

Effects of social media on consumers' purchase decisions: evidence from Taobao

Kee-Young Kwahk¹ · Byoungsoo Kim²

Received: 23 October 2015 / Accepted: 20 December 2016 / Published online: 31 December 2016
© Springer-Verlag Berlin Heidelberg 2016

Abstract Given the rapid growth of social media, it is important to understand the effects of social media on consumers' purchase decisions in the e-commerce environment. However, although some e-commerce sites have started to link themselves to social media to enhance user interactions, previous studies of social media and service management have shed little light on the effects of social media on consumers' purchase decisions. This study proposes a theoretical research model that includes social media factors, social impact transfer factors, and e-commerce outcome factors. We posit social interaction ties and social media commitment as key elements of social media. An online questionnaire was conducted to test the research model and hypotheses based on survey data collected from Taobao, the largest e-commerce site in China. The analysis results indicate that social interaction ties have significant positive effects on social impact transfer factors and trust in online vendor, whereas they do not directly influence visit intention. Social media commitment plays a crucial role in increasing social impact transfer factors and e-commerce outcomes. The findings reveal the different effects of normative and informational social influences on consumer purchase decisions. Further implications are discussed.

Keywords Social media · Taobao · Social impact theory · Informational social influence · Normative social influence

✉ Byoungsoo Kim
kbsyu@yu.ac.kr

Kee-Young Kwahk
kykwahk@kookmin.ac.kr

¹ College of Business Administration and Graduate School of Business IT, Kookmin University, 77 Jeongneung-Ro, Seongbuk-Gu, Seoul 02707, Korea

² School of Business, Yeungnam University, 280 Daehakro, Gyeongsansi, Gyeongsangbukdo 712-749, Korea

1 Introduction

Social media are defined as computer-mediated communication platforms that allow users to create and share content as well as communicate with one another (Kim et al. 2010). Kaplan and Haenlein (2010) defined social media as a group of internet-based applications that build on the ideological and technological foundations of Web 2.0 to allow for the creation and exchange of user-generated content. Social media have many different forms, including virtual communities, weblogs, microblogs, wikis, photo/video sharing, social networking sites, social bookmarking, and other social applications. They provide users more various communication functions and a useful platform (Huang et al. 2016). One of the main features of social media is that individual users can share their knowledge and opinions with others with similar interests and needs. In particular, consumers actively create and share information on firms, brands, and products on social media sites through message boards, social networking sites, and blogs, among others. JD Power and Associates' report (2014) noted that a firm's social marketing efforts positively influence consumers' purchase intentions toward firms. According to a consumer survey on social media in 2014, 71% of consumers rely on social media to make their purchase decisions (Invesp 2014). This is because social media users are perceived as more trustworthy and reliable than unknown individuals (Chu and Kim 2011). Another result showed that 4 in 10 social media users buy some products online or in-store after sharing them on Twitter, Facebook, or Pinterest (Invesp 2014). Thus, social media have become a peer influencer when users make purchase decisions. In particular, peer communications and online reviews through social media strongly influence consumer's decision making for service industries such as hospitality and film industries. In service industries, consumers rely heavily on social media in order to understand and evaluate the performance and quality of certain services. For example, Hudson and Thal (2013) demonstrated the significant effects of social media on the consumer decision process for the travel industry. Thus, most service firms pay attention to the significant effect of social media on consumers' purchase behaviors. However, previous studies of the information system (IS) and marketing have shed relatively little light on the effects of social media on consumers' purchase decisions (Trusov et al. 2010; Wang et al. 2012). To fill this gap in the literature, this study examines the effects of social media on consumers' decision-making processes.

Social media make it possible for consumers to obtain specific information or product attributes or evaluations from others in their networks. Social media contribute to competitive intelligence activities in sharing and gathering information and knowledge (Vuori and Väisänen 2009). One type of advertising on social media enables consumers to engage in social interactions concerning products by commenting on them and "liking" them, and this information is passed along their social connections (Interactive Advertising Bureau, 2009). Several studies have found that social interaction ties and social media commitment are key elements of social media (Hutter et al. 2013; Phang et al. 2013; Wang and Chiang 2009). Although someone with vested interests may fake user-generated content on

social media, many believe that reviews can be trusted because they are based on real experiences by real people who are independent (Stephen and Toubia 2010). Previous IS and marketing studies have found that consumers perceive information shared by social media as more trustworthy and persuasive than that from traditional media such as TV advertising and personal selling (Cheung and Thadani 2012; Chu and Kim 2011). In an e-commerce context, social media also serve as a powerful word-of-mouth channel for products and services and play a core role in consumers' decision making (Kuan et al. 2014; Phang et al. 2013; Ye et al. 2010). Nowadays, a number of e-commerce sites widely use social media that support social interactions, and users' contributions to assist in the online buying and selling of products and services. Thus, several e-commerce sites have started to link themselves to social media sites to improve user interactions, under the expectation that they will facilitate transactions. Previous works on social media identified social interaction ties and social media commitment as key components of social media (Hutter et al. 2013; Phang et al. 2013). This study investigates the effects of two key components on consumer's purchase decisions in the e-commerce settings.

Many studies of marketing and consumer behavior have investigated the impact of social influences on consumers' purchase decisions (Cheung et al. 2009; Lee et al. 2011; Phang et al. 2013; Trusov et al. 2010; Wang et al. 2012). According to social impact theory, an individual's feelings, attitudes, and behaviors can be affected by the presence of others (Latane 1981). Burnkrant and Cousineau (1975) suggested two forms of social influence: informational and normative. Both forms of social influence can affect consumers' attitudes and behaviors because of the real or imagined influence of others (Chu and Kim 2011; Kuan et al. 2014). Normative social influence suggests that people are influenced by group compliance, whereas informational social influence indicates that people are influenced by knowledge and evidence (Bearden et al. 1989). In the context of e-commerce, the effects of normative and informational social influences on consumers' purchase decisions are expected to be relatively strong because many consumers decide to purchase some products based on the comments and 'likes' of their social media contacts. In this regard, this study investigates the effects of social influence on consumers' visit intentions. In addition, trust is widely considered a key enabler of online interactions in e-commerce and online banking, among others. Several studies have found that trust in an online vendor is important for the consumer to accept any potential risk associated with or inherent in a given transaction (Chiu et al. 2006; Jasperson et al. 2005). In this regard, trust in an online vendor may be a key predictor of consumers' visit and purchase intentions in e-commerce settings.

This study contributes to the emerging literature on social media and e-commerce in two major ways: First, this study examines what is the type of role played by social media in the e-commerce context as well as how social media can be used to enhance consumers' decision-making processes. We posit that social interaction ties and social media commitment are two key aspects of social media. Second, this study clarifies the role of normative and informational social influences in consumers' decision-making processes from the perspective of a social impact theory. Here, normative and informational social influences are considered as key mediators in the development of trust in online vendor and consumers' visit

intentions, ultimately fostering their purchase intentions. This study used a partial least squares (PLS) method to analyze data from a sample of 225 users experienced with Taobao. Although this study has some limitations since only data from the e-commerce site “Taobao” are used, the results have important practical implications for social media and practitioners. From a theoretical standpoint, the findings of this study contribute to our understanding of the significant effect of social media factors and demonstrate how consumer’s purchase processes are affected through this useful communication channel. Moreover, the findings will help practitioners in the service industries develop effective social media campaigns and strategies.

The rest of this paper is organized as follows: Section 2 describes the theoretical background of the research model. Section 3 presents the research model and proposes relevant research hypotheses. Section 4 addresses the research methodology. Section 5 presents and discusses the analysis results. Section 6 concludes with a discussion on important theoretical and practical implications. Section 7 describes limitations and avenues for future research.

2 Theoretical background

2.1 The role of social media in e-commerce

Nowadays, social media are integrated with the e-commerce system. This phenomenon is known as social commerce. Social commerce is a subset of e-commerce mediated by social media (Wang and Zhang 2012; Zhou et al. 2013). It allows users to share product feedback and offer information that affect other members’ choices by expressing their own views and experiences (Kim and Park 2013). Moreover, they can select whether or not to share a transaction when they engage in the transaction. If they choose to share it, then the transaction record, product link, and the reviews of that product are shown on the social network service pages, and friends can see and comment on the transaction. Social media such as blogs, microblogs, and variety of web applications lead to enhance the users’ interaction, and the transaction records and reviews are transferred within this social media as a link. Users are encouraged to share their transactions with points and coupons. Since social media are an effective tool to share product information and improve users’ interaction, the importance of social media in e-commerce becomes stronger. Out of the 2015 global e-commerce sales, more than \$30 billion were generated from various social media. Figure 1 presents the working mechanism of integrating social media into e-commerce sites.

