

A trust model for consumer conversion in community-based group buying: the dual roles of group leaders

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Abstract

Purpose – In the presence of coronavirus disease 2019 (COVID-19), due to the social distance restriction, consumers' regular consumption behaviors and patterns have been changing fundamentally. Thereafter, an innovative group buying model has emerged and developed explosively with a specific focus on consumer's location, known as community-based group buying (CGB). The purpose of this paper is to investigate the transfer mechanism of user's trust in dyadic contexts of social and commercial role-playing in the CGB program.

Design/methodology/approach – This study adopts an empirical research method, with an online and offline questionnaire survey, a total of 382 responses have been obtained. Then, both descriptive analysis and hierarchical regression analysis are conducted to explore the dual roles of group leader and its corresponding effects on consumers' trust (i.e. emotional trust and behavioral trust) and engagement actions (i.e. purchase and share) in the CGB program.

Findings – Results indicate that resident's trust and their perception of group leader's friend role can positively enhance their engagement actions in the CGB programs. Meanwhile, for the purpose of profit maximization, the group leader is more willing to play a friend role in transactions no matter whether the role conflict exists.

Originality/value – Research findings provide some managerial insights for CGB platform on the selection and training of group leaders and the incentive mechanism design.

Keywords Community-based group buying, Social commerce, Trust theory, Role theory

Paper type Research paper



1. Introduction

The increased popularity of social networking sites has opened opportunities for new business models of electronic commerce, often referred to as social commerce (Liang and Turban, 2011). This business model develops in tandem with the evolution of e-commerce and advancement of social media technologies, and has become a ubiquitous but attracting format for consumers to participate in. As it offers a more social, innovative and collaborative way to launch a business model, social commerce has experienced significant expansion during the last few years, showing great value and development potential.

The definition of the social commerce is various. It can be defined as word-of-mouth (WOM) applied to e-commerce or a more social, creative and collaborative approach used in online marketplace or even more comprehensive due to its interdisciplinary character. Social commerce is mainly based on marketing, computer science, sociology and psychology. The distinction between social commerce and e-commerce is the sociality, which directly attributes their different commercial goals. In another words, social commerce orients towards social goals such as networking, collaborating and information sharing more than business goals (Wang *et al.*, 2012).

Group buying, as a branch of social commerce, has a great market in East Asia. With the great population and upgraded consumption, the model of group buying which encompasses the notion of family, community and connection welcomes its own booming. The main idea of this business model is to recruit enough people to generate a sufficient volume of orders to create the basis for a lower transaction price. Typically, the larger the number of orders, the more consumers will wish to participate (Kauffman *et al.*, 2010). In traditional group buying programs, quantity discounts are offered based on buyers' aggregated purchasing quantity, instead of individual purchasing quantities (Chen and Roma, 2011). To be specific, the considerable buyer's purchasing quantity help consumers improve their bargaining power, which means only when the quantity reaches a certain level can buyers get an acceptable price. However, in this mode, the consumers who order in the beginning of a program may undertake the cost of time and effort (Kauffman *et al.*, 2010). In addition, traditional group buying is becoming less competitive when the mainstream e-commerce platforms offer homogeneous products with similar prices. Nowadays, more and more consumers hold a relational view while purchasing and emphasized the importance of social and psychological factors (e.g. trust and commitment) (Wang *et al.*, 2016). In another words, individuals are prone to execute the transaction with the relationships of trust and sociality. This tendency gradually leads to an evolution of traditional group buying.

In the presence of coronavirus disease 2019 (COVID-19), due to the social distance restriction, consumers' regular consumption behaviors and patterns have been changing fundamentally (Shi *et al.*, 2021). Thereafter, another innovative group buying model has emerged and developed explosively with a specific focus on consumer's location, known as community-based group buying (CGB). Its feature allows a group of residents with the same apartment compound to get discounts by buying together in bulk. CGB is a kind of combination of online and offline shopping consumption behavior in the living communities, and private social networks in reality helps establish a much stronger relationship between this novel kind of business (Lan and Yu, 2021; Su *et al.*, 2021). This program composes four main players, namely, the suppliers, the group buying platform, the recruited group leaders and the targeted residents (consumers). In particular, the platform enters a community through recruiting group leaders (usually stay-at-home moms, members of the proprietor's committee or retail storekeepers in the community). Then, the leaders are responsible for consumer acquisition (i.e. people lived in the same community are invited to join the group chat), product promotion and sales (i.e. the leader posts the group buying program information and residents place order directly in the group chat). After that, the merchant sends goods to the community, and the group leader completes the delivery of goods according to the ordering requirements. Thus, according to its unique features (i.e. sociality and trust), the group leader becomes the key character and mediator between the platform and consumers.

