



Integrating community and e-commerce to build a trusted online second-hand platform: Based on the perspective of social capital



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ABSTRACT

Taking Xianyu (Taobao second-hand platform) for an example, this study proposes a framework to identify the integrative effect of community and e-commerce on building the “trustworthiness” of online second-hand transaction platform. Research data was analysed by structural equation modelling based on 565 valid questionnaires. The results revealed that e-commerce service quality (system quality, security assurance, product variety and service support) and community quality had direct and interaction effects on users’ perceived trust, which consequently affected their transaction intention. The findings shed light on how web communities should be used to lead to optimal results in the context of online second-hand transaction.

1. Introduction

With the upgrade of consumption structure and the acceleration of product replacement, people have more and more idle belongings, which boost the prosperity of second-hand transaction market. China Business Network, one of the most influential finance media group in China, revealed that China had an idle market of 700 billion Yuan in 2018. With the increasing maturity of Internet technology and the receptivity of second-hand products, consumers, especially the new generation, prefer to carry out transactions on a reliable second-hand platform (Parguel et al., 2017). Encouraged by the huge business opportunities, giants in e-commerce, such as Alibaba Group, Tencent, 58.com and JD.com, step up the online layout around second-hand transaction one after another. Although these online second-hand transaction platforms have made great progress in recent years, there are still some important unsolved problems—trust is just among them. Unlike first-hand products, second-hand products are lack of evaluation standards applicable to their maintaining and maintenance, which will increase risk and uncertainty of the transaction. Therefore, as a prerequisite of successful transaction (Wei et al., 2019; Lin et al., 2015), trust is more critical in online second-hand platforms compared to those ordinary e-commerce platforms.

Based on social capital theory, Social support and interaction from other members of the social networks will reduce the risk and uncertainty of members, thus enhancing their trust (Li et al., 2019;

Wang et al., 2016). Considering the role of social interaction in users’ belief (Casaló & Romero, 2019; Chang et al., 2017; Hajli, 2014), an increasing number of enterprises are trying to integrate social network application into e-commerce to increase users’ trust. Xianyu, born out of Taobao Second-hand, puts forward the operation mode of “community + e-commerce”. As a counterpart for the virtual community, Fishpond, a column of Xianyu, provides a shared communicating and social platform for users who have common preferences or related businesses. According to data provided by Alibaba, there have been interactive users in Xianyu community, with a transaction conversion rate of 13.5%, and there are no interactive users in Xianyu community, with a transaction conversion rate of only 0.07%. It can be seen that the Fishpond community has an important impact on the smooth development of online second-hand transactions. However, the relevant theoretical and empirical research is still limited on how the community built on the second-hand platform affects users’ transaction intention.

In response to calls from practitioners and researchers, we construct a conceptual model to explore the integrative effects between community and e-commerce in developing a trustworthy online second-hand transaction platform. The findings help managers understand how to implant community into e-commerce to improve the transaction environment. Moreover, using Xianyu as an example, this study provides a better understanding of online second-hand transaction market in China.

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2. Theoretical background

2.1. Virtual community quality

Community is a social life unit organized by people with social connections, interactions, and identity in a particular region and according to certain rules and norms. A virtual community is created when a group of people form social relations through interactive communication within a network environment. The development and application of virtual community are inseparable from the popularity of the internet. Although scholars have different definitions of virtual community, the definitions generally agree that the primary content of virtual community is the continuous communication and interaction among members (Lima et al., 2019). Virtual community differs from the traditional community as it has no regional requirement, expands the reachable scope of community, enriches the way members interact, and strengthens the depth of interactions (Akar et al., 2019).

In the virtual community, members with the same interests and hobbies can share resources, express themselves, communicate experiences, and get supports. From the perspective of social capital, continuous interaction and communication would improve members' perceived trust in the virtual community, which further the sustainable development of communities (Luo et al., 2016). Therefore, the active interaction between community members is an essential component to maintain and enhance the vitality of the virtual community. Based on the above analysis, in this study we explore virtual community quality (VCQ) from the perspective of community interaction. In other words, high quality communities represent the existence continuous and active community interaction.

2.2. E-commerce service quality

With the popularization of Internet and information technology, electronic services (e-services) emerge, triggering revolutionary changes in the service industry. Zeithaml et al. (2000) believe that the quality of e-service is the degree to which websites enable users to efficiently query products, browse pages, shop, and facilitate distribution links and consulting services. Surjadjaja et al. (2003) believe that electronic services are the activities that connect pre-sale, transaction, and after-sale support to deliver products or services through the online shopping website.

