

Investigating the Relationship among Characteristics of Social Commerce, Consumers' Trust and Trust Performance

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Abstract

Social commerce as a subset of e-commerce, popularizes rapidly with an increasing number of users, and consumers' trust has become a crucial factor in the success of social commerce firms, and impacts on their decision on purchasing. In this regard, the study tries to research the characteristics of social commerce (transaction safety, concentration and enjoyment, communication and information quality) that influence consumers' trust and assess the effects of trust on trust performance (purchase and word-of-mouth intentions), and trust performance will provides a basis for consumers to decide to purchase, and put forward feasible suggestions to social commerce firms. The results of an empirical analysis based on a sample of 133 users indicate that all the characteristics of social commerce involved had significant effects on trust, and then will positively influence trust performance.

1. Introduction

Trust is a challenging issue of online transactions as consumers and retailers are separated, and the Internet infrastructure is unpredictable [1]. Studies have found that lacking trust can be one of the most important reasons making consumers hesitate to purchase in e-commerce context [2].

The term "Social Commerce" appeared for the first time on Yahoo in 2005. According to IBM's definition, social commerce is the concept of word-of-mouth, applied to e-commerce [3]. Social Commerce, a platform where retailers' products and social networking are tightly integrated gives consumers access to leveraging other users' expertise, generating one's own opinion, reviewing the products they are willing to buy, and making more thought-out

purchasing decisions [4]. Kim and Park [5] reckoned social commerce is a part of e-commerce, which facilitates the transactions of products and services by encouraging users communicate and share experiences via social networks.

Although social commerce, popularized by the increasing popularity of social networking such as Weibo, is a subset of e-commerce [5], it mainly has three unique features that differentiate it from e-commerce [4]. Firstly, social commerce is based on various channels of social media. Secondly, social commerce benefits from social activities, users can freely share their experience, recommend product and service, get advice from other users, and search the recommended goods to purchase. Finally, social commerce is different from the traditional e-commerce, because it mainly employs product categorization, search engine and preference-based recommender systems to improve the ratio of online purchase behavior. This is the advantage of social commerce that support consumers exchanging information, and their social interaction influence other consumers [6].

Because of the unique characteristics of social commerce different from e-commerce, trust is a critical aspect in social commerce context which needs to be studied.

Therefore, this research is being directed to investigate the following questions: (1) what characteristics of social commerce will influence the consumers' trust in social commerce platforms; (2) whether trust will result in consumers' trust performance or not?

In this paper, we will first review the literature to present a more detailed description of the theoretical background on social commerce and trust, followed by discussion of research model and associated research hypotheses. We then talk about the data collection and analysis of the results from quantitative and qualitative

approaches. We discuss the key findings, limitations of this study, and the implications for both research and practice.

2. Literature review

The theoretical foundation of this study is reviewed in this section.

2.1. Trust

Trust has been studied in many fields, for example, Cheng et al. [7] described initial patterns of trust development in groups from both individual and group perspectives. It has been identified as an important issue in virtual communities [8]. And in economics, trust is considered as one's expectation of interactions and related to weakness exposure and acceptance [9].

There are mainly two types of trust known as cognitive trust and emotional trust, and emotional trust refers to a consumer's beliefs about a firm based on his or her emotional feeling [10]. Since consumers' trust is the emotional feeling arising from the firm's care and concern, which can be characterized by security and the perceived strength of the relationship [11], the study adopts the concept of emotional trust to define trust.

However, in order to understand the concept of trust better, multidimensional characteristics of trust need to be taken into consideration [5]. Because emotional trust was used, so the variables taken into consideration must be related to emotional feeling. Therefore, some variables found having influence on consumers' trust were firms' own characteristics such as reputation and size [5], so they will be excluded in the study. Some other variables have been found having differential effects on trust in social commerce firms.

Firstly, transaction safety was defined as the security level the website can provide in money and product transaction, information quality was the accuracy and truth of the information, and both were found have influence on consumers' trust [12][13].

Secondly, communication was defined as the processes through which consumers create and share information with others [14]. Park and Kang claimed that communication is a key variable, and consumers who share experiences and information online are more likely to trust in online firms [15].