Most of the studies on CGB are mainly based on consumer factors (e.g. perceived value, trust, involvement) and environment factors (e.g. technical environmental characteristics and susceptibility interpersonal influence) (Che *et al.*, 2015; Shi and Liao, 2017; Sharma and Klein, 2020; Fernandes *et al.*, 2021). However, few studies have explored the factors on group leader's individual influence in the transactions. According to the role theory, a role is generally defined as people's perception of themselves interacting with a certain group in a specific circumstance (Liu *et al.*, 2019). Amid dyadic social-commercial context of CGB, group leaders no longer simply play a stable, consistent role when group buying business activities are conducted. In other words, the group leader plays a dual-role in the process of CGB in most circumstances. They frequently change their roles depending on the different contexts (e.g. social and commercial context) and specific social network members (e.g. community resident and group leader) (Su *et al.*, 2021). They could be earnest and friendly neighbors in communities who are trusted by most residents. They also could be special discount information transfer, goods recommender, platform operator and indirect seller. Based on this kind of role-based perspective, group leader's role change can easily influence consumers' perceived trust, which has an indivisible and direct relation with the consumer's behavior. While this phenomenon of multiple roles has been observed and becomes more and more significant in many social commerce-based business models, it still has not been explored in depth (Liu *et al.*, 2019; Su *et al.*, 2021). To this end, we develop an integrated model explaining the transfer mechanism of user's trust in dyadic contexts of social and commercial role-playing. Particularly, this paper aims to investigate the following research questions.

- (1) How individual and third-party factors exert influence on the building of group leader's role-based trust in the CGB model?
- (2) Does group leader's role affect the trust functionality in dyadic social commerce environment and how it works?
- (3) Does this dual-role based trust contribute to the transformation of user's behavior, and what is the after-effects of this innovative behavior model?

The contribution of this study is two-fold. From the theoretical perspective, it provides an opportunity to analyze individual behavior from internal motivations in the social context. Furthermore, the potential role-related factors (such as role conflict) that may influence this role-based mechanism has been identified and analyzed from the role-based perspective. Therefore, the study on role-based group leader can help explore the mechanism to group buying consumption behavior, which has not been explored in-depth in previous studies. From the practical perspective, the CGB program has shown explosive growth in China and attracted great popularity in the industry. The outbreak of domestic pandemic prompts the demand of CGB, which made this market double the size of 2019 and reached almost 72 billion yuan in 2020. However, pertinent research from academia is quite limited. Therefore, with the analysis of group leaders' effect on consumers' purchase intention and behavior, research finding of this study may provide guidance for CGB platform on the selection of group leaders.

The rest of this study is organized as follows. In Section 2, a detailed review of pertinent studies is provided and the research gap is analyzed. In Section 3, we present the research model and the corresponding hypothesis. Section 4 provides details of our data collection and research methods. Results and robustness analysis are scrutinized in Section 5. Finally, the paper concludes with a discussion of the findings and implications.

2. Literature review

This study builds upon contributions on trust theory and role theory, group buying programs and consumer behaviors. Thus, we review these papers most pertinent to our study.

2.1 Trust theory and role theory

In essence, trust is a psychological expectation, that is, a positive tendency towards the behavior or emotion of others (Liu *et al.*, 2019; Bozic *et al.*, 2020). In the society, people always participate in complex social activities, in which the interpersonal communication and interaction occupy the dominant position. Generally, trust plays a crucial role in maintaining such a relationship (Gong *et al.*, 2021). With the continuous evolution of social life and the development of modern civilization, trust theory has been enriched and widely applied in various fields, including medical treatment (Gong *et al.*, 2021), finance and economics (Li *et al.*, 2018), consumer retailing (Bozic *et al.*, 2020), amongst many others, thereby generating significant effects on social development.

Consumer behaviors in the e-commerce transactions have been well-studied based on the theory of trust, in which the role of online trust in e-commerce, and the relationship between consumer trust and eWOM has been verified (Reichheld and Schefter, 2000; Sashi, 2012; Wang *et al.*, 2016; Kim and Peterson, 2017; Ismagilova *et al.*, 2020). Besides, according to Luo *et al.* (2020), consumer's engagement intention and action is directly related to their sense of trust, which is affected by the service quality and community quality in the e-commerce platform. Moreover, consumers' perceived value of trust will further affect their subsequent repurchase behavior (Lu *et al.*, 2010; Sullivan and Kim, 2018; Savila *et al.*, 2019). With these studies, it has been noticed that trust has become an increasingly significant determinant in the e-commerce transactions.

Most recently, in the presence of a high integration of social media and e-commerce business model, researchers have conducted a plethora of studies to investigate the effects of trust on consumer behaviors in social commerce business models. Harris and Dennis (2011) first found that the evaluation of friends and key opinion leaders (KOLs) would directly affect the trust change of consumers. After that, this research finding has been verified in real-world business transactions, as more and more commercial enterprises focused on the cultivation of KOLs and got benefits from their relatives, friends and fans. According to Pentina *et al.* (2013), as the core element of starting and maintaining social relationships, consumer trust is affected by social platforms and user relationships in the social environment. A high level of consumer trust helps to enhance consumer preference for the brand, resulting in purchase intention and purchase behavior. Drawing on WOM and observational learning theories, Wang and Yu (2017) conceptualized social interactions in social commerce environments and examined how they affect consumer's trust and consequent behaviors in social commerce transactions. Our study draws upon the aforementioned trust models as an overarching theory, and further develops our research framework under a social-commerce business model.

