Understanding the impact of reciprocity on trust and trust performance in C2C social commerce

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Abstract: Recent studies suggested that understanding trust is a key for the success of s-commerce, particularly in the context of trading among users without the institutional protection (known as C2C s-commerce). However, previous studies mainly focused on one-way trust, the reciprocal nature of trust has been largely overlooked in C2C s-commerce. The objective of this study is to understand the effect of reciprocity on customers’ trust in s-commerce and trust performance (i.e., purchase and WOM intention). We propose two forms of reciprocity, namely generalized reciprocity and restricted reciprocity, based on the exchange pattern of shopper-shopper and shopper-vendor in s-commerce. In addition, this study examines how individual and contextual moderator (i.e., s-commerce shopping experience and community shared language) could impact the trust development. Data was collected from 287 shoppers in WeChat. The statistical analysis applies a method based on variance using partial least squares. The results demonstrate that two types of reciprocity positively affect trust in s-commerce. Customers’ trust performance is significantly affected by trust in s-commerce. Also, s-commerce shopping experience of customers is found to moderate the relationship between restricted reciprocity and trust in s-commerce. Discussion, conclusions and limitations based on these findings were also provided.

Keywords: C2C s-commerce, Trust, Reciprocity, Trust transfer, WeChat
1. Introduction

Social commerce (s-commerce) refers to using social media to support the commercial activities and to execute sales transactions (Kang & Johnson, 2015; Leong et al., 2018; Menon et al., 2016; Ng, 2013). S-commerce provides social connections to encourage customers to shop with their friends or other shoppers in the social network communities, whereas customers are mostly isolated from other consumers in e-commerce sites (Bansal & Chen, 2011; Cassandra & Kristin, 2017; Huang & Benyoucef, 2015). This implies that s-commerce involves the relationship of not only shopper-vendor but also shopper-shopper.

Prior literature points out that trust has become a critical factor in the success of s-commerce since it is the foundation of relationship building and purchase intention (Chen & Shen, 2015; Gibreel et al., 2017; Kim & Park, 2013; Liu et al., 2018; Ng, 2013; Shi & Chow, 2015; Zhang et al., 2015, 2016). Most s-commerce studies focus on the role of trust in the B2C context in which the vendors are usually companies who build fan pages on social media and sell products to social media users (Ng, 2013). However, little attention has been paid to the trust building in customer-to-customer (C2C) s-commerce. In B2C s-commerce, customers buy directly from companies’ websites through brand pages, whereas in C2C s-commerce, an individual user can act as a vendor to sell goods or services to other users (customers) (Che et al., 2017; Chen et al., 2016; Gibreel et al., 2017). Specifically, there are two types of C2C s-commerce. The first one such as Renren.com offers the third party identification to protect consumers from inappropriate vendor behavior and reduce the shopping risk (Bai et al., 2015). The second type refers to the transactions among users without an intermediary or guarantee policies. For example, WeChat and Instagram are nowadays popular C2C s-commerce that are lack of institutional protection mechanisms for transactions among users (Gibreel et al., 2017; Sun et al., 2016). In such a context, trust has become a more crucial issue since there involves more risks in transactions (Che et al., 2017; Chen & Shen, 2015; Gibreel et al., 2017; Ng, 2013; Yahia et al., 2018). However, little is known about the antecedents and consequences of trust in such a context (Che et al., 2017; Sharma et al., 2017). Thus, this study aims to understand the source and nature of trust and how it impacts consumer behaviors in C2C s-commerce, particularly in the context of trading among users without the institutional protection.

Among the few studies that examine trust in C2C s-commerce, trust was conceptualized by adopting traditional trust measures such as integrity, competence,
and benevolence (Che et al., 2017; Qin, 2017). Thus, trust in C2C s-commerce is generally regarded as one-way or unilateral in current literature since studies heavily focused on how customers trust vendors which is as the same as in the B2C context. However, in C2C s-commerce without institutional protection, both parties of the transaction perceive risks since it is common to see that customers require to receive the products before paying and s-vendors want the money before delivering goods (Tullberg, 2008). In addition, users could be either vendors or customers because they are allowed to both buy and sell products in the C2C s-commerce context. Therefore, in such a context, the trust building among s-commerce users become reciprocal rather than unilateral (Chen et al., 2009; Liang et al., 2011).