Finally, concentration and enjoyment referred to the consumers' immersive, that they were absorbed in the communication with others and information provided by the websites, as well as the enjoyment they got [16]. Concentration and enjoyment was found

a significant variable of increased learning, behavior and attitude changing [16], and consumers' perceived enjoyment positively influences their trust [40][41].

Studies have been carried out of the important role that trust played in social commerce industry. For example, firms looking to survive in social commerce industry must think about their social strategies and technologies [17], their benefits not only rely on consumers' acceptance of their platforms but also on their trust. Safety controls and prices have been considered important characteristics in building trust of social commerce from the perspective of consumers [18]. It was suggested that information quality, communication, and viral marketing are important characteristics of social commerce [19].

Therefore, trust, as an important role of social commerce, although a number of studies have considered various topics related to trust in social commerce, it's essential to identify the key variables that can help explain the formation of trust and consumers' trust performance in social commerce context.

2.2. Trust performance

Trust was considered as a mediator between consumer's behavioral intentions and individual characteristics in online environments [20]. Therefore, trust can be considered as a preceding factor influencing consumers' behaviors. For example, Kuan and Bock found that customer's higher trust level results in a higher purchase intention, particularly in online environment [21]. Trust performance was considered having two main variables: purchase intentions and word-of-mouth intentions [5], which are the basis for consumers to make decisions.

2.2.1. Purchase intentions. Purchase intentions were defined as the consumers' likelihood of future purchase of services or products [22], and its relationship with trust was examined, founding that has a significant influence on purchase intentions [23]. Although many studies have examined the influence on the trust performance, there are few studies of social commerce. Thus, it's necessary to analyze the effects of trust on purchase intentions in social commerce environment.

2.2.2. Word-of-mouth intentions. Word-of-mouth intentions were defined as the desire to exchange personal experiences with products and services [24]. Online word-of-mouth intentions is more effective than traditional word-of-mouth intentions because of the high speed, convenience and virtual environment [25], what's more, many online buyers depend on other consumers' reviews and experiences through word-of-mouth intentions when making purchasing decisions.

Thus, it's of great importance to examine the relationship between trust and word-of-mouth intentions, Swanson, Davis and Zhao found that trust has a significant effect on word-of-mouth intentions [26], and word-of-mouth was also found having a great influence on purchase decision [38].

2.3. Theory of reasoned action

Although many studies have studied trust in online business environment, there remain opportunities to figure out some key variables that may assist in explaining the formation of trust in social commerce. Though there is not a specific theory explaining consumers' trust and their trust performance, Theory of Reasoned Action (TRA) provides a background of trust and trust performance [39].

TRA can be utilized for trust related studies, and has already been used in several studies to examine the relationship between consumers' attitudes, intentions, and behaviors. For example, it was claimed that trust implies individuals' belief and confidence, and TRA was used as a research framework explaining the relationship between customers' trust toward e-commerce vendors, empirically proving that trust significantly affects attitudes and purchase intention [27]. TRA was used as a theoretical framework in the study in order to demonstrate customers' trusting beliefs positively effects trusting intentions, as well as influencing trust-related behaviors in e-commerce context [28]. In addition, TRA has been a theoretical framework for studies, investigating both consequence

of trust and the relationship between trust and trust outcomes, including behavior intention [29]. Thus, trust can be viewed as a preceding factor influencing individuals' behaviors.

3. Research model and hypotheses

3.1. Research model

Several variables were found having influence on consumers' trust, such as transaction safety, information quality. For example, information quality and transaction safety were an important determinant of consumers' trust in online business [30]. Communication, an important characteristic of social commerce, plays an essential role in building trust [15]. Enjoyment and concentration were found leading to consumers' trust [40][41].

The current study learns from the model examined the relationships of social commerce platform characters, trust and consumers' trust performance [5]. Although there were many variables may influence consumers' trust, the current study takes the above four variables as key characteristics and two trust performances, attempting to highlight the importance of various characteristics of social commerce influence on consumers' trust, as well as the effect on purchase and word-of-mouth intentions, which will finally influence their purchase decisions. The framework of the current study is based on TRA, and is shown in Figure 1.

