

## Research Note

## The influence of peer characteristics and technical features of a social shopping website on a consumer's purchase intention

Xi Hu<sup>a</sup>, Qian Huang<sup>a,\*</sup>, Xuepan Zhong<sup>a</sup>, Robert M. Davison<sup>b</sup>, Dingtao Zhao<sup>a</sup><sup>a</sup> School of Management, University of Science and Technology of China, Hefei, Anhui, PR China<sup>b</sup> Department of Information Systems, City University of Hong Kong, Hong Kong

## ARTICLE INFO

## Article history:

Received 19 February 2016

Received in revised form 25 July 2016

Accepted 24 August 2016

Available online 10 September 2016

## Keywords:

Social shopping website

Social commerce

Stimulus-organism-response model

Purchase intention

Shopping values

Socio-technical perspective

## ABSTRACT

This paper aims to reveal the influence of peer-member characteristics and technical features of a social shopping website (SSW) on consumers' purchase intentions. Following the stimulus-organism-response (S-O-R) model, this study operationalizes "stimulus" as website features and peers' qualities, "organism" as experiential shopping values, and "response" as the purchase intention of users. The research model is empirically tested with survey data from 313 real SSW consumers. The results suggest that similarity, benevolence and expertise of peer members in the community and the website's support for recommendations positively impact shoppers' perceived utilitarian value of the SSW. Moreover, users' perception of peers' similarity and benevolence positively affect their sense of social value of using the platform. Finally, both perceived utilitarian and social value predict individuals' consumption intentions.

© 2016 Elsevier Ltd. All rights reserved.

## 1. Introduction

Social commerce (s-commerce), an evolution of electronic commerce (e-commerce) that highlights the role of online social networking in facilitating business, has gained popularity recently (Wang & Zhang, 2012). For consumers, s-commerce brings about a novel method to shop online, namely social shopping (s-shopping). It implies that consumers being connected by their personal online social network ties, via which they could discover, share, recommend and rate products, exchange shopping information, knowledge and opinions and gain access to making transactions (Olbrich & Holsing, 2011). The commercial value of s-shopping is widely recognized and new systems have been created that provide dedicated support for such activities, namely social shopping websites (SSW). An SSW is a type of online community that connects consumers and revolves around shopping-related interests (Olbrich & Holsing, 2011). Real examples are Mogujie.com (see Appendix B), Kaboodle.com and Polyvore.com.

The ongoing fever of social media indicates that s-shopping represents the core of future e-commerce opportunities. For academics, it should be one of the most crucial and challenging research subjects (Liang & Turban, 2011), which bears values of

great theoretical and practical significance (Wang & Zhang, 2012). However, studies undertaken to date have only covered a small number of issues in this regard (Curty & Zhang, 2013; Wang & Zhang, 2012; Zhang, Lu, Gupta, & Zhao, 2014). In the s-commerce field, research has centred on the issue of definition (Wang & Zhang, 2012) and consumers' intention to use or participate in general s-commerce activities (Liang, Ho, Li, & Turban, 2011; Zhang et al., 2014). Scholars are now appealing for researchers to investigate the more detailed aspects of s-shopping more deeply (Wang & Zhang, 2012; Zhou, Zhang, & Zimmermann, 2013). Particularly, little is known about how the activities that take place in an s-shopping environment contribute to effective commercial outcomes, i.e. transactions (Olbrich & Holsing, 2011; Yadav, Valck, Hennig-Thurau, Hoffman, & Spann, 2013). This issue is critical because it concerns the initial intention of creating such a business model: to facilitate buying and selling of products and services (Kim & Park, 2013). Stimulating transactions is a key feature of SSW that marks its identity and separates itself from general social networking sites (SNS) (Huang & Benyoucef, 2013; Liang & Turban, 2011). Moreover, practitioners share the concern of the economic value of s-commerce applications (Kim, 2013; Yadav et al., 2013). Take SSW operators for instance, the profits and incentives rely on the real transactions to which s-shopping activities lead (Olbrich & Holsing, 2011). Positive commercial outcomes of SSW cannot be realized if participants are merely sharing shopping information instead of engaging in actual purchases.

\* Corresponding author.

E-mail address: [huangq@ustc.edu.cn](mailto:huangq@ustc.edu.cn) (Q. Huang).

Therefore, given the significance of s-shopping participants' transaction-based activities and the lack of theoretical and empirical insights on the issue, in this paper we explore the factors embedded in an SSW that may affect consumers' purchase intentions and the corresponding mechanism. Specifically, we adopt an environmental psychology perspective (Mehrabian & Russell, 1974) and employ the stimulus-organism-response (S-O-R) model which offers a parsimonious yet structured method that allows us to examine how the SSW features affect consumers' internal value perceptions and contribute to their purchase intentions. The S-O-R paradigm has been extensively applied in online consumer behaviour research to reveal how human-computer interactions lead to purchase intentions (Zhang et al., 2014), thus it would allow us to capture the peculiar elements of SSW and build an integrated model to reflect how using this artefact lead to increased purchase intentions.

To develop the components of stimuli, we adopt a socio-technical perspective which was used in a stream of virtual community and social media research (Phang, Kankanhalli, & Sabherwal, 2009; Preece & Maloney-Krichmar, 2003). An SSW-based shopping environment is composed of social and technical components, with the former referring to the characteristics of participants and the latter relating to technical affordances of the system (Kling & Courtright, 2003). Thus both systematic cues and peer quality cues can affect an individual's inner perceptions.

Further, a key perception for customers which informs purchase intention is the value a consumer can gain from the shopping experience (Overby & Lee, 2006; To, Liao, & Lin, 2007). Since online shopping is mediated by a specific platform, the features of the system would shape consumers' value perceptions when using it. Normally, shopping value is assessed along two dimensions: utilitarian and hedonic (Childers, Carr, Peck, & Carson, 2002). Using an SSW for shopping, the utilitarian benefits that consumers are aware of depend on whether the efficiency, effectiveness and outcome of shopping are satisfying. Hedonic shopping value involves a diversity of non-functional evaluations, such as social, adventure, idea, role and gratification (Arnold & Reynolds, 2003; To et al., 2007). Specifically, SSW highlights additional socializing among consumers in their shopping process (Shen, 2012). Thus in such a condition, the crucial element of hedonism is social value, which derives from developing, extending and maintaining relationships with other shoppers and communicating and interacting with others (To et al., 2007). Hence, this study captures perceived utilitarian value and perceived social value to represent a consumer's critical cognitive perceptions of an SSW-based shopping experience.

As a result, a comprehensive research model reflecting the interrelations between social factors, technical factors, perceived utilitarian and social value and purchase intention was developed. The remainder of this paper will elaborate the empirical study in detail.

This research contributes to both literature and practice. Few s-shopping researchers have gone beyond usage or participation to investigate the purchase intention induced by a particular s-shopping system. Thus, we fill in this research gap by using the S-O-R framework to build a research model that explains the associations between s-shopping technical features, peer characteristics, users' value perceptions and purchase intentions. Moreover, to the best of our knowledge, this paper is among the first to tap into the critical experiential values that consumers perceive as being associated with using an s-shopping platform. In addition, the S-O-R model has been frequently applied in the traditional online shopping context. This work qualitatively extends the application boundary to the s-shopping scenario, a novel context that differs from previous shopping settings by nature, which we suggest is an instructive contribution. Besides, we add to extant understanding of the "S" and "O" dimensions by bringing in the particular

s-commerce elements and integrating their properties. In practice, our findings should be a reference for SSW managers to improve their operational strategies. Also, vendors and marketers can optimize their resource allocation according to the results of this empirical study.

## 2. Research background and theoretical foundation

### 2.1. Social shopping websites

An SSW is a type of online community that connects consumers and revolves around shopping-related interests (Olbrich & Holsing, 2011; Shen, 2012). It is dedicated to support social shopping activities ranging from product recommendation, shopping experience sharing to collaborative buying (Olbrich & Holsing, 2011; Shen, 2012). The appearance of an SSW's front page resembles that of an e-commerce website. It is filled with pictures of products carrying brief comments and hyperlinks to an information page with detailed consumer-generated product reviews. Table 1 lists the major features of an SSW based on the four-layer s-commerce design model proposed by Huang and Benyoucef (2013), including the *individual*, *conversation*, *community* and *commerce* levels.

A registered user of an SSW can create a graphical personal profile. It contains demographic information and more importantly, personality information regarding preference, taste and interest. After joining, users can post pictures and articles, similar to a blog, to share products and their shopping experiences. For example, "style" is an interesting and aesthetic model which allows a user to show a collection of items with a common theme, such as colour, pattern and occasion (Olbrich & Holsing, 2011). SSWs encourage relationship building among users. As a result of following and being followed, social networks are established and sustaining ties are ensured. Based on that, users can catch up with friends' updates about shopping and be involved in discussions. To foster conversations, the message box and board are embedded in the website, which could carry instant communications.