Several researchers have described two key aspects derived from social media characteristics: social interaction ties and social media commitment. Social interaction ties refer to a link established through the reciprocity-based behavior of two actors (Wang and Chiang 2009; Wasko and Faraj 2005). These ties describe linkages between people or units, and are facilitated by social media (Fischer and Reuber 2010). Social interaction ties can manifest as a structural dimension of social capital from the perspective of social capital theory (Nahapiet and Ghoshal 1998).

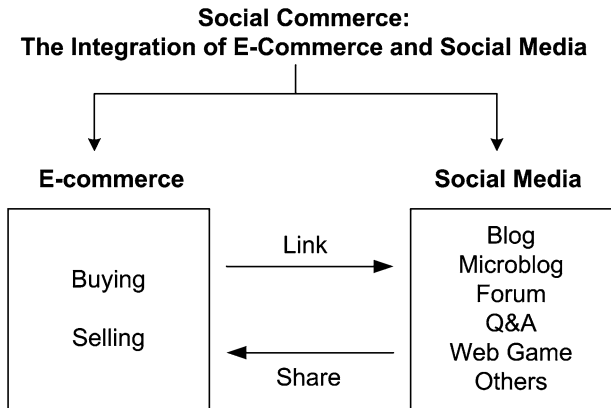


Fig. 1 Social commerce

In the social media context, all activities that actors participate in are based on social interaction ties within the social media environment and influence knowledge transfer because these ties provide channels for and facilitate information exchange (Wasko and Faraj 2005). This implies that social interaction ties can play an important role in encouraging users to interact more in the context of social commerce, thereby making the transaction more social. Some studies of social media have shown that relationships built through social media considerably influence communication with members and their purchase intentions (Wang et al. 2012; Zhang and Daugherty 2009).

Commitment can be defined as a psychological construct representing the desire and resolve to continue participation (Scanlan et al. 1993). Commitment facilitates a high level of loyalty to a certain product or service (Zhou et al. 2012) and captures the desire to maintain and strengthen a sustainable relationship between members (Chu and Kim 2011; Morgan and Hunt 1994). A number of marketing and IS studies have demonstrated considerable influence on consumers' decision-making processes (Evanschitzky et al. 2006; Gustafsson et al. 2005; Hutter et al. 2013). In social capital theory, commitment manifests as a relational dimension of social capital (Wasko and Faraj 2005), and has been shown to affect both attitudes (Zanna and Rempel 1988; Zhou et al. 2012) and purchase intentions (Wetzel et al. 1998). Commitment to a website has been found to influence online purchase attitudes (Seo and Green 2007), and commitment to a virtual community is considered to play an important role in brand loyalty and consumer behavior (Jang et al. 2008). Social media commitment is defined as "consumer's commitment to social media as the extent to which he or she actively engages in social media (Guesalaga 2016)." Hutter et al. (2013) showed that social media activities influence consumers' purchase decision-making processes. Social media commitment plays a significant role in facilitating a high level of brand awareness and word-of mouth communication about the certain brand web site. Ye et al. (2010) also found that online user-generated traveler reviews in social media have a significant impact on online sales, and social media are important for business performance in tourism.

2.2 Normative social influence and informational social influence

Interactions between consumers influence their cognitive, affective, and behavioral attitudes (Cheung et al. 2009; Chu and Kim 2011). Consumers can acquire consumption-related skills by communicating with other consumers. Latane (1996) extended the concept of social influence to the theory of dynamic social impacts, which defines society as a complex self-organizing system in which individuals interact and impact one another's beliefs. According to social impact theory, consumers' feelings, attitudes, and behaviors can be influenced by the presence of others (Latane 1981). The term "social impact" refers to any of a wide range of changes in physiological states, subjective feelings, motives and emotions, cognitions and beliefs, values, and behaviors that occur in individual, humans, or animals, as a result of some real, implied, or imagined presence or action of others (Latane 1981). Social impact theory proposed individuals attend to collective opinion in social media and brand page, and use it to make judgments and decisions. Li and Sakamoto (2014) showed that members in social media are likely to follow collective opinion because they see it as what is accepted as the norm. Rosario et al. (2016) demonstrated that the effectiveness of collective opinion on social media is stronger when its receivers can estimate their own similarity to its senders. A number of studies have shown that social influence has a significant effect on individuals' attitudes and behaviors in the context of e-commerce (Cheung et al. 2009; Chu and Kim 2011; Kuan et al. 2014). Kuan et al. (2014) found that both informational social influence and normative social influence affect consumers' purchasing decisions in group buying sites.

Two dimensions of social influence have been identified, namely normative social influence and informational social influence (Bearden et al. 1989). Deutsch and Gerard (1955) stated that informational and normative social influences are included in conformity behaviors. Conformity tendency is defined as consumers' tendency to have beliefs, attitude, and behavior affected by a group (Allen 1965). Chang et al. (2015) found that both normative and informational social influences derived from the influence of other social group members play an important role in forming consumer's beliefs and behavioral intention in the social networking services. Normative social influence refers to conformity to the expectations of other people or groups and produces some social pressure for people to adopt products because those not doing so may be treated as "old-fashioned" regardless of their preferences for those products (Kim and Srivastava 2007). Normative social influence is reflected in individuals' attempts to comply with expectations of others to achieve some reward or avoid punishment, and operates through the process of compliance (Bearden et al. 1989; Price et al. 1987). For example, the highest level of normative social influence is typically observed within primary reference groups such as friends and family (Cooley 1909). However, not all cases of social influence occur from normative group pressure. In contrast to normative social influence, some influence can be internalized if it is perceived as enhancing an individual's knowledge of his or her environment or as improving his or her ability to cope with some aspect of it. This is referred to as informational social influence, which refers to the pressure to accept information obtained from others as evidence of reality (Deutsch and Gerard, 1955). Informational

social influence may occur in two ways: Individuals may either search for information and knowledge from others or draw inferences based on the observation of others' behaviors (Chu and Kim 2011; Park and Lessing 1977). Informational social influence affects consumers' decision-making processes regarding their product evaluation (Burnkrant and Cousineau 1975; Kuan et al. 2014; Lee et al. 2011). In an online environment, informational social influence affects consumers' decision making and can be considered a learning process through which people observe the experience of early adopters in their social network and decide whether or not to buy a new product (Cheung et al. 2009; Kim and Srivastava 2007).

These two dimensions of social influence have different goal orientations. Normative social influence is related to self-maintenance and compliance, whereas informational social influence is associated with knowledge (Burnkrant and Cousineau 1975; Lord et al. 2001). In other words, normative social influence indicates that people are influenced by group compliance, whereas informational social influence indicates that people are affected by knowledge and evidence. These two dimensions have been verified to affect consumer behavior both offline (Burnkrant and Cousineau 1975; Childers and Rao 1992) and online (Kim and Srivastava 2007; Kuan et al. 2014; Lee et al. 2011). In comparison to the past, when individuals' influence was limited to their narrow social circles, the internet environment with social media had broadened and strengthened individuals' influence, making it more important to their lives. Therefore, both dimensions play important roles in forming consumers' decision-making processes.

3 Research model and hypotheses

This study proposes a theoretical model to examine the effects of two components of social media on consumers' purchase behaviors in the context of e-commerce. Figure 2 illustrates the research model and relevant hypotheses.

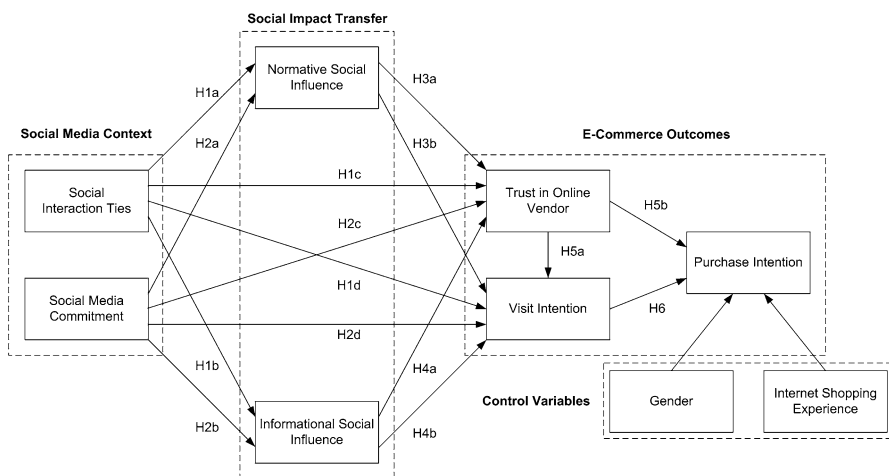


Fig. 2 Mechanism of integrating social media into e-commerce sites

3.1 Social media context

3.1.1 Social interaction ties

Normative social influence is the influence of other people who can motivate an individual to conform in order to be accepted by them (Aronson et al. 2005). This influence exists in all kinds of groups and can be amplified in computer-mediated communication (Li 2013; Postmes et al. 1998). In a social network group, social interaction ties, that is, links between users, provide channels for transferring normative social influence to group members. Social media facilitate social interactions, thereby enhancing these channels (Fischer and Reuber 2010). The larger the number of channels, the greater the influence that people perceive from their social network group. In other words, an increase in social interaction ties can increase group pressure and facilitate group conformity. Therefore, social interaction ties may affect normative social influence. In this regard, the following hypothesis is proposed:

H1a Social interaction ties will positively affect normative social influence.

