

Virtual community, purchasing behaviour, and emotional well-being

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Virtual Community, Purchasing Behaviour, and Emotional Well-being

ABSTRACT

The benefits of virtual communities in increasing firms' profits, instilling knowledge in consumers, and enhancing consumers' social experience and enjoyment are widely recognised. However, relatively little is known about how the use of a virtual community could influence consumers' emotional well-being. This study examines the relationships among virtual community features (structural and experiential routes) as antecedents of virtual community engagement, including quality of use of virtual communities (time spent online and level of information exchange), electronic word-of-mouth (eWOM) purchasing behaviour, and consumers' emotional experience. Furthermore, by extending the cultural perspective to virtual community engagement, this study examines the role of collectivistic values on the aforementioned relationships. The proposed hypotheses are tested on the basis of data collected from 286 members of different virtual communities in Taiwan. The results partially support the theory that features of virtual communities influenced the quality of use, which then has a subsequent effect on consumer eWOM purchasing and emotional well-being. The results of the empirical analysis add credence to the proposed relationships. The role of collectivistic values is also partially supported. A detailed discussion of the findings and limitations of this study is provided.

Keywords emotional well-being, virtual community, collectivistic value, quality of use

1. Introduction

A virtual community provides a group of people with a place to share feelings or discuss ideas with others (see review by F. S. Lee, Vogel, & Limayem, 2003). Because the number of virtual community users is growing, researchers have studied various aspects of virtual communities, such as consumers' adoption intentions (Lin, 2006), characteristics (de Valck, van Bruggen, & Wierenga, 2009; Punj, 2013), and reciprocating behaviours (Chan & Li, 2010). Virtual communities have shifted consumer behaviour from the inherent value of products or services toward consumer-to-consumer value reinforcement (Chan & Li, 2010; Cova, 1997; Wang, Yu, & Wei, 2012; Wu & Fang, 2010). Nevertheless, relatively little is known about how virtual community use could affect users' emotional well-being (Sirgy, 2012; Sirgy & Lee, 2006). Thus, systematic research into the nature of the relationships and social connections in virtual communities has the potential to add to our knowledge about the role that virtual community now plays in enhancing (or harming) users' behaviour and emotional well-being.

According to the resource exchange theory (Foa & Foa, 1980), consumers seek others' opinions to solve consumption-related problems. Meanwhile, virtual community members respond to the support they receive by sharing various resources (Chan & Li, 2010). Prior studies have attempted to explain why consumers engage in these exchanges or reciprocative behaviours (e.g., Chen, Yang, & Tang, 2013; Gaudeul & Giannetti, 2013; Wu & Fang, 2010). Some researchers have extended their investigations to the impact of exchanging resources on purchasing intention, a factor that is often used as an outcome variable of consumer reciprocity (e.g., Brodie, Ilic, Juric, & Hollebeek, 2013; Chan & Li, 2010; Wang et al., 2012). This study contributes to the resource exchange theory by further investigating the impact of this exchange/reciprocative behaviour not only on purchasing behaviour but also on consumers' emotional experiences. This study focuses on the virtual community context; thus,

purchasing behaviour in the current study is defined as consumer purchasing behaviour influenced by electronic word-of-mouth (eWOM).

Furthermore, the growth of virtual communities has encouraged many consumers around the world to exchange their views in these spaces. The understanding of Asian users in virtual communities is still rather limited. This study aims to clarify the role of collectivistic values and virtual community users' behaviour as well as their emotional experiences. By extending the cultural perspective to a study of virtual communities, this study proposes that the relationships among (a) antecedents, (b) quality of use of virtual community (determined by time spent online and level of information exchange), (c) eWOM purchasing behaviour, and (d) emotional well-being is dependent on the consumers' collectivistic values (Figure 1; full details will be discussed in a later section).

The remainder of this paper is organised as follows. The next section reviews the virtual community literature in relation to marketing, followed by reviews and discussions of the virtual community features, the quality of use of virtual community, and its consequences through the theoretical lens of the resource exchange and social network theories. The study hypotheses are then developed; the method of data collection, analysis, and results follow. The final section constitutes a discussion of the results and their implications and the limitations of the study.

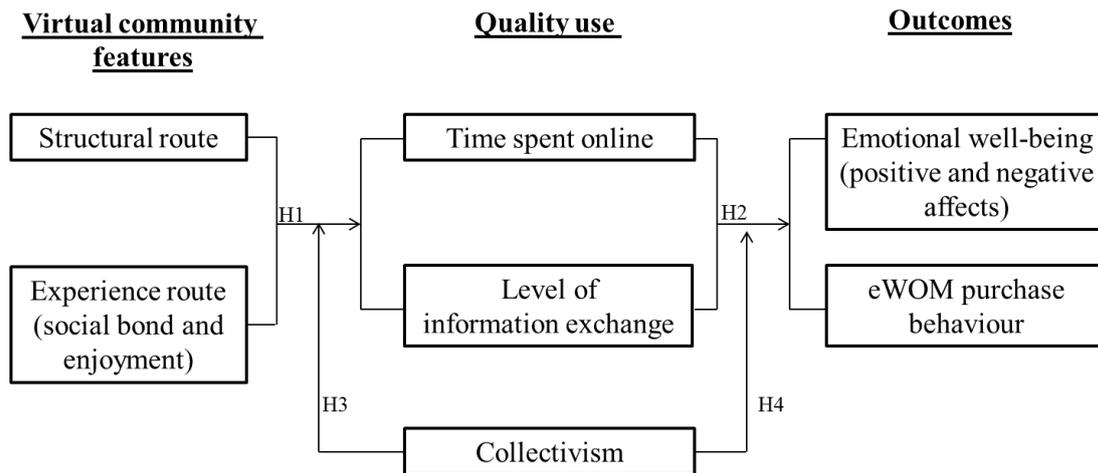


Figure 1. The proposed research framework

2. The importance of virtual community in the marketing literature

The term *virtual community* was coined by Rheingold (1993, p. 5), who defined it as ‘social aggregations that emerge from the Internet when enough people carry on those public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace.’ Armstrong and Hagel (1996) further suggested that virtual communities are groups of consumers united online with a common interest associated with their community goals. Although the types of virtual communities have varied from the early electronic boards and chat rooms to the current blogs and online communities, the most popular types of virtual communities are dedicated to finding solutions, exchanging best practices, and building expertise while forging meaningful social relationships, all accomplished through textual conversations (Mathwick, Wiertz, & De Ruyter, 2008).

Marketing researchers have long recognised the value of improved understanding of the activities and interactions between consumers in virtual communities (e.g., Armstrong & Hagel, 1996; Brodie et al., 2013; Colliander & Wien, 2013; Kozinets, 1999; Verhoef et al., 2009). Armstrong and Hagel (1996) suggested that consumers who interact with other

consumers in a virtual community generate much influential information towards firms, products, services, and various consumption experiences. This information functions as consumers' volitional word-of-mouth behaviour, which may influence other non-membership consumers (Colliander & Wien, 2013). Moreover, firms that are dedicated to management of their virtual communities with their target consumers have better potential to expand markets, increase visibility, and consequently improve profitability (Chau & Xu, 2012; Hagel, 1999; Verhoef et al., 2009). Advanced technology and consumer communication tools have changed (i.e., from traditional face-to-face meetings to the current social interactions in cyberspace), and Aksoy et al. (2013) argued that these advances better facilitate consumer engagement practice; whereas Gruner et al. (2014) asserted that they have created ample opportunities for firms to offer new products and/or service innovations. Consequently, the reasons that consumers engage in virtual communities and the manner in which their interactions affect their subsequent behaviour have become prominent sources of information for firms to create better marketing strategies in virtual communities.

3. Virtual community and its related variables through the theoretical lens

With the aforementioned rationale, this section discusses the theoretical frameworks that are used to determine the chosen variables and the proposed research model. First, the concept of interactivity (Chan & Li, 2010) postulates that the common features of media which influence usage behaviours are structural and experience-based routes. Second, the resource exchange theory (Foa & Foa, 1980) indicates that the interactive capabilities of virtual communities allow users to communicate, but the reciprocity inherent to them influences these online interactions. Therefore, this study defines *quality use* as frequent usage and intensity of information sharing as a proxy of exchanging behaviour. This study did not measure the reciprocate norm, as our core aim was not to investigate the role of reciprocity, but rather to

explore the usage level after consumer experience with the different structures/features of media. Lastly, the consequences of quality use of virtual community can be explained through the social network theory.

