

A Study on the Role of Network Characteristic in Social Commerce Context: Emphasis with the Moderating Effect of Transactive Memory Capability

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Abstract

Although previous studies on social commerce have provided much insight, more studies in the perspective of social network are needed because social commerce happens within online communities or virtual groups, where buyers connect and interact with each other by sharing information. So, the purpose of this study is to investigate how transactive memory as network characteristic can affect social commerce behavior through social support and relationship quality. We verified the relational effect among social support, relationship quality, and social commerce intention in the Korean market context. Moreover, we found transactive memory capability also played an essential role in the field of social commerce. Specifically, we found consumer's transactive memory capability plays a significant moderating role in the relation between social support and relationship quality.

Keywords: *Social Commerce, Social Support, Relationship Quality, Social Network, Transactive Memory Capability*

1. Introduction

With the growth and usefulness of social networking sites (SNSs) such as Facebook, Twitter, and Instagram, traditional e-commerce platform has evolved to a new form of e-commerce based on social networks, called social commerce. Online consumers have access to vast amounts of information which is provided by third parties, and the powers of SNSs and online communities in e-commerce attract attention from both customers and businesses. Online sellers have the opportunity to become closer to buyers through social networks and build a trusting relationship leading to increased profit and brand loyalty [1]. Moreover, new technologies have allowed consumers to use online social communities to make more productive purchases since people with online social connections are able to promote a product by word-of-mouth and create consumer groups with similar shopping behaviors [2]. Therefore, web-based businesses are required to understand the importance of social communities which is attractive to consumers. Previous studies showed that traditional e-commerce consumers are transaction and information oriented, while social commerce consumers are social-oriented,

which means they search for product information and make decisions through social networks. Hence, the social network perspective is essential in social commerce. Numerous studies examined the impact of website quality, system quality, information quality, and service quality in e-commerce and social commerce. Moreover, plenty of research investigated the effect of emotional support, trust, and satisfaction on social commerce. For example, Liang et al.(2011) showed that social support and website quality affect relationship quality, which in turn affects the social commerce intention [3]. Also Hajli(2014) demonstrated that social support plays a significant role on relationship quality and social commerce [1]. Although these studies have provided much insight into social commerce, more studies in the perspective of social network are needed because social commerce happens within online communities or virtual groups, where buyers connect and interact with each other by sharing information. Therefore, in this study we aim to investigate how transactive memory as network characteristic can affect social commerce through social support and relationship quality.

2. Literature Review and Hypotheses

2.1 Social Support, Relationship Quality, and Social Commerce Intention

Users on social networks believe that they have received support by receiving helpful information through relationships with peers, which was built in communities and thus, they are determined to obtain or share valuable information about purchases with others [5]. Today personal social networks have extended to online content and SNSs such as Facebook. Therefore, social networks have become the primary source of social support. Friendship and trust between members of online communities are improved through continuous sharing of information. As a result, their intention to ensure business activity in social networks is increasing. Also, community interaction influences the commitment of the community of members [5]. Consequently, social support plays an important role in relationship building and is considered an essential construct in studying economic behavior in an online community [3]. Social support is a multidimensional construct which includes informational support, emotional support, and tangible support [6]. Due to the virtual nature of social media, users usually receive emotional and information support in virtual social groups [7]. In an online context, informational support can provide solutions and plans, while emotional support can help to solve problems indirectly [3]. Also relationship quality refers to the closeness or strength of a relationship, one of the key factors that determines customer loyalty [8]. According to previous studies, relationship quality has three aspects: trust, satisfaction, and commitment [9]. Trust is a central issue in social commerce [10]. Trust in business refers to the belief that the service provider is honest and benevolent. Benevolence and credibility are considered as two different types of trust. Trust based on credibility refers to the belief that the other party in the transaction is reliable and honest. However, benevolence refers to the repeated relationship between seller and buyer [11]. Commitment is the core factor of a long-term relationship, and refers to one's desire to continue relationships with the vendor [12]. Satisfaction is defined as the emotional state of individuals from their complete evaluation of the relationships they have with other people [9]. Relationships with consumers has a direct influence on the intention to purchase in consumers, as well as to retain consumers [13]. These three components could represent a user's general attitude toward a service provider.