Just as with the definition of e-service quality, there is no uniform standard for its dimensions. Sorting out the primary established measurement models of e-service quality (Wang et al., 2017; Cui et al., 2016; Rauniar et al., 2009; Yen et al., 2008; McKnight et al., 2002), this study selects four dimensions universally recognized: system quality, security assurance, product variety, and service support. These four dimensions measure the service level an e-commerce provides in promoting efficient transaction development and product delivery throughout three stages: pre-purchase, during-purchase, and post-purchase. We define these variables in relation to the study's focus on online second-hand e-commerce. System quality refers to the accurate operation of a website's technology and functionality. Security assurance represents the degree of safety demonstrated by or associated with a website and the degree to which customer information is protected. A website's product variety is demonstrated by its provision of diverse consumer choices. Service support is the positive after-sales/post-trading service a website provides to consumers.

3. Research model and hypotheses

To gain insight into the antecedents of trustworthiness of online second-hand platforms, we propose a research model (Fig. 1) that represents a progression from e-commerce service quality (system quality, security assurance, product variety and service support) and virtual community quality to perceived trust and, finally, to transaction

intention. In later sections of this paper we define the constructs of the research model and the rationale behind the proposed hypotheses.

3.1. Virtual community quality and trust

According to the social capital theory, the high quality social network group will weaken the perceived risk of members and improve their trust in the social group (Li et al., 2019; Wang et al., 2016; Luo et al., 2016). With the development of information and communication technology, increasingly researchers pay attention to the effect of social network cues on users' trust in an e-commerce context. Chang et al. (2017) reveal the positive role of social influence in increasing users' trust on social network services (SNS) by comparing Facebook and LinkedIn. Brengman and Karimov (2012) conclude that social network applications (Facebook and blogs) provide signals about the 'trustworthiness' of an unfamiliar e-vendor. Lu et al. (2010) show that familiarity, perceived similarity, and structural assurance are important antecedents of trust by analysing data collected from the Taobao Virtual Community.

There are two types of communities within Xianyu: geographic-centric and interest-centric communities. Although these communities are formed for different reasons, users in each community share common interests or values, which nurture long-term and close contacts among community members (Hsu and Wang, 2008). High-quality communities are often accompanied by high levels of interpersonal interaction and encouragement of users to express their opinions, socialize with others, and exchange information (Brengman and Karimov, 2012). These community member interactions reduce uncertainty and information asymmetry and increases users' predictability. In their research, Bao et al. (2016) also confirm high-quality interaction as the foundation of trust. Hence, we conclude that communities with abundant interaction may promote users' online trust and we offer our first hypothesis:

H1. Virtual community quality positively influences perceived trust.

3.2. E-commerce service quality and trust

Combining existing research and the characteristics of online second-hand platforms, we have proposed four e-commerce service quality factors (system quality, security assurance, product variety, and service support). Studies in the field of e-commerce have confirmed the impact of those service quality factors on perceived trust. For instance, Wang and Lin (2017) indicate that consumer quality perceptions (information quality, system quality, and service quality) are positively related to perceived trust. Chang and Fang (2013) investigated the effects of website characteristics (navigation and presentation, usefulness and accuracy of information, order fulfilment, privacy, and security) on online trust. Rauniar et al. (2009) employed content, format, ease of use, timeliness, security, transaction, and product variety to predict auction website performance.

The second-hand market can have characteristics of a 'lemon market', that is, information asymmetry. Sellers have more information about the quality of products than buyers do, which can lead to transaction fraud more easily. Therefore, consumers rely more on high-level electronic service quality to augment their trading confidence on online second-hand platforms than they do with traditional e-commerce. For example, as second-hand transactions on Xianyu belong to the C2C (consumer-to-consumer) mode, the accurate verification of users' identities is a significant issue. Security assurances, such as real-person certification and Credit Sesame tools, can boost consumers' confidence in transactions.

We propose the following hypothesis:

H2. E-commerce service quality positively influences perceived trust.