Originated from a set of normative expectations, role theory is presumed to be the corresponding expectation people have to follow based on particular positions or statuses in social circumstances when interact with others (Hunter and Panagopoulos, 2015; Liu *et al.*, 2018). Namely, role refers to a social position people have and the expective behavior association with that position. Despite the traditional research direction of sociology and psychology, such as family (Young, 2015), healthcare (Brookes *et al.*, 2007) and management (Matta *et al.*, 2015), the domain of role theory also has been broadened in commercial context (Heide and Wathne, 2006; Grayson, 2007; Dong *et al.*, 2016; Su *et al.*, 2021). In the social commerce research field, although not systematically explored, the role theoretical perspective gives a new sight on understanding the inner dynamic motivation of consumer's behavior during transactional progress. Due to the dyadic and complicated social commercial environment, social media users' role become instable and inconsistent when the boundaries of their diverse social circles blur (Su *et al.*, 2021; Liu *et al.*, 2019). In the social context, an interior role like a friend which tends to provide informational and social support can indirectly affect potential customers behaviors on s-commercial platform

(Li *et al.*, 2018); while in commercial context, an exterior role like a trader/seller are expected to achieve various industrious norms, trading standards and trust as well. The dual roles are separate but coexist at the same time. That is to say, from the perspective of role theory, vendors should swift and manage their dual roles (e.g. friend role and seller role) in business especially in Chinese close-knit social networking, and disclose the identity (e.g. trust and intimacy between friends) and the information (e.g. level of reassurance offered) consistent with their particular role. This complex role transition also may have an influence on the role-based trust mechanism which has a significant impact on consumer's decision and behavior afterward. From this perspective, Li *et al.* (2022) has shown the effect of the community "group leader", who usually plays the role as mothers, owners of a grocery store or logistic distribution terminal in the community, is prominent in exerting the influence of their own social role to ship product/service information during the transactions.

Generally, consumers have different trust perception abilities based on their own life experience, education level, age, gender and other factors, which determines their different trust basis (Wang *et al.*, 2016). In the community, consumers are similar people who are familiar with each other and have common interests. They have common aesthetic taste, consumption ability and values. Consequently, consumer trust is easier to give play to its advantages. Meanwhile, in the CGB program, group leaders always play two roles, namely, acquaintance/friends of residents and information disseminator/sellers of the platform. From this perspective, with a comprehensive consideration of trust theory and role theory, this study investigates the consumer conversion mechanism in the CGB program.

2.2 Group buying programs and consumer behaviors

As an innovative consumer-to-business (C2B) model, group buying has attracted great popularity and gradually matured in the iteration and renewal of the model. With its development, scholars have conducted a series of research to investigate the mechanism, marketing strategies and consumer's behaviors in this model. A major stream of these studies involves in the normative research of modeling for mechanism design and strategy optimization, including dynamic discount pricing mechanism (Chen *et al.*, 2002, 2004; Anand and Aron, 2003), group buying auction mechanism (Chen *et al.*, 2007; Chen and Roma, 2011; Ni *et al.*, 2015), optimization of group size (Gao and Chen, 2015), group-buying network effects (Zhang *et al.*, 2016), amongst many others. For the determinants of consumer's behaviors in group buying programs, prior researchers hold different opinions from diverse aspects, namely, online WOM, initiator characters, price sensitivity, conformity, reputation and trust, externality effects, price drop effects and startup inertia (Kauffman *et al.*, 2010; Tai *et al.*, 2012; Chang, 2018; Tsai *et al.*, 2011; Cheng *et al.*, 2012).

Most recently, group buying programs have been updated with some social features, thereby leading to a new research focus on consumer trust and commitment in a hybrid social and commercial environment. Particularly, noticing the importance of the communication tool in the social context, Pelaez *et al.* (2013) examined the impact of group size and communication capacity on buyer performance on group-buying platforms and suggested that business managers of group buying sites should be concerned about both the level and the kind of communication tools and more communication supports were required for a large group. Similarly, considering the information disclosure on Facebook, Kuan *et al.* (2014) examined the social influences exerted by two types of information commonly used in the group buying sites. Zhang and Gu (2015) believed that consumers could be affected by other group members who share information and communicate with them online. Last but not least, according to Bugshan and Attar (2020), users share commodity or service information through online social platforms. The shared information can not only encourage the promotion and dissemination of commodities or services, but also act on the development and

improvement of commodities or services. Therefore, in these studies, the social interaction factors that affected consumer trust in the context of online group-buying were verified. In addition to the social interaction factors, [Lee et al. \(2016\)](#) investigated how antecedents of consumer's perceived value, namely, low price, valence of experience, trust in social media and reputation of the group buying website, affect consumer's group buying intention. [Cao and Li \(2020\)](#) proposed a framework to explore the optimal group buying strategy with the consideration of different social network attributes (i.e. different structures, different referral costs and different network externalities) and compared the group buying program with referral reward program. Based on the stimulus–organism–response framework and the social exchange theory, [Fu et al. \(2020\)](#) developed an integrated model to verify the impact of user similarity (i.e. internal similarity and external similarity) on social exchange and group buying behavior in the social commerce context.

The consumption relationship built by CGB is a typical complex social network. Dated back to the year of 2012, [Li et al. \(2012\)](#) developed a two-stage pricing game to evaluate the impact of the waiting cost, competition, and group-facilitating technology on the profitability and efficiency of CGB. To the best of our knowledge, this is the first research focusing on the CGB model, although the business mode is slightly different from the one in recent studies. Nowadays, with the explosive development of CGB model, more and more researchers draw attention on this business model with special social features. [Li et al. \(2022\)](#) introduced the social reinforcement effect in the latest research and constructed a G-SCIR model of customer perceived service quality (PSQ) in CGB, which divided the consumer group into four states, namely, susceptible state, contact state, infected state, recovered state. Furthermore, [Lan and Yu \(2021\)](#) conducted a study to coordinate the CGB supply chain, which is composed of a platform, a seller and a group leader, with the consideration of promotion effort and service level. Compared with normative research, more scholars tried to use empirical research methods to explore the influencing factors of consumer behavior in CGB model, as presented in [Table 1](#).