Beyond supporting interactions, an SSW additionally offers direct shopping assistance. For example, based on social data calculation for a specific client, the website is able to recommend matching products to the person (Rad & Benyoucef, 2010). In this way, discovering interesting things becomes convenient and effortless, especially for niche products (Phang, Zhang, & Sutanto, 2013). Most SSWs don't support direct transactions. Rather, they work as referrals by directing consumers to third party commercial websites, where the actual purchases occur (Curty & Zhang, 2011; Olbrich & Holsing, 2011). When consumers browse a product page, they can click on the hyperlink to reach the point of sale. Then the SSW benefits from the commissions (Kim, 2013).

SSW combines SNS and e-commerce but differs from both of them. E-commerce highlights effective business transactions, while SSW is oriented toward social networking, collaborating and information sharing, with shopping being a secondary focus (Wang & Zhang, 2012). Furthermore, e-commerce users are usually isolated, interacting with the platform and seller individually and using their own knowledge to make decisions. However, SSW promote connections and conversations among consumers, allowing for in-depth opinion exchange and bonding (Huang & Benyoucef, 2013). By leveraging the power of social media, consumers' shopping buddies are no longer restricted to their traditional social circles. Instead, they could meet a great many new partners who have shared shopping interests or tastes. Moreover, the essential commercial layer of SSW separates itself from general SNS activities (Huang & Benyoucef, 2013). Social activities on SSW are commercial in nature, which often lead to real transactions (Liang & Turban, 2011).

**Table 1**  
Key features of a social shopping website.

Layers	Features	Description/example
Individual	Profile Personalization	User profile of personal information for identification Record each user's activities and offer personalized services
Conversation	Comments Message	Comment on other member's postings and reviews Embedded message box/board enabling mutual communication
Community	Social networking	Allow users to be connected via "follow" or "fan" mechanism
Commerce	Collaborative shopping Group buy System recommendation Click out	Share product information, shopping experience, recommendations, ratings and reviews of products Involve a group of shoppers with similar interests to get bargain Website-generated recommendations based on user data calculation Click on a link to reach the transaction page

Owing to the many attractive functions, SSWs have grown fast and become prevalent in practice. The user population covers buyers, sellers and marketers (Rad & Benyoucef, 2010; Shin, 2013). Various attempts have been made to market products or brands via this novel medium. However, despite of these efforts, users' transaction intentions remain overlooked in the academic realm. In this study, we aim to tapping into this topic by utilizing the S-O-R framework to analyse the role of the SSW system in fostering purchase intentions.

## 2.2. The stimulus-organism-response framework

The S-O-R model was originally proposed by Mehrabian and Russell (1974) to demonstrate the mechanism by which the environment affects human behaviour. It posits that various environmental cues act as stimuli and affect an individual's internal experiences (organism), which further lead to the person's responses. In physical shops, stimuli refer to the cues that come from the appearance, decoration, music, scent and staffing of the store (Baker, Parasuraman, Grewal, & Voss, 2002). With the advent of e-commerce, customers' shopping environment has become virtual spaces mediated by computers, where stimuli refer to the cues and signals from the elements of online stores. Organisms are consumers' internal states, which pertain to both cognitive and emotive systems, including perceptions, experiences and evaluations (Zhang et al., 2014). The results of this processing are responses, which come in various forms, ranging from conscious to unconscious and from internal to external (Jiang, Chan, Tan, & Chua, 2010).

The use of the S-O-R paradigm as a theoretical foundation for this research is advantageous for three reasons. First, the S-O-R model has been applied in online consumer behaviours to investigate how human-computer interactions lead to purchase intentions. Thus it's appropriate for us to use this framework to examine consumer behaviours in an SSW scenario (Zhang et al., 2014). Second, an SSW shopping environment differs significantly from a traditional e-commerce website setting in that it is oriented toward social networking and social interaction among shoppers rather than fast transactions (Wang & Zhang, 2012). Therefore, the S-O-R framework would allow us to capture the peculiar elements of SSW and build an integrated model to reflect how users' interactions with this artefact contribute to their purchase intentions. Third, the S-O-R model enables the examination of the critical values that consumers perceive of shopping in an SSW.

While the S-O-R structure reveals the intervention of the environment on individuals, it takes a general approach regarding the constructs (Manganari, Siomkos, Rigopoulou, & Vrechopoulos, 2011). In practice, the specific variables should be developed based on the particular context (Manganari et al., 2011). For example, Chang and Chen (2008) have modelled website quality and website brand as stimuli, so as to inspect their influence on purchase intention (R), via moderation of trust and perceived risk (O). More-

over, in the work of Parboteeah, Valacich, and Wells (2009), task and mood relevant cues of a website are treated as stimuli, and they are found to influence perceived usefulness and enjoyment of a customer (O), which further lead to impulsive purchase intention (R). Therefore, to adapt the S-O-R paradigm into an SSW context, we should identify the specific attributes of this platform.

### 2.2.1. Social and technical cues as stimuli

Given the critical community feature of an SSW (Curty & Zhang, 2013; Huang & Benyoucef, 2013; Liang & Turban, 2011), we adopt a socio-technical perspective, which is fundamentally instructive in virtual community studies (Preece, 2001; Preece & Maloney-Krichmar, 2003), to analyse the environment elements. An SSW community is constituted socio-technically, where the social aspect refers to user-related factors while the technical aspect relates to system-related factors (Kling & Courtright, 2003; Phang et al., 2009). When a consumer uses SSW system, the person interacts not only with the technical system, but also peer consumers, enabled by user-generated-content (UGC). Meanwhile, through use of the system, the individual users gradually alter the environment, such as by contributing to the website content, and therefore exert influence on peer members. This reveals the interactive and interpenetrating nature of social and technical factors (Kling & Courtright, 2003). In the s-commerce context where user contribution is highly encouraged, this effect could be significant. Thus, on an SSW platform, a consumer would encounter two streams of influence. The first comes from the technical design and the second is social influence, enabled by technology mediated user interactivities. Therefore the peer-members, apart from the technical environment, are also important sources of stimuli, which contribute to a consumer's shopping experience.

### 2.2.2. Perceived shopping values as organisms

For online shoppers, a key predictor of purchase is their perception of values that the shopping experience could offer (Overby & Lee, 2006; To et al., 2007). Furthermore, the experiential value is subject to the features and affordances of the system with which they interact. Among the many facets of online shopping value, the utilitarian and hedonic aspects are most universally highlighted (Childers et al., 2002; Overby & Lee, 2006; To et al., 2007). The utilitarian value is customers' evaluation of the shopping process which concerns whether the mission is well-completed (Batra & Ahtola, 1991; To et al., 2007). It relates to the task-specific objective of shopping. In SSW-based shopping, the utilitarian benefit depends on the functional properties of the platform as well as quality of peers that allow consumers to achieve better performance. Thus in this study, perceived utilitarian value refers to consumers' feeling that using the SSW improves the efficiency, effectiveness and outcome of shopping (Childers et al., 2002).

Hedonic value relates to the fun, happiness and entertainment that a consumer experiences in an online shopping process (Childers et al., 2002; Overby & Lee, 2006). This perception falls out-

side utility concerns, and it derives from enjoying an experience for its own sake (Mathwick, Malhotra, & Rigdon, 2001). Hedonic shopping value is a broad and synthetical concept, reflecting a variety of non-functional shopping motivations, such as social, adventure, idea, role and gratification (Arnold & Reynolds, 2003; To et al., 2007). For different types of shopping, hedonism is embodied in different forms, according to the specific shopping feature. The pleasure of socializing has been found to motivate consumers to shop in both offline (Arnold & Reynolds, 2003) and online contexts (Parsons, 2002). As mentioned earlier, SSW-based shopping is distinct from ordinary online shopping in that the focus is to integrate additional socializing into users' consumption process (Shen, 2012). Using this platform, individual consumers establish their own social networks, via which they collaborate before, during and after purchases (Shen, 2012). Thus, when using an SSW, the major hedonistic element lies in the fun of interacting with peers while shopping. In this condition, consumers' perception of social value, which refers to the value of developing, extending and maintaining relationships with other shoppers and communicating and interacting with others (To et al., 2007), would be maximized and playing a dominant role in evaluating the intrinsic hedonism. Hence, this study captures perceived utilitarian value and perceived social value to represent a consumer's critical cognitive perceptions of an SSW-based shopping experience, and we suggest these organisms significantly affect subsequent purchase intentions.