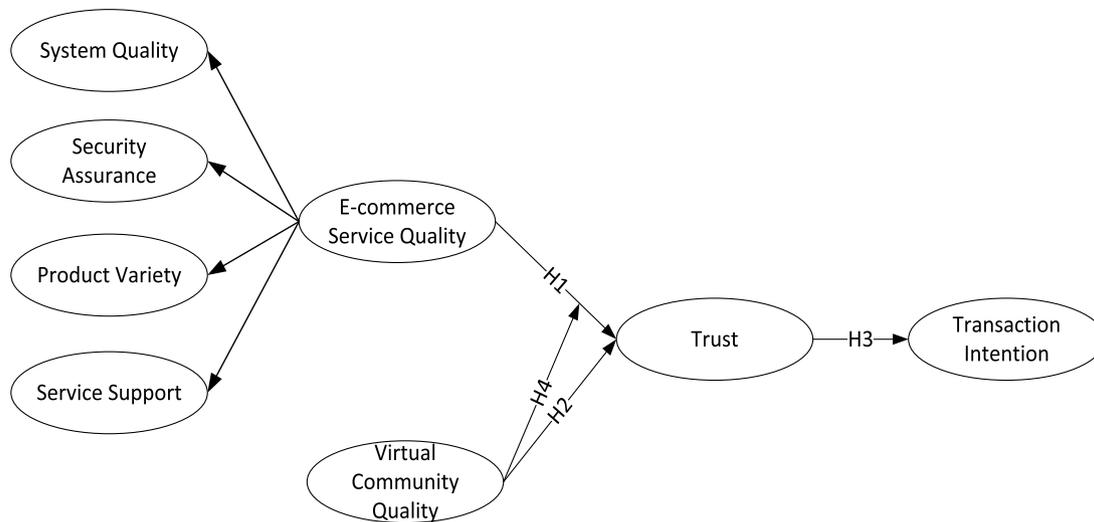


Fig. 1. Research model

3.3. Trust and transaction intention

Trust is the expectation that the target object will behave in line with expressed commitment, will negotiate honestly, and will not make use of an advantage even if an opportunity appears (Hosmer, 1999). As an important part of social capital, trust is an essential element of successful transaction. It plays a special role in reducing uncertainty and encouraging ‘trust-related behaviors’ (McKnight et al., 2002). The absence of physical contact in an online environment makes the issue of trust more essential in the virtual world than in the real world (Bregman and Karimov, 2012).

Previous studies also indicate that in the online environment trust is a critical factor in users’ transaction intention. Wei et al. (2019) compare the relative impacts of trust and risk on an individual’s transaction intention in C2C e-marketplaces from both the buyers’ and the sellers’ perspectives. The trust problem in the second-hand e-commerce market is more complex than in traditional e-commerce. In the C2C model of second-hand e-commerce, consumers face individual businesses. The identities on both sides of the transaction are not very transparent, and there is serious information asymmetry. These conditions lead consumers to feel that making transaction decisions is riskier; trust becomes a more obvious and significant problem. As a result, the level of comfort needed to complete transactions on the online second-hand platforms is very much dependent on trust.

Based on this analysis, we propose the following hypothesis:

H3. Trust positively influences transaction intention.

3.4. Moderating effects of virtual community quality

Community links people and forms a social network, and social networks are touted as the ‘Holy Grail’ of the online world. As a social structure, the community plays a pivotal role in building trust in the process of impersonal exchanges (Ba, 2001). Therefore, from the perspective of force-supported system, promoting the coordinated development of both e-commerce and virtual community is essential to a dependable online transaction environment. As the community supports mutual interactions among users, the integration of the community into an e-commerce interface can be an effective mechanism that enhances users’ senses of social presence in the virtual environment (Hsu et al., 2014). In other words, the presence of community applications on the online second-hand platform may allow users to experience other people as psychologically present. According to cue utilization theory, social presence in an e-commerce interface will serve

as an extrinsic cue, signalling the trustworthiness of an online provider (Bregman and Karimov, 2012).

Based on the this analysis, the following hypothesis is proposed:

H4. Virtual community quality has a moderating effect on the relationship between e-commerce service quality and perceived trust.