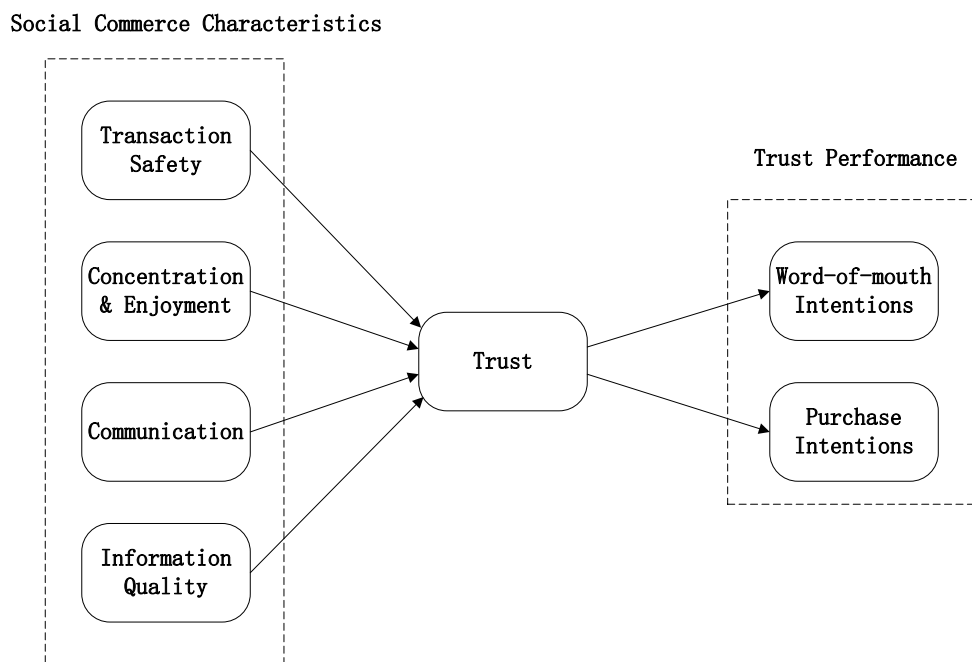


Figure 1. The research framework

3.2. Hypotheses development

(1) Transaction safety

The first variable, transaction safety was defined as the extent of the consumers' reliance to social commerce websites' security in terms of both transactions and transaction-related information [13]. In online business, consumers can not trade with retailers face to face, or get the product right after they pay, what's more, they will also worry about the electronic payment security, because of the virtual environment, it is harder to manage security in online environments than in offline ones. Transaction safety was found a significant determinant of building trust in social commerce environment [12][13].

Therefore, the following hypothesis is proposed:

Hypothesis 1: Transaction safety has a positive effect on consumers' trust in social commerce.

(2) Concentration and enjoyment

The second variable, concentration and enjoyment referred to the consumers' immersive, that they were absorbed in the communication with others and information provided by the websites [16]. Only the design of the websites and information provided really catered to the customers' requirements, can the consumers enjoy the time and the purchasing process. Concentration and enjoyment was found as a significant variable of building trust [16].

In this regard, the following hypothesis is proposed:

Hypothesis 2: Concentration and enjoyment has a positive effect on consumers' trust in social commerce.

(3) Communication

The third variable, communication defined as the processes through which consumers create and share information with others [14], is an important characteristic of social commerce. Social commerce firms provide opinion boards and FAQ boards for consumers to communicate with others, through which consumers can share their reviews. When they make their purchase decisions, the opinions and experiences of other consumers will count a lot among their interactions. Park and Kang claimed that communication is a key variable, and consumers who share experiences and information online are more likely to trust in online firms [15].

In this regard, the following hypothesis is proposed:

Hypothesis 3: Communication has a positive effect on consumers' trust in social commerce.

(4) Information quality

The fourth variable, information quality refers to the consumers' requirement of latest, accurate, and complete information provided by the website, which the consumers mainly rely on because they have limited sources on products and services [31]. The product-related information on social commerce

websites which can influence on consumers' purchase processes is provided by consumers who had purchased the products by bulletin boards, Q&A boards. Information quality was found having a direct effect on consumers' trust in social commerce [30].

In this regard, the following hypothesis is proposed:

Hypothesis 4: Information quality has a positive effect on consumers' trust in social commerce.