3.1 Virtual community structures via the concept of interactivity

The term *interactive* describes technological channel features or content elements that facilitate active communication transactions, while *interactivity* describes a condition resulting from the integration of a number of distinct contributing dimensions during mutual and reciprocal message exchanges (Chan & Li, 2010; Song & Zinkhan, 2008; Sundar, 2004). The common measurement of interactivity as the structure/feature of media (such as informativeness or navigability) offers an appealing concreteness to the construct (Hausman & Siekpe, 2009; Sundar, 2004).

Chan and Li (2010) concluded that there are two main interactivity routes—structural and experience-based—of a virtual community that may be the reasons that consumers engage in virtual communities. The structural route refers to the message board shown in a virtual community, with particular focus on the convenience of the information search and the efficiency of posting updates. The experience-based route includes social bonding and enjoyment; this indicates that virtual community members establish social relationships with others and that their interactions involve pleasure through a computer-mediated environment (Chan & Li, 2010). While Rafaeli (1988) suggested that the quality of exchange is the key to consumer perceptions of interactivity, there is a need to identify and define quality use of a virtual community in this study.

3.2 Quality use of virtual community via the resource exchange theory

The resource exchange model is founded upon the premise that, to function properly, humans engage in exchange activities to protect and enhance certain fundamental assets or resources (Foa & Foa, 1980). Foa and Foa (1980) defined these resources as the physical, social, informational, and financial assets that allow an individual to function effectively in the world. Virtual community users seek others' opinions on products/services, and at the same time, they provide support in the same manner by sharing resources (e.g., information). This can be seen as a discretionary behaviour in terms of giving help to not only those who help the giver but also other virtual community users who need help and who would provide assistance with requests (Chan and Li 2010). These exchanging behaviours can also be viewed as extra-role behaviours that are not contractually bound and do not involve formal rewards (Rosenbaum & Massiah, 2007). Therefore, to determine whether consumers' usage behaviour aligns with the resource exchange theory, a behavioural measure should not only focus on actual online site visits, but also the intensity of information exchange (Yli-Renko & Janakiraman, 2008). As a result, this study measures time spent on virtual community and level of information exchange as the two distinctive characteristics of quality use in a virtual community.

The concept of time spent is supported by Winer et al. (1997), who reinforced the importance of evaluating consumer time spent at a Web site to better understand the effectiveness of marketing activities. Roy (2009) found that consumers who spend more than 1 hour per day on the Internet are considered heavy users, whereas Cheong (2002) observed that subjects spend time on Internet activities (i.e., information searching, chatting, forum discussion, and entertainment) from a minimum of 0.7 hours to a maximum of 2.2 hours. Moreover, Rideout, Roberts, and Foehr (2005) reported that consumers spend 1 hour and 22 minutes online daily for social interaction purposes. The concept of informational exchange reflects upon the 'processes of receiving and giving various resources' (Chan & Li, 2010, p.

1034). To distinguish the characteristics of virtual community use, the level of information exchanged in this platform, in addition to the amount of time spent online, should be considered. Extending the resource exchange theory, Yli-Renko and Janakiraman (2008) argued that the intensity of information exchange critically influences the firm-customer relationship, whereas Hansen (1999) found that the contact frequency between a firm and its customers enhances the amount of complex knowledge transferred. While the information produced by customer interactions is considered as an asset of a specific firm (Gruner et al., 2014; Sharma, Conduit, & Hill, 2014), it is logical to argue that the intensity of information exchange between customers may in turn represent the level of information exchange.

Virtual communities exist because of ongoing conversations carried out among online members (Burnett, 2000). Furthermore, because some virtual communities are open to non-members, there will be non-interactive individuals who participate in virtual communities merely to find information. This type of user will have a low level of information exchange.

3.3 Consequences of quality use of virtual communities via the social network theory

The social network theory views social relationships in term of relationships between individual actors (Brown, Broderick, & Lee, 2007). According to this theory, the relationships between individuals can be *non-directional* or *directional*; if they are directional, they can be reciprocated or one-way. Participation in a virtual community promotes active and engaged learning, in which users construct knowledge through social interaction and exploration (Boulos & Wheeler, 2007). Thus, an online community can influence people's behaviour and communication in many different ways (Cheung & Lee, 2010). Participation in virtual communities not only creates pleasure among the users who interact and communicate with each other about different products or services; it also influences consumers' purchasing behaviour via eWOM (Evans & Foxall, 2009). Very active users (high level of quality use of

virtual community) have a strong influence on consumers' purchase behaviour via eWOM. A marketing survey found that most consumers rely on online opinions for their purchasing decision (ACNielsen, 2007). Therefore, the level of virtual community usage can influence purchasing behaviour via eWOM.

Virtual community also provides a platform for users to share their emotions with a wide audience (Köbler, Riedl, Vetter, Leimeister, & Krcmar, 2010). In the social network theory, *network density* represents the extent to which members in a social network are connected to each other (Scott, 2000). The network density can also be determined by the quality of interpersonal relationships within the network or by quality use within the virtual community (Hogan, 2007). The more individuals exchange their information via the virtual community, the denser the network becomes (Burt, 2001). Studies have shown that online users of a denser network who share more information are likely to have more positive emotions because they feel good about sharing their stories and reading others' stories (N. Park, Lee, & Kim, 2012; Reagans & McEvily, 2003). Therefore, quality use of a virtual community can shape users' positive (or negative) feelings.

4. Hypothesis development

To empirically examine the relationships between the quality use of virtual community, its antecedents, and its consequences, a research framework (Figure 1) and the related hypotheses were developed as follows.

4.1. Structural vs experiential routes influencing quality use of virtual community

Virtual community structures help shape a user's readiness to respond and the user's receptivity towards the available interactive functionality and potential interactivity present within the communication event (Kioussis, 2002). J.-S. Lee (2000) suggested that 'what is

important is not the objectively measurable interactivity but the relationship among the variables' (p. 23). As such, to what extent the virtual community features influence consumers' usage should be clarified.

Different routes of interactivity influence consumer behaviour in various ways (Chan & Li, 2010). The structural components (such as the convenience of the information search engine, the efficiency with which updates are posted, the organisation of the archives, and the reliability of censorship) are critical features that encourage consumers to use virtual communities (Burgoon et al., 2002). While the structural route has been observed to be a significant predictor of consumers' participation in virtual communities, the current study argues that the experiential structures may serve as stronger indicators due to the study context as an individual online interaction experience. Therefore, an online site that is designed to enhance social bonding and enjoyment will encourage consumers to participate and share their information more often (Mazaheri, Richard, & Laroche, 2011; Sharma et al., 2014). Taken together, we hypothesised the following.

Hypothesis 1: The effect of the experiential route will be comparatively stronger than the structural route on quality use of virtual communities among consumers.

4.2. The influence of quality use on eWOM purchasing behaviour and emotional well-being

Electronic WOM purchasing behaviour refers to the direct or indirect reliance of consumers' purchasing decision making on online discussion and reviews (Wang et al., 2012). Online discussion or review has become an important source of information for consumers (Brown et al., 2007). The power of this virtual information on consumer purchasing behaviour has received relatively little attention in the marketing literature (Wang et al., 2012), although it has become a remarkable issue. Although there are similarities of purpose between traditional WOM and eWOM purchasing behaviours, some significant differences between these two

forms of communication have been identified (Steffes & Burgee, 2009). For example, the credibility of traditional WOM purchasing behaviour relies strongly on the sender (Goldsmith & Horowitz, 2006), whereas that of eWOM purchasing behaviour is judged primarily by the recipient's personal evaluation (Steffes & Burgee, 2009). With the goal of understanding the consequences of consumer quality use of virtual communities, this study focuses on purchasing behaviour which is influenced by WOM through virtual communities.

The social network theory states that there is a relationship between individuals' social ties and their behaviour (Brown et al., 2007; Steffes & Burgee, 2009). High levels of social interaction can create strong ties among the members of a community. Similarly, virtual community users can develop stronger or weaker ties based on their usage patterns (e.g., amount of time spent and level of information exchange). Strong ties within virtual communities can influence the purchasing decisions of individuals who consult the reviews provided by members. This study thus argues that there is a relationship between quality use of virtual communities and eWOM purchasing behaviour. In light of this logic, we propose a relationship between quality use of virtual community and eWOM purchasing behaviour.