4. Research methods

4.1. Measurement development

From existing research, we adapted 22 items relevant to the seven constructs of the research model and refined them based on the specific topic of this study (items are listed in Appendix A). Representing e-commerce service quality, the four measures—system quality, security assurance, product variety, and service support—were operationalized using adapted scales from McKnight et al. (2002), Yen and Lu (2008), Wang and Lin (2017), Cui et al. (2016), and Rauniar et al. (2009). The items in our study that represented virtual community quality evaluate a form of association embedded in the consumption context, came from McAlexander et al. (2002), Koh and Kim (2004), and Laroche et al. (2012). Items capturing users’ perceptions of the trustworthiness of an online second-hand platform originated with the scale developed by Hajli et al. (2017) and Chang et al. (2017). Transaction intention, assessing the strength of a user’s willingness to do deals, was measured following Elliot et al. (2013) and Hsu et al.’s (2014) research.

A seven-point Likert scale was used to measure all items, with the response 1 representing ‘strongly disagree’ and the response 7 representing ‘strongly agree’. To ensure the adequacy and clarity of each question, we engaged seven experts in e-commerce and ten members at Xianyu to review the questionnaire. To further purify and validate the measurement tools, we conducted a pilot-test using samples collected from 60 users on Xianyu. Based on those responses, we made some modifications to how questions were phrased.

4.2. Data collection and sampling

Participants were recruited from Fish Ponds on Xianyu, the very popular online second-hand transaction platform in China. In order to screen for qualified survey participants, we required respondents to be members of Fish Ponds and to have transaction experience on Xianyu for more than six months. Participants were asked to list the name(s) of the Fish Ponds they joined and to provide their Xianyu IDs. To maximize the response rate, we offered gift certificates to each respondent.

Table 1
Demographics of survey respondents (N = 565)

Demographic profile	Categories	Frequency	Percent (%)
Gender	Male	270	47.8
	Female	295	52.2
Age (in years)	Below 19	66	11.7
	20-27	321	56.8
	28-40	123	21.8
	Above 40	55	9.7
Education	High school or below	70	12.4
	College	386	68.3
	Graduate or above	109	19.3
Online experience	6-12 months	135	23.9
	1-3 years	287	50.8
	More than 3 years	143	25.3

A total of 786 questionnaires were received, yielding 565 valid samples, after deleting unqualified responses. Of those, about 47.8% of respondents were male. Table 1 summarizes respondents' characteristics.

5. Data analysis and results

The proposed research model was tested by a structural equation modelling (SEM) technique, using SPSS 17.0 and AMOS 17.0. A two-step procedure was followed. First, the measurement model assessed the reliability and validity of theoretical constructs. Then, the structural model estimated the causal relationships among the constructs.

5.1. Measurement model analysis

We treated e-commerce service quality as a second-order construct while its four dimensions (system quality [SQ], security assurance [SA], product variety [PV], and service support [SS]), which reflect first-order factors, were measured through their respective items. Following this, a second-order CFA (confirmatory factor analysis) of a model depicting the four dimensions was conducted. As presented in Fig. 2 and Table 2, the four dimensions (system quality, security assurance, product variety, and service support) generated the construct of e-commerce service quality, as indicated by the significant second-order factor loadings. Moreover, Composite Reliability (CR) was greater than 0.70 and Average Variance Extracted (AVE) was greater than 0.50, thus indicating that the e-commerce service quality construct achieved convergent validity and was reliable. Further, as shown in Table 3, discriminant validity was also achieved through the squared correlation coefficients between constructs against the AVE across the diagonal line.

In the first stage of the SEM analysis, using CFA we calculated the measurement characteristics of all proposed constructs. The results

Table 2
Results of CFA using a second-order conceptualization of e-commerce service quality

Construct	Items	Standardized Loading	t-value	P	CR	AVE
SQ	SQ1	0.78			0.88	0.72
	SQ2	0.90	22.26	***		
	SQ3	0.85	21.16	***		
SA	SA1	0.87			0.90	0.70
	SA2	0.84	25.54	***		
	SA3	0.77	22.26	***		
	SA4	0.86	26.47	***		
PV	PV1	0.82			0.86	0.68
	PV2	0.83	20.71	***		
	PV3	0.82	20.58	***		
SS	SS1	0.86			0.89	0.72
	SS2	0.88	25.39	***		
	SS3	0.81	22.86	***		

Notes: CR: Composite Reliability; AVE: Average Variance Extracted; ***p < 0.001

Table 3
Discriminant validity of e-commerce Service Quality (ESQ)

Construct	SQ	SA	PV	SS
SQ	0.72			
SA	0.43	0.70		
PV	0.25	0.34	0.68	
SS	0.34	0.41	0.38	0.72