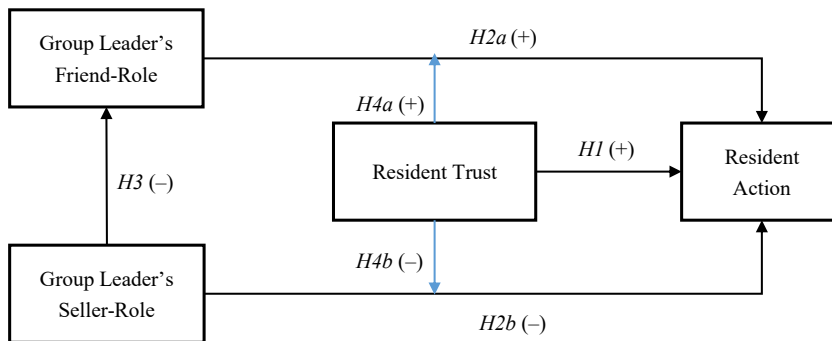
With the review of all aforementioned studies, it is noticed that previous studies have mostly focused on traditional group buying programs or social media-based group buying programs, and carried out relevant strategic research and factor analysis from the perspective of group buying platforms, initiators or consumers. The basic foundation of these studies is the main procedure of conventional online group buying, which consists of consumer-initiated transactions, merchants-initiated transactions and independent third-parties-initiated transactions ([Cheng and Huang, 2013](#)). In contrast, CGB is an integration of customers, merchants and platform with the joint of group leader, which means a group leader can initiate as a consumer, deal as a vendor and mediate as a third-party platform at the same time with the help of the inherent social network with residents. Therefore, the consumer's behavior between common online group buying and CGB also manifests radical distinction. To the best of our knowledge, how consumer's behaviors are influenced by the group leader and how group leader's dual role work in the CGB programs are rarely investigated. To this end, we propose a trust model and explore consumer's behavior in this newly developed CGB program from the perspective of group leaders in this study.

3. Research hypotheses and model

In this study, we propose that group leader's role and consumer's trust influence their action in the CGB programs, in which user's trust towards group leader play a moderate role. Meanwhile, there may exist a role conflict between group leader's dual roles, which in turn leads to a role transfer in the process. Below the hypotheses are described in detail and the research model is provided in [Figure 1](#).

Table 1.
Comparison of existing
relevant literature with
this study

	Main idea	Theory	Variables
Klein and Sharma (2022)	Investigate the relationship between consumer decision-making style and consumer involvement in CGB model	–	<ul style="list-style-type: none">• DV: intention to participate in CGB• IDV: perfectionistic, high-quality, brand conscious, novelty-fashion conscious, recreational, hedonistic, price conscious, habitual, brand loyal, impulsive, careless, confused by over-choice
Su et al. (2021)	Explore the mechanism of how role-based trust interacts with Guanxi to facilitate social media users' engagement behavior with their friends	Role Theory Guanxi Trust	<ul style="list-style-type: none">• ME: consumer involvement in CGB• DV: social commerce engagement intention• IDV: trusts towards friend role, trusts towards seller role, guanxi• MO: guanxi, role conflict
This study	Investigate the transfer mechanism of user's trust in dyadic contexts of social and commercial role-playing in the CGB program	Theory Role Theory Trust Theory	<ul style="list-style-type: none">• DV: resident action• IDV: group leader's friend role, group leader's seller role, resident trust• MO: resident trust
Note(s): DV – dependent variable, IDV – independent variable, ME – mediator, MO – moderator			

Figure 1.
The research
framework

3.1 User trust and engagement action

User trust is fundamental to commercial functioning and is the internal drive force of their participation in commercial and social activities (Zhang *et al.*, 2022). Based on the trust theory, users have different trust perception abilities based on their own life experience, education level, age, gender and other factors, which determines users' different trust basis (Wang *et al.*, 2016). In the CGB program, user trust is manifested in two aspects, namely, user's trust towards the platform or the program itself and user's trust towards the group leader. On the one hand, when users have needs, they will unconsciously search for products or services that meet their needs on the platform. Whether shopping on online group buying websites or offline stores, it is actually a trade-off between the perceived value obtained and the risk exposed (Chen *et al.*, 2015). Trust towards the platform or the program can effectively reduce the perceived risk in this searching process. On the other hand, according to Nielsen's report, 92% of consumers trust the recommendation of friends and family more than any other form of advertising (Nielsen, 2012). The CGB program captures the trust relationship between acquaintances (i.e. group leaders and users in the same community) and focuses on cultivating users' behavioral trust and emotional trust to promote users' purchase intention and actual purchase behavior (Zhao *et al.*, 2019). Since customer trust is an important predictor of customer patronage, recommendation intention, corporate reputation, customer loyalty and purchase intention (Dang *et al.*, 2020), we thereby propose the following hypothesis.

H1. Residents' trust will positively influence their engagement actions in the CGB programs.