Informational social influence is related to knowledge. That is, people are influenced by knowledge and evidence. Social interaction ties have been verified to positively affect people's knowledge exchange and sharing (Lee et al. 2011; Li 2013; Tsai and Ghoshal 1998). Similar to normative social influence, social interaction ties provide information exchange channels, and knowledge can be spread by these channels. In a social network group, members with more links are more likely to easily obtain knowledge, producing informational social influence. In this regard, the following hypothesis is proposed:

H1b Social interaction ties will positively affect informational social influence.

Social interaction ties represent the strength of relationships and frequency of communication among members of social media (Granovetter 1973). Several studies on knowledge sharing noted that members with frequent social interaction are more likely to share their information (Larson 1992; Ring and Van de Ven 1994). In the social media context, social interaction ties among members allow a useful and cost-effective way to access a variety and wide range of information or product attributes (Chiu et al. 2006). Most consumers prefer to search production information and opinions from other consumers to reduce uncertainty before purchasing certain products or services. Frequent and beneficial interactions among members of social media contribute to positive feelings about e-commerce vendors. In particular, frequent interactions among members of social media foster trust in online vendor since some online vendors, such as Taobao, integrate their e-commerce sites with social media.

H1c Social interaction ties will positively affect trust in online vendor.

Previous studies have found that social interaction ties contribute positively to customer visiting intention (e.g., Ng 2013; Woisetschläger et al. 2011). Ng (2013) showed that greater intention to buy products or services is recommended by the

information shared by members with closeness and familiarity. Social interaction ties may thus play an important factor in shaping consumers' decision-making processes in the e-commerce context. Consumers' intentions to visit e-commerce are shared by other social groups, creating a collective basis for conversations among members of social media. Wenming et al. (2014) showed that social interaction ties have a significant effect on consumer loyalty, such as e-WOM, in the social commerce environment. Social interaction ties on members of social media may positively influence intention to visit e-commerce.

H1d Social interaction ties will positively affect consumer's visit intention.

3.1.2 Social media commitment

Normative social influence is a form of conformity related to a group's social norms (Bearden et al. 1989). In an online environment, the premise of adhering to social norms of a group is to keep participating in online activities (Chu and Kim 2011). Social media commitment reflects the user's desire to continue his or her association with social media. This can be regarded as the active and psychological involvement of a consumer in social media activities (Hutter et al. 2013). If one keeps using social media, which means one has a high level of commitment to social media, then one is more likely to be influenced by the group's social norms. In this regard, the following hypothesis is proposed:

H2a Social media commitment will positively affect normative social influence.

A user's commitment to social media means that he or she frequently participates in interactions through social media. Because social media can be a powerful information source (Kaplan and Haenlein 2010), one with a high level of social media commitment is more likely to acquire information that can be considered as evidence or knowledge when one needs to make a decision (Hutter et al. 2013). That is, social media commitment brings more opportunities to obtain information or knowledge, and therefore users with a high level of social media commitment are more likely to perceive informational social influence. In this regard, the following hypothesis is proposed:

H2b Social media commitment will positively affect informational social influence.

Social media commitment is related to a customer's emotional bonds and strong attachment to the social media provided by certain online vendors. Much content is created by members of social media through active participation in social media. Information shared among members enhances customers' trust in e-commerce sites because customers can obtain knowledge and information about certain products and services. Hutter et al. (2013) showed that social media activities in Facebook influence consumers' perceptions of brands, and ultimately affect their purchase decision processes. Laroche et al. (2012) demonstrated that social media-based brand communities improve customer loyalty through the enhancement of trust. When using social media, consumers develop close relationships, making them trust

online vendors (Jang et al. 2008). Consumers' experiences of interacting with other members in social media are thus more likely to develop into a high level of trust in online vendor.

H2c Social media commitment will positively affect trust in online vendor.

Commitment between two parties assumes that their relationship is valuable and worth maintaining (Wang et al. 2016). The rapid growth in social media activities such as peer recommendations, product reviews, and product feedbacks plays a central role in enhancing customer engagement behaviors (Rohm et al. 2013). Thus, commitment contributes to a set of favorable customer relationship outcomes such as visit and loyalty, and reduces opportunistic behaviors (Gustafsson et al. 2005; Shi 2014). Nusair et al. (2013) showed that a young traveler's affective commitment to social media enhances his or her loyalty to travel-related social media. Rishika et al. (2013) verified that customer participation in social media increases the frequency of customer visits. Wang et al. (2016) found that highly committed consumers are more likely to continue to visit the social media of group buying websites. Mahrous and Abdelmaaboud (2016) showed that participation in online community significantly influences consumers' purchase decisions. A high level of commitment in social media is therefore believed to be significantly related to a consumer's intention to visit an online vendor because of the mutual benefits of maintaining their relationship.

H2d Social media commitment will positively affect consumer's visit intention.

3.2 Social impact transfer

3.2.1 Normative social influence

People tend to follow choices of others instead of making their own judgments when they face overwhelming information online (Bonabeau 2004). It is easy for people to find others' reviews about products on the Internet (Miller and Brunner 2008). For example, in a social network group, people can find what others are doing and the majority's choices. As members of the same group, they can be easily affected by others' choices because of the trustworthiness of social media members (Cheung and Thadani 2012). In addition, normative social influence occurs when individuals make decisions to obtain approval from other group members (Kim and Srivastava 2007). If information shared through social media is perceived as credible and useful, then consumers are likely to develop positive attitudes toward the online vendor. This suggests that normative social influence may foster trust in the online vendor. In this regard, the following hypothesis is proposed:

H3a Normative social influence will positively affect trust in online vendor.

Visiting a website is a type of online behavior that can cause one to be affected by normative social influence (Chu and Kim 2011; Wang et al. 2012). For example, if most of one's friends have Facebook accounts, then one is likely to visit the Facebook website to avoid being called old-fashioned, that is, to follow social

norms (Hutter et al. 2013). In particular, website links can be conveniently shared or found on the Internet because they are just a click away. It is easy for one to be compelled by others to visit a website. Therefore, in the e-commerce context, if most of one's friends visit a website to look for a product and that information is shared through social media, then one is likely to visit that website to see the same product. In this regard, the following hypothesis is proposed:

H3b Normative social influence will positively affect consumer's visit intention.

3.2.2 Informational social influence

Informational social influence occurs when individuals make decisions to reach the best possible choice. Informational social influence is a process in which consumers determine the successful experience of their social network group in using a certain product (Lee et al. 2011). When people try to find the best choice, they are likely to make efforts to obtain more information or evidence. Informational social influence enhances consumers' confidence in their beliefs and attitudes (Bearden et al. 1989; Lee et al. 2011). Several studies have found the positive influence of IS and marketing on consumers' purchase behaviors (Burnkrant and Cousineau 1975; Chu and Kim 2011). There is substantial information on products, such as reviews and other forms of consumer-generated content, on social media. Several studies have verified the important role of informational social influence on their trust in an online vendor (Chu and Kim 2011; Kim and Srivastava 2007; Kuan et al. 2014). Therefore, informational social influence may strengthen consumers' trust in the online vendor. In this regard, the following hypothesis is proposed:

H4a Informational social influence will positively affect trust in web vender.

The decision to visit a website can be affected by information provided by friends online. Kim and Srivastava (2007) showed that social influence from high-quality reviews written by previous consumers can have a positive effect on potential consumers' decision making, and this effect can propagate through social media. For example, if one receives a positive comment about a website and there are enough reasons to believe that it is a site worth visiting, then one may have intentions to visit it. In this regard, the following hypothesis is proposed:

H4b Informational social influence will positively affect consumer's visit intention.

