An Empirical Study of Social E-commerce Platform on Users' Intention: Take WeChat E-commerce Group as an Example

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ABSTRACT

Social e-commerce is an important e-commerce platform that has developed along with social network platforms. Recently, social e-commerce platforms have become popular shopping channels for young people due to their sociability and interactivity. To understand what affects users' intention to social e-commerce and knowledge sharing in the social platform, we conduct an empirical study in the WeChat e-commerce group, a typical social platform. In this paper, the research model is integrated according to social support theory and expectation confirmation models. In our empirical study, we design an online questionnaire based on a mature scale and 217 valid samples are collected. To further verify the proposed hypotheses, reliability and validity analysis, and the Structural Equation Model (SEM) are adopted. The results prove that social support has a great influence on social e-commerce, and at the same time, as the intermediary variable between social support and user intention, satisfaction and expectation confirmation will ultimately affect users' social e-commerce and knowledge-sharing intention positively. According to the experimental results, several management suggestions are provided.

CCS CONCEPTS

• **Information systems** → Information systems applications; Decision support systems; Data analytics; Data management systems; Database design and models; Data model extensions; Information systems applications; • **General and reference** → Cross-computing tools and techniques; Empirical studies; Cross-computing tools and techniques; Measurement; Cross-computing tools and techniques; Validation; Cross-computing tools and techniques; Verification.

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KEYWORDS

Social E-commerce, Social Support, Expectation Confirmation, Knowledge-Sharing

1 INTRODUCTION

Social e-commerce, a newly emerged trade fair form, has become increasingly important in recent years. The booming social platforms like WeChat, Facebook, Weibo, etc., provide a good channel for social e-commerce. On these social platforms, users will share their shopping experience. Also, they might ask others or the merchants for more detailed information or doubts about certain products they encounter during shopping. For example, some WeChat groups will be built by merchants to share product information links, by which the group member can purchase the goods they are interested in. Moreover, the number of likes and reposts on a shopping experience or product recommendation on WeChat is a recognition and sense of what is said. Figure 1 shows an example of social e-commerce of the WeChat group.

Research [1] shows that 83% of e-commerce consumers are willing to share their shopping experience with friends, and 67% of consumers will make purchases regarding the recommendations of their companions. Shopping information from close companions is more credible for consumers, and this information will have a greater influence on consumers [2] [3]. Motivated by these foundations, it is necessary to study the factors that influence social e-commerce users' intention to share knowledge and purchase goods.

In this paper, the social support consisting of emotion support and information support as the inner driving factor generates direct influence on satisfaction and expectation confirmation. In the end, the customer purchasing intention and knowledge-sharing intention will be influenced by satisfaction and expectation confirmation. The innovation of this article is to introduce expectation confirmation as an intermediary variable into the research model. Discussing that the gap between the expected value of users before

Figure 1: An example of WeChat e-commerce group

using the WeChat e-commerce group and the confirmed value after actual use, and that influence on users' social e-commerce and knowledge-sharing intention. This research can bring some help and enlightenment to follow-up researchers, and some suggestions to social e-commerce managers.

The rest of this paper is organized as follows: Section 2 briefly describes related work and theories. The research model is proposed in Section 3. In Section 4, the empirical experiments are conducted to verify the proposed framework. Section 5 presents the conclusions and future work.

2 LITERATURE REVIEW

2.1 Social support

Social support is a concept in sociology used to measure the feelings of an individual's care, response, and help to people in social groups [4] [5]. Online social platforms are often used as a communication tool, like WeChat, Facebook, Weibo, etc. It is believed that social platforms have become an important channel for maintaining social relationships [1]. Nowadays, people's social networks have also extended from offline to online, and online social platforms have become one of the important sources of social support [6]. Social support can be considered as the degree to which an individual is cared for by other people in the online community and received responses and help [4]. It has been proved that social support can obtain feedback from social platforms to meet psychological needs. The more social support people feel, the more likely they are to care for and help others [7] [8].