Research on life change stress by Cohen and Hoberman (1983) demonstrated that positive events and social support buffer people's life stress. The work of Rosenbaum (2005, 2006, 2008) in the marketing domain indicated that, in a service context, when consumers' problems (stressors) are resolved (both online and offline), consumers learn that their stress is reduced when they seek external support (which solves their problems/resolves their stressors). For example, a customer who bought the latest version of a software program may have difficulty installing it properly. He or she might choose to read the manual and try to overcome the difficulty alone, or the customer might seek social support (e.g., asking for help from friends, enlisting someone from a 'help desk' or technology department) to resolve the

problem. Social support in this context is perceived as a stress-coping mechanism for individuals.

However, in our concept of virtual community, individuals do not participate in the community only when they have a problem. Individuals may engage in the virtual community due to their curiosity¹ about a product/service and others' opinions or out of a desire to share their experience about a product/service. This behaviour is distinctive from social support as a stress-coping mechanism. Virtual community usage is seen as interdependence, mutual responsibility, and collective consciousness. This concept is akin to the work of Muniz and O'Guinn (2001), who concluded that community users have a sense of shared consciousness, traditions, and responsibility, which may result in improvements in emotional well-being. Moreover, Rheingold (1993, 2000) reinforced the idea that a virtual community serves a social networking function similar to that of traditional social communities. With evidence that consumers perceive less emotional fatigue during and after receiving replies from others (Van Horn, Schaufeli, & Taris, 2001), this study does not aim to measure the level of social support; instead, by examining emotional well-being resulting from social exchanges or virtual community usage, this study intends to measure quality use (as described in the prior section) and emotional well-being (positive and negative effects). These effects are associated with consumers' exchange behaviours (Clore, Schwarz, & Conway, 1994). Thus, depending on the usage experiences that arise during information exchanges, a consumer may perceive the positive and negative effects differently. Because the literature explaining the relationship between virtual community use and emotional well-being is very limited, it is worthwhile to determine how much of the emotional well-being among consumers can be explained by the

¹ Curiosity is inquisitive thinking, such as exploration, investigation, and learning, and thus it is not viewed as a stressor.

amount of time spent and the level of information exchange in virtual communities.

Therefore, we have developed an exploratory hypothesis as follows:

Hypothesis 2: The quality use of virtual community will enhance eWOM purchasing and emotional well-being based on information provided in the virtual community.

4.3. Cultural values as a buffer

Culture plays a significant role in individuals' online and purchasing behaviours (D. Lee, Kim, & Kim, 2012; Mazaheri et al., 2011; C. Park & Lee, 2009; Tsai & Bagozzi, 2014). For example, in comparison with American consumers (who are more individually oriented), Korean consumers (who are more collectively oriented) are more susceptible to trusting online reviews and finding them useful (C. Park & Lee, 2009). Moreover, Chinese consumers have been found to engage in higher levels of online information seeking than American consumers (Fong & Burton, 2008), whereas Tsai and Bagozzi (2014) observed that collective cultures are more concerned with social harmony than individualistic cultures and that their online decision making is therefore more strongly influenced by virtual social networks.

With the purpose of investigating the relationships between the antecedents of virtual community engagement and quality use of virtual community (i.e., time spent and information reciprocation) and the consequences of emotional well-being and eWOM purchasing behaviour, this study further examines the effects of collectivism for two main reasons. First, because of the desires for self-disclosure and self-expression, individualists have been found to provide more information than collectivists, who tend to share information for social norms (Fong & Burton, 2008). Thus, a specific route to better drive collectively oriented consumers to exchange information and the resulting behaviours has not been identified, meaning that this void must be addressed. Second, research on virtual community and its influence on consumer behaviour has focused largely on the Western

consumer perspective (e.g., Aksoy et al., 2013; Archer-Brown, Piercy, & Joinson, 2012; Hennig-Thurau et al., 2010), even though virtual communities have eliminated the boundaries that keep consumers around the world from interacting with each other. Hence, in response to their call for more behavioural studies of online consumers in different cultural contexts (Hennig-Thurau, Gwinner, Walsh, & Gremler, 2004; Posey, Lowry, Roberts, & Ellis, 2010; Tsai & Bagozzi, 2014), this study examines the role of collectivistic values on the proposed model.

Singelis, Triandis, Bhawuk, and Gelfand (1995) proposed two orientations—*horizontal* and *vertical*—to better delineate the essence of collectivism. Both horizontal collectivism and vertical collectivism refer to cultural patterns in which the individual sees the self as a part of an ‘in-group’ (Singelis et al., 1995). Horizontal collectivists are concerned with the essence of equality, whereas vertical collectivists possess a belief that the members of the in-group are different from each other (Singelis et al., 1995). Regardless of whether individuals perceive their group members as equal or different, their collectivistic values drive them to serve group members and maintain their group membership. As a result, collectivistic values can influence how individuals use, behave within, and feel about virtual communities.

This study posits that the relationships between virtual community routes and quality use of virtual community can be moderated by users’ orientation toward collectivism. For example, it was found that, when Chinese consumers spend a lot of time reading virtual community information and perceiving the value of the information, their participation intention increases (Zhou, Wu, Zhang, & Xu, 2013). Moreover, when they perceive the greater social value of a virtual community, they spend more time in that virtual community (Zhou et al., 2013).

Similarly, the user’s level of collectivism can influence the level of eWOM purchasing behaviour (C. Park & Lee, 2009; Tsai & Bagozzi, 2014). For example, marketing research

shows that collectivistic consumers are more likely to depend on others' reviews when they want to buy a product or service (C. Park & Lee, 2009; Tsai & Bagozzi, 2014). Collectivistic consumers are considered to possess a strong willingness to act together for a common benefit (Singelis et al., 1995). For example, Yoo and Gretzel (2008) demonstrated that online review writers are mostly motivated by the desire to help a service provider, by concern for other consumers, and by a need for enjoyment/positive self-enhancement. Tsai and Bagozzi (2014) showed that consumers who possess 'we-intentions' (i.e., those who are group-oriented) will contribute many behaviours of high quality within virtual communities. Furthermore, research suggests that consumers who are group-oriented and desire to be accepted and recognised by their groups may frequently exhibit behaviours that are socially accepted within their groups (Kaufmann, Loureiro, Basile, & Vrontis, 2012). Thus, the sense of social acceptance can enhance the relationship between virtual community participation and emotional well-being among collectivistic users.

Cross-cultural marketing research has produced a wealth of knowledge regarding the use of virtual marketing and eWOM (e.g., C. Park & Lee, 2009; Tsai & Bagozzi, 2014). Although advancements have been made, there are still problems to be resolved. One of these problems is the confusion generated in the literature by researchers claiming that a specific nation or country represents a culture's values and the interchangeable use of the terms *country* and *culture* (Sawang, Oei, & Goh, 2006). Based on an empirical study of three nations, Sawang et al. (2006) concluded that any attempt to equate culture with country is problematic. While previous literature has indicated that there are differences between Eastern and Western consumers, aggregate data from all citizens in a single country continue to be regarded equally at times, despite the fact that there are obvious differences within the population of one country (Sawang et al., 2006). For example, recent work by Christodoulides, Michaelidou, and Argyriou (2012) showed that the effect of eWOM on

consumers' purchasing decisions is greater for Chinese consumers than for British consumers. This is because Chinese consumers are collectivistic and thus value other people's opinions more than people from individualistic cultures such as British consumers. However, within a single country, homogeneity of cultural orientations among a population cannot be assumed. Likewise, within a collectivistic society, individuals may have different levels or intensity of collectivistic values. The level of individual collectivism may be influenced by social relationships (Markus & Kitayama, 1991). Therefore, although the sample of the current study was drawn from a single country (Taiwan, a collectivistic society), we cannot assume homogeneous collectivism among Taiwanese consumers. The prior hypotheses (H1-H2) sought to clarify the relationships between the features of virtual communities, quality of usage, and emotional well-being based on the existing literature. The following hypotheses extend our understanding of these relationships by focusing on the different levels of collectivistic values among consumers from the same population. We argue that, even if the country is kept as a constant, the level of collectivistic values will influence individual behaviours. Among Taiwanese consumers, individuals who possess a high level of collectivistic values will prefer virtual communities that provide social bonding and interactivity. Furthermore, highly collectivistic individuals are also likely to spend more time online and exchanging information. This is because individuals with a high level of collectivism value other people's opinions more than individuals with a lower level of collectivism. As a result, the more time that individuals spend engaging with the virtual community, the greater the likelihood of actual purchasing behaviours and the better the emotional well-being. Taken together, we have therefore hypothesised the following:

Hypothesis 3: The level of collectivistic values will moderate the relationship between (a) structural and (b) experiential aspects of quality use of virtual communities, such that consumers with higher levels of collectivistic values will demonstrate a stronger relationship

between experiential-based features and the quality use of virtual communities, compared to those with lower levels of collectivistic values.