Notes: The numbers along the diagonal line are average variance extracted by each construct. The numbers in the off-diagonal line are the squared correlation coefficients between the constructs.

revealed that $\chi^2/df = 2.058$, RMSEA = 0.043, GFI = 0.939, CFI = 0.975, NFI = 0.952. All of the model-fit indices met the requirements of recommended values (Bagozzi and Yi, 1988; Hair et al., 1998), thus exhibiting a good fit to the collected data. Reliability was examined using the CR values. As shown in Table 4, these constructs were found to have an adequate value of CR: ESQ (0.86), VCQ (0.87), TS (0.90), TS (0.90), all exceeding the threshold of 0.70 (Nunnally, 1978). Additionally, the convergent validity of the scales was verified by two criteria: indicator loadings and AVE. Table 4 demonstrates that all indicators loaded on the expected factors are higher than 0.70 on their respective constructs, and AVE ranged from 0.60 to 0.75, suggesting good convergent validity (Fornell and Larcker, 1981).

The discriminant validity of the scales was assessed using the following three evaluations. First, the loading of each measurement item on its assigned latent variable had to be higher than its loading on any other constructs. Second, the correlations among all constructs had to

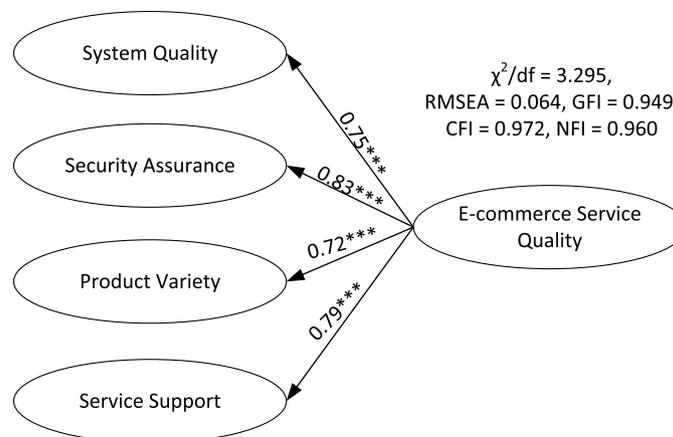


Fig. 2. Second-order factor analysis of e-commerce service quality dimensions. Notes: ***p < 0.001

Table 4
Results of CFA within the four latent factors

Construct	Items	Standardized Loading	t-value	P	CR	AVE
EQ	EQ1	0.75			0.86	0.60
	EQ2	0.83	13.40	***		
	EQ3	0.72	11.78	***		
	EQ4	0.79	12.86	***		
CQ	CQ1	0.87			0.87	0.70
	CQ2	0.86	23.24	***		
	CQ3	0.77	20.51	***		
TS	TS1	0.83			0.90	0.75
	TS2	0.89	25.34	***		
	TS3	0.87	24.52	***		
TI	TI1	0.82			0.90	0.75
	TI2	0.88	21.09	***		
	TI3	0.89	19.70	***		

Notes: CR: Composite Reliability; AVE: Average Variance Extracted; ***p < 0.001

Table 5
Discriminant validity of constructs

Construct	ESQ	VCQ	TS	TI
ESQ	0.78			
VCQ	0.20	0.84		
TS	0.28	0.62	0.87	
TI	0.29	0.50	0.76	0.87

Notes: The figures under the diagonal are the correlations between the variables. Diagonal elements are square roots of average variance extracted.

be below the 0.85 threshold. Third, the square root of AVE for each construct had to exceed the correlation between any pair of distinct constructs (Fornell and Larcker, 1981). These results are presented in Table 5 and indicate adequate validity. Thus, as the measurement results were found to be satisfactory, it was appropriate to proceed with the structural model.

5.2. Structural model analysis

After examining the measurement validity and reliability, we tested the structural equation model using AMOS 17.0. The structural model fit the data well, as all fit indices were noted to be within their recommended levels ($\chi^2/df = 2.129$, RMSEA = 0.045, GFI = 0.936, CFI = 0.972, NFI = 0.949). Table 6 presents the results of structural path analysis. Research results indicate that e-commerce service quality (H1: $\beta = 0.19$, $t = 4.48$, $p < 0.001$) and virtual community quality (H2: $\beta = 0.60$, $t = 13.43$, $p < 0.001$) positively affected perceived trust. The results also showed that trust positively influenced users' transaction intention (H3: $\beta = 0.76$, $t = 15.91$, $p < 0.001$) on the online second-hand platform.