### 2.2.3. Purchase intention as response

A critical reaction of a consumer in response to the shopping environment is associated with consumption decisions. It is noteworthy that although examining actual buying would yield more convincing results, most researchers still use purchase intention as a proxy for purchase behaviour. A key reason to rely on a proxy relates to the fact that, in reality, the act of buying is usually influenced by countless uncontrollable factors (Parboteeah et al., 2009). This is even more true of SSWs because the actual transactions are usually conducted in a third party site (Curry & Zhang, 2011). As we can learn from the s-commerce research guiding framework proposed by Liang and Turban (2011), purchase intention and click-through rate are listed as important outcome measures for s-commerce research instead of actual purchase. Similarly, in Yadav et al.'s (2013) contingency framework of s-commerce marketing, purchase decision is suggested as an important outcome. Additional evidence can be found in Olbrich & Holsing's (2011) work where "click-out" (visit the focal product in a third-party-store) is treated as a proxy for purchase behaviour. Hence, it is appropriate for us to treat purchase intention as the research focus in this study. This way, we can both obtain meaningful findings, since intention is the major predictor of behaviour (Ajzen & Fishbein, 1980), and guarantee the rigor and precision of the study.

## 3. Hypothesis development and research model

### 3.1. Perceived shopping values

#### 3.1.1. Perceived utilitarian value (PUV)

Utilitarian value reflects a consumer's value judgement of an SSW system regarding its functional, instrumental and social support for the person's shopping task fulfilment. It is associated with cognitive aspects of perceptions, such as judgement of shopping efficiency, effectiveness, and results (Overby & Lee, 2006). An SSW enables consumers to discover, share, recommend and rate products based on their online social networks (Olbrich & Holsing, 2011). These mechanisms alleviate the cognitive effort of searching and help consumers find the right products faster and more easily, even niche products that are otherwise hard to find (Phang

et al., 2013). The inter-consumer information and opinion exchange allows both parties to gain better insights into making purchase decisions. The various virtues of SSW bring the possibility for consumers to enhance their shopping performance in many ways. Hence shoppers are willing to take advantage of this service to fulfil their task. In existing studies, researchers have identified utilitarian value as a primary driver of purchase decision (Martínez-López, Pla-García, Gázquez-Abad, & Rodríguez-Ardura, 2014; To et al., 2007). Therefore, we propose that

H.1 Consumers' perceived utilitarian value of the SSW is positively associated with their purchase intentions.

#### 3.1.2. Perceived social value (PSV)

Social value refers to the value of developing, extending and maintaining relationships with other shoppers and the value of communicating and interacting with them (To et al., 2007). Shopping is often social in nature. Researchers have found that an important motivation for consumers to shop is to socialize and communicate with others, which satisfies their social needs (Arnold & Reynolds, 2003; To et al., 2007). Online consumer behaviours are partly social-oriented, focusing on relationship building, which could lead to new product discovery and feelings of warmth and satisfaction (Shen, 2012). The SSW, compared to an e-commerce website, additionally supports socializing activities, through which consumers can initiate relationships and strengthen existing ties. During the interactions, consumers gain social support, both informational and emotional (Liang et al., 2011). This support makes them feel more positive and confident about buying via this platform. Also, by purchasing the products recommended by peers, individuals could obtain social identification and approval from the community. Therefore, we propose that:

H.2 Consumers' perceived social value of the SSW is positively associated with their purchase intentions.

### 3.2. Social cues and technical cues

#### 3.2.1. Properties of peer-members

As noted earlier, social cues pertain to the characteristics of the SSW community members. Researchers have shown that a consumer's attitude change induced by recommendations depends heavily on the individual's trust perception of the information source (Senecal & Nantel, 2004). In an SSW where content is user-generated, the credibility of informers plays a significant role in receivers' evaluation of the message (Shin, 2013). Furthermore, the trusting perception of peer members is associated with positive evaluation of the entire platform. The reason is that an individual's trust of an entity is transferrable to another related target (Ng, 2013; Stewart, 2003). This is consistent with virtual community researchers who posit that mutual trust between members would result in certain beliefs in the community (Lu, Zhao, & Wang, 2010; Ng, 2013; Xu, Zhang, & Chen, 2009).

Online trust is generally reinforced by opposite parties' expertise and benevolence/integrity (Hsiao, Lin, Wang, Lu, & Yu, 2010; McKnight, Choudhury, & Kacmar, 2002; Ridings, Gefen, & Arinze, 2002). Expertise refers to a person's capability to perform tasks according to expectations, enabled by the accumulated knowledge, skills, and competencies within certain domains (Mayer, Davis, & Schoorman, 1995). Both integrity and benevolence reflect ethical traits of a trustee (McKnight et al., 2002). Benevolence means one party cares about another party's welfare while integrity refers to honesty (Mayer et al., 1995). The benevolence and integrity qualities are usually merged into a single construct in virtual community studies, due to their similarity in this context (Hsiao et al., 2010; Lu et al., 2010; Ridings et al., 2002). In addition, similarity was also suggested as a critical trust-related trait (Stewart, 2003) by a number of researchers including those focused on peer-recommendations



(Smith, Menon, & Sivakumar, 2005), virtual community (Lu et al., 2010; Shen, Huang, Chu, & Liao, 2010), online shopping assistance (Al-Natour, Benbasat, & Cenfetelli, 2011) and more recently, social commerce (Ng, 2013). The major argument is that common characteristics would foster intimacy and psychological closeness among individuals, who breed affirmative perceptions in interpersonal communication. In conclusion, we put forward three social cues that may affect consumers' perceived values of the SSW: similarity, expertise, and benevolence of peer members.

### 3.2.2. Similarity

Similarity is defined as “a match in demographic characteristics or in psychographic traits” (Shen et al., 2010). In this study, we refer to similarity as an SSW member's self-perceived sameness to other members in terms of preference and taste. Woodside and Davenport (Woodside & Davenport, 1974) demonstrated that similarities between salesmen and consumers would make the recommendations highly persuasive. Referring to online peer-recommendation research, the similarity between consumers intensifies their affective bonds, and fosters a perception of rapport or tie strength (Smith et al., 2005). Thus, a perception of similarity may compensate for the ambiguity of the information source's characteristics that are hard to assess in a virtual environment (Smith et al., 2005). In this way, the information will be judged to be reliable and can be used with confidence. A relevant empirical social commerce survey shows that 73% of shoppers agree that “people like me” are the most trusted sources from whom to seek advice when making a shopping purchase (Marsden, 2009). Therefore, for a consumer, an SSW abundant in similar people would have high chance to improve the person's achievements. We suggest that

H.3a Consumers' similarity with other members of the SSW is positively associated with their perceived utilitarian value of the SSW.

According to the homophily principle, similar people are more likely to build and maintain ties, for example, social network ties, information exchange ties and reciprocity ties (McPherson, Smith-Lovin, & Cook, 2001; Shen et al., 2010). This is partly because interacting with similar counterparts requires less cognitive effort and yields more hedonism (Al-Natour et al., 2011). Evidence has been shown by the similarity-attraction hypothesis that similar individuals have higher mutual attraction and more satisfying relationships (Byrne, Griffitt, & Stefaniak, 1967; Grange & Benbasat, 2008). With reference to earlier, consumers similar in taste and preference have strengthened affective bonds and rapport ties (Smith et al., 2005). Hence we infer that a SSW's capability for allowing users to meet similar counterparts would contribute to its social value.

H.3b Consumers' similarity with other members of the SSW is positively associated with their perceived social value of the SSW.

### 3.2.3. Expertise

Expertise relates to accumulated knowledge, skills, and competencies that enable a party to exert influence within certain domains (Mayer et al., 1995). The information recipient tends to associate the correctness and usefulness of the information with the expertise of the source (Smith et al., 2005). That is, being an expert means having the ability to provide reliable and dependable advice (Shen et al., 2010). This advice could exert great influence over consumer decisions (Martin & Lueg, 2013). For SSW users, expert-generated information can remarkably relieve their effort of product searching, evaluation and choice making. Hence, the existence of expert peers would reinforce users' beliefs that through the use of this platform, they could obtain prominent assistance and therefore attain excellent shopping performance.

H.4a Expertise of peer members of the SSW is positively associated with consumers' perceived utilitarian value of the SSW.

In consumer–consumer interactions, the expertise of one party could guarantee its competence to provide reciprocal benefits. The benefits could be good shopping advice, reliable product reviews, attractive discount opportunities or connection to other experts. This expectation would motivate a person to initiate and maintain relationships with skilled shoppers. Besides, in mutual communication, the expertise of attendees determines the communication quality (Adjei, Noble, & Noble, 2010), which leads to both parties' willingness to sustain their mutual bonding. In online communities, the expertise of members makes the community more worthy of users' participation (Shen et al., 2010). Hence, we propose that:

H.4b Expertise of peer members of the SSW is positively associated with consumers' perceived social value of the SSW.