In this regard, prior trust literature emphasize that two-way trust in social relationships is founded on reciprocity (Blois, 1999; Hollis, 1998; Kwon & Lee, 2014; Srinivasan, 2004). The reciprocity is regarded as “You scratch my back (trust me), and I will do the same on yours (trust you back)” (Nguyen et al., 2010, p. 72). This reciprocal nature of trust represents a stronger relationship between the exchange parties compared to one-way trust (Kwon & Lee, 2014; Nguyen et al., 2010). In this sense, the concept of reciprocal trust is a dynamic process by which actions from each party result in trust between interacting parties (Serva et al., 2005). Without reciprocity in social exchanges, the relationships may be short-lived as the trust is not returned (Lahno, 1995; van den Bos et al., 2010). Thereby, this study proposes reciprocity to capture the trust-related action and reactions of both exchange parties.

Further, in extant literature, one’s trust in C2C s-commerce can be classified into trust in s-commerce vendors (s-vendors) (Gibreel et al., 2017; Yahia et al., 2018) and trust in shoppers (Chen & Shen, 2015; Ng, 2013; Qin, 2017). According to prior literature, the exchange pattern of reciprocity is different between shopper-shopper (Wasko et al., 2009) and shopper-vendor (Chen & Chen, 2004; Fei et al., 1992; Standifird, 2006). Following this doctrine, we further submit that the sources of reciprocal trust in C2C s-commerce has two dimensions, namely generalized reciprocity and restricted reciprocity (Uehara, 1990). Furthermore, this study investigates how these two sources of reciprocal trust contribute to customers’ trust in s-commerce and their trust performance. With respect to consumers’ trust performance, the purchase intention and word-of-mouth (WOM) intention are typically regarded as favorable outcomes of trust because they promote better relationships in s-commerce (Kim & Park, 2013). In addition, we consider individual and contextual characteristics (i.e., personal experience and community environment) as moderating variables on the relationship between reciprocity and
trust because particular contextual conditions would affect how reciprocity generates effects on trust (Mayer et al., 1995; Pai & Tsai, 2016).

2. Literature review

2.1. C2C social commerce

S-commerce is also known as social shopping, customers are either shopping to socialize with other shoppers as well as s-vendors or interacting with their online friends to shop collectively (Shin, 2013; Sun et al., 2016). This study defines s-commerce as the buying and selling activities that are supported by two types of social relationships (i.e., shopper-shopper and shopper-vendor) within social media. In this sense, customers can seek advice from trusted individuals such as their friends or group members in each stage of their decision-making process (Chen & Shen, 2015; Ng, 2013). In addition, s-vendors can promote special offers, facilitate sale opportunities, and improve social interaction with their customers (Kang & Johnson, 2015; Ng, 2013).

Previous s-commerce studies mainly focused on two types of social relationships: (1) the relationship of shopper-shopper, including social interaction (Ng, 2013; Wang & Chang, 2013), social trust in one’s social network (Chen & Shen, 2015; Fu et al., 2018), social support (Liang et al., 2011; Zhang et al., 2014), social capital (Wu & Li, 2017), social identity (Ko, 2018), and social climate of friendship group (Sun et al., 2016). (2) the relationship of shopper-vendor, including the trust characteristics of s-vendors (Kim & Park, 2013; Yahia et al., 2018) and swift guanxi with s-vendors (Lin et al., 2018; Lin et al., 2017). Trust has been considered an essential element in major s-commerce studies (Sharma et al., 2017). In the context of C2C s-commerce where there is a lack of institutional protection, requiring to receive the products before paying and requesting the deposit before product delivery may result in distrust between customers and vendors (Tullberg, 2008). In such a context, trust building has become a dynamic process rather than a static status. Thus reciprocal trust becomes essential to promote transactions between exchange parties (Chen et al., 2009; Liang et al., 2011). In addition, reciprocity promotes prosocial behaviors and discourages selfish behaviors in order to solve problems or support each other within the online social communities (Chiu et al., 2006; Kumi & Sabherwal, 2018). Thereby, building reciprocity in s-commerce is critical for shoppers and s-vendors (Chen & Shen, 2015; Chen et al., 2009; Liang et al., 2011). Although a few studies have examined one-way trust in these two types of social relationship in s-commerce
(Che et al., 2017; Qin, 2017), there is lack of an empirical study to examine the nature of reciprocal trust in the C2C s-commerce context (Chen et al., 2009).