Hypothesis 4: The level of collectivistic values will moderate the relationship between quality use of virtual communities and (a) purchasing behaviour and (b) emotional well-being, such that consumers with higher levels of collectivistic values are more likely to participate in virtual communities, which will have a stronger impact on their eWOM purchasing behaviour and emotional well-being, compared to consumers with lower levels of collectivistic values.

5. Method

This section discusses the sources of our data and our method of data collection. The measures used in the study survey and validation information are also provided.

5.1. Participants and procedure

We recruited 286 consumers with experience engaging in a firm-hosted virtual community with purposive sampling by posting the survey information on online social media.

Accordingly, the nonprobability sample size for the current study is appropriate, as this study aims to make predictions on the proposed relationships (Hair, Anderson, Tatham, & Black, 1998). Of the respondents, 51.7 percent were female, the largest group possessed undergraduate and/or equivalent education (67.5 percent), and 51.7 percent were full-time students when they completed the survey.

After reading the instructions, the respondents indicated whether they had experience engaging in one or more virtual communities. They then were asked to provide the name(s) of the community(ies) in which they had engaged. This research design facilitated appraisal of each virtual community, along with self-assessment of the time spent on each firm-hosted

virtual community and reciprocal behaviour and its consequent effects on respondents' emotional well-being, which is considered plausible for causal relationship testing.

5.2. Measures

This study adopted existing measures from the pertinent literature to assess the relationships among the constructs. Since well-established measures were adopted from the literature, a pre-test of the measurements was not performed. However, confirmatory factor analysis (CFA) was conducted to confirm whether the measures of a construct were consistent with our intended definition. The CFA results were satisfactory, as will be described in the next section².

To measure the proposed independent variables, this study examined consumer perceptions of *virtual community features* using a 10-item scale with three dimensions including structural, social bonding, and enjoyment features, which was modified and adopted from Chan and Li (2010). Second, to measure consumer *quality use of virtual community*, this study used a three-item scale that assessed time spent on the indicated virtual community per day (Cheong, 2002; Roy, 2009) and a four-item scale of reciprocating behaviour, which was also modified by Chan and Li (2010). Third, to measure self-assessment of *collectivistic value*, this study modified the horizontal and vertical collectivism scale of Singelis et al. (1995), which consists of 14 items. To measure the proposed dependent variables, this study modified the scale of *eWOM purchase behaviour* from Mullet, Mullet and Karson (1985) and Christodoulides et al. (2012); this consists of four items that measure participant purchase frequency based on virtual community WOM during and after they engage in a virtual community. Finally, to measure consumer *emotional well-being* during virtual community engagement, a 20-item scale of self-assessment of positive

² Although space is limited here, the full results can be obtained from the authors.

and negative feelings and emotions was adopted from Watson et al. (1988). This study adopted five-point Likert-type scoring (i.e., 1 = strongly disagree to 5 = strongly agree) for all mentioned items. To ensure the suitability of the developed questionnaire, six university students and four office workers completed the survey and provided feedback regarding any ambiguity in the questions. The final questionnaire consisted of 56 items, including participants' socio-demographic information (i.e., control variables including gender, age, employment status, and education). The measures are summarized in Table 1.

Table 1: A summary of measurements in the current study

Measures	Sources	Example items	CFA fit index
Online routes (10 items)	Chan and Li (2010)	<ul style="list-style-type: none"> - The [name of virtual community] message board provides convenient information searches [structure, α .71]. - I have gotten to know more friends on this message board [social bond, α .80]. - I enjoy browsing and/or participating in this message board [enjoyment, α .85]. 	$\chi^2(32) = 84.224$, $p < .000$; CMIN/DF = 2.632; GFI = .945; TLI = .931; CFI = .951
Quality use (7 items)	<ul style="list-style-type: none"> - Cheong (2002) and Roy (2009) [3 items: time spent] - Chan and Li (2010) [4 items: information exchange] 	<ul style="list-style-type: none"> - I spend less than one hour (one hour included) per day in average in the community [time spent]. - I am willing to help and share information with other members on this message board who are in need [information exchange, α .86]. 	[information exchange]: $\chi^2(2) = 35.22$, $p < .001$; CMIN/DF = 17.61; GFI = .94; TLI = .82; CFI = .94
Overall collectivistic values (14 items) >> 9 items	Singelis et al. (1995)	<ul style="list-style-type: none"> - It is important to maintain harmony within my group [α .71.] 	$\chi^2(26) = 72.582$, $p < .000$; CMIN/DF = 2.792; GFI = .946; TLI = .895; CFI = .924
eWOM purchasing behaviour (4 items)	Mullet and Karson (1985) & Christodoulidis et al. (2012)	<ul style="list-style-type: none"> - When you purchase everyday products, how frequently is this sold/recommended by the company of virtual community (members)? [α .92] 	$\chi^2(2) = 19.24$, $p < .001$; CMIN/DF = 9.620; GFI = .97; TLI = .94; CFI = .98
Emotional well-being (20 items)	Watson et al. (1988)	<ul style="list-style-type: none"> - Participating in this site made me feel relaxed [positive, α .81] - Participating in this site made me feel anxious [negative, α .80] 	[positive]: $\chi^2(27) = 216.61$, $p < .001$; CMIN/DF = 8.023; GFI = .82; TLI = .75; CFI = .82 [negative]: $\chi^2(35) = 166.08$, $p < .001$; CMIN/DF = 4.745; GFI = .90; TLI = .91; CFI = .93

Five constructs—Online features/routes; quality use; eWOM purchase behaviour; positive emotional well-being; and negative emotional well-being—were examined separately. First, factor loadings for online route (i.e., structural, social bond and enjoyment) ranged from .43 to .82, with highly significant t-values that confirm convergent validity. Fit indices for the CFA (comparative fit index [CFI] = .95, root mean square error of approximation [RMSEA] = .076) indicated good model fit. According to Byrne (1994), a CFI of 0.90 or above for the model implies that there is a strong evidence of unidimensionality. Evaluation of the correlation matrix ($r = .10$ to $.71$) confirmed discriminant validity. Second, factor loadings for information reciprocating (i.e., quality of use) route ranged from .74 to .80, with highly significant t-values, confirming convergent validity. Fit indices for the CFA (CFI = .94, RMSEA = .24) indicated good model fit. Evaluation of the correlation matrix ($r = .53$ to $.70$) confirmed discriminant validity. Then, for eWOM purchase behaviour, factor loadings ranged from .80 to .93, with highly significant t-values, confirming convergent validity. Fit indices for the CFA (CFI = 0.98, RMSEA = .17) indicated acceptable model fit. Evaluation of the correlation matrix ($r = .68$ to $.82$) confirmed discriminant validity. For the next construct, that is, positive emotional well-being, factor loadings ranged from .44 to .74, with significant t-values, confirming convergent validity. Fit indices for the CFA (CFI = 0.82, RMSEA = .16) indicated acceptable model fit. Evaluation of the correlation matrix ($r = .28$ to $.55$) confirmed discriminant validity. Finally, for negative emotional well-being, factor loadings ranged from .66 to .84, with significant t-values, confirming convergent validity. Fit indices for the CFA (CFI = .93, RMSEA = .12) indicated good model fit. Evaluation of the correlation matrix ($r = .41$ to $.73$) confirmed discriminant validity.

6. Results

Table 2 provides the bivariate correlation coefficients for all variables in the current study. Positive affect ($r = .46, p < .01$), and eWOM purchasing behaviour ($r = .16, p < .01$) were positively related to level of information reciprocating behaviour in the virtual community. Social bonding was positively related to both frequent use ($r = .18, p < .01$) and information-reciprocating behaviour ($r = .38, p < .01$). The structural-based ($r = .27, p < .01$) and enjoyment ($r = .41, p < .01$) routes were positively related to information-reciprocating behaviour in the virtual community. Collectivism was positively associated with positive affect ($r = .31, p < .01$) and information reciprocation ($r = .35, p < .01$).

Table 2

Correlation coefficients, construct reliability, mean and standard deviation for focal variables (N=286).