### 3.2.4. Benevolence

Benevolence depicts the extent to which a partner is interested in the other's welfare (Cho, 2006). An important reason for online customers to pay attention to social proof (i.e. word-of-mouth) is because peer-consumers are supposed to be impartial and disinterested, hence more trustworthy than sellers (Amblee & Bui, 2011; Benlian, Titah, & Hess, 2012). It was demonstrated that the good intentions of an information source increase an information seeker's perceived value of that advice (Arazy, Kumar, & Shapira, 2010), and the intention to follow the advice (Casaló, Flavián, & Guinalíu, 2011). In the SSW community where users search for shopping suggestions and recommendations, a benevolence quality will create expectations for information seekers that the other party will give them honest opinions. Thus this piece of information will be useful for a recipient to act upon when making decisions. Hence we propose that

H.5a Benevolence of peer members of the SSW is positively associated with consumers' perceived utilitarian value of the SSW.

It is suggested that benevolent ambience is the basis of social networking because it ensures the positivity of behavioural intentions (Hsiao et al., 2010). A person's belief in another's benevolence will increase the confidence that he/she would not endure interest sacrifice during the interaction. Therefore, this individual would find the interaction harmless and so be more willing to take part in it. When an SSW user feels the platform is collecting nice people, the individual would view the platform as a valuable place to develop relationships.

H.5b Benevolence of peer members of the SSW is positively associated with consumers' perceived social value of the SSW.

### 3.2.5. Affordances of the technical system

On the one hand, an SSW should be useful to improve participants' shopping performance. To achieve that goal, the website offers product recommendations based on one's social network's updates (Rad & Benyoucef, 2010). In the s-commerce context, system recommendation involves social proof for users (Huang & Benyoucef, 2013), which significantly improves utilitarian shopping performance. On the other hand, the SNS nature of SSWs entails social affordances which stress support for user–user communications and connections (O'Riordan, Feller, & Nagle, 2012), which is consistent with the key sociability requirement of virtual communities (Phang et al., 2009). Therefore, we advocate two technical features that are critical for an SSW: support for recommendations and support for social interactions.

### 3.2.6. Support for recommendations (SR)

Due to the growing volume of content on commercial websites, information overload has become a problem because it hampers consumers' ability to locate relevant information and products (Arazy et al., 2010). To resolve this issue, operators offer product recommendations and consumers are inclined to seek and accept these suggestions (Smith et al., 2005). SSW also integrate

recommender systems, sometimes referred to as social recommendations/social recommender systems (Arazy et al., 2010; Rad & Benyoucef, 2010). These mechanisms are more advanced than their traditional counterparts in their exploration of one's online social networks to filter relevant information (Arazy et al., 2010). Product push on SSWs involves not only registrant's personalized data, but also updates from social networks. The behavioural data of friends who share similar interests would be incorporated into recommendations when pushing products (Rad & Benyoucef, 2010). For instance, the website indicates to a user "what your friends have liked recently". This recommendation is relevant, practical and useful for users to reach desired or even hard-to-find products. Also, this piece of information would serve as social proof to build and reinforce receivers' attitude toward a recommended product (Huang & Benyoucef, 2013). When consumers could enjoy reduced cognitive burden, they may think the website useful to accomplish shopping tasks (Kumar & Benbasat, 2006). Therefore, we hypothesize that

H.6 The SSW's support for recommendations is positively associated with consumers' perceived utilitarian value of the SSW.

### 3.2.7. Support for social interactions (SSI)

Support for social interactions relates to the embedded mechanism of an SSW that allows users to contact and communicate with each other; it was also demonstrated to be a key factor of virtual communities' sociability and users' social commerce participation (Phang et al., 2009, 2013). An SSW offers a variety of methods to support communications before, during and after purchase, such as review and rating system, instant chatting tool and message board. Through these channels, shoppers can gain social support, increase social presence (Zhang et al., 2014) and develop friendships with each other. Researchers have stressed the importance of communication technologies in fostering interpersonal relationships in online shopping (Ou, Pavlou, & Davison, 2014). The availability of the interaction tools would make it easier for users to make new friends and maintain existing ties. Hence we propose that

H.7 The SSW's support for social interactions is positively associated with consumers' perceived social value of the SSW. Our research model is shown in Fig. 1.

## 4. Research methodology

### 4.1. Measurement development

A questionnaire-based empirical study is used to test our research model. The measurements for each construct were adapted mainly from existing research but were modified to include SSW features. Specifically, in the preliminary stage, we reviewed related literature to obtain the seminal scales of reference variables. Also, we interviewed those who are familiar with the SSW context to contextualize the items. Then, an expert review was conducted to refine the wording of instrument items. Their feedback provided the basis for revising the construct measures and modifying the wordings and item sequence. The final set of items and the corresponding sources are provided in Appendix A. For all measurements, a seven-point Likert-type scale ranging from "strongly disagree" to "strongly agree" was employed.

### 4.2. Data collection

In this survey, we chose Mogujie ([www.mogujie.com](http://www.mogujie.com)) as the context. Mogujie is a typical and leading social shopping website/community in China. Therefore, it could provide a context where the researchers could develop insight into the best practices in this area (Jiang, 2012). Another key reason for using Mogujie as the empirical research context is because its technical design

**Table 2**  
Demographic information.

Gender	Percentage (%)	History of using Mogujie	Percentage (%)
Female	72.5	1 month and less	15.7
Male	27.5	1–3 months	28.5
Age	Percentage (%)	3–6 months	13.1
18–24	18.2	6–12 months	18.5
25–29	41.5	1–2 years	15.3
30–39	35.5	2 years and more	8.9
40 and older	4.8		

and user activities well cater for our research needs. Mogujie was established in February 2011, and it was dedicated to support s-commerce from the outset. The website claimed to be a spot of "fashion, shopping, community" with the goal being "helping consumers to make better shopping decisions". In 2014, more than 80 million consumers joined this website and the number of daily visits exceeded 7 million (<http://www.mogujie.com/us/>). Registered users can build rich personal profiles. Afterwards they can publish product reviews with graphic text. Usually, a post is accompanied by a hyperlink to a third party store (e.g. Taobao) where the focal product is sold. Similar to social networking sites, Mogujie users build relationships via a "follow" mechanism, and consequently each user has a certain number of followings and fans. Following a person means booking the person's updates about likes, ratings and reviews of products, which are presented as an anti-chronological information cascade. Readers can react to the post by clicking the "like" button, commenting on it or clicking through the associated hyperlink to an external e-commerce website where they can buy the product. The website also recommends products based on user history and social networking relevance. Users can freely contact others via interactive communication tools. In conclusion, we expect Mogujie to be an excellent platform to conduct our empirical study.

The data was gathered through an online survey, with Mogujie users being the targets. A professional online survey platform, Wenjuanxing (<http://www.sojump.com/>), was utilized. The survey platform allowed us to generate an online questionnaire and an URL to visit it. Anyone can take the survey if they could reach the online questionnaire page. For that reason, we sent invitations to Mogujie users by placing the survey hyperlink with a brief introduction at some high-traffic spots of Mogujie's website. The online survey was open for two weeks. To ensure the qualification of respondents, we placed a screening question at very beginning, asking for a link to the respondent's personal profile in Mogujie. Those who failed to provide this information were unable to continue with the survey. To eliminate repeat responses, each participant's Internet Protocol (IP) address was tracked and two or more submission from the same IP address were excluded from the final data set. Also, the online survey system only allows completed questionnaires to be submitted. Finally, 344 responses were reported. Afterwards, we screened out 31 invalid questionnaires, including those completed within an unreasonably short time and those that indicated an identical answer to all the questions. Finally, a data set of 313 valid responses was obtained. The demographic information is provided in Table 2. As the data reports, females constitute 72.5% of the respondents and youths of 18–29 years old constitute 59.7% of the respondents. According to an iResearch report on Mogujie users, females account for 70.9% of overall users and youth make up the majority of Mogujie's population (Zhan, 2013). Another business report on the demographics of Chinese SSW users shows that 20–29 years old women account for the majority (Li, 2013). These reports are consistent with the targeted population as claimed by Mogujie operators, which are young women with fashionable taste (<http://www.mogujie.com/us/>). Therefore, we assume that the respondents are representative of typical Mogujie users.

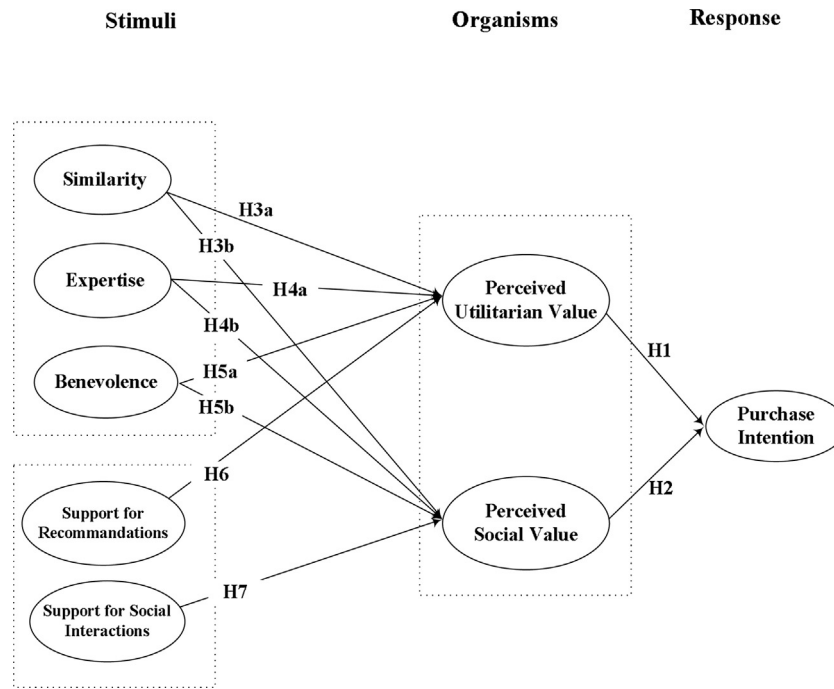


Fig. 1. Research model.