2.2. The reciprocal nature of trust

Moorman et al (1992, p. 315) referred to trust as “a willingness to rely on an exchange partner in whom one has confidence”. Gefen (2000) defined trust as one’s confidence in or favorable expectations of the action of another individual based on the past interactions. Previous studies have also pointed out that trust is dyadic and reciprocal in nature (Kwon & Lee, 2014; Serva et al., 2005). Nguyen et al. (2010, p. 72) regarded the reciprocal nature of trust as “two users trusting each other”. In other words, a trustor may trust others hoping to gain trust in return, while a trustee returns trust to the trustor. Likewise, trust has been regarded as essential for social exchange relationships and the notion of reciprocity is a core concept in social exchange theory (SET) (Cho et al., 2009; Gouldner, 1960; Kwon & Lee, 2014). The SET posits that people expect something in return (i.e., trust) for which they have given in the interpersonal relationships (Blau, 1964; Crosby et al., 1990). Without reciprocity, the relationships between exchange parties would be terminated (Song et al., 2012).

The concept of reciprocal trust is defined by Serva et al. (2005, p. 627) as “the trust that results when a party observes the actions of another and reconsiders one’s attitudes and subsequent behaviors based on those observations”. Reciprocal trust implies an active process of exchange of trust between individuals by observing the trust-relation action in both parties (Serva et al., 2005). In this sense, we capture the reciprocal trust through the concept of reciprocity because it is an interaction of giving and receiving trust-related actions (e.g. favors or benefits) between two parties (Blau, 1964).

Reciprocity is regarded as “voluntarily repaying a trusting move at a later point in time, although defaulting on such repayment is in the short-term self-interest of the reciprocator” (Gunnthorsdottir et al., 2002, p. 50). The concept of reciprocity is widely applied in studies examining exchange relationships such as relationship marketing (Bagozzi, 1995; Dahl et al., 2005; Lagace, 1991; Pervan et al., 2009) and knowledge sharing (Chan & Li, 2010; Wang et al., 2016). Similarity, s-commerce users would engage in exchange activities and take risky actions if they perceive the norm of reciprocity (Liang et al., 2011). However, our knowledge of how trust is built upon reciprocity is limited in the context of s-commerce.
According to prior literature, there are two different principles of reciprocity, namely restricted (or direct) reciprocity and generalized (or indirect) reciprocity (Uehara, 1990). In this regard, Bagozzi (1995) pointed out that there are two major functions of reciprocity. At the societal level, general reciprocity helps create and maintain balance in social relation and establish solidarity. At the individual level, restricted reciprocity confirms the need to reciprocate and promotes predictability.

2.2.1. Restricted reciprocity

In the form of exchange with restricted reciprocity, two individuals exchange benefits with each other. For example, A gives to B, and B returns to A, B’s reciprocation of A’s giving is direct (Uehara, 1990; Wu & Korfiatis, 2013). Uehara (1990, p. 526) presented restricted reciprocity as “a high degree of accountability in each partner's behavior. There is much effort to maintain an equality in exchange rates between partners and to settle inequalities within a short period of time.” In other words, when one fails to return favors this party is considered as untrustworthy and may lose future exchange opportunities with others (Bian & Ang, 1997; Lee & Dawes, 2005; Wang, 2007). In this sense, individuals in the dyadic relationship follow the principle of reciprocity to perform favor giving and receiving (Bian & Ang, 1997; Lee & Dawes, 2005). In this regard, restricted reciprocity exists in the vendor-shopper relationship in s-commerce since the flow of favors is confined in the dyadic relationship and the favor is hardly reciprocated by the third party (i.e., other vendors or shoppers).

2.3.2. Generalized reciprocity

Ekeh (1974, p. 52) regarded generalized reciprocity as “occupies a unitary system of relationships in that it links all parties to the exchange together in an integrated transaction in which reciprocations are indirect, not mutual”. For instance, A gives to B but receives back from a third party, C (Uehara, 1990; Wu & Korfiatis, 2013). Generalized reciprocity is well-suit to represent the form of social exchange in the groups or communities as it produces stronger bonds of solidarity (Molm et al., 2007; Whitham & Clarke, 2016). In social capital literature, Wasko and Faraj (2005) indicated that generalized reciprocity may help for sustaining collective actions (e.g., knowledge sharing) in the online communities. Therefore, social capital researchers claimed that generalized reciprocity promotes cooperation and coordination for collective benefits within a social community (Wasko et al., 2009; Wu & Korfiatis,
2013; Yuan et al., 2018). Unlike restricted exchanges between two persons (i.e., shopper-vendor relationship), generalized reciprocity occurs when one’s favor is not reciprocated by the recipient, but by a third party in a community (Wasko & Faraj, 2005). In this sense, we propose that generalized reciprocity exists in shopper-shopper relationships in s-commerce because the target of offering help or getting help is diffuse in such a context (Chen & Shen, 2015; Liang et al., 2011; Ng, 2013).