(5) Purchase and word-of-mouth intentions

The more consumers trust on the firms, the more likely they will respond by showing favorable purchase or word-of-mouth intentions [32], and trust has a significant effect on trust performance, particularly purchase and word-of-mouth intentions in online environments [27][29]. Word-of-mouth intentions refer to the desire of consumers to exchange personal experiences with products and services. It was found that trust was a precondition for offline word-of-mouth intentions and had a positive effect on online WOM intentions [26].

Therefore, the following hypothesis is proposed:

Hypothesis 5: Trust has a positive effect on purchase intentions.

Hypothesis 6: Trust has a positive effect on word-of-mouth intentions.

4. Research methods

In the current study, users of Chinese social commerce platforms were considered as the main target population, the people who had not used social commerce platform were excluded. We chose five websites of the most well-known social commerce platforms in China, and they were chosen by surveying about 100 internet users. The survey data were made up of two parts: questionnaires and interviews.

Table 1. Literature sources of questionnaire setting

Variables	Literature Sources
Transaction Safety	[28]
Concentration & Enjoyment	[33]
Communication	[34]
Information Quality	[35]
Trust	[29]
Purchase Intentions	[36]
Word-of-mouth Intentions	[37]

Table 2. Demographic of respondents

Categories	Freq.	Percentage
Gender		
Male	47	35.34%
Female	86	64.66%
Age		
Under 20	26	19.55%
20-25	81	60.90%
26-30	15	11.28%
31-40	5	3.76%
41-50	1	0.75%
51-60	3	2.26%
Above 60	2	1.50%
Occupation		
Students	84	63.16%
Employees	40	30.08%
Others	9	6.77%
Social Commerce Sites Used (Multiple Responses)		
Duitang	24	18.05%
Mogujie	72	54.14%
Meilishuo	62	46.62%
Xiaohongshu	40	30.08%
Huaban	11	8.27%
Others	33	24.81%
Length of Social Commerce Use		
< 6 months	32	24.06%
6 months -1 year	24	18.05%
1 year-2 years	18	13.53%
2 years-2 years	29	21.80%
> 3 years	30	22.56%
Total Responses	133	100.00%

For all measures, a five-point Likert-type scale ranging from “strongly disagree” (1) to “strongly

agree” (5) was employed. Questionnaires included 34 questions, which were developed by modifying and amalgamating some measures from several studies shown in Table 1.

In the questionnaires, 1-5 were questions about personal information, 6-10 were questions about transaction safety, 11-14 were questions about communication, 15-18 were questions about enjoyment and concentration, 19-22 were questions about information quality, 23-26 were questions about trust, 27-30 were questions about word-of-mouth intentions, and 31-34 were questions about purchase intentions, the questionnaires were mainly collected through online channels.

The total of 136 questionnaires was distributed, after excluding the questionnaires with missing or inappropriate data, finally the valid response rate was 97.79% (133 of 136 is adopted). In order to analysis the data more accurately, we profiled the detail information of all the 133 respondents, and the result was shown in Table 2.

5. Results

5.1. Assessment of the measurement model

Cronbach’s alpha was assessed to evaluate internal consistency, and 0.7 was considered as the acceptable threshold. The results were obtained from SPSS 18.0, table 3 presents the results for item reliability and validity, and overall Cronbach’s alpha was 0.923. The results in Table 3 indicate that Cronbach’s alpha ranged from 0.75 to 0.92, exceeding the threshold and thus demonstrating sufficient internal consistency. Kaiser-Meyer-Olkin (KMO) and Bartlett Test of Sphericity are both used to examine the validity, 0.7 of KMO was considered as the acceptable threshold to carry out factor analysis. The results in Table 3 indicate that KMO ranged from 0.75 to 0.91, exceeding the threshold, and was able to carry out factor analysis.