### 4.3. Data analysis

#### 4.3.1. Common method bias test

As all measures were self-reported, the potential for common method bias in the results was assessed. First, it is suggested that appropriate arrangements of the items in a questionnaire can reduce respondents' consistent motivation and thus decrease the common method bias in self-reporting (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Podsakoff & Organ, 1986). Thus we adopted different instructions for different scales, and the adjacent variables in the conceptual model were put in distinct sections. Second, we conducted two tests following the recommendation of Podsakoff et al. (2003). Specifically, Harman's single-factor test was conducted. It was performed by including all items in a principal components factor analysis. When one factor accounts for most of the covariance, the evidence for common method bias exists. We extracted six factors with eigenvalues greater than 1, and the first factor accounted for 16.12% of the total variance. Because more than one factor emerged from the factor analysis and no single factor accounted for most of the covariance in the variables, the data did not exhibit common method bias. Meanwhile, we compared the fit between the one-factor model and the measurement model to further ensure that common method bias was not serious. The fit of the one-factor model ( $\chi^2 = 4016.58$  on 441 d.f., RMSEA = 0.161) was considerably inferior to ( $p < 0.01$ ) the fit of the proposed model ( $\chi^2 = 876.53$  on 406 d.f., RMSEA = 0.061). This result further supports the fact that common method bias would not impact the results of this study. Third, we checked the correlation matrix to see if there were any high correlations, as Pavlou, Liang, and Xue, 2007 suggested that common method bias is unlikely if there are no excessively high correlations ( $>0.9$ ). The results in Table 4 suggest that the common method bias is unlikely to exist in this study.

#### 4.3.2. Assessment of measurement model

Following the two-step approach recommended by Anderson and Gerbing (1988), we first examined the measurement model to verify the reliability and validity of the instruments and then assessed the structural model. Covariance-based structural equa-

tion modeling (CBSEM) was used for hypothesis testing and scale validation. The software package Lisrel 8.70 was chosen for conducting the analyses.

To begin with, the measurement reliability and validity were assessed. In this study, a confirmatory factor analysis (CFA) was implemented to evaluate the validity of the scales. As Table 3 reports, the Cronbach's alphas for each construct all exceed the value of 0.7 suggested for exploratory research (Churchill, 1979; Fornell & Larcker, 1981). Moreover, we examined the adequacy of the model's fit. A model is considered to be satisfactory if the comparative fit index (CFI) is greater than 0.90, and the root mean square error of approximation (RMSEA) is less than 0.08 (Byrne, 1998). Therefore, the results indicated good fit between the measurement model and the dataset ( $\chi^2 = 876.53$  on 406 d.f., RMSEA = 0.061, CFI = 0.986, IFI = 0.986, NFI = 0.974, NNFI = 0.984).

Further, convergent validity means the items inside one construct are closely related. It is assessed by testing composite reliability and the average variance extracted (AVE) (Hair, Anderson, Tatham, & Black, 1998). Minimum acceptable values for composite reliability and the AVE are 0.7 and 0.5 respectively (Fornell & Larcker, 1981). According to Table 3, the corresponding values all passed the threshold. The discriminant validity is supported when the square root of the AVE for each construct is greater than the correlations between that construct and other constructs (Fornell & Larcker, 1981). As shown in Table 4, the square roots of the AVEs for each construct were all greater than the inter-construct correlations depicted in the off-diagonal entries, thus the model achieves sufficient discriminant validity.

#### 4.3.3. Multicollinearity

To eliminate the potential issue of multicollinearity, we followed Mason and Perreault (1991) to judge multicollinearity via variance inflation factor (VIF) values and the tolerance value. Our test shows that the highest VIF value is 2.60, which is lower than the benchmark of 10, and the lowest tolerance value is 0.39, which is higher than the benchmark value of 0.1. These results indicate that our dataset does not have a serious issue of multicollinearity.

**Table 3**  
Results of confirmatory factor analysis.

	Items	Cronbach's Alpha	Composite Reliability	AVE
Similarity	4	0.89	0.93	0.76
Expertise	4	0.89	0.92	0.75
Benevolence	4	0.88	0.92	0.74
Support for recommendations	3	0.83	0.90	0.75
Support for social interactions	4	0.89	0.92	0.75
Perceived utilitarian value	4	0.92	0.94	0.80
Perceived social value	4	0.93	0.95	0.83
Purchase intention	4	0.93	0.95	0.82

**Table 4**  
Means standard deviations and correlations.

	Means	SD	1	2	3	4	5	6	7	8
1. Similarity	5.53	0.83	<b>0.87</b>							
2. Expertise	5.95	0.79	0.65	<b>0.87</b>						
3. Benevolence	5.16	0.96	0.64	0.58	<b>0.86</b>					
4. Support for recommendations	5.94	0.70	0.64	0.63	0.50	<b>0.87</b>				
5. Support for social interactions	5.78	0.75	0.59	0.64	0.65	0.68	<b>0.87</b>			
6. Perceived utilitarian value	5.69	0.94	0.58	0.56	0.52	0.54	0.53	<b>0.89</b>		
7. Perceived social value	5.21	1.23	0.60	0.50	0.65	0.44	0.52	0.53	<b>0.91</b>	
8. Purchase intention	5.84	0.86	0.59	0.56	0.60	0.54	0.59	0.59	0.51	<b>0.91</b>

Notes: The bold numbers are the square roots of the regarded average variance extracted.

#### 4.3.4. Assessment of structural model

After examining the measurement model, we test the structural model. To begin with, good fit between the structural model and the dataset is indicated ( $\chi^2 = 952$  on 414 d.f., RMSEA = 0.065, CFI = 0.98, IFI = 0.98, NFI = 0.97, NNFI = 0.98). Then, the structural model results are depicted in Fig. 2, and the hypothesis testing results are summarized in Table 5. Most of the hypotheses are supported, except for H4b and H7. As proposed, similarity, expertise and benevolence of peer-members significantly affect a shopper's PUV, which verify H3a–H5a respectively. In addition, similarity and benevolence are found to exert remarkable influence on PSV, supporting H3b and H5b. Meanwhile, the weak relationship between expertise and PSV offers no support for H4b. The observable relationship between SR and PUV supports H6. However, the effect of SSI on PSV is not significant, which fails to meet the proposal of H7. Finally, both PSV and PUV significantly impact purchase intention, confirming H1 and H2.

#### 4.3.5. Assessment of mediation effects

We further test mediation effects. According to Baron and Kenny (1986), the first requirement is that independent variables should have a significant relationship with dependent variables. The second requirement is that independent variables should have a significant relationship with mediating variables. To meet the third requirement, we analysed whether the influences of the five independent variables on purchase intention would be reduced significantly (partial mediation), or whether they would completely disappear (full mediation) when perceived utilitarian value and perceived social value were included simultaneously in the presence of the five independent variables.

As Table 6 shows, PUV partially mediates the relationship between similarity and purchase intention, but fully mediates the relationship between expertise and purchase intention. In addition, PSV did not play a mediating role. We further utilized the bootstrapping procedures to test the mediating effects of perceived utilitarian value. Point estimates of indirect effects are significant in the case zero is not contained in the 95% confidence interval (Zhao, John Lynch, & Chen, 2010). If the confidence interval includes zero, the mediation effects are not obvious. As expected, the bootstrapping results presented that PUV mediated the positive effects of similarity on purchase intention (95% CI [0.0233 0.0927]) and the

positive effects of expertise on purchase intention (95% CI [0.0179 0.0818]).

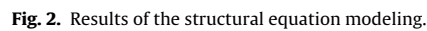
#### 4.3.6. Discussion of the results

As the results suggest, similarity, expertise and benevolence of peer-members significantly affect a shopper's PUV. It means that on an SSW, the similarity, expertise and good intention all play important parts as a person's quality determines his/her usefulness to other people. In addition, similarity and benevolence are found to exert a remarkable influence on PSV, indicating that homophily and benevolence foster relationship building and sustaining. Meanwhile, the weak relationship between expertise and PSV revealed consumers' tendency to be tactical when dealing with others in an SSW. An explanation is that expertise represents the cognitive or rational side of trustworthiness, contributing to the utility of a person. In contrast, similarity and benevolence are more related to the affective or ethical essence. In the s-commerce context, social decisions increase in difficulty, as there are potential marketers in the community who have biased purposes. Then, the deliberation of social value is more based on emotional and moral criteria. For this reason, the expertise quality failed to notably influence social value.