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Employment status													
2. Age	-.220*												
3. Gender	-.057	-.003											
4. Education	.340**	.083	-.074										
5. Emotional well-being (PA)	.009	.008	.126*	.129*	.81^b								
6. Emotional well-being (NA)	-.129*	.039	.219**	-.042	-.079	.80							
7. eWOM purchase behaviour	-.053	-.007	.088	.016	.316**	-.153**	.92						
8. Time spent on VC ^a daily	.101	-.019	-.119*	.159**	.053	-.153**	.012						
9. Reciprocal behaviour	.050	.018	-.035	.140*	.459**	.071	.163**	.062	.86				
10. Structural route	-.038	-.082	.130*	-.035	.301**	.082	.225**	-.014	.274**	.71			
11. Experience Route-Social	.216**	-.012	-.052	.140*	.293*	-.121*	.130*	.180**	.383**	.339**	.80		
12. Experience Route-Enjoyment	.025	-.035	.017	.098	.427**	.055	.152*	.100	.415**	.531**	.413**	.85	
13. Collectivism	-.028	-.136*	-.030	-.111	.308**	.059	.088	-.018	.352**	.318**	.292**	.444**	.79
Mean					3.26	3.66	2.43	2.07	3.76	3.69	3.31	3.75	3.49
Standard Deviation					.62	.63	1.01	.73	.68	.69	.91	.788	.49

^a. VC indicates virtual community. ^b. Cronbach alphas (internal reliabilities) are bold in the diagonals. *. Correlation is significant at the 0.05 level (2-tailed).

*. Correlation is significant at the 0.01 level (2-tailed).

To examine the role of interactive routes (structure and experience) and collectivism (vertical and horizontal) on quality use of a virtual community (time spent online and level of information reciprocating), as specified by the research hypotheses (H3 and H4), two identical hierarchical multiple regression analyses were constructed. To control for possible confounding variables, gender, age, education, and employment were included in each equation at Step 1. To assess the main effect of interactive routes, these were entered at Step 2. Next, the two-way interaction terms between interactivities and collectivism were entered at Step 3. Interaction terms were computed by multiplying two independent constructs. To lessen possible collinearity problems, the values of independent constructs were mean centred before computing the interaction terms (Aiken & West, 1991).

As seen in Table 3, the three steps in the regression equations explained 7% of the variance in time spent online ($F(11, 285) = 1.99, p < .05$) and 27% of the variance in information reciprocation ($F(11, 285) = 9.30, p < .001$). The results show that only social bonding was positively influenced by time spent online in a virtual community ($\beta = .16, t = 2.41, p < .05$). We found that social bonding ($\beta = .21, t = 3.67, p < .001$), enjoyment ($\beta = .24, t = 3.58, p < .001$), and collectivism ($\beta = .16, t = 2.77, p < .01$) positively influenced the level of information sharing in a virtual community. Entry of the two-way interaction terms at Step 3 revealed no significant two-way interaction between virtual community routes/features and collectivism.

The next three steps in the regression equations explained 6% of the variance in purchasing behaviour ($F(9, 285) = 2.13, p < .05$) (as seen in Table 4). The results show that reciprocating behaviour ($\beta = .15, t = 2.34, p < .05$) on purchasing was based on eWOM. Entry of the two-way interaction terms at Step 3 showed no significant two-way interaction between information reciprocation and collectivism. This interaction was plotted at one standard deviation above and below the mean (Aiken & West, 1991), as shown in Figure 2.

Table 3

Hierarchical regression analyses predicting consumer time spent on virtual community daily and reciprocal behaviour towards virtual community engagement (N=286).

	Time spent on virtual community					
	daily			Reciprocal behaviour		
	β			β		
	1	2	3	1	2	3
Step 1: Control variables						
Employment status	.043	.005	.007	.004	-.018	-.014
Age	-.022	-.035	-.034	.008	.037	.038
Gender	-.106	-.092	-.081	-.025	-.024	-.021
Educational qualification	.138*	.116	.115	.137*	.104	.116*
Step 2: Main effects						
Structural-based route		-.087	-.609		.025	-.293
Experience: Social bond		.162*	.610		.221***	.217
Experience: Enjoyment		.082	.193		.237**	-.175
Collectivism		-.036	-.120		.163**	-.311
Step 3: Two-way interaction						
Structural-based x Collectivism			.736			.445
Experience: Social bond x Collectivism			-.556			-.018
Experience: Enjoyment x Collectivism			-.139			.588
R^2	.039	.069	.074	.020	.256	.272
R^2 Ch	.026*	.042**	.037*	.006	.235***	.243***

Note: *** $p < .001$, ** $p < .01$; * $p < .05$. The coefficients reported are standardized regression weight. Significance of ΔR^2 tested with partial F-tests in regression equations.

Table 4

Hierarchical regression analyses predicting consumer eWOM purchase behaviour and emotional well-being towards virtual community engagement (N=286).

	eWOM purchase behaviour			Emotional well-being (positive affect)			Emotional well-being (negative affect)		
	β			β			β		
	1	2	3	1	2	3	1	2	3
Step 1: Control variables									
Employment status	-.070	-.066	-.072	-.141	-.124*	-.124*	-.083	-.073	-.074
Age	-.026	-.019	-.021	-.028	-.010	-.002	.021	.028	.038
Gender	.088	.094	.075	.023	.025	.024	.082	.083	.079
Educational qualification	.048	.029	.034	.129*	.104	.100	.083	.055	.050
Step 2: Main effects									
Time spent on virtual community daily (TSVC)		.015	-.602		-.073	-.422		-.083	-.633
Reciprocating behaviour (RB)		.147*	-.547		.335***	.533		.324***	.510
Collectivism		.057	-.709*		.171**	.194		.084	.024
Step 3: Two-way interaction									
TSVC x Collectivism			.658			.381			.598
RB x Collectivism			.996*			-.295			-.283
R^2	.012	.043	.065	.023	.202	.205	.017	.149	.155
R^2 Ch	-.002	.019	.035*	.009	.182***	.179***	.003	.127***	.127***

Note: *** $p < .001$, ** $p < .01$; * $p < .05$. The coefficients reported are standardized regression weight. Significance of ΔR^2 tested with partial F-tests in regression equations.

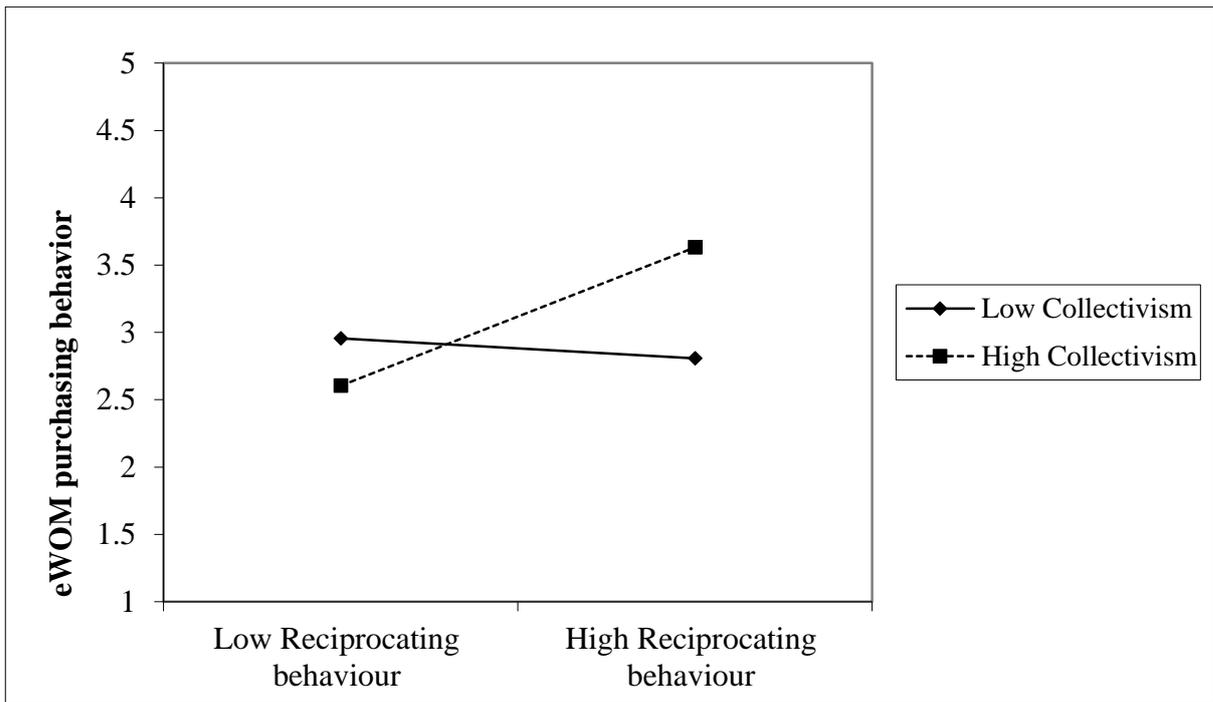


Figure 2 The interaction between reciprocating behaviour and collectivism on eWOM purchasing behaviour

The next steps in the regression equations explained 20% of the variance in positive affect ($F(9, 285) = 7.89, p < .001$) and 15% of the variance in negative affect ($F(9, 285) = 5.61, p < .001$) (as seen in Table 4). The results show that reciprocating behaviour ($\beta = .32, t = 5.45, p < .001$) contributed towards positive affect. The study findings are summarized in Table 5.