The main goal of social commerce is to use commercial opportunities in SNS with relationships in networks and groups to achieve commercial benefits. These economic benefits are measured by proliferation of sharing of commercial information or sales of a product/service and can lead to business growth or increased customer loyalty. Intention is a general dimension for researchers of behavioral research to forecast human actions. Numerous investigations have verified that behavioral intention has a significant correlation with actual behavior. Therefore, the intention was chosen in this research to conduct social commerce as an outcome

variable. Meanwhile the consumer's attitude toward social commerce may be affected by the actual behavior of their activities in the group or community [14]. One of the main factors to determine consumer behavior is the social interaction of members in a group [15]. Consumers intend to share their shopping experiences with their peers or members in a community, and this sharing of experiences or information is valuable for consumers [1]. The quality and quantity of information provided by consumers, such as customer reviews and ratings, influence social commerce intention [16].

2.2 Transactive Memory Capability as Network Characteristic

Network structure characteristics can improve the interaction between individuals and provide some useful and emotional support to the users [17]. Transactive memory refers to a shared memory system, through which the necessary information and knowledge are obtained using an external repository. It revolves around knowing the person who possesses the necessary information and knowledge rather than remembering the knowledge and information itself [18]. Users of social networks can quickly get high-quality information by using their transactive memory and accurately filtering useful information to avoid information overloading. However, not all people have the same transaction memory on an individual level. This kind of memory is formed in different ways depending on such factors as the social environment and individual characteristics [19]. Individual differences can arise depending on the degree of interaction with other people and the ability to collect and use information. Thus, the formation and ability to use transactional memory that differs between individuals is defined as transactive memory capability [20]. Knowledge sharing and interaction through online communities and SNS creates opportunities for improving people's transactive memory capability [21].

2.3 Hypotheses

This research identified four major constructs which build up hypotheses: social support, relationship quality, transactive memory capability, and social commerce intention. Social interaction of consumers through SNS influence the purchase decision [21]. In the online context, social support encourages people to be more active and share their information and support other people [1]. They receive information and emotional support from other community members, which in turn forces them to use SNS and other social platforms when purchasing a product or service [3]. Furthermore, information provided by a third party affects the intention to buy [22]. Moreover, informational and emotional support in online communities can increase trust, commitment, and satisfaction in consumers [1]. Previous studies show that social support in SNS can bring psychological benefits to consumers and meet their social needs, which provide them with a commitment to their network and leads to more trust in the community itself [23]. Accordingly, the following two hypotheses can be established.

H1. The perception of social support in a SNS is positively associated with the user's social commerce intention.

H2. The perception of social support in a SNS has a positive effect on relationship quality between consumers and an e-vendor's website.

In the context of social commerce, when the relationship quality between a user and an SNS is high, users are more trusted and committed, and more satisfied with the services offered by the service provider [24]. Therefore, the social support from their social interactions can encourage them to re-use the system [25] and

influence their social commerce intention [26]. Improving relationship quality will positively affect the social commerce intention of users. It leads to the following hypotheses.

H3. Relationship quality has a positive effect on user's social commerce intention in SNSs.

Virtual communities are a group of individuals interacting in a social network due to common goals or interests, with a social interaction occurring in an online context [27]. Social media, which has the characteristics of a virtual community, facilitates knowledge-sharing activities by increasing self-efficacy and trust between users [28]. Previous studies on transactive memory capability show that frequent interaction and regular communication among team members is vital for the development of transactive memory capability [29]. Communication is an important factor affecting the growth of transactive memory capability as interaction and communication between community members allow them to understand who has what kind of knowledge [30]. Therefore, the following two hypotheses can be established.

H4. Transactive memory capability would moderate the effect of social support on relationship quality in SNSs.

H5. Transactive memory capability would moderate the effect of social support on user's social commerce intention in SNSs.

3. Empirical Test

3.1 Measurement Items and Data Collection

This research includes four constructs: social support as an independent variable, relationship quality as the mediating variable, transactive memory capability as moderating variable, and social commerce intention as a dependent variable. All constructs of this research were adopted from existing literature to increase the reliability and validity of the research. All questionnaire items were measured on a Likert-scale. A seven-point scoring range has been chosen, from 1 'strongly disagree' to 7 'strongly agree'. The survey for this research was conducted in South Korea, by asking individuals who are a member of Facebook to fill out paper questionnaires or sending them a link of an online version of the questionnaire. From online and paper questionnaires 195 responses were received, of which 35 were dropped due to incomplete data. A total of 160 usable questionnaires were prepared for data analysis. The variety of participants were aged between 20 and 50 years old, which is 89,4% of all respondents; 52% were male and 48% female. 36% of the participants have used Facebook for around 5-7 years, and 46% visit Facebook every day.