The observable relationship between SR and PUV shows that the SSW's capability to recommend matching products is indeed useful for consumers to optimize purchase decisions. However, the effect of SSI on PSV is not significant. The failure shows that, in the current context, SSI is not critical in evaluating PSV. The reason may be due to the inadequate technical support for intimate interactions at this stage. Interactive tools in SSW are not as available and rich as those in other virtual communities. This may cause consumers to sense less social value from the technical support but more from social support, as indicated by the significant impact of peers' similarity and benevolence on PSV. Finally, as expected, both PSV and PUV significantly impact purchase intention. This confirmed the importance of experiential shopping values in purchase decisions, apart from direct product attributes.

In addition, the mediation test results show that the effect of expertise is fully mediated by perceived utilitarian value. This means that peers' expertise may not necessarily directly enhance their purchase intentions unless shared information or experiences from peers have been perceived to have reached a certain level





	Hypotheses conclusions	Results
H 1	Consumers' perceived utilitarian value of the SSW is positively associated with their purchase intentions.	Supported
H 2	Consumers' perceived social value of the SSW is positively associated with their purchase intentions.	Supported
H 3a	Consumers' similarity with other members of the SSW is positively associated with their perceived utilitarian value of the SSW.	Supported
H 3b	Consumers' similarity with other members of the SSW is positively associated with their perceived social value of the SSW.	Supported
H 4a	Expertise of peer members of the SSW is positively associated with consumers' perceived utilitarian value of the SSW.	Supported
H 4b	Expertise of peer members of the SSW is positively associated with consumers' perceived social value of the SSW.	Not supported
H 5a	Benevolence of peer members of the SSW is positively associated with consumers' perceived utilitarian value of the SSW.	Supported
H 5b	Benevolence of peer members of the SSW is positively associated with consumers' perceived social value of the SSW.	Supported
H 6	The SSW's support for recommendations is positively associated with consumers' perceived utilitarian value of the SSW.	Supported
H 7	The SSW's support for social interactions is positively associated with consumers' perceived social value of the SSW.	Not supported

	Purchase intention	Perceived utilitarian value	Perceived social value	Purchase intention
Similarity	0.23**	0.25**	0.30**	0.15*
Expertise	0.14*	0.21**	0.07	0.08
Benevolence	0.19**	0.07	0.37**	0.16**
Support for recommendation	0.09	0.15*	−0.04	0.05
Support for social interaction	0.22**	0.12	0.12	0.18
Perceived utilitarian value				0.25**
Perceived social value				0.03
R2	0.48	0.42	0.48	0.52
F	56.00**	45.08**	55.73**	46.29**

ilarity is partially mediated by perceived utilitarian value, which indicates that similarity can lead to purchase intention both directly and through perceived utilitarian value.

## 5. Research contributions

### 5.1. Implications for research

This paper enriches extant s-commerce literature by providing new insights into how consumers form purchase intention as a result of using an SSW. It has been claimed that the existing s-commerce literature is centred on definitional and conceptual issues (Kim & Park, 2013). The detailed s-commerce practice, however, is not sufficiently examined. Some studies have tapped into the s-commerce factors that motivate user participation, but few of them have further investigated the particular values of s-commerce applications that ensure its capability of stimulating real transactions. In this regard, we made contributions via an empirical study of an SSW user's transaction-based activity: purchase intention. Building on the S-O-R framework, we have proposed an overarching model that links the system cues of an SSW and individual consumers' psychological processing towards purchase intention.

Moreover, we contribute to the S-O-R model by enriching the existing collections of stimuli and organisms and extending the application boundary. Using a social-technical perspective, we provided a deeper understanding of the environmental elements of an SSW that impact a consumer's evaluations and decision making process. Due to the limited opportunity for consumer–consumer interactions in past e-commerce practice, extant online shopping studies using S-O-R usually treat web-features as stimuli, while the social-related antecedents have not received much attention. Given the current web 2.0 mechanisms, people could count themselves as part of shopping environment, whose qualities would affect peers' value perceptions. In this respect, s-commerce highlights utilizing user–user ties to facilitate business. Therefore our inclusion of peer-members' trait as a crucial component of the research model provides implications for future web 2.0-based shopping environment studies.

Further, we adapted the shopping values that SSW users perceive of interacting with the system as utilitarian and social, which sufficiently captured the key properties of shopping values in s-commerce. Therefore, we provide insights into the economic reasons associated with creating the s-commerce business model. This finding also adds to previous knowledge of online shopping values by demonstrating that consumers attach importance to social value as well as utilitarian value when using an s-shopping system. In this way, we shed light on future research options which may leverage environmental psychology to interpret s-commerce behaviour. Besides, this research represents one of the first attempts to use the S-O-R model in an s-commerce setting. As noted earlier, s-commerce differs from e-commerce in nature. Thus we have qualitatively extended the application scope, which constitutes a substantial contribution to S-O-R model.

In addition, we enlighten human-computer interaction research by bringing in the novel s-shopping condition. Before the advent of s-commerce, consumers simply obtained information from a website, and their contribution to the shopping system was limited. However, the s-shopping model additionally involves user–user interactions, which means that a user could affect a peer user's interaction with the system. This throws a different light on existing understandings of the relationship between individuals and systems. Hence, this study brings new thinking into this issue that peer-users' character could affect the human-computer interactions and thus provide a foundation for future research in this aspect.

### 5.2. Implications for practice

This study offers practical implications for SSW operators to improve their systems as well as management strategies. To be spe-

cific, the notable relationship between similarity of users and both PUV and PSV of them suggests that an SSW platform should allow consumers to find similar others with ease. For instance, sufficient tools could be developed to let members describe and label themselves. Then the filtering system can be rendered more efficient and flexible so as to help users search for others with shared interests. Also, the programming algorithm can be enhanced to facilitate the system recommendation of similar shoppers. Since expertise was found to exert a significant impact on PUV and purchase intention, SSW managers should pay more attention to identifying the skilled members and strategically distributing them among members to increase their accessibility. More purchases can be encouraged by the convincing recommendation of experts. In addition, the operators should take seriously the moral issues, since benevolence exerts enormous influence on both PSV and PUV.

Besides, this study enlightens other s-commerce user groups, namely companies or retailers who want to promote their products and brands on SSW, since the results help them to identify what is highly valued by consumers. The focus of relationship marketing should be extended from leveraging seller–buyer relationships to exploiting buyer–buyer relationships. For instance, marketers can take advantage of the great influence of “expert buyers” to advertise their products. Also, shop owners may try to create an environment in which consumers can easily discover and evaluate products based on peer-interactions, since this study once again confirmed the significance of peer-influence. By encouraging and making effective use of customers' word-of-mouth, better performance can be achieved.

## 6. Research limitations and future research suggestions

The findings of this research should be interpreted with its limitations, which offer possibilities for future studies. First, the context of this empirical survey is a Chinese SSW, thus the respondents are constrained. Given the cultural influences, the generalizability of the findings is somewhat limited. For example, a recent s-commerce research reported that culture plays a part in moderating the relationship between social interactions and purchase intention as well as affecting consumer trust (Ng, 2013). Therefore, we suggest that researchers should further incorporate cultural factors in future studies. For instance, people from different cultures attach different levels of importance to utilitarian value, which may moderate the PUV-purchase intention link in our model (Wallace, Reid, Clinciu, & Kang, 2013). As a result of including cultural factors, more detailed knowledge of consumers' purchase intention in SSW can be acquired.

Second, experiential shopping value is the net value derived from the trade-off between benefit and cost of SSW consumers. The antecedents are chosen from a general manner and a facilitating perspective. Therefore cost, which may adversely affect value perceptions, could be an interesting and enlightening addition to the stimuli collection. For example, cost can refer to the time and effort of using the SSW and relationship risks. When these elements are included, the model would have more explanatory power and higher reference value for practitioners.

Third, consumers may respond differently to environmental signals and values when dealing with different types of products. The focal website in this study, Mogujie, focuses on apparel and accessory products. Thus, future studies can expand the current research model and involve diversified types of products for comparison.

Fourth, as we acknowledged before, while studying purchase intention is appropriate in the focal context, it is also enlightening to confirm the actual purchase behaviour on the third party website. Future research can be conducted longitudinally to confirm the link between click-out and actual buy. Hence more practical

and convincing findings can be obtained. Despite the limitations, our study offers important theoretical and practical insights that are conducive for social commerce research.