Table 5 Summary of the empirical findings

	Hypotheses	Findings
H1:	The effect of experiential route will comparatively stronger than the structural route on quality use of virtual communities among consumers.	Partial supported. <ul style="list-style-type: none"> - Experience: social bond positively influences consumer time spent on virtual community. - Experience: social bond positively influences consumer reciprocal behaviour. - Experience: Enjoyment positively influences consumer reciprocal behaviour.
H2:	The quality use of virtual community will enhance the eWOM purchasing and emotional well-being based on information provided in the virtual community.	Partial supported. <ul style="list-style-type: none"> - Information reciprocating positively influences consumer eWOM purchase behaviour. - Information reciprocating positively

		influences consumer positive emotional well-being.
H3:	The level of collectivistic values will moderate the relationship between (a) structural and (b) experiential aspects on the quality use of virtual community.	Not supported.
H4:	The level of collectivistic values will moderate the relationship between the quality use of virtual community and (a) eWOM purchasing behaviour and (b) emotional well-being.	Partial supported. - Among high information reciprocal users (not amount of time spent), individuals with high collectivistic values are more likely to purchase a product/service based on eWOM. - Among low information reciprocal users (not amount of time spent), individuals' collectivistic values are unlikely to influence purchase a product/service based on eWOM.

7. Discussion

This study examined the relationship among antecedents of virtual community engagement (structural and experiential routes), quality of use of a virtual community (time spent online and level of information exchange), eWOM purchasing behaviour, and consumers' emotional well-being. Furthermore, by extending the cultural perspective to virtual community engagement, this study examined the role of collectivistic values on the aforementioned relationships. The results of the empirical analysis add credence to the notion that the experience-based route (i.e., social bonding and enjoyment) significantly influences reciprocation of consumer information in virtual communities (H1). Social bonding, in particular, also has an impact on consumer time spent in virtual communities daily. Moreover, purchase behaviour and consumer emotional well-being are specifically predicted by consumer reciprocating behaviour in virtual communities that are characterised by a high intensity of information exchange with other members (H2).

With respect to the buffer effect of collectivistic values between quality use of a virtual community and eWOM, the results are partially consistent with our prediction (H4a), which

indicates that collectivism moderates the relationship between information reciprocal behaviour in a virtual community and eWOM. This means when high level of collectivistic values has impact on eWOM purchasing when individual has high information reciprocating in a virtual community. However, the cultural aspect has no impact on eWOM purchasing when individuals have low information reciprocating in a virtual community. The findings were quite different from the existing literature. For example, Posey et al. (2010) demonstrated that collectivists' tendency toward reciprocal behaviour and communication and relationships resulted their better willingness to self-disclose online; whereas Steffes and Burgee (2009) showed that consumers consider online information sources to be objective and more credible than their friends' recommendations and thus lend more weight in decision making. A possible explanation may be related to the within cultural difference between Taiwanese consumers (Kirkbride, Tang, & Westwood, 1991). As discussed by Kirkbride and his colleagues (1991), while people's cultural value and cognitive processes are in conflict, their conflict-handling style³ may be activated to affect the consequential behaviours. The five styles include competing, avoiding, compromising, collaborating or accommodating (Thomas 1976), which result from different levels and mixtures of assertiveness and co-operativeness. The study of Shen and Chiou (2009) echoed this assumption and found that Taiwanese consumers' perception of usefulness towards blogging community has better predictive power on consumer attitude toward using the community, in comparison with consumers' identification with a community. Hence, among low level of information reciprocating consumers, the level of collectivistic value has little influence on their subsequent consumption decision.

³ For more information with respect to conflict-handling style and its operationalized instrument, please refer to the work of Thomas and Kilmann (1974).

Furthermore, the findings showed no evidence that collectivism moderated the relationship between time spent online and negative affect (H4b). This means that cultural value has no effects on relationship between time spent online and negative emotional well-being. Perhaps, as found by (Hennig-Thurau et al. (2004)), consumers engage in virtual social forums to express negative feelings to further reduce negative emotions, therefore, collectivism herein has little predicting power on negative effects. Global consumers may simply vent their emotions in virtual social forums.

This study did not find a significant interaction between virtual community features (structural and experiential routes) and collectivism on quality of use (H3). However, the findings showed a main effect between collectivism and quality of use. This indicates that the cultural values (as well as the online features) directly influence usage behaviour among virtual community users. This direct effect of cultural values on virtual community participation is supported by previous studies (Huang, Kim, & Kim, 2013; C. Park & Lee, 2009). For example, collectivistic-oriented consumers were found to be more susceptible to influence from their friends or families and thus perceive the usefulness of online messages (C. Park & Lee, 2009). Hence, by taking collectivistic values as a moderator, this study offers a response to the call of Chan and Li (2010) for further investigation of the personal trait of collectivism on virtual community engagement.

8. Implications

This study reinforces the importance of the experiential feature of a virtual community, which acts not only to drive the consumer behaviour of information reciprocation but also to engage consumers in a community continuously. Social bonding, in particular, is a key force that drives consumers towards continuous engagement in a virtual community, which echoes the suggestion of Rosenbaum (2008) that a virtual community may act as a physical service

environment to promote a home-like atmosphere for its members. Moreover, moving beyond the development of the customer-firm relationship, this study focuses on consumer emotions and actual eWOM purchase behaviour that is reinforced by customer-to-customer reciprocative behaviour and individual consumers' time spent in the virtual community. This research draws practitioners' attention to the key features of a virtual community, such as electronic social support, when the firm makes strong efforts to continuously engage customers in the community. Indeed, while community engagement has a strong effect on the customer-firm relationship, e.g., in helping to develop trust (Habibi, Laroche, & Richard, 2014), the underlying reason that consumers are willing to continuously engage in a virtual community has become a prominent issue. In response, managers should be more strategic in their attempts to stimulate positive and ongoing interactions between community members (customer to customer and/or customer to employee). Our model provides some insights for marketers on how they might enhance this form of interaction by facilitating electronic social support and quality information reciprocation. Once an apparently healthy cycle of social support/quality information reciprocation/well-being is established, it is difficult to disrupt consumer engagement in a virtual community.

The results also suggest that cultural values directly influence reciprocal behaviour among virtual community users. In line with this result, this research cautions marketers about identifying collectivistic-oriented consumers who may actively engage in the virtual community and show self-motivation in exchanging quality information with other community members. Indeed, while there is a general consensus that firms have little control over the interactions and discussions that take place between millions of people on a daily basis in virtual spaces (Habibi et al., 2014), it is important to identify and better engage loyal and collectivistic-oriented customers to ensure that positive information is spread by WOM, as well as to prevent negative information from being spread. As suggested by (Chang, Hsieh,

and Tseng (2013)), when collectivistic-oriented customers perceive themselves to be part of the community, their positive publicity towards the firm and its related products/services and active defence of the firm any time someone seeks to discredit it may be advantageous to the firm.

9. Conclusion

In sum, this study not only contributes to the existing literature by demonstrating that quality use of a virtual community has positive effects on purchasing behaviour and emotional well-being. This study has also identified a collectivistic mindset as a critical personal characteristic that influences customers' reciprocating behaviour.