3. Theory and hypothesis

In this section, we derive the hypotheses based on theoretical base and propose our research model as shown in Figure 1.

3.1. Reciprocity and trust in s-commerce

According to social exchange theory, reciprocity builds trust (Blau, 1964). With respect to generalized reciprocity, if the users’ effort of contributing knowledge is reciprocated by other users, they are likely to trust each other in the online communities (Chiu et al., 2006). Chiu et al.’s (2006) study found that generalized reciprocity exerted positive and strong effects on trust in the social network community. In addition, studies found that the restricted reciprocity between salespeople and customers (i.e., mutual disclosure in relational selling behavior) has a positive effect on trust in salesperson (Crosby et al., 1990). Similarly, previous studies in e-commerce showed that the restricted reciprocity between vendors and customers positively affect trust in sellers (Chiu et al., 2018; Chong et al., 2018). We argue that one perceives a strong sense of reciprocity of shoppers and s-vendors leads to trust in these two groups of people, and such trust leads to trust in the entire s-commerce environment according to trust transfer theory (TTT). The TTT posits that one’s trust in an unknown entity can be derived from his/her trust in another known entity who has certain association with the unknown entity (Lim et al., 2006; Stewart, 2003). Therefore, having a strong sense of reciprocity, including generalized and restricted reciprocity, leads to greater trust in s-commerce. This leads to the following hypotheses:

H1a: Generalized reciprocity is positively related to customers’ trust in s-commerce.
H1b: Restricted reciprocity is positively related to customers’ trust in s-commerce.

3.2. Trust in s-commerce and trust performance
Previous studies contended that if s-commerce environment is reliable and trustworthy, customers will make purchases and share their own consumption experience with others (Chen & Shen, 2015; Kim & Park, 2013; Ng, 2013; Shin, 2013). The findings in previous studies confirmed that trust in s-commerce environment, including trust in social network communities and trust in s-vendors, positively affects purchase intention and WOM intention (Chen & Shen, 2015; Kim & Park, 2013; Ng, 2013). We thus propose that customers’ trust in s-commerce may contribute to trust performance.

H2a: Customers’ trust in s-commerce is positively related to their purchase intention.
H2b: Customers’ trust in s-commerce is positively related to their WOM intention.

3.3. Community and individual moderating effects

Previous studies on reciprocity suggested that individual and contextual attributes should be considered in ones’ decision-making processes because the reciprocity alone might not be enough to trigger their decision outcomes (e.g. intention to share information) (Pai & Tsai, 2016). According to literature, restricted reciprocity and generalized reciprocity can be classified into individual and societal levels, respectively (Bagozzi, 1995; Wasko & Faraj, 2005). We thus propose a contingency approach to develop individual moderator for restricted reciprocity and community moderator for generalized reciprocity. For community moderator, previous studies point out that the atmosphere that encourages communication in the community, which has a positive moderating effect on the relationship between reciprocity and users’ intention to share information in communities (Pai & Tsai, 2016). We argue that when shoppers use common terms or understandable narrative forms to communicate in the online community, this shared language facilitates the relationship between reciprocal exchange among shoppers (i.e., helping each other to solve shopping difficulties) and trust development in s-commerce (Chiu et al., 2006). For individual moderator, the experience of shopping in s-commerce platforms contributes to individuals’ knowledge and expertise in purchasing products (Shi & Chow, 2015). Customers with a rich shopping experience should be better able to exploit s-vendors’ offerings. They are more likely to be trust in s-commerce because they have more realistic expectations of reciprocity from s-vendors (Chang & Chen, 2008; O. Pappas et al., 2014). Based on above, we propose the following:

H3a: Community shared language positively moderates the relationship between generalized reciprocity and customers’ trust in s-commerce.
H3b: Customers’ s-commerce shopping experience positively moderates the relationship between restricted reciprocity and their trust in s-commerce.

Figure. 1. Research model

4. Results

4.1. Research method

For data collection, we conducted an online survey among customers on WeChat, which is the leading s-commerce platform in China (Statista, 2018). The subjects of this study were WeChat users who have purchased products or services from individual users (i.e., vendors). This study used the paid sample service of Sojump (https://www.wjx.cn/), which is a popular online survey platform with more than 2.6 million sample resources from different cities in China, to ensure the quality of data. Sojump awarded each valid respondent with points or gifts. In total we have collected 287 valid responses. This study adopted measurement items from prior literature to measure the constructs. We modified the wording of some items to fit our research context. Appendix A shows the details of the measurement items and their sources. Multi-item perceptual scales with a five-point Likert scale were used to measure all constructs. Table 1 summarizes the descriptive information of the valid sample.