3.3 E-commerce outcome

Trust is defined as one's willingness to be vulnerable to actions of a party based on the expectation that the party performs a particular action important to the trustor regardless of the ability to monitor or control that party (Dwyer et al. 2007). Several studies have suggested that trust is a social and relational construct that originates in interpersonal relationships (Kim and Min 2015; McKnight et al. 2002). A number of studies have demonstrated the salience of trusting beliefs on consumers' decision-making processes in an online transaction environment (Gefen et al. 2003; Kim

et al. 2008; Qureshi et al. 2009). In an e-commerce context, there is some difficulty as a result of a lack of information on the trustworthiness of online sellers as well as a lack of guidance on how to access credentials of online sellers (Qureshi et al., 2009). Therefore, a lack of trust in an online vendor is a key barrier to visiting e-commerce websites and purchasing products in e-commerce (Grabner-Krauter and Kaluscha 2003; Kim et al. 2008, 2009). Several studies of e-commerce have demonstrated that trust can mitigate consumers' perception of risks in an e-commerce context (Flanagin et al. 2014; See-To and Ho 2014). Therefore, trust in an online vendor plays an important role to enhance consumers' visit and purchase intentions. In this regard, the following hypotheses are proposed:

H5a Trust in online vendor will positively affect consumer's visit intention.

H5b Trust in online vendor will positively affect consumer's purchase intention.

Here the term "visit intention" refers to one's intention to visit an e-commerce website to obtain more information. According to the model of the buyer's decision making (Engel et al. 1973), obtaining information is associated with purchasing. Visiting an e-commerce website is likely to cause consumers to be interested in some products. This is the first step in online shopping and crucial for e-commerce transactions. Pavlou and Mendel (2006) verified that obtaining information by visiting an online vendor has a positive effect on purchasing a product from that vendor. In this regard, the following hypothesis is proposed:

H6 Consumer's visit intention will positively affect his/her purchase intention.

4 Research methodology

4.1 Development of measurement instrument

The proposed research model included the following six constructs: social interaction ties, social media commitment, normative social influence, informational social influence, trust in the online vendor, and visit/purchase intentions of e-commerce consumers. The concept of social interaction ties was adopted from Chiu et al. (2006), and that of social media commitment was from Garbarino and Johnson (1999). The measures for normative social influence and informational social influence were adapted from Bearden et al. (1989). Five items measuring trust in the online vendor were derived from Lu et al. (2009). The measures for visit and purchase intentions were adapted from Pavlou (2003). The questionnaire was based on a five-point Likert-type scale. A pilot test was conducted with two researchers in the MIS field and 20 MIS students to review questionnaire items and content validity. All constructs were verified to have sufficient reliability (Cronbach's alpha for all constructs exceeded the recommended threshold of 0.70). The final questionnaire items were determined based on the results of the pilot test. [Appendix](#) lists these items and related references.

4.2 Research context: taobao.com

Taobao is China's largest e-commerce website and one of the world's top 10 most visited websites. Taobao was launched in May 2003 by Alibaba, and has become one of the most popular and visited e-commerce sites in China. Taobao.com developed social media Taojianghu (<http://jianghu.taobao.com/>) in 2009. Moreover, it has allowed users to link Weibo from August 2013. Social media are linked to Taobao in order to improve users' interactions with other members within the social network. They are a useful tool to share experience, photos, and news about hairstyles, clothing, bags, and so on.

4.3 Data collection

After the development of the measurement instrument, an online survey was conducted through a professional survey website. The questionnaire targeted only those with some experience in shopping on Taobao through links provided by social networking sites. The analysis was conducted based on Taobao. The professional survey website had various panels of subjects who were willing to participate in surveys posted on this website. Subjects participating in the survey were given some points that could be used in other affiliated websites. A total of 321 responses were collected within a week. An initial screening procedure was adopted for usability and reliability. Individuals who completed the questionnaire in less than three minutes were excluded from the analysis because its completion required at least five minutes. Those with no shopping experience with Taobao and some returns with obvious errors were also excluded. As a result, 225 complete responses were used in the study analyses. Table 1 summarizes the characteristics of these respondents.

As shown in Table 1, 87.1% of the respondents were between the ages of 20 and 30, which is consistent with the fact that young people are the most active internet users in China (CNNIC 2010). In addition, according to the 2015 Chinese Social Media Statistics And Trends Infographic survey by the China Internet Network Information Center (CNNIC 2015), young adults account for the largest portion of social media users. Company employees accounted for 39.6 of all respondents, and on average the respondents had four years of experience. On average, the respondents had 7.12 years of internet experience and 2.55 years of online shopping experience. Previous e-commerce studies have suggested that differences in consumers' age and online shopping experience may influence their purchase intentions (Zhang et al. 2011, 2014). Accordingly, to account for any impact of differences in consumers' purchase intentions, gender and internet shopping experience were included as control variables in determining consumers' purchase intentions.

5 Data analysis

The data were analyzed in accordance with a two-step approach using the partial least squares (PLS) method, which is known to have minimal restrictions on residual distributions and sample size in comparison to other covariance-based structural

Table 1 Respondents' characteristics

Respondent profiles	Frequency	Percent (%)	Cumulative (%)
Gender			
Female	107	47.6	47.6
Male	118	52.4	100.0
Age (years)			
<20	29	12.9	12.9
21–30	185	82.2	95.1
>31	11	4.9	100.0
Average age	24.25	4.3	
Job			
Student	79	35.1	35.1
Company employee	89	39.6	74.7
Government officer	15	6.7	81.4
Self-employed	31	13.7	95.1
Unemployed	11	4.9	100.0
Internet experience			
1–2 years	11	4.9	4.9
3–4 years	28	12.4	17.3
5–7 years	76	33.8	51.1
8–10 years	93	41.3	92.4
Over 10 years	17	75.6	100.0
Average years	7.12		
Internet shopping experience			
1 years	60	26.7	26.7
2 years	60	26.7	53.3
3 years	56	24.9	78.2
4 years	19	8.4	86.7
>5 years	30	13.3	100.0
Average years	2.55		
Online shopping frequency			
1–2 times monthly	101	44.9	44.9
3–4 times monthly	56	24.9	69.8
5–7 times monthly	41	18.2	88.0
Over 7 times monthly	27	12.0	100.0
Average frequencies	3.81		

equation models such as LISREL and AMOS (Chin 1998; Marcoulides et al. 2009). The validity of constructs was first examined, and then the structural model was tested based on the measurement model. We analyzed the kurtosis and skewness to check the variables' distributions (Hair et al. 2014). Analysis results showed that some variables (VI2, VI3, PI3) deviated significantly from normal distribution,

thereby limiting the validity of covariance-based SEMs. Given these distributional characteristics, the PLS method is suitable due to no distributional assumptions.

5.1 Measurement model

A confirmatory factor analysis was conducted to evaluate the measurement model. To assess the reliability of the measurement model, composite reliability (CR) and the average variance extracted (AVE) were tested. In general, reliability is satisfied if the CR value exceeds 0.70 and the AVE value exceeds 0.50 (Fornell and Larcker 1981). As shown in Table 2, all constructs showed acceptable values. To verify convergent validity, factor loadings of measures in the research model were determined (Table 2). In general, there is sufficient convergent validity if the factor loading exceeds 0.60 (Hair et al. 1998). In this study, the lowest item loading was 0.638, indicating sufficient convergent validity. To investigate discriminant validity, the shared variance between constructs was compared to the AVE value of individual constructs. In Table 3, figures along the diagonal indicate the square root of the AVE for each construct (Chin et al. 1997). According to the results, all AVE values exceeded off-diagonal elements in corresponding rows and columns. Finally, the potential issue of multicollinearity in the structural equation model was evaluated by following the four conditions proposed in Grewal et al. (2004): (1) sufficient discriminant validity, (2) all CR values exceeding the recommended threshold of 0.70, (3) low correlations between constructs (not exceeding 0.70), and (4) a relatively high ratio of sample size to the number of paths. The results indicate multicollinearity to be of no serious concern. In addition, variance inflation factors (VIFs) were assessed. VIFs of constructs ranged from 1.25 to 1.59, indicating multicollinearity to be of no serious concern.

5.2 Structural model

The hypothesized relationships between constructs were tested. The significance of each path was assessed based on a bootstrap resampling procedure with 200 resamples. The analysis results are presented in Fig. 3.

Social interaction ties were found to have positive effects on normative social influence, informational social influence, and trust in online vendor. However, social interaction ties are not significantly associated with visit intention. Thus, H1a, H1b, and H1c were supported, while H1d was not. Social media commitment had positive effects on normative social influence, informational social influence, trust in online vendor, and visit intention; hence, H2a, H2b, H2c, and H2d were supported. In contrast to prior expectations, normative social influence was not significantly positively related to either trust in online vendor or visit intention. Therefore, both H3a and H3b were not supported. Consistent with prior expectations, informational social influence was also positively related to trust in online vendor and visit intention; thus, both H4a and H4b were supported. Both trust in online vendor and visit intention had significant effects on purchase intention, while visit intention was positively related to purchase intention. Hence, H5a, H5b, and H6 were supported. Gender and Internet shopping experience had no significant relationships with purchase intention.