3.2 Group leader's dual roles and consumer's engagement action

As introduced, the group leader plays a crucial role in the CGB program. Generally, there are two types of group leaders, namely, individual group leader and storekeeper group leader. To be specific, the individual group leaders are usually stay-at-home moms or community workers, who are the friendly neighbors; while the storekeeper group leader usually serves as the owner of the retail store, who has a transaction relationship with users. Based on the social relationship between community and social network, community residents and group leaders can not only use the social platform for online communication, but also offline communication. The frequent and diverse communication may improve the closeness between users and group leaders, thereby significantly affecting user's behavior. Therefore, we believe that the close relationship positively stimulates user's engagement action. However, due to the different roles played by group leaders, the level of closeness between two types of group leaders varies.

In the role of theory, one of the typical roles in daily intimate relations is a friend role. However, in contrast to purely personal friendship which has an intrinsic orientation, the friend role of group leader played in community is part of some “business friend” role, which exists as an instrumental orientation to some extent (Grayson, 2007). Instead of completely complied with the role’s normative expectation, this kind of special friend role may develop a norm of flexibility which allow some modification to the conventional role norms under changing circumstances (Heide and Wathne, 2006). For example, community residents may help a group leader who plays a friend/neighbor role to suffer from his/her slow business even though they are used to buy goods in local supermarket. In contrast to the friend role’s intrinsic orientation, some research studies indicate a distinct seller role which emphasizes an instrumental orientation by attaining instrumental value from particular people (Su *et al.*, 2021). As the consequence of non-binary behavioral flexibility, the seller role tends to describe decision-making processes in utility maximization. The archetype of a seller role is a businessman, who is primarily motivated by the maximization of profits. For instance, a seller may pursue an opportunistic behavior like quality shrinking even at the expense of losing a friend when profits are large enough (Klein, 1996). To summarize, if the user perceived that the group leader plays an interior role like a friend in the transactions, which tends to provide informational and social support, a positive effect on user’s engagement action may occur. However, if the user perceived that the group leader plays an exterior role like a seller, which is expected to achieve various shrewd norms, they usually take actions after careful consideration. Therefore, we propose the following hypotheses:

- H2a.* Group leader’s friend-role positively affects residents’ engagement actions in the CGB programs.
- H2b.* Group leader’s seller-role negatively affects residents’ engagement actions in the CGB programs.

Furthermore, according to the role theory, the group leader’s dual roles are separate but coexist at the same time. Therefore, role discrepancy and role conflict arise when customer’s expectation to the role of seller cannot be fulfilled (Su *et al.*, 2021). That is, group leaders may switch and manage their corresponding roles based on their own purposes and users’ trust towards group leaders based on their own perceptions. In the CGB programs, the platform always provides an incentive mechanism to motivate group leaders to make more social efforts. Consequently, group leader’s commission revenue is directly related to the sales volume. As such, to maximize their profits, group leaders may be too attentive to reveal the essence of a businessman. From this perspective, we propose the following hypothesis:

- H3.* Group leader’s seller-role hinders his role transfer to friend-role.

3.3 Moderating effects of trust in role perception and engagement process

According to Li *et al.* (2012), “friends” is a special relationship that may bind the parties involved with oral agreement and mutual assurance in commercial transactions. That is, in the CGB program, if the user built trust towards a group leader as one of his/her friends, he/she would fulfill his/her moral obligations to make a purchase whether the product recommended by the group leader is really needed or not. To take a step back, if not purchased, he/she is more willing to share the product information in his/her own social network. Therefore, in the context of users’ high trust in the group leader, the user’s perceived friend role of the group leader will further promote their engagement actions. From the perspective of a pure commercial relation, residents’ trust towards a group leader relies heavily on the tacit norm of reciprocity. When the user trusts a seller, it must be that the seller can bring benefits to the user. These benefits may include purchasing with a lower price than other channels, receiving a certain reward once purchased the product or disseminated

information, enjoying the convenience, etc. Thus, when the user trusts the group leader, although he/she feels that the leader is trying to benefit from him/her as a seller, he/she will still take actions because of the reciprocity. To this end, we propose the following hypotheses:

- H4(a).* Resident's trust positively moderates the relationship between group leader's friend-role and resident's engagement actions in the CGB programs.
- H4(b).* Resident's trust negatively moderates the relationship between group leader's seller-role and resident's engagement actions in the CGB programs.

4. Methodology

4.1 Development of instruments

This paper mainly adopts the way of questionnaire to collect data. The questionnaire design is mainly divided into three parts. In particular, the main purpose of the survey is demonstrated in the first part. In the second part, the basic information, including the demographic variables and other control variables, are collected. Then, the last part collected the measurements of the latent constructs, including user trust (UT), user engagement action (UGA), user's perception on group leader's friend role (GFR) and user's perception on group leader's seller role (GSR). It should be highlighted that all constructs used in this study have been validated by previous pertinent research studies. To be specific, the measurement of trust was adopted from [Pentina et al. \(2013\)](#) and [Sharma and Klein \(2020\)](#). Measures of consumer's engagement action were adopted from [Zhang and Gu \(2015\)](#) and [Chen et al. \(2015\)](#). Regarding the user's perceptions on group leader's friend/seller roles, we learned the measurement design from [Ou et al. \(2014\)](#) and [Su et al. \(2021\)](#). Finally, all measurements have been modified to fit the social commerce context of this study. The items of constructs were measured with five-point Likert scales, ranging from "strongly disagree" (1) to "strongly agree" (5). Moreover, we captured control variables that have been verified to have certain influences on consumer's trust and behaviors in the literature, including gender, age, disposable monthly income and shopping experiences in CGB programs.

