[a]	7	8.390	11.219	.000	.149
Intercept	5815.315	1	5815.315	7776.010	.000	.945
IC_cat	24.171	1	24.171	32.321	.000	.067
Quality	7.927	1	7.927	10.600	.001	.023
Quantity	16.617	1	16.617	22.220	.000	.047
IC_cat * Quality	.437	1	.437	.584	.445	.001
IC_cat * Quantity	.270	1	.270	.360	.549	.001
Quality * Quantity	4.934	1	4.934	6.598	.011	.014
IC_cat * Quality * Quantity	2.403	1	2.403	3.213	.074	.007
Error	336.534	450	.748			
Total	6368.444	458				
Corrected Total	395.265	457				

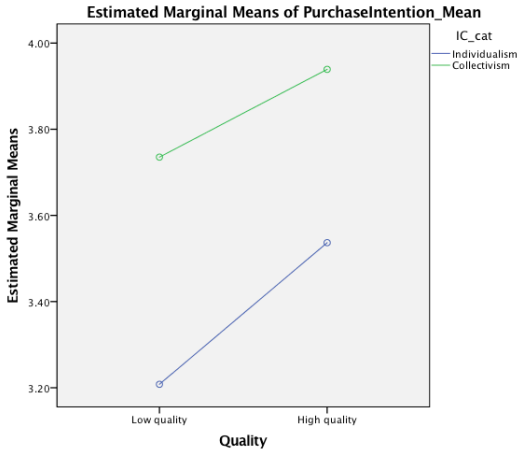
a. R Squared = .149 (Adjusted R Squared = .135)

Descriptive Statistics

Dependent Variable: PurchaseIntention_Mean

IC_cat	Quality	Quantity	Mean	Std. Deviation	N
Individualism	Low quality	Small quantity	2.9591	1.09485	57
		Large quantity	3.4570	.83466	62
		Total	3.2185	.99569	119
	High quality	Small quantity	3.3512	.79498	56
		Large quantity	3.7222	.72850	42
		Total	3.5102	.78532	98
	Total	Small quantity	3.1534	.97390	113
		Large quantity	3.5641	.80059	104
		Total	3.3502	.91637	217
Collectivism	Low quality	Small quantity	3.3889	1.09458	54
		Large quantity	4.0818	.90324	53
		Total	3.7321	1.05850	107
	High quality	Small quantity	3.9492	.72401	59
		Large quantity	3.9289	.67848	75
		Total	3.9378	.69629	134
	Total	Small quantity	3.6814	.95783	113
		Large quantity	3.9922	.77974	128
		Total	3.8465	.87978	241





Appendix 7:

Tests of Between-Subjects Effects

Dependent Variable: PurchaseIntention_Mean

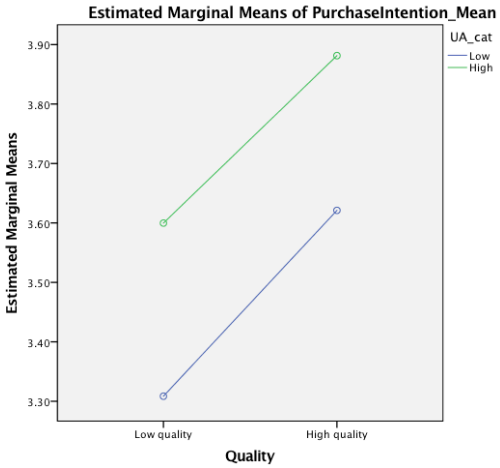
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	40.697[a]	7	5.814	7.379	.000
Intercept	5929.562	1	5929.562	7525.500	.000
UA_cat	8.682	1	8.682	11.019	.001
Quality	10.084	1	10.084	12.797	.000
Quantity	17.417	1	17.417	22.104	.000
UA_cat * Quality	.027	1	.027	.035	.853
UA_cat * Quantity	.354	1	.354	.450	.503
Quality * Quantity	4.288	1	4.288	5.442	.020
UA_cat * Quality * Quantity	.611	1	.611	.776	.379
Error	354.568	450	.788		
Total	6368.444	458			
Corrected Total	395.265	457			

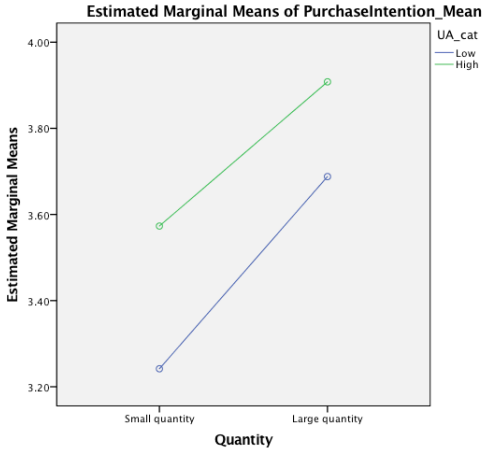
a. R Squared = .103 (Adjusted R Squared = .089)