Table 2 Results of convergent validity testing

Construct	Item	Mean	SD	Skewness	Kurtosis	Factor loading	CR	AVE
Social interaction ties	SIT1	3.39	0.749	-0.459	0.788	0.673	0.856	0.543
	SIT2	3.36	0.675	0.021	-0.205	0.743		
	SIT3	3.24	0.686	-0.107	0.013	0.735		
	SIT4	3.27	0.720	-0.085	-0.494	0.761		
	SIT5	3.24	0.672	-0.057	-0.380	0.770		
Social media commitment	SMC1	3.68	0.943	-0.855	0.619	0.825	0.914	0.683
	SMC2	2.94	0.996	0.034	-0.505	0.690		
	SMC3	3.57	0.924	-0.595	0.253	0.838		
	SMC4	3.93	0.807	-0.905	1.567	0.887		
	SMC5	3.66	0.893	-0.560	0.442	0.877		
Normative social influence	NSI1	3.17	0.983	-0.069	-1.142	0.625	0.897	0.554
	NSI2	3.22	0.846	-0.164	-0.677	0.752		
	NSI3	3.66	0.820	-0.517	0.299	0.801		
	NSI4	3.47	0.824	-0.134	-0.543	0.757		
	NSI5	3.71	0.726	-0.483	0.988	0.730		
	NSI6	3.34	0.728	-0.489	0.029	0.732		
	NSI7	3.42	0.804	-0.394	-0.107	0.802		
Informational social influence	ISI1	4.06	0.679	-0.423	0.354	0.778	0.895	0.587
	ISI2	4.07	0.661	-0.726	2.154	0.829		
	ISI3	3.84	0.714	-0.572	1.415	0.769		
	ISI4	3.96	0.703	-0.879	2.431	0.796		
	ISI5	3.72	0.810	-0.575	0.509	0.654		
	ISI6	3.88	0.740	-0.599	1.248	0.761		
Trust in online vendor	TR1	3.62	0.723	-0.347	0.749	0.754	0.890	0.618
	TR2	3.82	0.680	-0.703	1.991	0.791		
	TR3	3.46	0.694	-0.252	0.673	0.787		
	TR4	3.80	0.661	-0.785	2.297	0.787		
	TR5	3.53	0.738	-0.351	0.521	0.812		
Visit intention	VI1	4.13	0.668	-0.975	3.486	0.882	0.923	0.800
	VI2	4.28	0.661	-1.321	4.931	0.897		
	VI3	4.30	0.658	-1.258	4.641	0.906		
Purchase intention	PI1	3.60	0.574	-0.846	2.115	0.812	0.853	0.660
	PI2	3.37	0.593	0.178	1.558	0.808		
	PI3	3.88	0.542	-1.442	6.687	0.816		

5.3 Discussion

This study investigates how social media affect consumers' decision-making processes in an e-commerce setting. It proposes a theoretical research model consisting of social media factors (social interaction ties and social media

Table 3 Results of discriminant validity testing and correlations

Construct	SIT	SMC	NSI	ISI	TR	VI	PI
SIT	0.737						
SMC	0.579	0.826					
NSI	0.449	0.451	0.744				
ISI	0.402	0.393	0.459	0.766			
TR	0.451	0.488	0.378	0.413	0.786		
VI	0.351	0.445	0.356	0.582	0.604	0.894	
PI	0.178	0.133	0.106	0.403	0.434	0.505	0.812

Diagonal elements are the square root of AVE

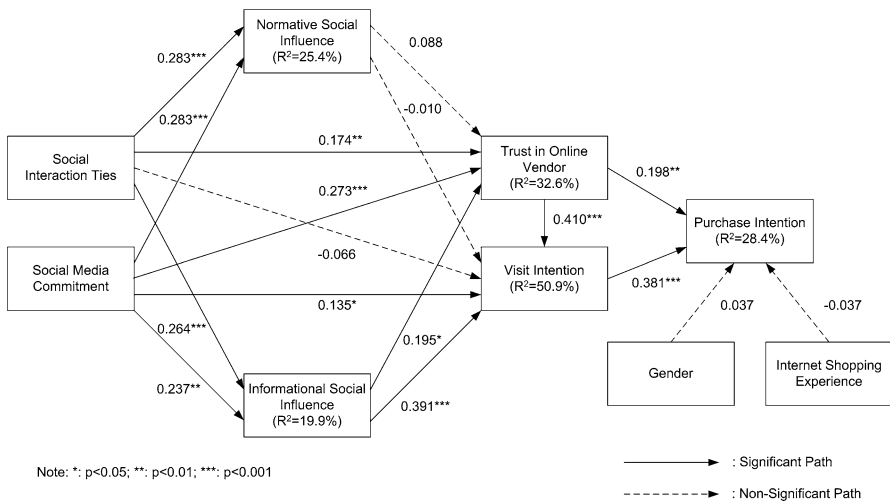


Fig. 3 Analysis results

commitment), social impact transfer factors (normative social influence and informational social influence), and e-commerce outcome factors (trust in online vendor, visit intention, and purchase intention). This study found that social media factors significantly influence e-commerce outcome factors in two ways: (1) by indirectly affecting trust in online vendor and visit intention through informational social influence and (2) by directly affecting e-commerce outcome factors. In line with the social impact theory (Latane 1981), consumers' purchase behaviors are influenced by the attitudes and behaviors of other members of social media. In particular, social interaction ties have significant positive effects on social impact transfer factors and trust in online vendor, whereas they do not directly influence visit intention. These results imply that social interaction ties serve as a source of developing informational social influence and trust in online vendor, which in turn fosters their visit intention. In addition, social media commitment plays a crucial role in increasing social impact transfer factors and e-commerce outcomes. This study thus advances the understanding of the role of social media factors and social

impact transfer factors in shaping e-commerce outcome factors such as visit and purchase behaviors.

The presented results raise two important questions. First, how does informational social influence transfer in different contexts? Informational social influence refers to the type of influence through knowledge and information as evidence (Burnkrant and Cousineau 1975). The effect of informational social influence is similar to herd behavior, a social phenomenon reflecting an individual's tendency to follow others' actions and behaviors (Sun 2013). Consumers are likely to make decisions similar to those of others because they consider others' judgments and behaviors to be a key source of information in their purchase decisions. Consumers may also adjust their initial beliefs and decisions based on the attribute information provided in product evaluations by other members through social media. Information and knowledge are constantly transferred in social networks, meaning that social media users can obtain more information and knowledge. As verified in Pavlou and Mendel (2006), obtaining information is the first step in the purchasing process and this can positively influence purchase intention. Therefore, because social media can facilitate the transfer of information and knowledge, it can enhance the effect of information or knowledge (i.e., informational social influence), which in turn influences online shopping behaviors. That is, informational social influence is transferred from a social media context to an e-commerce context. This finding suggests that social media reflect a high level of informational social influence, which affects trust in online vendor as well as consumers' visit intentions.

Second, why does normative social influence not significantly affect trust in online vendor or visit intention in e-commerce, whereas informational social influence does? Normative social influence is related to the influence of group compliance (Burnkrant and Cousineau 1975). Compliance occurs only when a user conforms to the expectations of others to receive a reward or avoid rejection and hostility (Hsu and Lu 2004). Because the social network of users is built on the user's own social relationships, there are no strict group norms or reward or punishment. For example, when a user finds that most of his or her friends on social media purchased a product and posted good comments about it, he or she does not necessarily purchase that product because of group compliance. Recently, many e-commerce sites have provided information on users' Facebook friends "liking" certain products (Kuan et al. 2014). This "like" mechanism induces consumers to buy products because social media friends like those products. However, the results show that normative social influence does not significantly influence trust in online vendor or visit intention. Although "liking" and sharing product feedback or information increase affective and emotional affiliation among members, the psychological needs following other people's expectations do not enhance trust in online vendor and visit intention. Hence, consumers can be attracted to purchase a product but not comply to visit an e-commerce website. These results thus provide evidence that consumers with a high level of normative social influence for a certain online vendor are unlikely to have a high degree of trust in the vendor or high visit intention.

6 Implications

6.1 Implications for research

The presented results provide important implications for both researchers and practitioners. For researchers, a research model was developed to investigate the effects of social media factors on consumers' purchase decisions in an e-commerce context. The analysis linked social media and e-commerce contexts from a social impact perspective. Given that social media such as Facebook and Instagram have become an important topic in recent years and attracted increasing attention from researchers, the proposed research model is expected to provide a theoretical foundation for researchers interested in further examining social media and online vendors.