Previous state-of-art literature had confirmed that social support is a multi-dimensional construct, which contains three aspects (emotional, tangible, and informational) [9]. Information support refers to obtaining advice, knowledge, recommendations, and other information from online communities to solve personal problems [1]. Emotional support refers to being able to confide in and relying on others, help to produce a feeling of being loved or cared for, and even feel that you are a member of a team rather than a stranger [10]. Information support and emotional support have an important influence on social interaction in online communities [11] [12].

2.2 Expectation confirmation

Bhattacherjee [13] developed the expectation confirmation model consisting of the cognition of usefulness and expectation confirmation, willingness to continue, and satisfaction. The expectation confirmation model is widely used to predict consumers' repeated purchase behavior and willingness to continue using one thing. It has been proved that the intention to continue using the information system after improving the basic expectation confirmation model [13] [14].

In previous articles, the expectation confirmation model is usually used as a satisfactory antecedent variable [15] [16]. Satisfaction was considered as an expected outcome in past studies. In this paper, we believe that satisfaction is an emotional response as an intermediary component and thus drives some behaviors.

3 HYPOTHESES AND RESEARCH FRAMEWORK

Social support plays a significant role in the social community [1], it is no exception for social e-commerce platforms. Strong social support will make users feel closer to friends and be able to build trust with friends [17]. Information support refers to obtaining advice, knowledge, recommendations, and other information from WeChat e-commerce groups to solve personal problems. Emotional support refers to being able to confide in and rely on others in the WeChat e-commerce group, feeling loved or cared for, and feeling that one is a member of the WeChat e-commerce group [10]. In this study, we set the information support and emotion support as two formative variables for social support. The research model is shown in Figure 2

When a user receives help, care, and response from others on the WeChat e-commerce group, he will feel that he has received social support. At the same time, he will also get closer to members, users and merchants, the relationship between users and platforms makes users more satisfied with social e-commerce platforms.

Whether it is an increase in emotional support or information support, it will bring an increase in social support. Meanwhile, they will form an expectation confirmation that demonstrates the member is positive to this WeChat e-commerce group, and sometimes try to minimize the disappointment that the expectation is greatly missed. Therefore, we propose the following assumptions:

H1: Social support in a WeChat e-commerce group has a positive influence on satisfaction.

H2: Social support in a WeChat e-commerce group has a positive influence on the confirmation.

In our research model, the social e-business intention refers to members being willing to purchase products, retweet, give a like in the WeChat e-commerce group. As for the knowledge-sharing intention, it denotes that the members like to reply to some inquiries, share their shopping or use experience, give a hand in group. In this study, we considered satisfaction as a direct perception performance on using the WeChat e-commerce group instead of the reaction of expectation confirmation. The more satisfied with the WeChat e-commerce group, which means that members have a greater possibility of continuing social e-commerce purchases or knowledge-sharing behaviors. When users have a good relationship with other users in the WeChat e-commerce group, they will

naturally be willing to share experiences and help others. Therefore, we propose the following assumptions:

H3-a: Satisfaction in a WeChat e-commerce group positively influences the user's social commerce intention.

H3-b: Satisfaction in a WeChat e-commerce group positively influences the user's knowledge-sharing intention.

H4-a: Confirmation in a WeChat e-commerce group positively influences the user's social commerce intention.

H4-b: Confirmation in a WeChat e-commerce group positively influences the user's knowledge-sharing intention.

4 EMPIRICAL METHODOLOGY

4.1 Measurement and Data Collection

The online questionnaire method was adopted to verify our hypotheses and model above. The questionnaire mainly contained 3 parts, including background description, construct items, demographic profile. The background description is designed to tell respondents what is WeChat e-commerce group, as well as examples and detailed explanations. All measurement items are constructed mainly by referring to prior state-of-the-art literature and making slight adjustments to accommodate this study. As shown in Table 1, we adapted 22 measurement items total based on the Likert 5-level scale, from 1 to 5 indicating 'strongly disagree' to 'strongly agree'.

We developed an online questionnaire in www.wjx.cn and call for responding in a number of the WeChat e-commerce groups. Finally, 307 samples in total were collected and only 217 valid responses were retained for the next analysis. We gained 35.6% of the male sample and 64.4% of the female. The education level is mainly undergraduate and the occupations are evenly distributed among company employees, students, freelance, and public employees. Generally speaking, the data sample structure is reasonable.