Descriptive Statistics

Dependent Variable: PurchaseIntention_Mean

UA_cat	Quality	Quantity	Mean	Std. Deviation	N
Low	Low quality	Small quantity	3.0252	1.13576	53
		Large quantity	3.5920	.91988	58
		Total	3.3213	1.06261	111
	High quality	Small quantity	3.4583	.71792	56
		Large quantity	3.7840	.61823	54
		Total	3.6182	.68750	110
	Total	Small quantity	3.2477	.96482	109
		Large quantity	3.6845	.79139	112
		Total	3.4691	.90603	221
High	Low quality	Small quantity	3.2989	1.08092	58
		Large quantity	3.9006	.89745	57
		Total	3.5971	1.03496	115
	High quality	Small quantity	3.8475	.85841	59
		Large quantity	3.9153	.76427	63
		Total	3.8825	.80850	122
	Total	Small quantity	3.5755	1.00918	117
		Large quantity	3.9083	.82668	120
		Total	3.7440	.93434	237





Appendix 8:

Descriptive Statistics

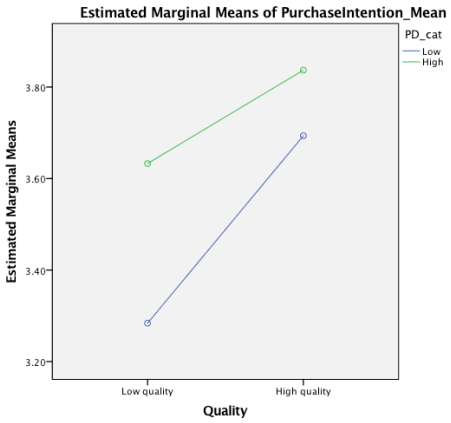
Dependent Variable: PurchaseIntention_Mean

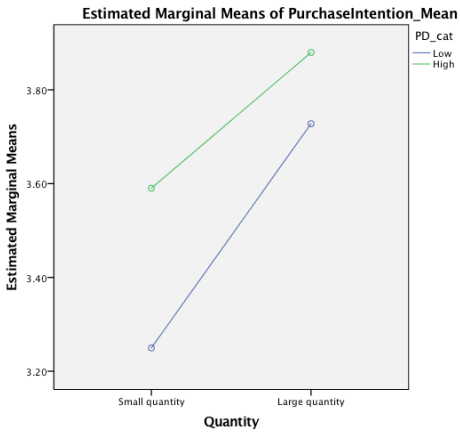
PD_cat	Quality	Quantity	Mean	Std. Deviation	N
Low	Low quality	Small quantity	2.9455	1.12173	55
		Large quantity	3.6222	.82673	60
		Total	3.2986	1.03202	115
	High quality	Small quantity	3.5538	.87058	65
		Large quantity	3.8333	.71517	64
		Total	3.6925	.80645	129
	Total	Small quantity	3.2750	1.03502	120
		Large quantity	3.7312	.77527	124
		Total	3.5068	.93865	244
High	Low quality	Small quantity	3.3869	1.06511	56
		Large quantity	3.8788	.99869	55
		Total	3.6306	1.05730	111
	High quality	Small quantity	3.7933	.71868	50
		Large quantity	3.8805	.68903	53
		Total	3.8382	.70148	103
	Total	Small quantity	3.5786	.93639	106
		Large quantity	3.8796	.85678	108
		Total	3.7305	.90761	214

Tests of Between-Subjects Effects

Dependent Variable: PurchaseIntention_Mean

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	40.014[a]	7	5.716	7.241	.000	.101
Intercept	5931.059	1	5931.059	7512.921	.000	.943
PD_cat	6.888	1	6.888	8.725	.003	.019
Quality	10.707	1	10.707	13.562	.000	.029
Quantity	16.745	1	16.745	21.212	.000	.045
PD_cat * Quality	1.202	1	1.202	1.523	.218	.003
PD_cat * Quantity	1.011	1	1.011	1.280	.258	.003
Quality * Quantity	4.569	1	4.569	5.788	.017	.013
PD_cat * Quality * Quantity	.000	1	.000	.000	.982	.000
Error	355.252	450	.789			
Total	6368.444	458				
Corrected Total	395.265	457				





Appendix 9:

Tests of Between-Subjects Effects

Dependent Variable: PurchaseIntention_Mean

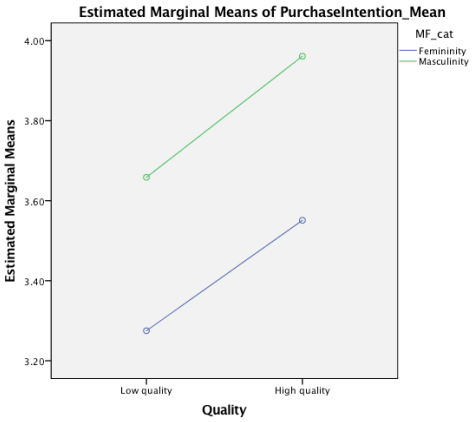
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	53.394[a]	7	7.628	10.040	.000	.135
Intercept	5868.771	1	5868.771	7724.971	.000	.945
MF_cat	17.717	1	17.717	23.320	.000	.049
Quality	9.424	1	9.424	12.405	.000	.027
Quantity	13.639	1	13.639	17.953	.000	.038
MF_cat * Quality	.020	1	.020	.027	.871	.000
MF_cat * Quantity	4.602	1	4.602	6.057	.014	.013
Quality * Quantity	3.534	1	3.534	4.652	.032	.010
MF_cat * Quality * Quantity	.080	1	.080	.105	.746	.000
Error	341.871	450	.760			
Total	6368.444	458				
Corrected Total	395.265	457				

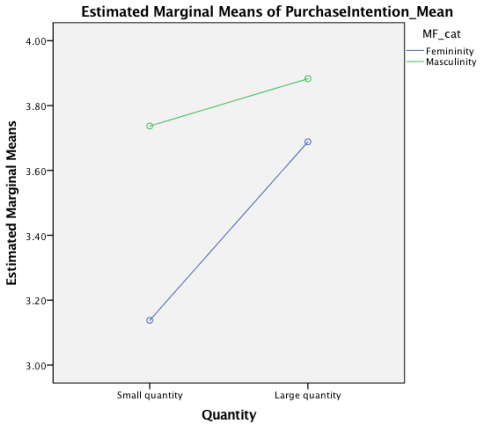
a. R Squared = .135 (Adjusted R Squared = .122)

Descriptive Statistics

Dependent Variable: PurchaseIntention_Mean

MF_cat	Quality	Quantity	Mean	Std. Deviation	N
Femininity	Low quality	Small quantity	2.8978	1.16505	62
		Large quantity	3.6522	.85189	46
		Total	3.2191	1.10428	108
	High quality	Small quantity	3.3778	.80597	60
		Large quantity	3.7244	.72827	52
		Total	3.5387	.78684	112
	Total	Small quantity	3.1339	1.02911	122
		Large quantity	3.6905	.78539	98
		Total	3.3818	.96707	220
Masculinity	Low quality	Small quantity	3.5102	.94306	49
		Large quantity	3.8068	.96067	69
		Total	3.6836	.96062	118
	High quality	Small quantity	3.9636	.71051	55
		Large quantity	3.9590	.66538	65
		Total	3.9611	.68352	120
	Total	Small quantity	3.7500	.85490	104
		Large quantity	3.8806	.83110	134
		Total	3.8235	.84230	238





Appendix 10:

Tests of Between-Subjects Effects

Dependent Variable: PurchaseIntention_Mean

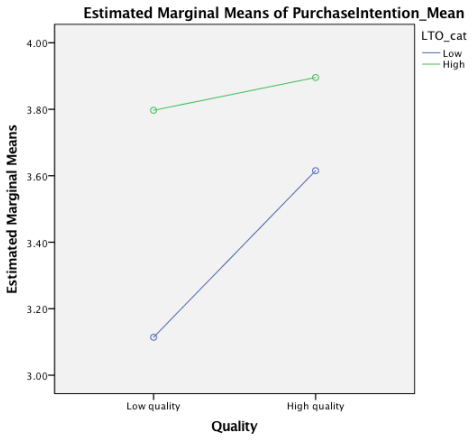
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	63.359[a]	7	9.051	12.272	.000
Intercept	5934.515	1	5934.515	8046.035	.000
LTO_cat	26.475	1	26.475	35.895	.000
Quality	10.266	1	10.266	13.919	.000
Quantity	15.021	1	15.021	20.366	.000
LTO_cat * Quality	4.623	1	4.623	6.267	.013
LTO_cat * Quantity	.331	1	.331	.449	.503
Quality * Quantity	3.365	1	3.365	4.563	.033
LTO_cat * Quality * Quantity	1.151	1	1.151	1.560	.212
Error	331.907	450	.738		
Total	6368.444	458			
Corrected Total	395.265	457			