Table 3. Results of reliability test and validity test

Category	Variable	Cronbach’s Alpha	KMO	Bartlett Test of Sphericity		
				λ^2	df	Sig.
Social Commerce Characteristics	Transaction Safety	0.92	0.91	1584.06	136	0.00
	Concentration & Enjoyment	0.89				
	Communication	0.82				
	Information Quality	0.75				
Trust		0.85	0.75	240.33	6	0.00
Trust Performance	Purchase Intentions	0.86	0.87	707.96	28	0.00
	Word-of-mouth Intentions	0.90				

Table 4. Loadings and cross-loading of the measurement model

Items	1	2	3	4	5	6	7
TS	0.72						
TS	0.80						
TS	0.80						
TS	0.73						
TS	0.70						
CO		0.82					
CO		0.82					
CO		0.78					
CO		0.67					
EC			0.67				
EC			0.59				
EC			0.58				
EC			0.42				
IQ				0.57			
IQ				0.52			
IQ				0.77			
IQ				0.39			
RT					0.55		
RT					0.68		
RT					0.51		
RT					0.86		
WI						0.50	
WI						0.50	
WI						0.69	
WI						0.55	
PI							0.85
PI							0.82
PI							0.61
PI							0.76

Note: TS - Transaction Safety, CO – Communication, CE - Concentration & Enjoyment, IQ - Information Quality, TR – Trust, WI - Word-of-mouth Intentions, PI - Purchase Intentions.

Table 4 presents the results of Exploratory Factor Analysis (EFA) carried out on the current study and the results was obtained from SPSS.

The items with less than 0.5 associated variable load factor will be deleted, which means the fourth question of concentration and enjoyment as well as the fourth question of information quality will be deleted, and other greater than 0.5 of the items are kept to examine the variables. Finally, there were 32 questions kept in total.

5.2. Assessment of the structural model

Table 5 presents the results of correlation analysis carried out on the current study, and the results was obtained from SPSS. The results demonstrate satisfactory discriminant validity of the measurements.

Table 5. Correlation analysis results

	RT	WI	PI
TS	0.63**	0.65**	0.59**
CO	0.47**	0.70**	0.57**
EC	0.67**	0.68**	0.55**
IQ	0.58**	0.69**	0.67**
RT	1	0.67**	0.61**
WI		1	0.73**
PI			1

**p-value < 0.01

According to the test results, transaction safety, concentration and enjoyment, communication, information quality all have a positive effect on trust ($p < 0.01$), and trust has a positive effect on purchase intentions and word-of-mouth intentions ($p < 0.01$).

The regression results of the model were obtained from SPSS 18.0, and the results were all shown in Figure 2 below.

Among the four variables for social commerce characteristics, the firm's transaction safety had significant positive effects on trust ($\beta = 0.284$, $p < 0.01$), providing support for H1. Concentration and enjoyment had significant positive effects on trust ($\beta = 0.493$, $p < 0.01$), providing support for H2. In addition, communication had positive effects on trust ($\beta = 0.179$, $p < 0.1$), providing support for H3. Information quality had significant positive effects on trust ($\beta = 0.199$, $p < 0.05$), providing support for H4. Finally, trust in social commerce had significant effects on both purchase intentions ($\beta = 0.770$, $p < 0.01$) and word-of-mouth intentions ($\beta = 0.679$, $p < 0.01$) intentions, providing support for H5 and H6, respectively.