In the following section, the reliability and validity were conducted firstly. Secondly, we will evaluate the structural equation model to test the proposed research hypotheses. In the next analysis, both SPSS and SmartPLS software are adopted.

4.2 Reliability Analysis

Reliability analysis is mainly used to verify the consistency or stability of the results obtained from the current scale. The reliability of the questionnaire is tested by the Cronbach Alpha coefficient alpha. As shown in Table 2, the Cronbach Alpha coefficient of the whole measurements is 0.835, which greater than 0.7. Besides, Table 3 illustrates that all of the factors theirs Cronbach Alpha coefficient are above 0.7, averaged 0.85. Generally, a scale is evaluated as having good internal consistency of constructs for the Composite reliability (CR) should greater than 0.7 and the average variance extraction (AVE) should more than 0.5 [17]. It can be seen from Table 3 that all CR and AVE of each factor are above 0.7 and 0.5 respectively, which shows that our scale performed well in internal consistency. Therefore, we are confident in the reliability of our scale.

4.3 Validity analysis

4.3.1 Convergent Validity. Convergent validity is often well established if a construct is highly correlated with others designed to test similar concepts [18]. In general, the scale could be considered as having high convergent validity when the factor loading coefficient
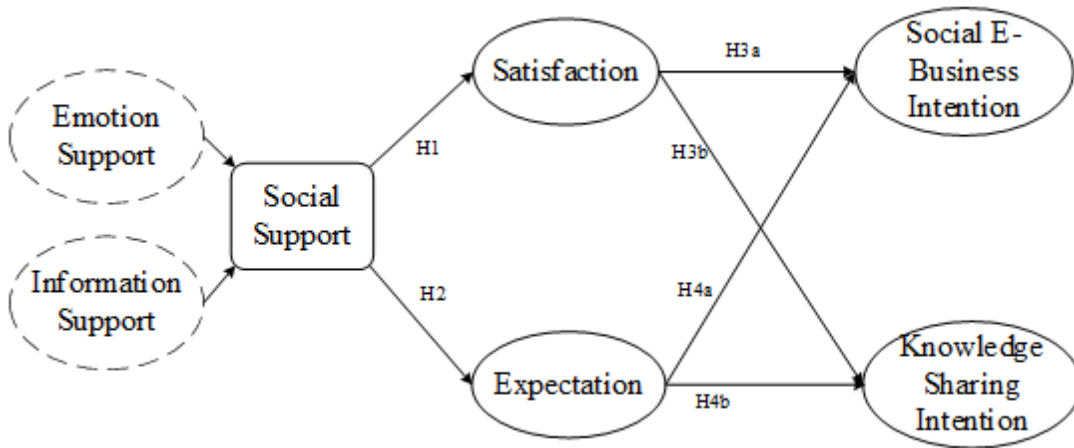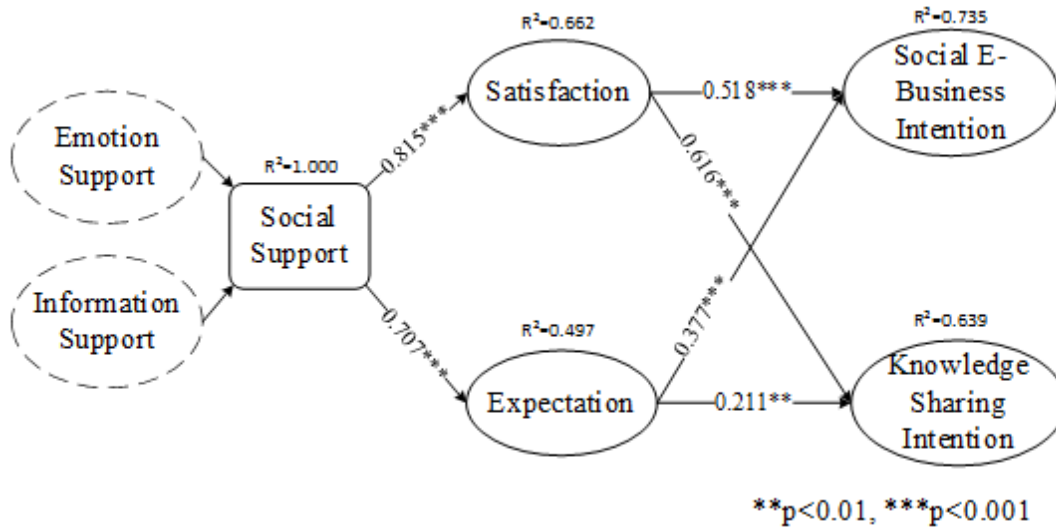
Figure 2: Research Model