Table 1. Respondents’ profile (N = 287)
4.2. Data analysis

The component-based structural equation modeling technique partial least squares (PLS) was used to assess the measurement and structural model. PLS is preferred method when data are non-normally distributed as it makes minimal demands on normal distribution (Chin, 1998). Therefore, Smart PLS 2.0 was employed to analyze the research model in this study.

4.3. Instrument validation

The convergent validity and discriminant validity were examined in this study (Chin, 1998). Table 2 shows that all loadings of the items are above 0.70 except RR1 and RR2. Table 2 also illustrates that the value of AVEs is greater than 0.5, ranging from 0.585 to 0.748. The composite reliability ranges from 0.785 to 0.866, which is greater than 0.7. Hence, our results demonstrate convergent validity of all constructs. In addition, all measurements’ discriminant validity is adequate as the AVE’s square root of each construct is larger than the correlations between it and all other constructs. As shown in the table 3, the degree of discriminant validity is fair.

4.4. Testing of structural model

<table>
<thead>
<tr>
<th>Measure</th>
<th>Item</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>101</td>
<td>35.2%</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>186</td>
<td>64.8%</td>
</tr>
<tr>
<td>Age</td>
<td>Below 18</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>18–24</td>
<td>36</td>
<td>12.5%</td>
</tr>
<tr>
<td></td>
<td>25–30</td>
<td>106</td>
<td>36.9%</td>
</tr>
<tr>
<td></td>
<td>31–40</td>
<td>107</td>
<td>37.3%</td>
</tr>
<tr>
<td></td>
<td>41 – 50</td>
<td>31</td>
<td>10.8%</td>
</tr>
<tr>
<td></td>
<td>Above 50</td>
<td>7</td>
<td>2.4%</td>
</tr>
<tr>
<td>Education</td>
<td>High school or below</td>
<td>8</td>
<td>2.8%</td>
</tr>
<tr>
<td></td>
<td>Diploma or relative course</td>
<td>46</td>
<td>16.0%</td>
</tr>
<tr>
<td></td>
<td>Bachelor’s degree</td>
<td>214</td>
<td>74.6%</td>
</tr>
<tr>
<td></td>
<td>Master’s degree or above</td>
<td>19</td>
<td>6.6%</td>
</tr>
<tr>
<td>S-commerce</td>
<td>Less than 1 year</td>
<td>56</td>
<td>19.5%</td>
</tr>
<tr>
<td>shopping experience</td>
<td>1–2 years</td>
<td>113</td>
<td>39.4%</td>
</tr>
<tr>
<td></td>
<td>3–5 years</td>
<td>91</td>
<td>31.7%</td>
</tr>
<tr>
<td></td>
<td>More than 5 years</td>
<td>27</td>
<td>9.4%</td>
</tr>
</tbody>
</table>
Figure 2 illustrates the results of the hypothesis testing of the structural model, including the estimated path coefficients and the variance explained (R² value) by the dependent variables. As shown in Figure 2, the model explains 39.9% of the variance in customers’ trust in s-commerce, which is significantly determined by restricted reciprocity (β=0.448, p<0.001) and followed by generalized reciprocity (β=0.126, p<0.05). Therefore, H1a and H1b are supported. In addition, the model explains 27% of the variance in the intention of customers to purchase from s-commerce and 30.9% of the variance in WOM intention, which is significantly influenced by trust in s-commerce (β=0.520, p<0.001) and (β=0.556, p<0.001) respectively, providing support for H2a and H2b. The moderating effect of prior s-commerce shopping experience on the relationship between restricted reciprocity and trust in s-commerce is positively significant (β=0.149, p<0.05), suggesting that H3b is supported. However, the moderating effect of community shared language on the relationship between generalized reciprocity and trust in s-commerce is not significant (β=0.025), thus rejecting H3a.

![Diagram](image)

**Figure. 2. Structural model for the full sample (N = 287).**

Note: *p<0.05; **p<0.01; ***p<0.001. Not significant: n.s.