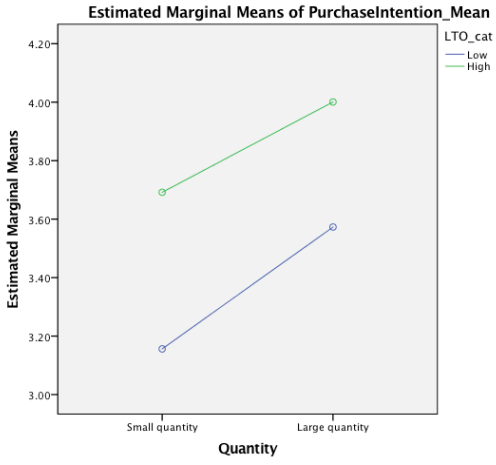
a. R Squared = .160 (Adjusted R Squared = .147)

Descriptive Statistics

Dependent Variable: PurchaseIntention_Mean

LTO_cat	Quality	Quantity	Mean	Std. Deviation	N
Low	Low quality	Small quantity	2.8701	1.10557	59
		Large quantity	3.3580	.92224	54
		Total	3.1032	1.04661	113
	High quality	Small quantity	3.4425	.84786	58
		Large quantity	3.7879	.65535	55
		Total	3.6106	.77652	113
	Total	Small quantity	3.1538	1.02323	117
		Large quantity	3.5749	.82386	109
		Total	3.3569	.95397	226
High	Low quality	Small quantity	3.5064	1.02579	52
		Large quantity	4.0874	.77197	61
		Total	3.8201	.93968	113
	High quality	Small quantity	3.8772	.71999	57
		Large quantity	3.9140	.73906	62
		Total	3.8964	.72713	119
	Total	Small quantity	3.7003	.89459	109
		Large quantity	4.0000	.75748	123
		Total	3.8592	.83646	232





Appendix 11:

Descriptive Statistics

Dependent Variable: PurchaseIntention_Mean

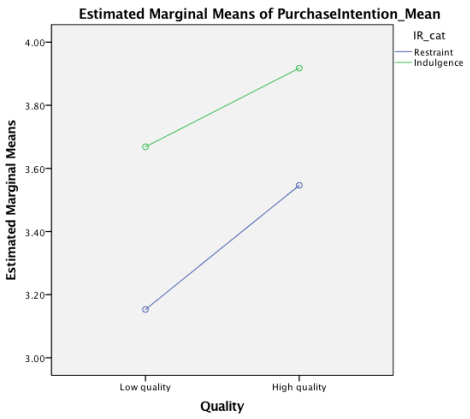
IR_cat	Quality	Quantity	Mean	Std. Deviation	N
Restraint	Low quality	Small quantity	2.8527	1.14389	43
		Large quantity	3.4533	.79898	50
		Total	3.1756	1.01390	93
	High quality	Small quantity	3.3922	.77375	51
		Large quantity	3.7007	.71765	49
		Total	3.5433	.75902	100
	Total	Small quantity	3.1454	.99288	94
		Large quantity	3.5758	.76609	99
		Total	3.3661	.90751	193
Indulgence	Low quality	Small quantity	3.3676	1.04958	68
		Large quantity	3.9692	.94598	65
		Total	3.6617	1.04123	133
	High quality	Small quantity	3.8698	.78706	64
		Large quantity	3.9657	.67197	68
		Total	3.9192	.72881	132
	Total	Small quantity	3.6111	.96166	132
		Large quantity	3.9674	.81429	133
		Total	3.7899	.90680	265

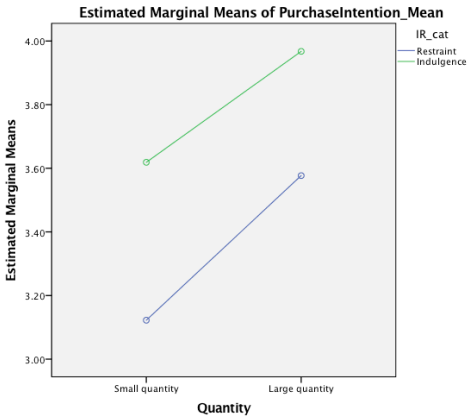
Tests of Between-Subjects Effects

Dependent Variable: PurchaseIntention_Mean

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	54.014[a]	7	7.716	10.175	.000	.137
Intercept	5680.963	1	5680.963	7491.342	.000	.943
IR_cat	21.888	1	21.888	28.864	.000	.060
Quality	11.498	1	11.498	15.163	.000	.033
Quantity	17.964	1	17.964	23.688	.000	.050
IR_cat * Quality	.578	1	.578	.762	.383	.002
IR_cat * Quantity	.312	1	.312	.411	.522	.001
Quality * Quantity	4.429	1	4.429	5.841	.016	.013
IR_cat * Quality * Quantity	.317	1	.317	.419	.518	.001
Error	341.252	450	.758			
Total	6368.444	458				
Corrected Total	395.265	457				

Profile Plots





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