3.2 Reliability and Validity

Cronbach's α and Composite Reliability scores were measured to verify the reliability of the measurement. As show in the <Table 1>, Cronbach's α values of all factors are above 0.70. Also the validity of the measurement was tested by considering convergent validity and discriminant validity. Average variance extracted (AVE) values indicate convergent validity, which should be at least 0.50. As shown in the <Table 1>, all of the constructs have acceptable level. Discriminant validity is referring to the degree to which the construct is differing from one another empirically. It also measures the degree of differences between the overlapping construct. The discriminant validity can be assessed by Fornell-Lacker Criterion, which compares the square root of the average variance extracted (AVE) with the correlation of latent constructs. A latent

construct should better explain the difference of its indicator rather than the difference of other latent constructs. Therefore, the square root of each construct’s AVE should have a higher value than the correlations with other latent constructs. As shown in <Table 2>, the discriminant validity was confirmed as acceptable level.

Table 1. Reliability and Convergent Validity

Construct	Item	F.L	Cronbach α	C.R	AVE	Construct	Item	F.L	Cronbach α	C.R	AVE
Social Support	SS1	0.737	0.958	0.957	0.764	Social Commerce Intention	RQ13	0.735	0.942	0.942	0.643
	SS2	0.834					RQ14	0.753			
	SS3	0.809					SCI1	0.830			
	SS4	0.810					SCI2	0.771			
	SS5	0.910					SCI3	0.792			
	SS6	0.900					SCI4	0.760			
	SS7	0.986					SCI5	0.774			
Relationship Quality	RQ1	0.857	0.955	0.955	0.607	Transactive Memory Capability	SCI6	0.719	0.914	0.915	0.609
	RQ2	0.880					SCI7	0.827			
	RQ3	0.840					SCI8	0.876			
	RQ4	0.855					SCI9	0.854			
	RQ5	0.859					TMC1	0.843			
	RQ6	0.878					TMC2	0.625			
	RQ7	0.607					TMC3	0.725			
	RQ8	0.766					TMC4	0.864			
	RQ9	0.792					TMC5	0.653			
	RQ10	0.685					TMC6	0.854			
	RQ11	0.659					TMC7	0.859			
	RQ12	0.671					Note: F.L = Factor Loading, C.R = Composite Reliability				

Table 2. Discriminant Validity

Construct	Relationship Quality	Social Commerce Intention	Social Support	Transactive Memory Capability
Relationship Quality	0.779			
Social Commerce Intention	0.758	0.802		
Social Support	0.562	0.572	0.874	
Transactive Memory Capability	0.739	0.751	0.573	0.780

Note: The value on the diagonal is the square root value of AVE of each construct.

3.3 Result of Hypotheses Test

The research’s structural model was measured by using SmartPLS software version 3. The results are shown in the <Figure 1>. The PLS analysis supported Hypotheses H2 ($\beta = 0.222$, t-value=3.327), which states social support has a positive effect on relationship quality. Hypothesis H3 ($\beta = 0.433$, t-value=3.629) supported too, which the relationship quality would positively influence social commerce intention. The empirical test also showed that the moderating effects of transactive memory capability on the relationship between social support and relationship quality was positively significant and thus Hypothesis H4 ($\beta = 0.156$, t-value=3.925) is supported. However, Hypothesis H1 ($\beta = 0.117$, t-value=1.342) is not supported, which social support does not affect social commerce intention. Also, the results indicated no significant moderating effect of transactive memory capability on the relationship between social support and social commerce intention. As such, Hypothesis H5 ($\beta = -0.046$, t-value=0.749) is not supported. The results of the hypothesis verification are summarized in the <Table 3>. Regarding explanatory power, R² showed that almost 67% of the variance in the social commerce intention was accounted for by social support, relationship quality, and transactive

memory capability as the mediator variable. That means that social commerce intention was affected by social support, relationship quality, and the moderating effect of transactive memory capability. R^2 for relationship quality meant that almost 61% of the variance in relationship quality was accounted for by social support and the moderating effect of transactive memory capability.