5.3. Moderating effects analysis

To test the moderated relationships of virtual community quality implied by H4, we employed multiple group structural equation models. We built separate structural models for the high/low virtual community quality groups and conducted a test of moderation to

Table 6
Structural model results

Hypothesized relationships	B	t-value	P	Result
H1: ESQ→TS	0.19	4.48	***	Supported
H2: VCQ→TS	0.60	13.43	***	Supported
H3: TS→TI	0.76	15.91	***	Supported

Notes: ***p < 0.001.

Table 7
Results of the moderated model

Relationships	Moderated model		Chi-square difference	Results
	Virtual Community Quality Low (N = 244)	High (N = 299)		
H4: ESQ→TS	0.301***	0.056 ^{ns}	$\chi^2(1) = 13.229$, P < 0.001	Supported

Notes: ns: no significance; ***p < 0.001.

determine whether the respective path coefficients were different. An unconstrained model was compared with a constrained model wherein the two path coefficients were set to equal. A χ^2 -difference test was used to assess the statistical significance of the difference in the path coefficients between the subgroups (see Table 7). The results confirmed the moderating effect of virtual community quality between e-commerce service quality and trust. However, contrary to our prediction, the coefficient values were larger in the low virtual community quality subgroup when compared to the high virtual community quality subgroup.

6. Discussions and implications

6.1. Discussions of findings

Drawing on e-commerce and virtual community literature, our study theoretically develops and empirically tests a model that explains how to enhance perceived trust in an online second-hand platform. Results indicate that the combination of virtual community and e-commerce has a positive effect on users' trust in the online second-hand platform.

The study advanced research on virtual community and e-commerce in several ways. First, while our results confirm that e-commerce service quality is a multidimensional construct, we did not measure e-commerce service quality in the context of the online second-hand platform in the way that previous research (Wang, and Lin, 2017; Cui et al., 2016) has. Instead, we measured it as a second-order construct. We concluded that the e-commerce service quality scale should reflect system quality, security assurance, product variety, and service support constructs. We expect that these dimensions of e-commerce service quality will enhance users' perceived trust in the online second-hand platform by providing useful and user-friendly websites, more guarantees of transaction safety and privacy, a richer product list, and improved post-sale service.

Second, we added insight to the knowledge and understanding of the virtual community. Although previous researchers have demonstrated the importance of online community in the formation of users' trust (Ba et al., 2001; Brengman and Karimov, 2012; Laroche et al., 2012), they analysed only community members individually, ignoring the instrumental role of the community as a whole. We modelled the effect of the community by integrating virtual community quality and e-commerce service quality and tested the moderating effect of virtual community. The results of this study indicate that e-commerce service quality has a weaker impact on perceived trust when the virtual community quality is high. That finding does not match our expectation, perhaps because the plentiful interactions behind high virtual community quality may overemphasize social activities among users and pay less attention to the e-commerce nature of online second-hand platforms.

6.2. Practical implications

In addition to supplementing the literature, our research results present several practical implications for online retail managers. First, e-commerce service quality is a vital predictor of users' perceived trust

in an online second-hand platform. E-commerce service quality with its four dimensions—system quality, security assurance, product variety, and service support—should be reflected in the design of any website for second-hand transactions. From the second-order analysis of e-commerce service quality dimensions, our results noted that the security assurance dimension has the strongest impact on improving e-commerce service quality. This finding highlights the importance of enhancing the security level perceived by users involved in online second-hand transactions, perhaps by introducing third-party payment, implementing real-person authentication, disclosing Credit Sesame scores, and displaying past transaction records.

Second, this study demonstrates that virtual community quality has an indirect and moderating effect on enhancing users' trust of the online second-hand platform. Managers can foster trust in users by integrating virtual community applications into their e-commerce websites. To improve virtual community quality, managers can establish strict intra-community trustworthiness rules, such as penalization of dishonest members, as well as inter-community restriction systems (for example, when a community fails to enforce honest behaviour, other communities could refuse to deal with members of that community). However, too much emphasis should not be placed on the quality of the virtual community. When users pay too much attention to virtual community interaction activities, they may ignore the transaction itself and, consequently, second-hand e-commerce in general.