Since instruments adopted from previous studies are in English but the participants are Chinese, we design the questionnaire in English first then translate into Chinese. To ensure the content validity, two professors who are proficient in both languages and familiar with the research content collaborate completing the translation and calibration. Finally, a pretest was performed in a WeChat group of CGB program, and a total of 35 responses were collected. Through the analysis of the feedback, the questionnaire is refined with several minor revisions to form the final questionnaire.

4.2 Data collection procedures and participants

We distributed the questionnaire in two ways. First, Huayuan community, one of the largest residential communities in the city of Tianjin, was selected for offline questionnaire distribution. Four CGB platforms, including Meituan Selected, JingXiPinPin, Yizhan Tuan and Orange Optimization, have entered this community and recruited group leaders correspondingly. Second, online questionnaire distribution is carried out with the help of WJX.cn, which is the largest online questionnaire survey and voting platform in China. Data were collected from November 15 to December 14 in 2021. Finally, a total of 382 valid responses were obtained, in which 53 participants did not have shopping experience with any CGB program. Therefore, we analyzed the data separately. The demographic characteristics of the respondents are presented in [Table 2](#). The demographic data of the survey were highly consistent with the data disclosed in the research report of China's CGB industry ([Soochow Securities, 2021](#)).

The questionnaire also investigated the commodity categories most often purchased by consumers in the CGB program. The obtained data and the data reported by [Soochow Securities \(2021\)](#) were described and presented in a bar chart, as shown in [Figure 2](#). Through the comparison of the two sets of data, it is found that consumers who buy fresh produce, food and daily necessities through the CGB program account for the highest proportion, followed by household appliances. Similarly, results have indicated a high reliability of our survey to a great extent.

Furthermore, we also try to figure out factors that hinder user’s engagement actions in the CGB program. With regards to the 53 responses without shopping experience of CGB, the reasons for not taking actions were collected, as shown in [Figure 3](#). Particularly, 27.59% of participants respond that they are worried about the lack of after-sale service, 25.86% of participants claimed the low-quality of products and inconvenience of self-pick mechanism. It is noticed that the proportions of trust and WOM issues are not remarkable. Here, it must be admitted that consumers’ concerns are very normal in this business model with the group leader as the delivery hub. For those individual group leaders, as they are often the stay-at-home moms or general community residents, most of them lack relevant experience in operation management and do not have good storage conditions. For those storekeeper group leaders, as the platform offer homogeneous products with lower price, they may feel the pressure of competition which thereby hinders their social efforts. These results indicate the potential directions of improvements for the CGB platform to achieve a further development.

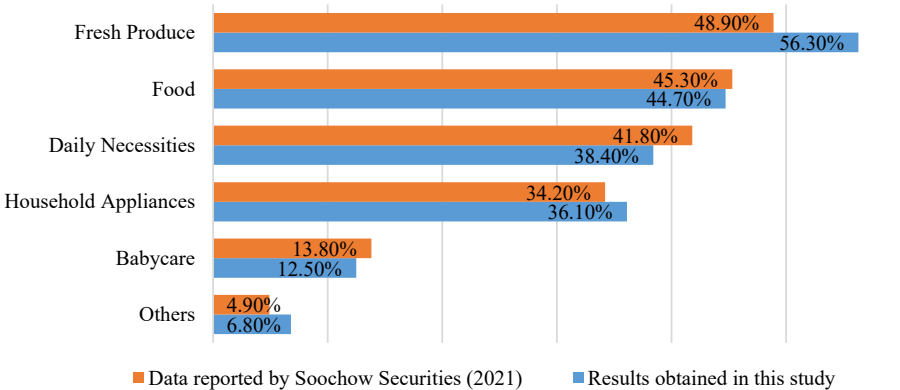
4.3 Feasibility and validity analysis

The feasibility and validity of the constructs is examined in this section. As shown in [Table 3](#), the Cronbach’s alpha values of all constructs were greater than the suggested threshold of

Table 2.
Demographic profile of
participants

Measure	Items	Percent (%)	Measure	Items	Percent (%)
Gender	Male	43.7	Income (¥ /month)	≤3000	14.6
	Female	56.3		3,000–6,000	38.8
Age	≤ 20	4.5		6,000–9,000	27.1
	21–30	42.4	Shopping experience with CGB programs	≥9000	19.5
	31–40	28.1		1–3	36.2
	41–50	10.3		4–6	33.4
	≥51	14.7		≥7	16.5