Figure 3: Structural Equation Model

is greater than 0.7 and the AVE is above 0.5 [17]. Table 4 represents that the factor loading coefficient of each item and its AVE value meets the value conditions, from which we can conclude that our scale has convergent validity.

4.3.2 Discriminant Validity. Discriminant validity is used to verify whether the concepts that should not be related are actually irrelevant [19]. In this study, The Fomell-Larcker criterion [20] based on SmartPLS is used to judge the discriminative validity by comparing the square root of the AVE value of each variable and the correlation coefficient between the variables. From Table 5, it can be seen that the square root of each latent variable AVE is greater

than the correlation coefficient between the variables, indicating all reactive variables are high discriminative validity.

4.4 Structural Equation Model

As the results above shown, our scale performed well in reliability and validity, which allowed us to test the proposed hypotheses. In this study, the significance of the path coefficient is evaluated using SmartPLS based on Partial Least Squares (PLS) method [20] to determine whether the hypothesis is true. It can be seen from Figure 3 that all paths meet expected significance (** represents 99% significance level and *** is 99.9%). Moreover, all goodness of fitting R^2 results are positive, which indicates the fitting effect of each factor can be accepted.

Table 1: Measurement Items in this Study

Factors	Measurements	Source
Emotion support (ES)	When there is a problem, members of the WeChat e-commerce group are willing to help. When I face a problem, members in the WeChat e-commerce group can provide some information to help me solve the problem. When I face a problem, members in the WeChat e-commerce group can help me find the cause of the problem and provide some suggestions.	Ting-Peng et al. [1]
Information support (IS)	When encountering confusion, members in the WeChat e-commerce group can understand my feelings. When encountering confusion, members in the WeChat e-commerce group will encourage and support me. When encountering confusion, members in the WeChat e-commerce group are willing to listen to my feelings. When encountering confusion, members in the WeChat e-commerce group are willing to express their feelings.	Ting-Peng et al. [1]
Satisfaction (SA)	Generally speaking, using the WeChat e-commerce group will make me satisfied. Generally speaking, using the WeChat e-commerce group will make me happy. Generally speaking, using the WeChat e-commerce group will make me happy. Generally speaking, using the WeChat e-commerce group will make me pleased.	Ting-Peng et al. [1]
Expectation (EX)	I think using the WeChat e-commerce group will exceed my expectations. The buying experience of the WeChat e-commerce group exceeds my expectations. In general, most of the expectations of using WeChat e-commerce groups can be achieved.	Tung-Ching et al. [14]
Social E-commerce intention (SEI)	After listening to the opinions of others in the WeChat e-commerce group on related products, I will choose to buy related products. I am happy to buy the products recommended in the WeChat e-commerce group. After learning about the relevant product from the WeChat e-commerce group, I will buy it immediately. After learning about related products from the WeChat e-commerce group, I will buy them in the future.	Ting-Peng et al. [1]
Knowledge-sharing intention (KSI)	When someone consults in the WeChat e-commerce group, I am willing to share my shopping experience and suggestions I am happy to share my shopping experience in the WeChat e-commerce group. I am willing to share products that I think are worth buying in the WeChat e-commerce group. I am willing to listen to suggestions shared by others in the WeChat e-commerce group.	Jun Chen et al. [6]

Table 2: Overall Cronbach Alpha coefficient

Reliability Statistics	
Cronbach's Alpha	0.835

Table 6 shows the final verification results of each hypothesis, from which we can conclude that the proposed hypotheses are fully established. This means that users' social e-commerce intention and knowledge-sharing intention when using WeChat e-commerce groups are indirectly affected through social support. Social support includes emotional support and information support. By influencing the user's satisfaction and the user's expectations in the use process, it finally affects the user's social e-commerce and knowledge-sharing intention.