Social interaction ties and social media commitment were posited as two antecedent constructs of social media. Social media users' relationships are built on their social networks. Social interaction ties focus on the number of relationships in one's social network and thus describe the width of the social network. According to the social impact theory (Latane 1981), as the level of closeness and communication frequency among members increases, this has a multiplying impact on the final outcomes. Consistent with the findings of Phang et al. (2013), having a highly connected network of interactions can effectively promote one's participation and information gathering. Social interaction ties encourage members to frankly share their shopping experiences and product reviews. When more familiar members use the social media of e-commerce sites, consumers are more likely to ask and gather information from the interested products. The results demonstrated that social media supported by online vendors enhance the relationships among members, consequently fostering trust and customer engagement behaviors. Because frequent and beneficial interaction ties among members are more likely to transfer useful knowledge and information, online vendors try to support consumer participation in social media through various marketing strategies.

Next, social media commitment focuses on the strength of one's social network relationships and thus describes the depth of the social network. The presented findings demonstrate that commitment to social media positively affects both normative and informational social influences. Social media are effective channels to spread and expose consumers' WOM communication/opinions. When consumers actively engage with the social media of an e-commerce site, they have high levels of normative and informational social influences. Moreover, social media commitment directly influences trust in online vendor and visit intention. Thus, the characteristics of a social network can be fully reflected based on its width and depth. In line with the presented results, Rishika et al. (2013) verified that customer participation in a firm's social media increases the frequency of customer visits. This study is the first to confirm the effect of social interaction ties and social media commitment on e-commerce outcomes in the e-commerce context. Researchers interested in social media and their social impacts should therefore focus on social

interaction ties and social media commitment to increase a consumer's engagement behavior.

The results also provide important theoretical insights into both e-commerce and service management. Users' behaviors were affected by group information but not by group norms in a combined context of social media and e-commerce. Informational social influence was more likely than normative social influence to affect consumers' trust in online vendor and their engagement behaviors. In line with the presented results, Li (2013) also demonstrated that informational social influence represents a deeper and stronger influence than normative social influence in persuasive messages in the information systems context. They suggested that managers put more effort to provide more relevant information to enhance a user's acceptance behavior when time and resources are limited. Moreover, Chang et al. (2015) showed the non-significant effect of normative social influence on behavioral intention. Consumers may also adjust their beliefs and visit intentions to reflect others' judgments about products and services on social media. Because social media represent a powerful channel of WOM communication for products and information dissemination, consumers using social media and related e-commerce websites may be easily influenced by such information. In this regard, future research on users' behaviors in the combined context of social media and e-commerce should pay closer attention to the informational aspects that can help users make appropriate decisions, rather than the normative aspects emphasized in previous studies based on a singular context of social media. Thus, this study provides preliminary evidence supporting the strong influence of informational social influence on consumers' purchase decisions.

Finally, the results clarify the effects of trust in online vendor on consumers' purchase behaviors. Ng (2013) noted that a higher degree of trust in a social network community has a stronger impact on a user's purchase intention in the context of social commerce sites. This study found that trust in online vendor significantly affected consumers' purchase intentions by (1) indirectly influencing purchase intentions through visit intentions and (2) directly influencing purchase intentions. This finding extends the understanding of the important role played by trust in online vendor in consumers' purchase behaviors.

6.2 Implications for practice

The results further have important practical implications. First, the results suggest that online vendors should develop applications based on social media or collaborate with other popular social media sites to enhance users' social interactions and make transactions more social. In this regard, e-commerce websites should encourage expert users to share information on their shopping experiences and knowledge. Users' interactions with one another should enrich social media and facilitate the diffusion of product information. The results reveal informational social influence to be a more powerful construct, which suggests that e-commerce practitioners should provide more information and knowledge about products to help consumers select products. Moreover, managers in service

industries should try to encourage consumers to interact more on social media because social interaction ties and social media commitment play an active role in developing group pressure and facilitating the adoption of service-related information.

Second, for social media managers, the results indicate that informational social influence embedded in social media is a powerful determinant of consumers' online behaviors. Consumers may learn by observing the judgments and decisions of other members of their social groups. In particular, consumers are mainly driven by the need for judgments and decisions obtained through information, comments, and feedback from other people, and not by the social influence of the expectations of other members. In this regard, social media managers should provide more interesting applications and activities to encourage users' increased participation in social media. In addition, they should help users find more friends to widen their social relationships and encourage them to share their experiences and interact with others to deepen their relationships. Indeed, consumers frequently gather sufficient information from relatives or online reviews about certain products before they purchase. Because users' social media relationships and commitment are likely to considerably influence their online behaviors, managers in service industries should explore more business opportunities in social media settings. For example, they may collaborate with other e-commerce websites or firms.

Third, because social media play an important role in providing valuable information and helping users interact with one another, their business value should be further explored. The study results imply that firms should use social media as a tool to enhance internal knowledge sharing and facilitate relationships between staff members. Social media can be an efficient and inexpensive tool to develop and maintain. Further, firms can employ social media to communicate with their customers and provide more information and knowledge about their products to reduce the level of uncertainty among consumers and the cost of product and service research. Such information from social media can induce hesitant consumers to visit and persuade them to purchase. Firms should thus encourage their customers to interact with one another through social media to facilitate the diffusion of information and enable users to provide instant feedback.

7 Limitations and future research needs

This study has some limitations. First, the respondents were mainly in their twenties, and therefore their shopping objectives were likely to be limited. Although most social media users and online consumers in China are relatively young (CNNIC 2009), future research should re-test the hypotheses using data from a more general population of online consumers to enhance the generalizability of the results. Second, the analysis focused only on two factors from social impact theory, limiting the generalizability of the results. Future research should consider a wider range of factors in a combined context of social media and e-commerce. Third, the analysis employed only one online shopping site, instead of considering a variety of online shopping sites to collect data.

Although Taobao.com is the largest e-commerce site in China, future research should include other shopping sites to improve the validity and generalizability of the results. Fourth, cross-sectional survey data were employed, and therefore the results may not fully capture changes in effects of social media and social impact factors on consumers' purchase behaviors from a dynamic perspective. Future research should employ a longitudinal survey method to track dynamic effects of social media and social impact factors on consumers' purchase decisions. Finally, several IS and marketing studies have shown that cultural attributes have significant effects on consumers' purchase decisions (Fong and Burton 2008; Lee and Kacen 2008). Future research should consider both Western and Eastern countries to capture differential effects of social media and social impact factors.

Acknowledgements This work was supported by the Ministry of Education of the Republic of Korea and the National Research Foundation of Korea (NRF-2015S1A3A2046711). This is a revised version of a paper presented at the 45th Hawaii International Conference on System Sciences.

Appendix: List of model constructs and items

Social interaction ties are derived from Chiu et al. (2006)

- SIT1: I have a lot of friends in my Taobao SNS list
- SIT2: I maintain close social relationships with some members in Taobao SNS
- SIT3: I spend a lot of time interacting with some members in Taobao SNS
- SIT4: I know some members well in Taobao SNS on a personal level
- SIT5: I have frequent communication with some members in Taobao SNS

Social media commitment is derived from Garbarino and Johnson (1999)

- SMC1: I have a sense of getting used to using Taobao SNS
- SMC2: I have psychological attachment to the members of Taobao SNS/Paipai SNS
- SMC3: I think that exchanging information or opinions with other members in Taobao SNS
- SMC4: I expect that I will continuously participate in Taobao SNS activities
- SMC5: I think that it is important for me to use Taobao SNS

Normative social influence is derived from Bearden et al. (1989)

- NSI1: I won't buy a product or brand if most of my friends won't approve of it
- NSI2: It is important that others also like the product and brands I buy
- NSI3: When buying products, I prefer to purchase those brands that I think others will approve of if possible

- NSI4: If the product I need can be seen by other people, I often choose the brand my friends expect me to buy
- NSI5: I like to know what brands and products make good impressions on others
- NSI6: I achieve a sense of belonging by purchasing the same products and brands that others purchase
- NSI7: If I want to be like someone, I often try to buy the same brands that they buy

Informational social influence is derived from Bearden et al. (1989)

- ISI1: To make sure I buy the right product or brand, I often try to get information about the product or brand performance when other people using it
- ISI2: If I have little experience with a product, I often ask my friends about the product
- ISI3: I often consult other people to help choose the best alternative available from a product class
- ISI4: I frequently gather information from friends or Internet about a product before I buy
- ISI5: I rarely purchase products before I get enough information about them
- ISI6: When people say a brand or a product is good, I want to know why

Trust in online vendor is derived from Lu et al. (2009)

- TR1: Taobao shopping mall is trustworthy
- TR2: Taobao shopping mall would keep their promises and commitments
- TR3: Taobao shopping mall would care about their customers
- TR4: Taobao shopping mall is capable of doing their jobs
- TR5: Taobao shopping mall always meets my expectations

Visit intention is derived from Pavlou (2003)