## 7. Conclusion

To sum up, this research is a pioneer in studying consumers' purchase intention in a social shopping website. Utilizing the stimuli-organism-response model and a socio-technical perspective, we treat purchase intention as an outcome of a series of mental processing acts, initially intrigued by environmental cues. A series of influencing relationships between user qualities, technical affordance, shopping value and consumption intention were verified. This paper also contains certain limitations based on which we may embark on future research. Hopefully, our understanding about the s-commerce phenomenon will be more complete.

## Acknowledgements

We gratefully acknowledge the excellent comments and suggestions made by the review team members. The research is supported by the grants from the National Natural Science Foundation of China (NSFC: 71571177, 71571169).

## Appendix A.

### Measurements

Scale: strongly disagree (1) – strongly agree (7)

Similarity (*Shen et al., 2010; Zhang, 2010*).

- 1 Considering styles about fashion and beauty products, I am similar with some members on Mogujie.
- 2 Considering tastes about fashion and beauty products, I am similar with some members on Mogujie.
- 3 Considering likes and dislikes about fashion and beauty products (e.g. colour, design, material etc.), I am similar with some members on Mogujie
- 4 Considering preferences about fashion and beauty products (e.g. colour, design, material etc.), I am similar with some members on Mogujie.

Expertise (*Shen et al., 2010*).

- 1 Some members on Mogujie are very knowledgeable about fashion and beauty products.
- 2 Some members on Mogujie are experts on fashion and beauty products.
- 3 Some members on Mogujie are highly experienced about fashion and beauty products.
- 4 Compared with other sites, Mogujie contains lots of information and knowledge regarding fashion and beauty products.

Benevolence (*Casaló et al., 2011; Lu et al., 2010; McKnight et al., 2002; Ridings et al., 2002*).

- 1 Members on Mogujie are interested in others' well-being when they recommend products and share product information.
- 2 Members on Mogujie put others' interests in mind when they recommend products and share product information.
- 3 Members on Mogujie will not tell lies when they recommend products and share product information.
- 4 Members on Mogujie will do everything within their capacity to help others.

Support for Recommendations (*Kumar & Benbasat, 2006*).

- 1 When I visit a product page, Mogujie recommends products that potentially interest me.
- 2 When I visit a product page, Mogujie shows me other similar items.
- 3 Mogujie recommends products that potentially interest me.

Support for Social Interactions (*Phang et al., 2009*).

- 1 Mogujie facilitates members to communicate with each other.
- 2 Mogujie supports members to interact with each other.
- 3 Mogujie facilitates members to be connected with each other.
- 4 Mogujie supports members to communicate easily.

Perceived Utilitarian Value (*Gefen, Karahanna, & Straub, 2003*).

- 1 Using Mogujie can improve my shopping performance (e.g., save shopping time or buying cost) in search and buying products.
- 2 Using Mogujie can improve my shopping productivity (e.g., get good deals and products) in search and buying products.
- 3 Using Mogujie can improve my shopping efficiency in searching and buying products.
- 4 Using Mogujie enables me to better accomplish searching and purchasing products.

Perceived Social Value (*To et al., 2007*).

- 1 Using Mogujie, I develop friendships with some other members.
- 2 Using Mogujie, I extended my personal relationships.
- 3 Using Mogujie, I keep in touch with some members (e.g. check their updates, leave them messages and interact with them).
- 4 Using Mogujie, I communicate with some members (e.g. comments on their recommendations, leave them messages and interact with them).

Purchase Intention (*Pavlou & Fygenon, 2006*).

- 1 If there is shopping need, I intend to purchase products on Mogujie.
- 2 If there are shopping needs, I plan to purchase products on Mogujie.
- 3 I predict that I would purchase products on Mogujie.
- 4 It is highly likely I would purchase products on Mogujie.

## Appendix B.

### Mogujie.com

Mogujie.com is a Chinese image-sharing social shopping website. It acts as an online shopping guide where consumers seek shopping ideas, reviews and recommendations that are generated by other consumers. Mogujie claims that it is dedicated to providing the best fashion-shopping experience and solving the problems of how to wear and where to buy for young fashionable women. Therefore it focuses on apparels, shoes, handbags, accessories, beauty and cosmetics and home decoration items. Similar to a social network site, Mogujie allows users to establish an account, provide personality information and make connections with a list of other users. Information sharing in Mogujie is graphic. Users post photos of products accompanied by descriptions and hyperlinks of the focal product from traditional online retailers' sites. Readers can react to the recommendations by clicking the 'like' button and/or making comments to them. All the products which are posted or are liked by one user are included in the person's

own profile. Relationships among users can be easily established by 'following' each other. Such relationships allow them to view their friends' updates easily. Besides, users can join interest groups where they can share and discuss shopping experiences. Mogujie also provides various kinds of personalized recommendations. It recommends the hottest products and shopping experts that have been liked by many users in different areas to users. It also pushes products to users with potential interests based on personalized calculations.