In addition, the mediating effect of customers’ trust in s-commerce between reciprocal trust and trust performance is examined in this study. We conducted the mediation
test by following the four steps proposed by Baron and Kenny (1986). Table 4 shows that all Sobel-z values are significant at p<0.001, indicating trust in s-commerce plays mediating roles between these respective IV and the DV in the control of mediator. A significant path value of column 5 demonstrated that the respective mediator plays a partial mediating role between the IV and DV except the relationship between restricted reciprocity and purchase intention. Our findings illustrated that trust in s-commerce fully mediates the influence of restricted reciprocity on purchase intention. We now interpret these results below.

Table 2. Mean, standard deviation, and reliability tests for the constructs.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Items</th>
<th>Factor Loading</th>
<th>Mean</th>
<th>Grand mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generalized reciprocity (GR)</td>
<td>GR1</td>
<td>0.738</td>
<td>4.140</td>
<td>4.129</td>
<td>0.518</td>
</tr>
<tr>
<td>CR = 0.785, AVE = 0.647</td>
<td>GR2</td>
<td>0.865</td>
<td>4.120</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restricted reciprocity (RR)</td>
<td>RR3</td>
<td>0.884</td>
<td>3.740</td>
<td>3.688</td>
<td>0.672</td>
</tr>
<tr>
<td>CR = 0.856, AVE = 0.748</td>
<td>RR4</td>
<td>0.845</td>
<td>3.640</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trust in s-commerce (Trust)</td>
<td>Trust1</td>
<td>0.803</td>
<td>3.660</td>
<td>3.755</td>
<td>0.557</td>
</tr>
<tr>
<td>CR = 0.829, AVE = 0.618</td>
<td>Trust2</td>
<td>0.779</td>
<td>3.850</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trust3</td>
<td>0.774</td>
<td>3.760</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community shared language (CSL)</td>
<td>CSL1</td>
<td>0.799</td>
<td>4.030</td>
<td>4.087</td>
<td>0.535</td>
</tr>
<tr>
<td>CR = 0.809, AVE = 0.585</td>
<td>CSL2</td>
<td>0.751</td>
<td>4.200</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CSL3</td>
<td>0.745</td>
<td>4.020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchase Intention (INT)</td>
<td>INT1</td>
<td>0.863</td>
<td>4.070</td>
<td>4.129</td>
<td>0.559</td>
</tr>
<tr>
<td>CR = 0.858, AVE = 0.669</td>
<td>INT2</td>
<td>0.746</td>
<td>4.210</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>INT3</td>
<td>0.840</td>
<td>4.110</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WOM Intention (WOM)</td>
<td>WOM1</td>
<td>0.792</td>
<td>3.800</td>
<td>3.836</td>
<td>0.616</td>
</tr>
<tr>
<td>CR = 0.866, AVE = 0.619</td>
<td>WOM2</td>
<td>0.716</td>
<td>3.940</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WOM3</td>
<td>0.800</td>
<td>3.870</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WOM4</td>
<td>0.833</td>
<td>3.720</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: *RR1 and RR2 were deleted because of low factor loading (<0.7).

Table 3. Discriminant validity of variable constructs.
<table>
<thead>
<tr>
<th>Constructs</th>
<th>GR</th>
<th>CSL</th>
<th>INT</th>
<th>RR</th>
<th>Trust</th>
<th>WOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>GR</td>
<td>0.804</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSL</td>
<td>0.516</td>
<td>0.765</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INT</td>
<td>0.412</td>
<td>0.410</td>
<td>0.818</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RR</td>
<td>0.226</td>
<td>0.206</td>
<td>0.337</td>
<td>0.865</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trust</td>
<td>0.341</td>
<td>0.390</td>
<td>0.520</td>
<td>0.528</td>
<td>0.786</td>
<td></td>
</tr>
<tr>
<td>WOM</td>
<td>0.351</td>
<td>0.444</td>
<td>0.612</td>
<td>0.448</td>
<td>0.556</td>
<td>0.787</td>
</tr>
</tbody>
</table>

Note 1: The bold diagonal is the square root of AVE.

Table 4. Results of mediating effect test.