Figure 2.
Distribution of
shopping categories of
consumers in CGB
programs



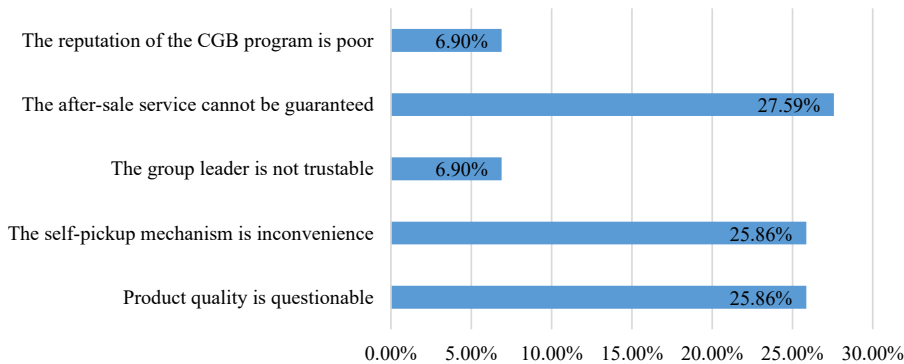


Figure 3.
Reasons for not
selecting the CGB
programs

Constructs	Indicators	Mean	St dev	Cronbach's Alpha	CR	AVE
UT	UT1	3.145	0.536	0.830	0.882	0.604
	UT2	3.223	0.662			
	UT3	4.014	0.587			
	UT4	4.428	0.821			
	UT5	3.776	0.693			
UGA	UGA1	3.31	0.706	0.865	0.807	0.762
	UGA2	4.337	0.662			
	UGA3	3.923	0.901			
	UGA4	4.466	0.792			
	UGA5	3.997	0.883			
GFR	GFR1	4.063	0.752	0.871	0.830	0.774
	GFR2	3.976	0.686			
	GFR3	4.424	0.773			
	GFR4	4.336	0.827			
	GFR5	4.605	0.792			
GSR	GSR1	4.016	0.667	0.820	0.864	0.717
	GSR2	4.133	0.786			
	GSR3	3.740	0.682			
	GSR4	3.853	0.669			
	GSR5	3.997	0.720			

Table 3.
Item descriptive
statistics

0.70 (Su *et al.*, 2021), exhibiting a high internal consistency. Meanwhile, the composite reliabilities (CR) and the average variance extracted (AVE) were all over 0.70 and 0.50, respectively (Wang *et al.*, 2012), showing that the convergent validity was supported. As such, the proposed model and obtained data present satisfactory feasibility, reliability and validity.

5. Results and analysis

In this section, we first analyzed the 329 survey data with shopping experience in CGB programs. A hierarchical regression analysis is conducted to test the proposed hypotheses. To reduce the potential effects of multicollinearity, we first standardized all variables. Then, we verify the research model via two stages. In the first stage, the group leader's role transfer was investigated (i.e. H3), in which consumer's perception on group leader's friend role is the dependent variable and the seller role is the independent variable. In step 1, we use

the technique of least squares to capture the effects of control variables (i.e. Model 1); in step 2, the main effects are tested (i.e. Model 2). In a similar vein, how group leader’s roles and resident’s trust affect their engagement actions in CGB programs, and the moderating effects of resident’s trust are explored in the second stage (i.e. [H1](#), [H2](#) and [H4](#)). The hierarchical regression is conducted as a control variable in Model 1, main effects in Model 2 and the interaction effects (moderators) in PF Model 3. The detailed results are provided in [Table 4](#).

In the first stage, group leader’s friend role is positively affected by his/her seller role (i.e. $\beta = 0.306, p < 0.001$). This result is contrary to our hypothesis 3. That means, instead of facing with residents as a seller, the group leader is more willing to be a “friend” to his/her consumers. This could be explained in two ways in terms of the type of group leaders. First, for individual group leaders, they are general residents lived in the same community with the potential consumers, who usually have common aesthetic taste, consumption ability and values. In China, community residents usually maintain high-frequency communication and good relationship with their neighbors through various “group chat”. Therefore, before the group leader was recruited by the platform, he/she played as a friend of potential consumers in the community. Because of the existence of this pre-established strong relationship, although he/she has become a group leader with “dual roles”, consumers are still more willing to regard him/her as a friend and have a higher level of trust on him/her. Second, for storekeeper group leader, although he/she played the role of a businessman in the community before becoming the group leader, he/she clearly knows that it is more effective to share products to friends and guide them to buy than to sell products to consumer as a seller in the social context. It is known that the platform pays a commission as an incentive and the group leader’s revenue mainly depends on the sales volume, which is determined by the number of residents who participated in the CGB program and their average transaction values (ATVs). Therefore, from the perspective of profit maximization, the group leader’s seller role will promote his/her role transfer to friend-role.

In the second stage, it is noticed that both trust and the group leader’s friend role positively enhance resident’s engagement actions in CGB programs, with path coefficient of 0.440 ($p < 0.01$) and 0.328 ($p < 0.001$), respectively. Therefore, [H1](#) and [H2a](#) are supported.

Variables	First stage: (DV: Group leader's friend-role		Second stage: (DV: user action)		
	Model 1	Model 2	Model 1	Model 2	Model 3
<i>Step 1: Control Variables</i>					
Age	-0.264	-0.158	-0.012	-0.163	-0.077
Gender	0.236	0.309	0.352	0.419	0.178
Income	0.258***	0.284**	0.283***	0.165***	0.204***
Shopping Experience	0.361***	0.379***	0.360***	0.337***	0.362***
<i>Step 2: Main Effects</i>					
User Trust				0.582***	0.440**
Group Leader's Friend-Role					0.328***
Group Leader's Seller-Role		0.306***			-0.059***
<i>Step 3: Interaction</i>					
User Trust × Group Leader's Friend-Role					0.168
User Trust × Group Leader's Seller-Role					-0.447***
R^2	0.506	0.614	0.463	0.712	0.771
Incremental R^2		0.108		0.259	0.059
F		5.479***		6.230***	16.928***

Table 4.
Regression results

The group leader's seller role negatively affects resident's engagement actions in CGB programs, with path coefficient of -0.059 ($p < 0.001$), indicating the acceptance of H2b. However, when considering the moderating effects of trust on the relation between group leader's roles and resident's engagement action, it is found that user trust significantly negatively moderates the relationship between group leader's seller-role and user actions (H4b is supported). However, although a positive correlation is observed, the moderating effect of user trust on group leader's friend-role and user actions is not statistically significant (H4a is not supported). Given the analysis, it can be concluded that residents will take actions (either purchase the product from the group leader or share information in their own social networks) once the trust is established. Meanwhile, group leader's friend role is a great driving force for such actions as well. However, since the close relationship between the group leader and residents is established upon the tacit norm of reciprocity, residents' trust towards group leader is not always solid and the binding of "Guanxi" among acquaintances ceases to be effective. Thus, the moderating effects of "user trust" on the relationship between group leader's friend role and resident's engagement actions have not been confirmed.