However, while this study has shed some light on the use of virtual community and users' behaviour, the results should be considered preliminary, and some limitations must be taken into account in extrapolating the results. First, the study sample was predominantly young full-time students, and thus the implications of the results may be true only for this particular sample. It could be that the younger generation is more technologically savvy and thus they are more likely to participate in the virtual community, compared to older people. Future studies might seek to recruit older consumers and replicate this study. Second, this study relied mainly on self-reported data; thus, any interpretation of the related findings is limited. Nonetheless, this study attempted to minimise this bias by counterbalancing the order of questions. In principle, this approach could minimise the method biases that affect the retrieval stage by controlling the retrieval cues prompted by the context of the question (Podsakoff, MacKenzie, Jeong-Yeon, & Podsakoff, 2003). Furthermore, this study did not distinguish data sourced from firms from those hosted by consumers on virtual communities; thus, future research may consider collecting data from different types of virtual communities to identify the nuances of customer virtual community engagement. Moreover, as this study

found that social bonding is a relatively strong factor affecting time spent and information-reciprocating behaviour in virtual communities, further research may consider investigating how the types of social bonding—that is, instrumental bonding or material bonding—influence time spent in virtual communities and reciprocal behaviour, which have consequences on well-being (Rosenbaum, 2008). Taken together, in response to the call for more studies of virtual community engagement and its effects on consumer well-being (Brodie et al., 2013; Gruner et al., 2014), this study adds to our understanding of the antecedents and effects of virtual community engagement by empirically examining the impact of consumer virtual community engagement, with a particular focus on quality use of a virtual community, consumer well-being, and the buffering effect of collectivistic values.

References Primary Sources

Secondary Sources

Uncategorized References

ACNielsen. (2007). Trust in advertising: A global Nielsen consumer report. New York:

Nielsen Media Research.

Aiken, L. S., & West, S. G. (1991). Multiple Regression: Testing and Interpreting

Interactions. Newbury Park, CA: Sage Publications.

Aksoy, L., van Riel, A., Kandampully, J., Wirtz, J., den Ambtman, A., Bloemer, J., . . .

Gurhan Canli, Z. (2013). Managing brands and customer engagement in online brand communities. *Journal of Service Management*, 24(3), 223-244.

Archer-Brown, C., Piercy, N., & Joinson, A. (2012). Examining the information value of

virtual communities: Factual versus opinion-based message content. *Journal of Marketing Management*, 29(3-4), 421-438.

Armstrong, A., & Hagel, J. (1996). The real value of on-line communities. *Harvard Business*

Review, May-June, 134-141.

Boulos, M. N. K., & Wheeler, S. (2007). The emerging Web 2.0 social software: an enabling

suite of sociable technologies in health and health care education. *Health Information & Libraries Journal*, 24(1), 2-23.

Brodie, R. J., Ilic, A., Juric, B., & Hollebeek, L. (2013). Consumer engagement in a virtual

brand community: An exploratory analysis. *Journal of Business Research*, 66(1), 105-114.

Brown, J., Broderick, A. J., & Lee, N. (2007). Word of mouth communication within online

communities: Conceptualizing the online social network. *Journal of Interactive Marketing*, 21(3), 2-20.

- Burgoon, J. K., Bonito, J. A., Ramirez, A., Dunbar, N. E., Kam, K., & Fischer, J. (2002). Testing the interactivity principle: Effects of mediation, propinquity, and verbal and nonverbal modalities in interpersonal interaction. *Journal of communication*, 52(3), 657-677.
- Burnett, G. (2000). Information exchange in virtual communities: A typology. *Information research*, 5(4). <http://informationr.net/ir/5-4/paper82.html>
- Burt, R. S. (2001). Structural holes versus network closure as social capital. In N. Lin, K. Cook & R. S. Burt (Eds.), *Social capital: Theory and research* (pp. 31-56). New York, NY: Aldine de Gruyter.
- Chan, K. W., & Li, S. Y. (2010). Understanding consumer-to-consumer interactions in virtual communities: The salience of reciprocity. *Journal of Business Research*, 63(9), 1033-1040.
- Chang, A., Hsieh, S. H., & Tseng, T. H. (2013). Online brand community response to negative brand events: the role of group eWOM. *Internet Research*, 23(4), 486-506.
- Chau, M., & Xu, J. (2012). Business intelligence in blogs: Understanding consumer interactions and communities. *MIS Quarterly*, 36(4), 1189-1216.
- Chen, G.-L., Yang, S.-C., & Tang, S.-M. (2013). Sense of virtual community and knowledge contribution in a P3 virtual community: Motivation and experience. *Internet Research*, 23(1), 4-26.
- Cheong, W. H. (2002). Internet Adoption in Macao. *Journal of Computer-Mediated Communication*, 7(2).
- Cheung, C. M. K., & Lee, M. K. O. (2010). A theoretical model of intentional social action in online social networks. *Decision Support Systems*, 49(1), 24-30.
- Christodoulides, G., Michaelidou, N., & Argyriou, E. (2012). Cross-national differences in e-WOM influence. *European Journal of Marketing*, 46(11/12), 1689-1707.

- Clore, G. L., Schwarz, N., & Conway, M. (1994). Affective causes and consequences of social information processing. In R. S. W. Jr. & T. K. Srull (Eds.), *Handbook of social cognition* (Vol. 1, pp. 323-417). New York: Lawrence Erlbaum Associates, Inc.
- Cohen, S., & Hoberman, H. M. (1983). Positive events and social supports as buffers of life change stress. *Journal of applied social psychology, 13*(2), 99-125.
- Colliander, J., & Wien, A. H. (2013). Trash talk rebuffed: consumers' defense of companies criticized in online communities. *European Journal of Marketing, 47*(10), 1733-1757.
- Cova, B. (1997). Community and consumption: Towards a definition of the "linking value" of product or services. *European Journal of Marketing, 31*(3/4), 297-316.
- de Valck, K., van Bruggen, G. H., & Wierenga, B. (2009). Virtual communities: A marketing perspective. *Decision Support Systems, 47*(3), 185-203.
- Evans, M. J., & Foxall, A. (2009). *Consumer Behaviour*. Chichester: John Wiley & Sons.
- Foa, E., & Foa, U. (1980). Resource Theory. In K. Gergen, M. Greenberg & R. Willis (Eds.), *Social Exchange* (pp. 77-94). US: Springer.
- Fong, J., & Burton, S. (2008). A cross-cultural comparison of electronic word-of-mouth and country-of-origin effects. *Journal of Business Research, 61*(3), 233-242.
- Gaudeul, A., & Giannetti, C. (2013). The role of reciprocation in social network formation, with an application to LiveJournal. *Social Networks, 35*(3), 317-330.
- Goldsmith, R. E., & Horowitz, D. (2006). Measuring motivations for online opinion seeking. *Journal of Interactive Advertising, 6*(2), 1-16.
- Gruner, R. L., Homburg, C., & Lukas, B. A. (2014). Firm-hosted online brand communities and new product success. *Journal of the Academy of Marketing Science, 42*(1), 29-48.
- Habibi, M. R., Laroche, M., & Richard, M.-O. (2014). The roles of brand community and community engagement in building brand trust on social media. *Computers in Human Behavior, 37*, 152-161.

- Hagel, J. (1999). Net gain: Expanding markets through virtual communities. *Journal of Interactive Marketing, 13*(1), 55-65.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate Data Analysis With Readings* (5th ed.). Englewood Cliffs, NJ: Prentice-Hall.
- Hansen, M. T. (1999). The search-transfer problem: The role of weak ties in sharing knowledge across organization subunits. *Administrative science quarterly, 44*(1), 82-111.
- Hausman, A. V., & Siekpe, J. S. (2009). The effect of web interface features on consumer online purchase intentions. *Journal of Business Research, 62*(1), 5-13.
- Hennig-Thurau, T., Gwinner, K. P., Walsh, G., & Gremler, D. D. (2004). Electronic word-of-mouth via consumer-opinion platforms: What motivates consumers to articulate themselves on the Internet? *Journal of Interactive Marketing, 18*(1), 38-52.
- Hennig-Thurau, T., Malhotra, E. C., Frieger, C., Gensler, S., Lobschat, L., Rangaswamy, A., & Skiera, B. (2010). The Impact of New Media on Customer Relationships. *Journal of Service Research, 13*(3), 311-330.
- Hogan, B. (2007). Using information networks to study social behavior: An appraisal. *Bulletin of the IEEE Computer Society Technical Committee on Data Engineering, 30*(2), 6-14.
- Huang, R., Kim, H., & Kim, J. (2013). Social capital in QQ China: Impacts on virtual engagement of information seeking, interaction sharing, knowledge creating, and purchasing intention. *Journal of Marketing Management, 29*(3-4), 292-316.
- Köbler, F., Riedl, C., Vetter, C., Leimeister, J. M., & Krömer, H. (2010, July). *Social Connectedness on Facebook: An Explorative Study on Status Message Usage*. Paper presented at the Proceedings of 16th Americas Conference on Information Systems.