## References

- Ajdei, M. T., Noble, S. M., & Noble, C. H. (2010). The influence of C2C communications in online brand communities on customer purchase behavior. *Journal of the Academy of Marketing Science*, 38(5), 634–653.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, New Jersey: Prentice-Hall.
- Al-Natour, S., Benbasat, I., & Cenfelletti, R. (2011). The adoption of online shopping assistants: Perceived similarity as an antecedent to evaluative beliefs. *Journal of the Association for Information Systems*, 12(5), 347–374.
- Amblee, N., & Bui, T. (2011). Harnessing the influence of social proof in online shopping: The effect of electronic word of mouth on sales of digital microproducts. *International Journal of Electronic Commerce*, 16(2), 91–114.
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411–423.
- Arazy, O., Kumar, N., & Shapira, B. (2010). A theory-driven design framework for social recommender systems. *Journal of the Association for Information Systems*, 11(9), 455–490.
- Arnold, M. J., & Reynolds, K. E. (2003). Hedonic shopping motivations. *Journal of Retailing*, 79(2), 77–95.
- Baker, J., Parasuraman, A., Grewal, D., & Voss, G. B. (2002). The influence of multiple store environment cues on perceived merchandise value and patronage intentions. *The Journal of Marketing*, 66, 120–141.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173–1182.
- Batra, R., & Ahtola, O. T. (1991). Measuring the hedonic and utilitarian sources of consumer attitudes. *Marketing Letters*, 2(2), 159–170.
- Benlian, A., Titah, R., & Hess, T. (2012). Differential effects of provider recommendations and consumer reviews in e-commerce transactions: An experimental study. *Journal of Management Information Systems*, 29(1), 237–272.
- Byrne, D., Griffitt, W., & Stefaniak, D. (1967). Attraction and similarity of personality characteristics. *Journal of Personality and Social Psychology*, 5(1), 82–90.
- Byrne, B. M. (1998). *Structural equation modeling with LISREL, PRELIS, and SIMPLIS: basic concepts, applications and programming*. Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Casaló, L. V., Flavián, C., & Guinalíu, M. (2011). Understanding the intention to follow the advice obtained in an online travel community. *Computers in Human Behavior*, 27(2), 622–633.
- Chang, H. H., & Chen, S. W. (2008). The impact of online store environment cues on purchase intention: Trust and perceived risk as a mediator. *Online Information Review*, 32(6), 818–841.
- Childers, T. L., Carr, C. L., Peck, J., & Carson, S. (2002). Hedonic and utilitarian motivations for online retail shopping behavior. *Journal of Retailing*, 77(4), 511–535.
- Cho, J. (2006). The mechanism of trust and distrust formation and their relational outcomes. *Journal of Retailing*, 82(1), 25–35.
- Churchill, G. A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, 16(4), 64–73.
- Curry, R. G., & Zhang, P. (2011). Social commerce: Looking back and forward. In *Proceedings of the American society for information science and technology*.
- Curry, R. G., & Zhang, P. (2013). Website features that gave rise to social commerce: A historical analysis. *Electronic Commerce Research and Applications*, 12(4), 260–279.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.
- Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly*, 27(1), 51–90.
- Grange, C., & Benbasat, I. (2008). Strategies used for consumers to extract value from online shopping networks. In *Social mediating technologies workshop, 27th CHI conference*.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis*. Upper Saddle River, New Jersey, USA: Prentice Hall.
- Hsiao, K. L., Lin, J. C. C., Wang, X. Y., Lu, H. P., & Yu, H. (2010). Antecedents and consequences of trust in online product recommendations: An empirical study in social shopping. *Online Information Review*, 34(6), 935–953.
- Huang, Z., & Benyoucef, M. (2013). From e-commerce to social commerce: A close look at design features. *Electronic Commerce Research and Applications*, 12(4), 246–259.
- Jiang, Z., Chan, J., Tan, B., & Chua, W. S. (2010). Effects of interactivity on website involvement and purchase intention. *Journal of the Association for Information Systems*, 11(1), 34–59.
- Jiang, J. (2012). *Social commerce business model study*. Master of Business Administration. Shanghai, China: Business Administration, Shanghai Jiaotong University.
- Kim, S., & Park, H. (2013). Effects of various characteristics of social commerce (s-commerce) on consumers' trust and trust performance. *International Journal of Information Management*, 33, 318–332.
- Kim, D. (2013). Under what conditions will social commerce business models survive? *Electronic Commerce Research and Applications*, 12(2), 69–77.
- Kling, R., & Courtright, C. (2003). Group behavior and learning in electronic forums: A sociotechnical approach. *The Information Society*, 19, 221–235.
- Kumar, N., & Benbasat, I. (2006). Research note: The influence of recommendations and consumer reviews on evaluations of websites. *Information Systems Research*, 17(4), 425–439.
- Li, Y. E. (2013). *An analysis of characteristics of social shopping website users*. , available at: <http://tech.hexun.com/2013-03-13/152037218.html>
- Liang, T. P., & Turban, E. (2011). Introduction to the special issue social commerce: A research framework for social commerce. *International Journal of Electronic Commerce*, 16(2), 5–14.
- Liang, T. P., Ho, Y. T., Li, Y. W., & Turban, E. (2011). What drives social commerce: The role of social support and relationship quality. *International Journal of Electronic Commerce*, 16(2), 69–90.
- Lu, Y., Zhao, L., & Wang, B. (2010). From virtual community members to C2C e-commerce buyers: Trust in virtual communities and its effect on consumers' purchase intention. *Electronic Commerce Research and Applications*, 9(4), 346–360.
- Manganari, E. E., Siomkos, G. J., Rigopoulou, I. D., & Vrechopoulos, A. P. (2011). Virtual store layout effects on consumer behaviour: Applying an environmental psychology approach in the online travel industry. *Internet Research*, 21(3), 326–346.
- Marsden, P. (2009). *Top social commerce survey findings*. , available at: <http://socialcommercetoday.com/top-socialcommerce-survey-findings-ripple6/>
- Martínez-López, F. J., Pla-García, C., Gázquez-Abad, J. C., & Rodríguez-Ardura, I. (2014). Utilitarian motivations in online consumption: Dimensional structure and scales. *Electronic Commerce Research and Applications*, 13(3), 188–204.
- Martin, W. C., & Lueg, J. E. (2013). Modeling word-of-mouth usage. *Journal of Business Research*, 66(7), 801–808.
- Mason, C. H., & Perreault, W. D. J. (1991). Collinearity, power, and interpretation of multiple regression analysis. *Journal of Marketing Research*, 28(3), 268–280.
- Mathwick, C., Malhotra, N., & Rigdon, E. (2001). Experiential value: Conceptualization, measurement and application in the catalog and Internet shopping environment. *Journal of Retailing*, 77(1), 39–56.
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review*, 20(3), 709–734.
- McKnight, D. H., Choudhury, V., & Kacmar, C. (2002). Developing and validating trust measures for e-commerce: An integrative typology. *Information Systems Research*, 13(3), 334–359.
- McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social network. *Annual Review of Sociology*, 27, 415–444.
- Mehrabian, A., & Russell, J. A. (1974). *An approach to environmental psychology*. the MIT Press.
- Ng, C. S.-P. (2013). Intention to purchase on social commerce websites across cultures: A cross-regional study. *Information & Management*, 50(8), 609–620.
- O'Riordan, S., Feller, J., & Nagle, T. (2012). Exploring the affordances of social network sites: An analysis of three networks. In *Proceedings of European conference on information systems*.
- Olbrich, R., & Holsing, C. (2011). Modeling consumer purchasing behavior in social shopping communities with clickstream data. *International Journal of Electronic Commerce*, 16(2), 15–40.
- Ou, C. X. J., Pavlou, P. A., & Davison, R. M. (2014). Swift Guanxi in online marketplaces: The role of computer-mediated-communication technologies? *MIS Quarterly*, 38(1), 209–230.
- Overby, J. W., & Lee, E. J. (2006). The effects of utilitarian and hedonic online shopping value on consumer preference and intentions. *Journal of Business Research*, 59(10), 1160–1166.
- Parboteeah, D. V., Valacich, J. S., & Wells, J. D. (2009). The influence of website characteristics on a consumer's urge to buy impulsively. *Information Systems Research*, 20(1), 60–78.
- Parsons, A. G. (2002). Non-functional motives for online shoppers: Why we click. *Journal of Consumer Marketing*, 19(5), 380–392.
- Pavlou, P. A., & Fygenson, M. (2006). Understanding and predicting electronic commerce adoption: An extension of the theory of planned behavior. *MIS Quarterly*, 30(1), 115–143.
- Pavlou, P. A., Liang, H., & Xue, Y. (2007). Understanding and mitigating uncertainty in online exchange relationships: A principal-agent perspective. *MIS Quarterly*, 31(1), 105–136.
- Phang, C. W., Kankanhalli, A., & Sabherwal, R. (2009). Usability and sociability in online communities: A comparative study of knowledge seeking and contribution. *Journal of the Association for Information Systems*, 10(10), 721–747.
- Phang, C. W., Zhang, C., & Sutanto, J. (2013). The influence of user interaction and participation in social media on the consumption intention of niche products. *Information & Management*, 50(8), 661–672.
- Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, 12(4), 531–544.



- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903.
- Preece, J., & Maloney-Krichmar, D. (2003). Online communities. In J. Jacko, & A. Sears (Eds.), *Handbook of human-Computer interaction* (pp. 596–620). Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Preece, J. (2001). Sociability and usability: Twenty years of chatting online. *Behavior and Information Technology Journal*, 20(5), 347–356.
- Rad, A. A., & Benyoucef, M. (2010). A model for understanding social commerce. *Journal of Information Systems Applied Research*, 4(2), 63–73.
- Ridings, C. M., Gefen, D., & Arinze, B. (2002). Some antecedents and effects of trust in virtual communities. *The Journal of Strategic Information Systems*, 11(3), 271–295.
- Senecal, S., & Nantel, J. (2004). The influence of online product recommendations on consumers' online choices. *Journal of Retailing*, 80(2), 159–169.
- Shen, Y. C., Huang, C. Y., Chu, C. H., & Liao, H. C. (2010). Virtual community loyalty: An interpersonal-interaction perspective. *International Journal of Electronic Commerce*, 15(1), 49–74.
- Shen, J. (2012). Social comparison, social presence, and enjoyment in the acceptance of social shopping websites. *Journal of Electronic Commerce Research*, 13(3), 198–212.
- Shin, D. H. (2013). User experience in social commerce: In friends we trust. *Behaviour & Information Technology*, 32(1), 52–67.
- Smith, D., Menon, S., & Sivakumar, K. (2005). Online peer and editorial recommendations, trust, and choice in virtual markets. *Journal of Interactive Marketing*, 19(3), 15–37.
- Stewart, K. J. (2003). Trust transfer on the world wide web. *Organization Science*, 14(1), 5–17.
- To, P. L., Liao, C., & Lin, T. H. (2007). Shopping motivations on internet: A study based on utilitarian and hedonic value. *Technovation*, 27(12), 774–787.
- Wallace, S., Reid, A., Clinciu, D., & Kang, J.-S. (2013). Culture and the importance of usability attributes. *Information Technology & People*, 26(1), 77–93.
- Wang, C., & Zhang, P. (2012). The evolution of social commerce: An examination from the people, business, technology, and information perspective. *Communications of the AIS*, 31(5), 105–127.
- Woodside, A. G., & Davenport, J. W. (1974). The effect of salesman similarity and expertise on consumer purchasing behavior. *Journal of Marketing Research*, 11(2), 198–202.
- Xu, Y., Zhang, C., & Chen, J. (2009). The role of mutual trust in building members' loyalty to a c2c platform provider. *International Journal of Electronic Commerce*, 14(1), 147–171.
- Yadav, M. S., Valck, K. d., Hennig-Thurau, T., Hoffman, D. L., & Spann, M. (2013). Social commerce: A contingency framework for assessing marketing potential. *Journal of Interactive Marketing*, 27, 311–323.
- Zhan, N. (2013). *iUser Tracker: Young "social generation" likes SNS and social shopping*. , available at. <http://web2.iresearch.cn/others/20131211/221861.shtml>
- Zhang, H., Lu, Y., Gupta, S., & Zhao, L. (2014). What motivates customers to participate in social commerce? The impact of technological environments and virtual customer experiences. *Information & Management*, 51(8), 1017–1030.
- Zhang, Z. K. (2010). *How do online review platforms affect individuals' consumption behavior: An informational social influence perspective*. Doctor of Philosophy. Hong Kong: Department of Information Systems, City University of Hong Kong.
- Zhao, X., Lynch, G. J., & Chen, Q. (2010). Reconsidering baron and kenny: Myths and truths about mediation analysis. *Journal of Consumer Research*, 37(2), 197–206.
- Zhou, L., Zhang, P., & Zimmermann, H.-D. (2013). Social commerce research: An integrated view. *Electronic Commerce Research and Applications*, 12(2), 61–68.