Additionally, among the control variables, income and shopping experience play significant roles on resident's engagement actions, which such effect is not statistically significant for gender and age. The R^2 for all variables explained 77.1% of the variance, indicating an adequate goodness-of-fit for the proposed trust model in this study. The summarized research findings with respect to the hypotheses are provided in Table 5.

6. Conclusion

In this study, a trust model is proposed to investigate the consumer conversion in an innovative social commerce-based business model with the consideration of the trust theory and role theory. First of all, in the presence of social context, user's trust toward the platform and the group leader is assumed to be the determinant of their engagement actions in the CGB program. As the products are recommended by their acquaintances in the same residential community, their perceived value (including both the value of the product and the value of the group leader's social effort) may exceed the perceived risks, establishing a bridge of trust which thereby promotes their purchase behavior of information sharing behavior. Meanwhile, the group leader plays a crucial role in the CGB program. On the one hand, he/she is the friendly neighbor in the residential community, always having common interests and being trusted by other residents. On the other hand, recruited by the platform, he/she is also an information disseminator, marketer and indirect seller, aiming at maximizing his/her

Hypothesis	Research Finding
H1: Residents' trust will positively influence their engagement actions in the CGB programs	H1 supported
H2a: Group leader's friend-role positively affects residents' engagement actions in the CGB programs	H2a supported
H2b: Group leader's seller-role negatively affects residents' engagement actions in the CGB programs	H2b supported
H3: Group leader's seller-role hinders his role transfer to friend-role	H3 not supported
H4(a): Resident's trust positively moderates the relationship between group leader's friend-role and resident's engagement actions in the CGB programs	H4a not supported
H4(b): Resident's trust negatively moderates the relationship between group leader's seller-role and resident's engagement actions in the CGB programs	H4b supported

Table 5.
Hypotheses testing
results

profit in the transactions. As such, the group leader acts in dual roles and may switch the roles accordingly. Based on the role theory, an interior role (i.e. a friend role) can indirectly enhance consumer's behaviors, while an exterior role (i.e. a trader/seller role) is expected to degrade consumer's trust. Based on our analysis, it is found that consumer's perception on group leader's friend role/seller role do positively/negatively promote residents engagement actions in the CGB programs. Meanwhile, although role conflict may occur, group leader is more willing to act as a friend in the CGB program with the consideration of obtaining more trusts from consumers and thereby earning more incentives from the platform. Last but not least, we find that trust can negatively moderate the effects of group leader's seller role on resident's engagement actions. That is, once the trust is established, consumers are still willing to participate in the CGB program. However, this moderate effect is not statistically significant in the relationship between group leader's friend role and resident's engagement actions.

Our study makes several important implications. As consumers' trusts and perceptions on group leader's friend role plays a significant role in user's sharing and shopping behavior. The platform may consider these effects when recruiting and training the group leader. Generally, there are two types of group leader, namely, individual group leader and storekeeper group leader. In daily life, such individual leaders are community residents rather than platform employees. They do not have too much business experience and are not good at using too many marketing strategies in communication with residents. Therefore, it is easier to obtain residents' awareness of their friend role and establish trust relationship. In contrast, before being recruited by the platform, the storekeeper is already an operator in the community and played the role of a seller on a daily basis. Therefore, it is more difficult for them to obtain consumers' awareness of their friend identity and obtain consumers' trust. From this perspective, it is suggested to recruit more individual group leaders for the CGB platform.

However, as reported by those who do not have any shopping experience with the CGB program, one of the biggest concern of consumers is the imperfect after-sale service. Due to the lack of experience in operations management, these individual group leaders' performances may be challenged by some other factors, such as perceived service quality and valence of experience. Therefore, for the CGB platform, in addition to providing economic incentives, some training to help the group leader improve the operation experience and service level is also of great necessity. Moreover, with the consideration of channel competition, the storekeeper may deny the recruiting of the CGB platform and take some actions to deter the entry of the platform. In fact, most of the CGB platforms offer homogenous products with lower prices, generating great competition pressure to the traditional offline channel. Although the platform usually provides a commission to the group leader, he/she still refuse the invitation due to the concern of consumer loss. Therefore, the platform should put more emphasis on the group leader's friend role and the importance of consumer's trust, which may bring more benefits to both the group leader and the platform due to the network externalities and spillover effects.

While this research presents some theoretical and practical contributions, it still has several limitations. First, the research object, CGB program, is a special social commerce business model in China. Although there are many similarities with other social e-commerce models, its specific transaction mechanism and social context degrades the generality of the research findings. Second, the research model examines the behaviors only from the consumer's perspective. Important operational factors that may be concerned by the platforms, such as cargo storage conditions and after-sales service coordination ability, have not been considered. Therefore, future research can start from broadening the universality and increasing the complexity of the model, to shed more lights on the development of social commerce industry.

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