- VI: I would like to visit Taobao shopping mall
- VI2: It is likely that I will revisit Taobao shopping mall in the near future
- VI3: If I need to buy something, I would consider visiting Taobao shopping mall in the future

Purchase intention is derived from Pavlou (2003)

- PI1: I would like to purchase on Taobao shopping mall
- PI2: It is likely that I will purchase on Taobao shopping mall in the near future
- PI3: I would consider purchasing on Taobao shopping mall in the future

References

- Allen VL (1965) Situational factors in conformity. *Adv Exp Soc Psychol* 2:33–170
- Aronson E, Wilson TD, Akert AM (2005) *Social psychology*, 5th edn. Prentice Hall, Upper Saddle River
- Bearden WO, Netemeyer RG, Tell JE (1989) Measurement of consumer susceptibility to interpersonal influence. *J Consum Res* 15(4):473–482
- Bonabeau E (2004) The perils of the imitation age. *Harv Bus Rev* 82:99–104
- Burnkrant RE, Cousineau A (1975) Informational and normative social influence in buyer behavior. *J Consum Res* 2(3):206–215
- Chang CC, Hung SW, Cheng MJ, Wu CY (2015) Exploring the intention to continue using social networking sites: the case of Facebook. *Technol Forecast Soc* 95:48–56
- Cheung CMK, Thadani DR (2012) The impact of electronic word-of-mouth communication: a literature analysis and integrative model. *Decis Support Syst* 54(1):461–470
- Cheung MY, Luo C, Sia CL, Chen H (2009) Credibility of electronic word-of-mouth: informational and normative determinants of on-line consumer recommendations. *Int J Electron Commun* 13(4):9–38
- Childers TL, Rao AR (1992) The influence of familial and peer-based reference groups on consumer decisions. *J Consum Res* 19(2):198–211
- Chin WW (1998) The partial least squares approach to structural equation modeling. In: Marcoulides GA (ed) *Modern methods for business research*. Lawrence Erlbaum, Mahway, NJ, pp 295–336
- Chin WW, Gopal A, Salisbury WD (1997) Advancing the theory of adaptive structuration: the development of a scale to measure faithfulness of appropriation. *Inform Syst Res* 8(4):342–367
- Chiu CM, Hsu MH, Wang ET (2006) Understanding knowledge sharing in virtual communities: an integration of social capital and social cognitive theories. *Decis Support Syst* 42(3):1872–1888
- Chu SC, Kim Y (2011) Determinants of consumer engagement in electronic word-of-mouth in social networking sites. *Int J Advert* 30(1):47–75
- CNNIC (China Internet Network Information Center) (2009) China online shopping research report. <http://research.cnnic.cn/>
- CNNIC (China Internet Network Information Center) (2010) 25th statistical survey report on the internet development in China. <http://www1.cnnic.cn/IDR/ReportDownloads/201209/P020120904421102801754.pdf>
- CNNIC (China Internet Network Information Center) (2015) 2015 Chinese Social Media Statistics and Trends Infographic. <http://www.setupablogtoday.com/chinese-social-media-statistics/>
- Cooley CH (1909) *Social organization*. Schoken, New York
- Deutsch M, Gerard HB (1955) A study of normative and informational social influence upon individual judgment. *J Abnorm Soc Psychol* 51(3):629–636
- Dwyer C, Hiltz S, Passerini K (2007) Trust and privacy concern within social networking sites: a comparison of Facebook and MySpace. In: *Proceedings of the thirteenth Americas conference on information systems*, pp 725–1735
- Engel JF, Kollat DT, Blackwell R (1973) *Consumer behavior*. Holt, Rinchart, and Winston, New York
- Evanschitzky H, Iyer GR, Plassmann H, Niessing J, Meffert H (2006) The relative strength of affective commitment in securing loyalty in service relationships. *J Bus Res* 59(12):1207–1213
- Fischer E, Reuber R (2010) Building person brand through effectuation. In: *Consumer culture theory 5th conference*, Wisconsin, USA
- Flanagin AJ, Metzger MJ, Pure R, Markov A, Hartsell E (2014) Mitigating risk in ecommerce transactions: perceptions of information credibility and the role of user-generated ratings in product quality and purchase intention. *Electron Commer Res Appl* 14(1):1–23
- Fong J, Burton S (2008) A cross-cultural comparison of electronic word-of-mouth and country-of-origin effects. *J Bus Res* 61(3):233–242
- Fornell C, Larcker DF (1981) Evaluating structural equation models with unobservable variables and measurement error. *J Mark Res* 18(2):39–50
- Garbarino E, Johnson MS (1999) The different roles of satisfaction, trust, and commitment in customer relationships. *J Mark* 63(2):70–87
- Gefen D, Karahanna E, Straub DW (2003) Trust and TAM in online shopping: an integrated model. *MIS Q* 27(1):51–90
- Grabner-Krauter S, Kaluscha EA (2003) Empirical research in on-line trust: a review and critical assessment. *Int J Hum-Comput Stud* 58(6):783–812
- Granovetter M (1973) The strength of weak ties. *Am J Sociol* 78(6):1360–1380
- Grewal R, Cote JA, Baumgartner H (2004) Multicollinearity and measurement error in structural equation models: implications for theory testing. *Mark Sci* 23(4):519–529

- Guesalaga R (2016) The use of social media in sales: individual and organizational antecedents, and the role of customer engagement in social media. *Ind Mark Manag* 54:71–79
- Gustafsson A, Johnson MD, Roos I (2005) The effects of customer satisfaction, relationship commitment dimensions, and triggers on customer retention. *J Mark* 69(4):210–218
- Hair JT, Anderson RE, Tatham RL, Black WC (1998) *Multivariate data analysis*. Prentice Hall, Upper Saddle River, pp 1–730
- Hair JF, Hult GTM, Ringle CM, Sarstedt M (2014) *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage, Thousand Oaks
- Hsu CL, Lu HP (2004) Why do people play on-line games? An extended TAM with social influences and flow experience. *Inf Manag* 41(7):853–868
- Huang Y, Yang CG, Baek H, Lee SG (2016) Revisiting social selection in the digital era: adoption and usage. *Serv Bus* 10(1):239–260
- Hudson S, Thal K (2013) The impact of social media on the consumer decision process: implications for tourism marketing. *J Trav Tour Mark* 30(1–2):156–160
- Hutter K, Hautz J, Denhardt S, Fuller J (2013) The impact of user interactions in social media on brand awareness and purchase intention the case of MINI on Facebook. *J Prod Brand Manag* 22(5/6):342–351
- Interactive Advertising Bureau (2009) IAB social advertising best practices. <http://www.iab.net/media/file/Social-Advertising-Best-Practices-0509.pdf>
- Invesp (2014) How social media influences purchase decisions—statistics and trends. <http://www.invespro.com/blog/social-media-influences-purchase-decisions/>
- Jang HH, Olfman L, Ko IS, Koh J, Kim KT (2008) The influence of online brand community characteristics on community commitment and brand loyalty. *Int J Electron Commun* 12(3):57–80
- Jaspersion J, Carter PE, Zmud RW (2005) A comprehensive conceptualization of post-adoptive behaviors associated with information technology enabled work systems. *MIS Q* 29(3):525–557
- JD Power and Associates Report (2014) <http://www.parature.com/j-d-power-report-social-marketing-social-customer-service-increased-purchase-intent/>. Last accessed 20 Aug 2014
- Kaplan AM, Haenlein M (2010) Users of the world, unite! The challenges and opportunities of social media. *Bus Horiz* 53(1):59–68
- Kim B, Min J (2015) The distinct roles of dedication-based and constraint-based mechanisms in predicting the actual use of social networking sites. *Int Res* 25(1):30–51
- Kim S, Park H (2013) Effects of various characteristics of social commerce (s-commerce) on consumers' trust and trust performance. *Int J Inf Manag* 33(2):318–332
- Kim YA, Srivastava J (2007) Impact of social influence in e-commerce decision making. In: *International center for electronic commerce proceedings*
- Kim DJ, Ferrin DL, Rao HR (2008) A trust-based consumer decision-making model in electronic commerce: the role of trust, perceived risk, and their antecedents. *Decis Support Syst* 44(2):544–564
- Kim SH, Yang KH, Kim JK (2009) Finding critical success factors for virtual community marketing. *Serv Bus* 3(2):149–171
- Kim W, Jeong OR, Lee SW (2010) On social web sites. *Inf Syst* 35(2):215–236
- Kuan KKY, Zhong Y, Chau PYK (2014) Informational and normative social influence in group-buying: evidence from self-reported and EEG data. *J Manag Inf Syst* 30(4):151–178
- Laroche M, Habibi MR, Richard MO, Sankaranarayanan R (2012) The effects of social media based brand communities on brand community markers, value creation practices, brand trust and brand loyalty. *Comput Hum Behav* 28(5):1755–1767
- Larson A (1992) Network dyads in entrepreneurial settings: a study of governance of exchange relationships. *Adm Sci Q* 37(1):76–104
- Latane B (1981) The psychology of social impact. *Am Psychol* 36(4):343–356
- Latane B (1996) Dynamic social impact: the creation of culture by communication. *J Commun* 46(4):13–25
- Lee JA, Kacen J (2008) Cultural influences on consumer satisfaction with impulse and planned purchase decisions. *J Bus Res* 61(3):265–272
- Lee MKO, Shi N, Cheung CMK, Lim KH, Sia CL (2011) Consumer's decision to shop online: the moderating role of positive informational social influence. *Inf Manag* 48(6):185–191
- Li CY (2013) Persuasive messages on information system acceptance: a theoretical extension of elaboration likelihood model and social influence theory. *Comput Hum Behav* 29(1):264–275
- Li H, Sakamoto Y (2014) Social impacts in social media: an examination of perceived truthfulness and sharing of information. *Comput Hum Behav* 41:278–287