6.3. Limitations and future research

Although our study contributes to literature and practice, its

Appendix A. Construct measurement items

Construct	Measurement item	Reference
System Quality	SQ1. Overall, Xianyu works very well technically.	McKnight et al. (2002)
	SQ2. The navigation of Xianyu is effective.	
	SQ3. The layout of Xianyu is clear.	
Security Assurance	SA1. Xianyu provides me with the third-party credit authentication report of trading partners.	McKnight et al. (2002)
	SA2. When providing sensitive information (such as bank card number) on this website, I feel safe.	
	SA3. Xianyu has formulated detailed security transaction specifications.	
	SA4. Xianyu has enough safeguards to implement transaction activities.	
Product Variety	PV1. Xianyu has multiple product categories.	Cui et al. (2016); Rauniar et al. (2009)
	PV2. For each product category, Xianyu has major brand titles.	
	PV3. The minimum incremental bidding for the same product by different sellers varies on Xianyu.	
Service Support	SS1. Xianyu properly resolves the transaction disputes I encountered.	Yen and Lu (2008); Wang and Lin (2017)
	SS2. Xianyu responds to my questions in a timely manner.	
	SS3. Xianyu updates the logistics information of goods in time.	
Virtual Community quality	VCQ1. The members actively interact with other members of Fishpond.	McKnight et al. (2002); Koh and Kim (2004); Laroche et al. (2012)
	VCQ2. The members share experiences about products with other members of Fishpond.	
	VCQ3. The members share objective information related to products, such as product functions, new models, promotional information.	
Trust	TS1. I think that Xianyu will keep its promise.	Hajli et al. (2017); Chang et al. (2017)
	TS2. Xianyu is a trustworthy channel for me to transact.	
	TS3. The service offered by Xianyu meets my expectation.	
Transaction Intention	TI1. I would seriously contemplate transacting at Xianyu.	Elliot et al. (2013); Hsu et al. (2014)
	TI2. If Xianyu offers what I am looking for, I intend to transact.	
	TI3. If I sell idle products, I plan to transact at Xianyu.	

References

- Akar, E., Mardikyan, S., Dalgic, T., 2019. User roles in online communities and their moderating effect on online community usage intention: an integrated approach. *Int. J. Hum.-Comput. Interact.* 35 (6), 495–509.
- Ba, S., 2001. Establishing online trust through a community responsibility system. *Decis. Support Syst.* 31 (3), 323–336.
- Bagozzi, R.P., Yi, Y., 1988. On the evaluation of structural equation models. *J. Acad. Market. Sci.* 16(1), 74–94.
- Bao, H., Li, B., Shen, J., Hou, F., 2016. Repurchase intention in the Chinese e-marketplace: roles of interactivity, trust and perceived effectiveness of e-commerce institutional mechanisms. *Ind. Manag. Data Syst.* 116 (8), 1759–1778.
- Brengman, M., Karimov, F.P., 2012. The effect of web communities on consumers' initial trust in B2C e-commerce websites. *Manag. Res. Rev.* 35 (9), 791–817.
- Casaló, L.V., Romero, J., 2019. Social media promotions and travelers' value-creating behaviors: the role of perceived support. *Int. J. Contemp. Hospital. Manag.* 31 (2), 633–650.
- Chang, Y.S., Fang, S.R., 2013. Antecedents and distinctions between online trust and distrust: predicting high-and low-risk internet behaviors. *J. Electron. Commerce Res.* 14 (2), 149.
- Chang, S.E., Liu, A.Y., Shen, W.C., 2017. User trust in social networking services: a comparison of Facebook and LinkedIn. *Comput. Hum. Behav.* 69, 207–217.
- Cui, X., Lai, V.S., Lowry, P.B., 2016. How do bidders' organism reactions mediate auction stimuli and bidder loyalty in online auctions? The case of Taobao in China. *Inf. Manag.* 53 (5), 609–624.
- Elliot, S., Li, G., Choi, C., 2013. Understanding service quality in a virtual travel community environment. *J. Bus. Res.* 66 (8), 1153–1160.
- Fornell, C., Larcker, D.F., 1981. Evaluating structural equation models with unobservable variables and measurement error. *J. Market. Res.* 39–50.