Social Commerce Characteristics

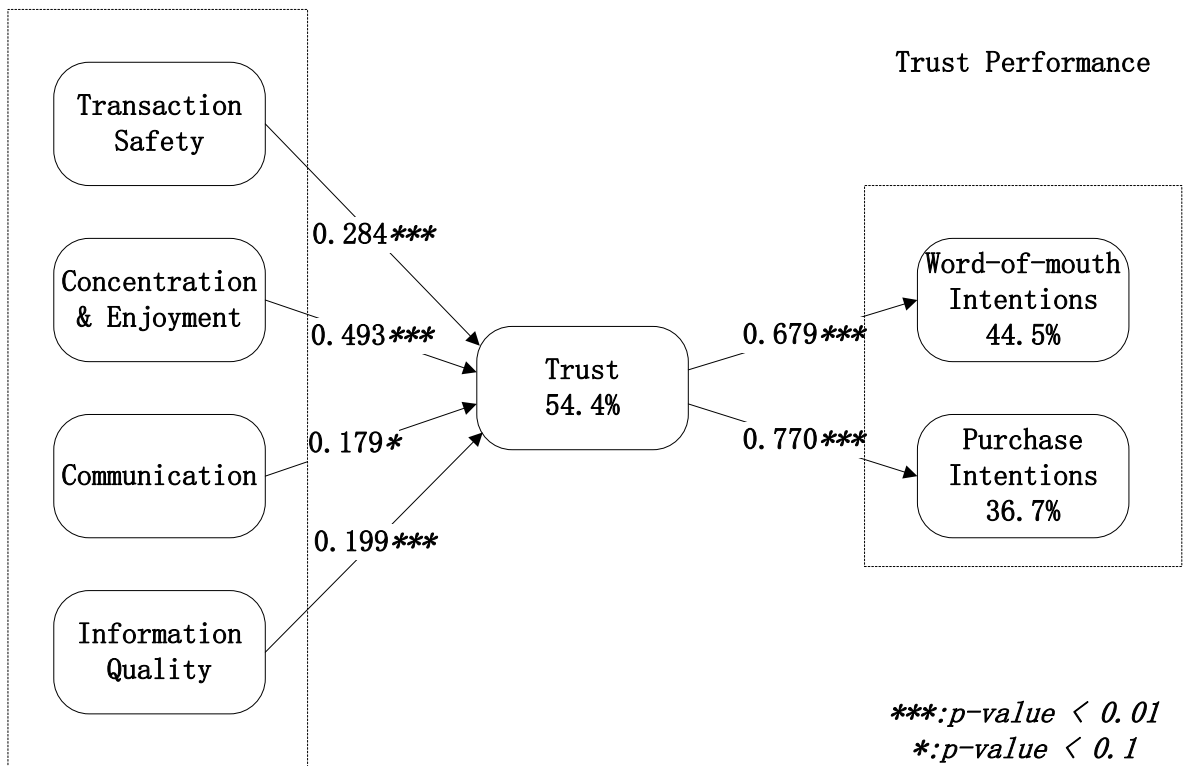


Figure 2. Coefficients and significance levels

In terms of the R^2 value for each endogenous variable, all the variables for the characteristics of social commerce explained 54.4% of the variance in trust. In addition, trust explained 44.5% and 36.7% of the variance in purchase intentions and word-of-mouth intentions, respectively. Figure 2 shows the coefficients and their respective significance levels and variance explained.

5.3. Qualitative analysis

In order to find the in-depth mechanism of the aforementioned quantitative results, we also conducted semi-structured interviews with open-ended questions. The interviews were audio recorded under the agreement of interview participants, and were proofed into soft copy in less than 24 hours. Among 31 interviewees, there are 4 men and 27 women, 29 people between 21 and 30 years old.

The questions of the interviews can mainly be divided into three parts:

First, questions about individual information and preferences, such as the willingness and frequency to

share personal experience and purchase products, how much time will be spent looking through the information, how long has the interviewees used the social commerce platform.

Second, the questions are about the interviewees' opinions about the social commerce characteristics (transaction safety, concentration and enjoyment, communication and information quality).

Finally, there are open-ended questions, such as, what else the interviewees think are key factors that may influence their trust on the platform, and the advices they have.

From the interviews, we found that:

(1) Transaction safety

In transaction safety aspect, all of the interviewees took transaction safety as a key factor that will influence their trust, thought that transaction safety has a positive effect on trust. They thought that if a platform cannot guarantee the money or products are traded safely, it is definitely untrustworthy, therefore, they will not buy products or services through it.

(2) Communication

In communication aspect, about 90.32% think communication has a positive influence on trust, what's more, users take others opinions (89.29%), authenticity of information sharing (96.43%) and similar interests (64.29%) as the main factors. There were 9 interviewees said that they created and shared information actively, and said:

"I often look through other users' comments, and it is more likely for me to trust the information shared by the users I often communicate with".

(3) Concentration and enjoyment

In addition, 93.55% interviewees mentioned that if they enjoyed themselves looking through the information and got a lot of fun, it is more likely to trust the information, therefore, they thought concentration and enjoyment has a positive effect on their trust:

"If there are pictures shared, I'll enjoy it more strongly".

"If I find a user with similar taste, I will spend more time looking through her sharing, and I will subconsciously trust her more".

(4) Information quality

And most of the interviewees thought information is the bridge that guides them to know, accept, and consume products. Thus, they took information quality as a key factor that influence their trust. One of the interviewees said:

"If the quality of the information cannot be guaranteed, people will think the platform is untrustworthy".