5 DISCUSSION AND CONCLUSION

5.1 Conclusions

This paper studies the users' intention to share social e-commerce and knowledge in the context of social e-commerce. Based on social support theory and expectation confirmation theory, a research

Table 3: Reliability Statistics (Factors)

Factors	Items	Cronbach's Alpha	CR	AVE
ES	4	0.867	0.909	0.714
EX	3	0.850	0.909	0.769
IS	3	0.855	0.912	0.775
KSI	4	0.850	0.899	0.689
SA	3	0.849	0.908	0.768
SEI	4	0.876	0.915	0.728
SS	2	0.894	0.950	0.904

Table 4: Factor Loading Coefficient and Average Variance Extraction

Factors	Items	Factor loading coefficient	AVE
ES	ES1	0.844	0.714
	ES2	0.873	
	ES3	0.825	
	ES4	0.838	
EX	EX1	0.905	0.769
	EX2	0.885	
	EX3	0.841	
IS	IS1	0.879	0.775
	IS2	0.876	
	IS3	0.887	
KSI	KSI1	0.852	0.689
	KSI2	0.830	
	KSI3	0.832	
	KSI4	0.806	
SA	SA1	0.859	0.768
	SA2	0.880	
	SA3	0.889	
SEI	SEI1	0.843	0.728
	SEI2	0.850	
	SEI3	0.857	
	SEI4	0.864	
SS	SS1	0.951	0.904
	SS2	0.951	

Table 5: discriminatory Validity

	1	2	3	4	5
EX	0.877				
KSI	0.727	0.830			
SA	0.836	0.793	0.876		
SEI	0.81	0.787	0.833	0.853	
SS	0.707	0.792	0.815	0.779	0.951

Note: The diagonal element is the square root of the AVE

Table 6: The Summary of Hypotheses Results

Hypotheses	Paths	Standardized path coefficients	Results
H1	SS→SA	0.815***	Supported
H2	SS→EX	0.707***	Supported
H3-a	SA→SEI	0.518***	Supported
H3-b	SA→KSI	0.616***	Supported
H4-a	EX→SEI	0.377***	Supported
H4-b	EX→KSI	0.211**	Supported

model is established to explore the influence of social support (emotional support and information support), satisfaction, and expectation confirmation on users' intention to social e-commerce and knowledge sharing.

Our research found that: (1) Social support composed of information support and emotional support has a positive effect on user satisfaction and expectation confirmation. (2) User satisfaction is used as an intermediary variable that ultimately positively affects users' intention to social e-commerce and knowledge sharing. (3) The expectation is also served as an intermediary variable positively affecting users' intention to social e-commerce and knowledge sharing.

This paper verified whether the expectation confirmation will directly affect users' intention to social e-commerce and knowledge sharing. Through our research, we can see that the expectation confirmation model can be a significant intermediary variable between social support and user intention. It is not through influencing user satisfaction to have an impact on customer intention.

Last but not least, there are some shortcomings in our research. A limitation is that our empirical study is conducted only in WeChat, no more platforms are investigated. In the future, we will do more effort in designing a more reasonable scale and collecting more data on more social platforms to explore social e-commerce mechanisms.

5.2 Discussion and suggestions

The findings from our research can provide some enlightenment for those who are interested in social e-commerce and social e-commerce platform managers. First of all, social factors have a great influence on social e-commerce, it is necessary to improve the information support and emotional support like the thoughtful introduction of product, patient and honest communication, etc.

Secondly, it can be seen that satisfaction and expectation confirmation simultaneously serve as intermediate variables for social support and intention to share social e-commerce and knowledge. As the antecedent of the two intermediate variables, social support has a positive effect on both. At the same time, it means that social e-commerce providers need to make users feel satisfied with the social e-commerce platform as much as possible, and let members have a more intuitive understanding of the social platform to generate reasonable expectations, and avoid the large gap after actual confirmation.

In general, it is recommended that social e-commerce providers can provide users with a more comfortable and satisfactory social e-commerce environment, which play a key role in enhancing the operation effect of social e-commerce platform.

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