- Hair, J.F., Anderson, R.E., Tatham, R.L., Black, W.C., 1998. *Multivariate Data Analysis*. Prentice Hall, London.
- Hajli, M.N., 2014. The role of social support on relationship quality and social commerce. *Technol. Forecast. Soc. Change* 87, 17–27.
- Hajli, N., Sims, J., Zadeh, A.H., Richard, M.O., 2017. A social commerce investigation of the role of trust in a social networking site on purchase intentions. *J. Bus. Res.* 71, 133–141.
- Hsu, M.H., Chuang, L.W., Hsu, C.S., 2014. Understanding online shopping intention: the roles of four types of trust and their antecedents. *Internet Res.* 24 (3), 332–352.
- Hsu, L.C., Wang, C.H., 2008. A study of e-trust in online auctions. *J. Electron. Commerce Res.* 9 (4), 310.
- Koh, J., Kim, Y.G., 2004. Knowledge sharing in virtual communities: an e-business perspective. *Expert Syst. Appl.* 26 (2), 155–166.
- Laroche, M., Habibi, M.R., Richard, M.O., Sankaranarayanan, R., 2012. The effects of social media based brand communities on brand community markers, value creation practices, brand trust and brand loyalty. *Comput. Hum. Behav.* 28 (5), 1755–1767.
- Li, S., Modi, P., Wu, M.S.S., Chen, C.H.S., Nguyen, B., 2019. Conceptualising and validating the social capital construct in consumer-initiated online brand communities (COBCs). *Technol. Forecast. Soc. Change* 139, 303–310.
- Lima, V.M., Irigaray, H.A.R., Lourenco, C., 2019. Consumer engagement on social media: insights from a virtual brand community. *Qualit. Market Res.* 22 (1), 14–32.
- Lin, C.P., Tsai, Y.H., Chiu, C.K., Liu, C.P., 2015. Forecasting the purchase intention of IT product: key roles of trust and environmental consciousness for IT firms. *Technol. Forecast. Soc. Change* 99, 148–155.
- Lu, Y., Zhao, L., Wang, B., 2010. From virtual community members to C2C e-commerce buyers: trust in virtual communities and its effect on consumers' purchase intention. *Electron. Commerce Res. Appl.* 9 (4), 346–360.
- Luo, N., Zhang, M., Hu, M., Wang, Y., 2016. How community interactions contribute to harmonious community relationships and customers' identification in online brand community. *Int. J. Inf. Manag.* 36 (5), 673–685.
- McAlexander, J.H., Schouten, J.W., Koenig, H.F., 2002. Building brand community. *J. Market.* 66 (1), 38–54.
- McKnight, D.H., Choudhury, V., Kacmar, C., 2002. Developing and validating trust measures for e-commerce: an integrative typology. *Inf. Syst. Res.* 13 (3), 334–359.
- Nunnally, J.C., 1978. *Psychometric Theory*. McGraw Hill, New York.
- Parguel, B., Lunardo, R., Benoit-Moreau, F., 2017. Sustainability of the sharing economy in question: when second-hand peer-to-peer platforms stimulate indulgent consumption. *Technol. Forecast. Soc. Change* 125, 48–57.
- Rauniar, R., Rawski, G., Crumbly, J., Simms, J., 2009. C2C online auction website performance: buyer's perspective. *J. Electron. Commerce Res.* 10 (2), 56.
- Surjadjaja, H., Ghosh, S., Antony, J., 2003. Determining and assessing the determinants of e-service operations. *Manag. Serv. Q.* 13 (1), 39–53.
- Wang, E.S.T., Lin, R.L., 2017. Perceived quality factors of location-based apps on trust, perceived privacy risk, and continuous usage intention. *Behav. Inf. Technol.* 36 (1), 2–10.
- Wang, T., Yeh, R.K.J., Chen, C., Tsydypov, Z., 2016. What drives electronic word-of-mouth on social networking sites? Perspectives of social capital and self-determination. *Telemat. Inf.* 33 (4), 1034–1047.
- Wei, K., Li, Y., Zha, Y., Ma, J.T., 2019. Risk and transaction intention in consumer-to-consumer e-marketplaces: an empirical comparison between buyers' and sellers' perspectives. *Ind. Manag. Data Syst.* 119 (2), 331–350.
- Yen, C.H., Lu, H.P., 2008. Factors influencing online auction repurchase intention. *Internet Res.* 18 (1), 7–25.
- Zeithaml, V.A., Parasuraman, A., Malhotra, A., 2000. A conceptual framework for understanding e-service quality: implications for future research and managerial practice. *Market. Sci. Inst.*
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