(5) Others

Besides, the interviewees also think that website optimization (70.97%), update speed acceleration (61.29%) and the ability of sharers (67.74%) may also influence the consumers' trust. Several of them mentioned that:

"It will make me more likely to trust it, if the website can optimize its interface design, or provide image editing features".

"If the information was well constructed, or the sharer was a fashionable one, maybe it is more likely for me to trust it or purchase".

6. Conclusion

6.1. Discussion

This study examined the effects of various characteristics of social commerce, consumers' trust and the effects of this trust on trust performance (purchase and word-of-mouth intentions), which will lead to purchase decisions. More specifically, the characteristics of social commerce (transaction safety,

communication, concentration and enjoyment, information quality) were considered in the study. The results for the measurement model demonstrate sufficient reliability and validity for all constructs in the research model. In addition, the results for the structural model demonstrate that all coefficients were significant.

The results of this study are somewhat consistent with the findings of previous studies [7]. These results support the opinion that social commerce users are more likely to trust social commerce if transaction safety, communication, concentration and enjoyment, information quality are of a higher level, thus the users are more willing to purchase or share the products.

The results support H1, which predicted transaction safety having a positive influence on trust, indicating that online buyers realize the risk they take because of the virtual business. Thus, social commerce users stress transaction safety a lot to protect their own benefit.

The results also support H2, which predicted concentration and enjoyment having a positive influence on trust, suggesting that online buyers think the more website can attract them and the more they enjoy looking through the website, the more willing they are to visit the website. Therefore, social commerce users stress websites themselves a lot.

The results provide support for H3, which predicted a positive relationship between communication and trust, mainly through other users' reviews and shares.

The results also provide support for H4, which predicted a positive relationship between information quality and trust, indicating that online buyers rely on the information provided a lot to decide whether purchase the product or not. The higher quality the information is, the more they trust the website.

What's more, the results also support H5 and H6, which predicted trust having a positive influence on purchase intentions and word-of-mouth intentions, suggesting that the more consumers trust on a website, they are more likely to purchase products or just share their experiences. Therefore, trust provides consumers with an opportunity to increase trust performance, and making it more likely to decide to purchase.

6.2. Contribution and implication

The research model provides a cogent framework for understanding how consumers develop trust in social commerce. Instead of focusing on social and individual characteristics influencing consumers' trust, this study's model assesses various

characteristics of social commerce, including transaction safety, concentration and enjoyment, communication and information quality, in the context of consumers' trust in social commerce. The study contributes to the literature by providing new insights into the relationships among unique characteristics of websites and their influence on trust and consumers' purchase decisions [12][13][14][15][16][40][41].

In addition, the present study contributes to the study of e-commerce, what's more, it also contributes to the TRA and literature of social commerce by providing study into the relationships between characteristics of social commerce, trust and trust performance, and various characteristics of social commerce in the study's model includes transaction safety, information quality, communication, concentration and enjoyment in the context of consumers' trust [5].

In terms of practical contribution, the results suggest that social commerce has become more and more popular. Therefore, managers in social commerce firms will clearly recognize the importance of trust, have a better understanding of what key social commerce characteristics they should focus on to improve consumers' trust and make it more likely to decide to purchase, to improve their social commerce services, make their firms gain more trust and earn more benefit. In order to increase the level of consumers' trust, social commerce firms should provide their customers with high quality information and transaction safety, engage in consistent communication, and create an environment that can attract the consumers.

6.3. Limitation and future research

The study still has some limitations. First, the data was not collected over time is one of the reasons that limits robustness of study's survey results. Second, the sample was social commerce users in China, and therefore the generalizability of the findings may be limited, and the number of samples is not large enough. Third, the measurement items were obtained and modified from previous research which may also lead to inaccurate results. Forth, trust was considered as the only factor that influence on trust performance, but there may be more factors also count. Fifth, the sample's gender ratio of the current study is unbalanced, because there are more female consumers shopping online than male consumers, between men and women's trust building process there may be other different factors. Finally, the study disregarded the potential effects of other

characteristics such as individual and social characteristics.

In this regard, future research may take social commerce users in more countries into consider, also with a larger number of sample and in a longer time, include more male consumers to get a more balanced gender ratio, consider a wider range of characteristics and factors may influence trust and trust performance, investigate the direct effects of various external variables on purchase decisions.

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