- Lord KR, Lee MS, Choong P (2001) Differences in normative and informational social influence. *Adv Consum Res* 28(1):280–285
- Lu Y, Zhao L, Wang B (2009) From virtual community members to c2c e-commerce buyers: trust in virtual communities and its effect on consumers' purchase intention. *Electron Comm Res Appl* 9(4):346–360
- Mahrous AA, Abdelmaaboud AK (2016) Antecedents of participation in online brand communities and their purchasing behavior consequences. *Serv Bus*. doi:10.1007/s11628-016-0306-5
- Marcoulides G, Chin W, Saunders C (2009) A critical look at partial least squares modeling. *MIS Q* 33(1):171–175
- McKnight DH, Choudhury V, Kacmar C (2002) Developing and validating trust measures for e-commerce: an integrative typology. *Inf Syst Res* 13(3):334–359
- Miller MD, Brunner CC (2008) Social impact in technologically-mediated communication: an examination of online influence. *Comput Hum Behav* 24(6):2972–2991
- Morgan RM, Hunt SD (1994) The commitment-trust theory of relationship marketing. *J Mark* 58(3):20–38
- Nahapiet J, Ghoshal S (1998) Social capital, intellectual capital, and the organizational advantage. *Acad Manag Rev* 23(2):242–266
- Ng CSP (2013) Intention to purchase on social commerce websites across cultures: a cross-regional study. *Inf Manag* 50(8):609–620
- Nusair K, Bilgihan A, Okumus F, Cobanoglu C (2013) Generation Y travelers' commitment to online social network websites. *Tour Manag* 35:13–22
- Park CW, Lessing PV (1977) Students and housewives: differences in susceptibility to reference group influence. *J Consum Res* 4(2):229–241
- Pavlou PA (2003) Consumer acceptance of electronic commerce: integrating trust and risk with the technology acceptance model. *Int J Electron Commun* 7(3):101–134
- Pavlou PA, Mendel F (2006) Understanding and predicting electronic commerce adoption: an extension of the theory of planned behavior. *MIS Q* 30(1):115–143
- Phang CW, Zhang C, Sutanto J (2013) The influence of user interaction and participation in social media on the consumption intention of niche products. *Inf Manag* 50(8):661–672
- Postmes T, Spears R, Lea M (1998) Breaching or building social boundaries? Side effects of computer-mediated communication. *Commun Res* 25(6):689–715
- Price LL, Lawrence FF, Robin HH (1987) Preference heterogeneity and coorientation as determinants of referent influence in the choice of service providers. Working Paper, Department of Marketing, Katz Graduate School of Business, University of Pittsburgh, Pittsburgh
- Qureshi I, Fang Y, Ramsey E, McCole P, Ibbotson P, Compeau D (2009) Understanding online customer repurchasing intention and the mediating role of trust—an empirical investigation in two developed countries. *Eur J Inf Syst* 18(3):205–222
- Ring PS, Van de Ven AH (1994) Development processes of cooperative interorganizational relationships. *Acad Manag Rev* 19(1):90–118
- Rishika R, Kumar A, Janakiraman R, Bezawada R (2013) The effect of customers' social media participation on customer visit frequency and profitability: an empirical investigation. *Inf Syst Res* 24(1):108–127
- Rohm A, Kaltcheva VD, Milne GR (2013) A mixed-method approach to examining brand-consumer interactions driven by social media. *J Res Interact Mark* 7(4):295–311
- Rosario AB, Sotgiu F, De Valck K, Bijmolt THA (2016) The effect of electronic word of mouth on sales: a meta-analytic review of platform, product, and metric factors. *J Mark Res* 53(3):297–318
- Scanlan TK, Simons JP, Carpenter PJ, Schmidt GW, Keeler B (1993) The sport commitment model measurement development for the youth-sport domain. *J Sport Exerc Psychol* 15(1):16–38
- See-To EWK, Ho KKW (2014) Value co-creation and purchase intention in social network sites: the role of electronic word-of-mouth and trust—a theoretical analysis. *Comput Hum Behav* 31(1):182–189
- Seo WJ, Green BC (2007) The effect of web cohesion, web commitment, and attitude toward the website on intentions to use NFL teams' websites. *Sport Manag Rev* 10(3):231–252
- Shi S (2014) Investigating trust and commitment on brand pages in social networking sites: the antecedents and outcomes. PhD Thesis, Hong Kong Baptist University
- Stephen AT, Toubia O (2010) Deriving value from social commerce networks. *J Mark Res* 47(2):215–228
- Sun H (2013) A longitudinal study of herd behavior in the adoption and continued use of technology. *MIS Q* 37(4):1013–1041

- Trusov M, Bodapati AV, Bucklin RE (2010) Determining influential users in internet social networks. *J Mark Res* 47(4):643–658
- Tsai W, Ghoshal S (1998) Social capital and value creation: the role of intrafirm networks. *Acad Manag J* 41(4):464–476
- Vuori V, Väisänen J (2009) The use of social media in gathering and sharing competitive intelligence. In: *Proceedings of international conference on electronic business*
- Wang JC, Chiang MJ (2009) Social interaction and continuance intention in online auctions: a social capital perspective. *Decis Support Syst* 47(4):466–476
- Wang C, Zhang P (2012) The evolution of social commerce: an examination from the people, business, technology, and information perspective. *Commun Assoc Inf Syst* 31(5):105–127
- Wang X, Yu C, Wei Y (2012) Social media peer communication and impacts on purchase intentions: a consumer socialization framework. *J Interact Mark* 26(4):198–208
- Wang WT, Wang YS, Liu ER (2016) The stickiness intention of group-buying websites: the integration of the commitment–trust theory and e-commerce success model. *Inf Manag* 53(5):625–642
- Wasko MM, Faraj S (2005) Why should I share? Examining social capital and knowledge contribution in electronic networks of practice. *MIS Q* 19(1):35–57
- Wenming Z, Xu W, Chang F (2014) Relationship between electronic word of mouth and purchase intention in social commerce environment: a social capital perspective. *Nankai Bus Rev* 4:140–150
- Wetzel M, Ruyter KD, Birgelen MV (1998) Marketing service relationships: the role of commitment. *J Bus Ind Mark* 13(4):406–423
- Woisetschläger DM, Lentz P, Evanschitzky H (2011) How habits, social ties, and economic switching barriers affect customer loyalty in contractual service settings. *J Bus Res* 64(8):800–808
- Ye Q, Law R, Gu B, Chen W (2010) The influence of user generated content on traveler behavior: an empirical investigation on the effects of e-word-of-mouth to hotel online bookings. *Comput Hum Behav* 27(2):634–639
- Zanna M, Rempel JK (1988) Attitudes: a new look at an old concept. In: Bar-Tal D, Kruglanski AW (eds) *The social psychology of knowledge*. Cambridge University Press, Cambridge, pp 315–334
- Zhang J, Daugherty T (2009) Third-person effect and social networking: implications for online marketing and word-of-mouth communication. *Am J Bus* 24(2):53–64
- Zhang T, Agarwal R, Lucas JHC (2011) The value of IT-enabled retailer learning: personalized product recommendations and customer store loyalty in electronic markets. *MIS Q* 35(4):859–881
- 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. *Inf Manag* 51(8):1017–1030
- Zhou Z, Fang Y, Vogel DR, Jin XL, Zhang X (2012) Attracted to or locked in? Predicting continuance intention in social virtual world services. *J Manag Inf Syst* 29(1):273–305
- Zhou L, Zhang P, Zimmermann HD (2013) Social commerce research: an integrated view. *Electron Comm Res Appl* 12(2):61–68