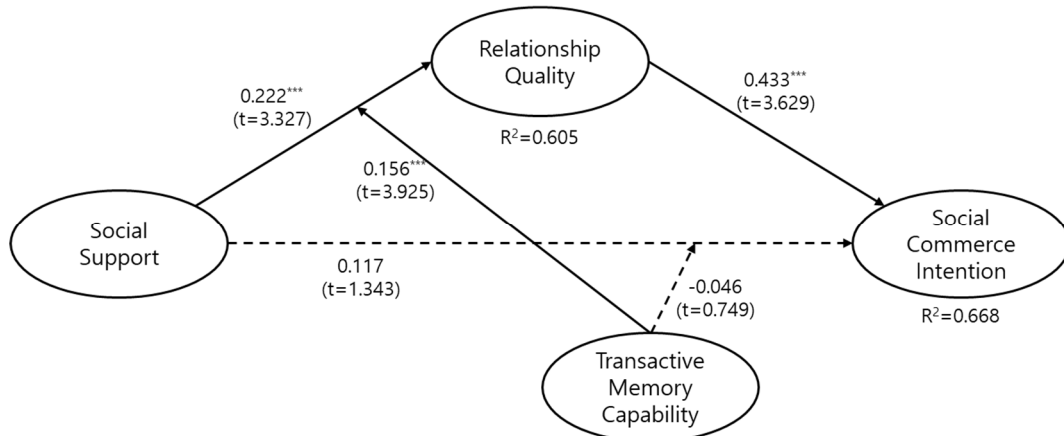


Figure 1. Research Results

Table 3. Summary of Hypotheses Test Results

No.	Path Name	Path Coefficient	t-Value	Result
H1	Social Support → Social Commerce Intention	0.117	1.343	Reject
H2	Social Support → Relationship Quality	0.222	3.327***	Accept
H3	Relationship Quality → Social Commerce Intention	0.433	3.629***	Accept
H4	TMC between Social Support → Relationship Quality	0.156	3.925***	Accept
H5	TMC between Social Support → Social Commerce Intention	-0.046	0.749	Reject

*** P<0.001, Note: TMC = Transactive Memory Capability

4. Concluding Remarks

4.1 Discussion

This research investigated the role of social support, relationship quality, and transactive memory capability on consumers’ intentions to share and receive information through social media. The research results showed that social support was found to be a significant determinant of consumers' relationship quality with the provider. This observation strongly supports previous studies: Social support plays a crucial role in relationship building in an online context. This finding is also consistent with previous literature in social psychology that suggested that if individuals receive relational benefits such as being cared for and being helped by others, they will form a positive relationship with the other side. However, when it comes to social commerce intention, this study did not succeed in validating the findings of previous studies. There are two possible explanations for this result: cultural settings and perceived cognitive and execution cost. Previous studies were conducted in various countries - the UK, Taiwan, and China and research data of previous studies were collected on Facebook, where each site is the most popular social networking or microblogging platforms in countries where the surveys were conducted. The data that we obtained from Facebook could not sufficiently reflect the social commerce habits of Korean market context, as there are many local alternatives to Facebook. Other impeding factors for the exchange of information are perceived cognitive and executive costs. Participants in

this study may have felt that sharing information is cognitively expensive and annoying since mental efforts to justify the review or comments and the time spent encoding it on a social commerce site are not worth the effort. These two possible explanations apprise an important contradiction: people value information from other consumers, but at the same time it does not necessarily mean that they will provide information to help others. We found that the significant effect of relationship quality on social commerce intention. Relationship quality plays a full mediating role in enhancing the intention to conduct social commerce. This finding is consistent with existing studies. Lastly, social network characteristics play an essential role in the field of social commerce as its consumers are social-oriented and make decisions thru social networks. Moreover, we found that consumers' transactive memory capability plays a heavy moderating role in the relation between social support and relationship quality. Consumers who receive social support, especially informational support through SNSs, will know who knows what kind of information. Hence, the consumer can quickly increase their transactive memory capability, which in turn positively impact to relationship quality by increasing trust and commitment. It means the person with high transactive memory capability can increase social commerce intention by sharing information via heightened relationship quality with other users. Also, study results show that moderating role of transactive memory capability between social support and social commerce intention is not significant. Since in the present study of social support does not affect the social commerce intention respectively, transactive memory capability also will not have moderating effect between social support and social commerce intention. Moreover, the lack of theoretical bases of transactive memory capability in social commerce field also can be the reason for such result. Generally speaking, the results in this study emphasize that increased quality of social media concerning social support, relationship quality, and transactive memory capability as well as providing a supportive culture in virtual groups through which business transactions are performed can facilitate social commerce.

4.2 Limitations and Future Research

This research has some limitations. First, this study has relied on a convenient sampling, and this may limit the generalizability and representativeness of the findings. Future research should employ broader and more random sampling techniques to revalidate and extend our findings. Second, the respondents are Facebook users, and the results may not be directly applicable to other social commerce platforms. Future research should widen the sample sources. Third, this research model is based on the Korean context, a country of popular cultural orientation. Additional studies should be conducted to explore the applicability of the research model in other cultural contexts. Fourth, given the scope of the study, other variables were not included in the model. Future studies could explore social commerce from different perspectives. Network behavior orientation could be other possible streams for research. Fifth, our study investigated the relationship quality between consumer and community, how the user is satisfied with the provider, or how the user trusts the community. Nevertheless, relationship quality can be investigated from other facets. For instance, trust towards members of the community. We hence call for future research to expand relationship quality and perhaps include more nuanced facets of this concept.

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