- Kaufmann, H. R., Loureiro, S. M. C., Basile, G., & Vrontis, D. (2012). The increasing dynamics between consumers, social groups and brands. *Qualitative Market Research: An International Journal*, 15(4), 404-419.
- Kioulos, S. (2002). Interactivity: A concept explication. *New Media & Society*, 4(3), 355-383.
- Kirkbride, P. S., Tang, S. F., & Westwood, R. I. (1991). Chinese conflict preferences and negotiating behaviour: Cultural and psychological influences. *Organization studies*, 12(3), 365-386.
- Kozinets, R. V. (1999). E-tribalized marketing?: the strategic implications of virtual communities of consumption. *European Management Journal*, 17(3), 252-264.
- Lee, D., Kim, H. S., & Kim, J. K. (2012). The role of self-construal in consumers' electronic word of mouth (eWOM) in social networking sites: A social cognitive approach. *Computers in Human Behavior*, 28(3), 1054-1062.
- Lee, F. S., Vogel, D., & Limayem, M. (2003). Virtual community informatics: A review and research agenda. *Journal of Information Technology Theory and Application*, 5(1), 47-61.
- Lee, J.-S. (2000). *Interactivity: A New Approach*. Paper presented at the Association for Education in Journalism and Mass Communication, Phoenix.
- Lin, H.-F. (2006). Understanding behavioral intention to participate in virtual communities. *CyberPsychology & Behavior*, 9(5), 540-547.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological review*, 98(2), 224-253.
- Mathwick, C., Wiertz, C., & De Ruyter, K. (2008). Social capital production in a virtual P3 community. *Journal of Consumer Research*, 34(6), 832-849.
- Mazaheri, E., Richard, M.-O., & Laroche, M. (2011). Online consumer behavior: Comparing Canadian and Chinese website visitors. *Journal of Business Research*, 64(9), 958-965.

- Mullet, G. M., & Karson, M. J. (1985). Analysis of purchase intent scales weighted by probability of actual purchase. *Journal of marketing research*, 22(1), 93-96.
- Muniz, J. A. M., & O'Guinn, T. C. (2001). Brand community. *Journal of Consumer Research*, 27(4), 412-432.
- Nenonen, S., & Storbacka, K. (2010). Business model design: conceptualizing networked value co-creation. *International Journal of Quality and Service Sciences*, 2(1), 43-59.
- Park, C., & Lee, T. M. (2009). Antecedents of Online Reviews' Usage and Purchase Influence: An Empirical Comparison of U.S. and Korean Consumers. *Journal of Interactive Marketing*, 23(4), 332-340.
- Park, N., Lee, S., & Kim, J. H. (2012). Individuals' personal network characteristics and patterns of Facebook use: A social network approach. *Computers in Human Behavior*, 28(5), 1700-1707.
- Podsakoff, P. M., MacKenzie, S. B., Jeong-Yeon, L., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of applied psychology*, 88(5), 879-903.
- Posey, C., Lowry, P. B., Roberts, T. L., & Ellis, T. S. (2010). Proposing the online community self-disclosure model: the case of working professionals in France and the UK who use online communities. *European Journal of Information Systems*, 19(2), 181-195.
- Punj, G. (2013). The relationship between consumer characteristics and willingness to pay for general online content: Implications for content providers considering subscription-based business models. *Marketing Letters*, December, 1-12.
- Rafaelli, S. (1988). Interactivity: From new media to communication. *Sage annual review of communication research: Advancing communication science*, 16(CA), 110-134.

- Reagans, R., & McEvily, B. (2003). Network structure and knowledge transfer: The effects of cohesion and range. *Administrative science quarterly*, 48(2), 240-267.
- Rheingold, H. (1993). *The Virtual Community: Homesteading on the Electronic Frontier*. Boston, MA, USA: Addison-Wesley.
- Rheingold, H. (2000). *The Virtual Community: Homesteading on the Electronic Frontier*: MIT press.
- Rideout, V., Roberts, D. F., & Foehr, U. G. (2005). Generation M: Media in the lives of 8-18 year olds. Executive Summary Report 7250. Menlo Park, CA: Kaiser Family Foundation.
- Rosenbaum, M. S. (2005). Meet the cyberscape. *Marketing Intelligence & Planning*, 23(7), 636-647.
- Rosenbaum, M. S. (2006). Exploring the social supportive role of third places in consumers' lives. *Journal of Service Research*, 9(1), 59-72.
- Rosenbaum, M. S. (2008). Return on community for consumers and service establishments. *Journal of Service Research*, 11(2), 179-196.
- Rosenbaum, M. S., & Massiah, C. A. (2007). When customers receive support from other customers: exploring the influence of intercustomer social support on customer voluntary performance. *Journal of Service Research*, 9(3), 257-270.
- Roy, S. K. (2009). Internet uses and gratifications: A survey in the Indian context. *Computers in Human Behavior*, 25(4), 878-886.
- Sawang, S., Oei, T. P., & Goh, Y. W. (2006). Are country and culture values interchangeable? A case example using occupational stress and coping. *International Journal of Cross Cultural Management*, 6(2), 205-219.
- Scott, J. (2000). *Social Network Analysis: A Handbook* (2nd ed.). London: SAGE Publications Ltd.

- Sharma, S., Conduit, J., & Hill, S. R. (2014). Organisational capabilities for customer participation in health care service innovation. *Australasian Marketing Journal*, 22(3), 179-188.
- Shen, C.-C., & Chiou, J.-S. (2009). The effect of community identification on attitude and intention toward a blogging community. *Internet Research*, 19(4), 393-407.
- Singelis, T. M., Triandis, H. C., Bhawuk, D. P., & Gelfand, M. J. (1995). Horizontal and vertical dimensions of individualism and collectivism: A theoretical and measurement refinement. *Cross-cultural research*, 29(3), 240-275.
- Sirgy, M. J. (2012). *The psychology of quality of life: Hedonic well-being, life satisfaction, and eudaimonia* (Vol. 50): Springer Science & Business Media.
- Sirgy, M. J., & Lee, D.-J. (2006). Macro measures of consumer well-being (CWB): a critical analysis and a research agenda. *Journal of Macromarketing*, 26(1), 27-44.
- Song, J. H., & Zinkhan, G. M. (2008). Determinants of perceived web site interactivity. *Journal of marketing*, 72(2), 99-113.
- Steffes, E. M., & Burgee, L. E. (2009). Social ties and online word of mouth. *Internet Research*, 19(1), 42-59.
- Sundar, S. S. (2004). Theorizing interactivity's effects. *The Information Society*, 20(5), 385-389.
- Tsai, H.-T., & Bagozzi, R. P. (2014). Contribution behavior in virtual communities: Cognitive, emotional, and social influences. *MIS Quarterly*, 38(1), 143-163.
- Van Horn, J. E., Schaufeli, W. B., & Taris, T. W. (2001). Lack of reciprocity among Dutch teachers: Validation of reciprocity indices and their relation to stress and well-being. *Work & Stress*, 15(3), 191-213.

- Verhoef, P. C., Lemon, K. N., Parasuraman, A., Roggeveen, A., Tsiros, M., & Schlesinger, L. A. (2009). Customer Experience Creation: Determinants, Dynamics and Management Strategies. *Journal of Retailing*, 85(1), 31-41.
- Wang, X., Yu, C., & Wei, Y. (2012). Social Media Peer Communication and Impacts on Purchase Intentions: A Consumer Socialization Framework. *Journal of Interactive Marketing*, 26(4), 198-208.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of personality and social psychology*, 54(6), 1063-1070.
- Winer, R., Deighton, J., Gupta, S., Johnson, E., Mellers, B., Morwitz, V., . . . Sawyer, A. (1997). Choice in Computer-Mediated Environments. *Marketing Letters*, 8(3), 287-296.
- Wu, S.-C., & Fang, W. (2010). The effect of consumer-to-consumer interactions on idea generation in virtual brand community relationships. *Technovation*, 30(11–12), 570-581.
- Yli-Renko, H., & Janakiraman, R. (2008). How customer portfolio affects new product development in technology-based entrepreneurial firms. *Journal of marketing*, 72(5), 131-148.
- Yoo, K. H., & Gretzel, U. (2008). What motivates consumers to write online travel reviews? *Information Technology & Tourism*, 10(4), 283-295.
- Zhou, Z., Wu, J. P., Zhang, Q., & Xu, S. (2013). Transforming visitors into members in online brand communities: Evidence from China. *Journal of Business Research*, 66(12), 2438-2443.