<table>
<thead>
<tr>
<th>IV</th>
<th>M</th>
<th>DV</th>
<th>Sobel-z (p-value)</th>
<th>IV-&gt;DV (p-value)</th>
<th>Mediation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generalized reciprocity</td>
<td>Trust in s-commerce</td>
<td>Purchase Intention</td>
<td>4.241 (p&lt;0.001)</td>
<td>0.267 (p&lt;0.001)</td>
<td>Partial</td>
</tr>
<tr>
<td>Generalized reciprocity</td>
<td>Trust in s-commerce</td>
<td>WOM Intention</td>
<td>5.229 (p&lt;0.001)</td>
<td>0.190 (p&lt;0.01)</td>
<td>Partial</td>
</tr>
<tr>
<td>Restricted reciprocity</td>
<td>Trust in s-commerce</td>
<td>Purchase Intention</td>
<td>6.268 (p&lt;0.001)</td>
<td>0.089 n.s.</td>
<td>Full</td>
</tr>
<tr>
<td>Restricted reciprocity</td>
<td>Trust in s-commerce</td>
<td>WOM Intention</td>
<td>5.977 (p&lt;0.001)</td>
<td>0.218 (p&lt;0.001)</td>
<td>Partial</td>
</tr>
</tbody>
</table>

Note: *p<0.05; **p<0.01; ***p<0.001; n.s.: not significant

5. Concluding remarks

The findings of this study confirm the impact of reciprocity on customers’ trust in s-commerce and their subsequent trust performance. On one hand, for generalized reciprocity, our finding is consistent with previous knowledge sharing studies arguing that users believe their effort can be reciprocated by other users, they are likely to place trust in the online social communities (Chiu et al., 2006). Likewise, the results in this study support the idea in C2C s-commerce context (Chen et al., 2009; Liang et al., 2011; Liu et al., 2016). The primary purpose of s-commerce is that shoppers freely share their shopping experiences and information about goods or services within the social communities (e.g., WeChat’s friend circle) in order to help each other making a better-informed shopping decision in a reciprocal way (Chen & Shen, 2015; Ng, 2013). In this regard, generalized reciprocity helps promote the trust among users in social shopping environment. On the other hand, for restricted reciprocity, our results show that the reciprocity developed in seller-buyer relationship can be transferred to the trust in s-commerce environment. In addition, our findings...
illustrate that restricted reciprocity ($\beta=0.448, p<0.001$) is a more important predictor of trust in s-commerce than generalized reciprocity ($\beta=0.126, p<0.05$), suggesting that customers rely more on the restricted exchange than the generalized exchange when developing their trust in social shopping environment. One possible explanation may be that, since the high level of risk and uncertainty in s-commerce is derived from the vendors’ inappropriate selling behavior (Kim & Park, 2013), once the reciprocal trust is developed in vendor-customer relationship, the risk will be greatly lowered, which in turn contributes more to customers’ trust in s-commerce. In contrast, customers believe their friends or other shoppers will not do harmful things to them because they have little to gain by providing inaccurate information on s-vendors (Pavlou & Gefen, 2004), the reciprocal trust among shoppers contributes less to the trust in s-commerce environment.

In regard to the consequences of trust, the result in this study is consistent with prior literature that trust in s-commerce environment facilitates customers’ trust performance (Chen & Shen, 2015; Kim & Park, 2013; Lien & Cao, 2014). The more consumers trust in s-commerce, the more likely they are to show purchase and WOM intention. In addition, we found that the effect of generalized reciprocity on trust performance is partially mediated by s-commerce trust. An interesting result is that the effect of restricted reciprocity on purchase intention is fully mediated by trust in s-commerce, whereas its effect on WOM intention is partially mediated by trust in s-commerce. It implies that customers’ trust in s-commerce, as a mediating attitude, plays a significant role in predicting customers’ trust performance in C2C s-commerce. The extent to which customers will purchase in s-commerce largely relies on their trust in s-commerce. Besides, our findings shed light on the moderating role of individual and contextual factor could moderate the reciprocity and trust development in s-commerce. When customers have a rich shopping experience, they tend to depend more on restricted reciprocity to develop their trust in social shopping environment. However, our results show that community shared language does not moderate the relationship between generalized reciprocity and trust in s-commerce. Thus, shared language does not help build trust in s-commerce from generalized reciprocity.

5.1. Theoretical implications

First, the existing literature mainly treated trust in s-commerce as unilateral and paid little attention to the reciprocal nature of trust in such a context (Song, 2009), especially when there is a lack of institutional protection. To enrich the literature,
this study offers a strong theoretical support that reciprocity has a significant influence on trust in C2C s-commerce. Second, we categorized two types of reciprocity based on generalized and restricted exchange principle. We examined their different impacts on s-commerce trust and find that the effect of restricted reciprocity on s-commerce trust is stronger than generalized reciprocity. Third, we confirm the moderating effect of customers’ s-commerce shopping experience between restricted reciprocity and trust in s-commerce.

5.2. Managerial implications

Our study provides empirical guidance for the management and operation of C2C s-commerce. First, our results reveal that the influence of generalized reciprocity encourages trust development in s-commerce. Managers thus should encourage shoppers to help each other in s-commerce such as developing a reward system to give credits or incentives for reciprocal behaviors among users. Second, for s-vendors in C2C s-commerce, it is suggested that they conduct reciprocal behaviors such as offering discounts or small gifts regularly in order to promote trust building and favorable outcomes. S-vendors should strictly follow the rule of reciprocity to do businesses with customers. Third, since trust in s-commerce is a key mediator between two types of reciprocity and trust performance, managers should improve the trustworthy of their platforms such as encouraging users to report inappropriate behavior through a reporting system. A reliable s-commerce environment helps achieve a higher level of purchase and WOM intention. Fourth, when customers have less shopping experience, more resource should be offered to them in order to establish their trust in s-commerce.

5.3. Limitations and future research

This study has certain limitations that may restrict its generalization. First, although C2C s-commerce is a worldwide application, we only collected data from WeChat, which is one of the leading s-commerce platforms in China. Future studies are encouraged to replicate the research in different settings. Second, a cross-cultural research is recommended for future researchers to compare the impact of two types of reciprocity on trust and their subsequent trust performance in different countries.

6. References:


Chiu, Chih, Ortiz, & Wang. (2018). The contradiction of trust and uncertainty from the viewpoint of swift guanxi. Internet Research (just-accepted), 00-00.


Huang, & Benyoucef. (2015). User preferences of social features on social commerce


Pervan, Bove, & Johnson. (2009). Reciprocity as a key stabilizing norm of interpersonal marketing relationships: Scale development and validation.


7. Appendix A: Measurement items

<table>
<thead>
<tr>
<th>Factors</th>
<th>Code</th>
<th>Measurement items</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restricted reciprocity (RR)</td>
<td>RR1*</td>
<td>If I buy from my WeChat vendors, he/she would provide a discount to me.</td>
<td>(Ou et al., 2013)</td>
</tr>
<tr>
<td></td>
<td>RR2*</td>
<td>WeChat vendors and I provide a positive comment to each other.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RR3</td>
<td>WeChat vendors and I help each other.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RR4</td>
<td>WeChat vendors and I proved to be friends by doing a favor for each other.</td>
<td></td>
</tr>
<tr>
<td>Generalized reciprocity (GR)</td>
<td>GR1</td>
<td>In WeChat community, I know that other shoppers will help me, so it's only fair to help shoppers.</td>
<td>(Chiu et al., 2006)</td>
</tr>
<tr>
<td></td>
<td>GR2</td>
<td>In WeChat community, I believe that shoppers would help me if I need it.</td>
<td></td>
</tr>
<tr>
<td>Community shared language (CSL)</td>
<td>CSL1</td>
<td>In WeChat community, the shoppers use common terms or jargons.</td>
<td>(Chiu et al., 2006)</td>
</tr>
<tr>
<td></td>
<td>CSL2</td>
<td>In WeChat community, shoppers use understandable communication pattern during the discussion.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CSL3</td>
<td>In WeChat community, shoppers use understandable narrative forms to post messages.</td>
<td></td>
</tr>
<tr>
<td>Trust in s-commerce (Trust)</td>
<td>Trust1</td>
<td>WeChat shopping can be counted on.</td>
<td>(Li et al., 2006)</td>
</tr>
<tr>
<td></td>
<td>Trust2</td>
<td>WeChat shopping has my confidence.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trust3</td>
<td>WeChat shopping has high integrity.</td>
<td></td>
</tr>
<tr>
<td>Purchase Intention (INT)</td>
<td>INT1</td>
<td>I will intend to go WeChat shopping.</td>
<td>(Chow &amp; Chen, 2009)</td>
</tr>
<tr>
<td></td>
<td>INT2</td>
<td>I will try to go WeChat shopping.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>INT3</td>
<td>I will plan to go WeChat shopping.</td>
<td></td>
</tr>
<tr>
<td>WOM Intention (WOM)</td>
<td>WOM1</td>
<td>I would tell others positive things about WeChat shopping.</td>
<td>(Kim &amp; Park, 2013)</td>
</tr>
<tr>
<td></td>
<td>WOM2</td>
<td>I would provide others with information on WeChat shopping.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WOM3</td>
<td>I am likely to recommend WeChat shopping to my friends or acquaintances.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WOM4</td>
<td>I am likely to encourage others to consider WeChat shopping.</td>
<td></td>
</tr>
</tbody>
</table>

Note: *RR1 and RR2 were deleted because of low factor loading (<0.7).