This is an author produced version of a paper published in: 
Journal of Business Research

Cronfa URL for this paper: 
http://cronfa.swan.ac.uk/Record/cronfa40873

Paper: 
http://dx.doi.org/10.1016/j.jbusres.2018.06.008

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Brand co-creation through social commerce information sharing:  

The role of social media

Abstract

Consumers are empowered to exert influence on brands through social networking sites (SNSs), which make it possible for consumers to become active content creators in their relationship with firms. To further understand brand value co-creation, we use the socio-technical theory to build a model of brand co-creation with key antecedents—social commerce information sharing, social support, and relationship quality, with privacy concerns as a moderator. Through an empirical study, we found that social commerce information sharing, social support and relationship quality positively affect brand co-creation directly/indirectly and privacy concerns moderate the effects of social commerce information sharing on brand co-creation. This article contributes to the literature on the value co-creation paradigm and social commerce by: 1) developing the concept of brand co-creation in social commerce; 2) understanding how consumers engage in online brand co-creation activities; 3) arguing that privacy concerns may hamper the effects of brand co-creation. Our study provides an innovative approach to brand management practices in today’s marketplace.

Keywords: Brand co-creation; social support; relationship quality; social commerce information sharing; privacy concerns; SEM-PLS.
1. Introduction

Social commerce combines customer-oriented computing technologies and new commercial features. It has greatly impacted e-commerce and generated economic benefits (Huang & Benyoucef, 2013). Social commerce is: (1) a virtual shopping center creating economic value by making websites more accessible to browse with social tools, and empowering customers to interact on these platforms (Stephen & Toubia, 2010); and (2) computer-mediated social environments, where sustained social interactions exist among community members. Social commerce creates an environment where firms can harness their brand to deliver incremental value (Gensler et al., 2013; Hajli et al., 2017; Wang & Yu, 2017; Yadav et al., 2013), and turn consumers into brand ambassadors by leveraging collective, co-creation processes with other consumers (Cayla & Arnould, 2008; Holt, 2003). In such environments, consumers are empowered influence brands through SNSs and online communities. Thus, significant brand values are facilitated by online consumer activities (Naylor et al., 2012). Social commerce has the potential to influence behavior and intentions to adopt a brand through social interactions, and to serves as a business strategy to increase companies’ sales and brand values (Gensler et al., 2013; Pentina et al., 2013).

To understand how brand values are co-created by consumers, studies looked at crafting unique brand relationships and customer experiences through a co-creation process, and demonstrating the nature, process, and practices of brand value co-creation (Hatch & Schultz, 2010; Payne et al., 2009; Ramaswamy & Ozcanb, 2015; Schau et al., 2009). Published work discussed the motivations to participate in value co-creation processes (Roberts et al., 2014; Payne et al., 2009; Xie et al., 2008). Xie et al. (2008) examined how motivational mechanisms influence intentions to value co-create, and Payne et al. (2009) found that a car booking system with brief tutorials process helps customers understand how to obtain additional benefits of membership, enhance co-creation activities and improve co-creation outcomes. Although these studies provide an understanding of brand co-creation and offer practical insights on the impact of brand co-creation (Hatch & Schultz, 2010; Ramaswamy & Ozcanb, 2015), their findings are not validated on a broader basis. Specifically, brand co-creation is not conceptualized or empirically grounded. Studies highlight how brand co-creation is enacted through engagements in digitalized platforms, and firms must accept a loss of control over the brand-building process (Iglesias, Ind, & Alfaro, 2013; Ramaswamy & Ozcanb, 2015). As consumers in online brand communities might be involved in the co-creation process with companies or other peers, they can devote their time and efforts to provide their experiences and information about brands and products, and encourage others to purchase (Gensler et al., 2013; Ramaswamy & Ozcanb, 2015; Schau et al., 2009). Thus,
companies must identify the key consumers and understand how to motivate them to participate in the brand co-creation process (Iglesias et al., 2013). Roberts et al. (2014) suggested exploring why customers are willing to devote efforts into co-creating brand value, and help firms harness their social media investments and create incremental revenue streams. In the literature, little is known about how and why customers engage in customer- and producer-led brand value co-creation activities in social commerce.

This article addresses the needs to analyze brand co-creation, and explore its antecedents with respect to the social and technical aspects of social commerce. In addition, we take privacy concerns into consideration. Privacy risk is a concern as voluntary disclosure of personal information is available in SNSs (Yadav & Pavlou 2014). Consumers hesitate to disclose their personal information since privacy within e-commerce sites is not expected or undefined (Dwyer, 2007). Research explored the effects of privacy concerns as an antecedent of intentions and behavior, especially in connection with acceptance of SNSs (Cha 2011; Shin 2010). Thus, an examination of the moderating effects of privacy concerns is needed to understand whether brand value can be created by consumers in SNSs (Smith et al., 2011). This article provides contributions to the brand research stream by: (1) proposing the concept of brand co-creation, and providing an understanding of its motivations from a user perspective; (2) showing the relationship of social commerce information sharing and consumers’ intentions in brand co-creation; (3) highlighting the moderating effects of privacy concerns.

The article starts with a discussion of the literature on co-creation and branding. It then discusses the key constructs of our model followed by hypotheses. The methodology is described, followed by the findings. Finally, we conclude with the discussion and implications for theory and practice.

2. Theoretical background

We outline our key concept of brand co-creation, then explain why we integrate the three key features of social commerce into our model, drawing on social-technical theory. Finally, we consider privacy concerns as a moderator.

2.1 Brand co-creation

Brand co-creation was developed by researchers interested in value co-creation (Prahalad & Ramaswamy, 2004; Vargo & Lusch, 2004). For Prahalad and Ramaswamy (2004), value co-creation is the collaboration between customers and suppliers in co-ideation, co-design, and co-development of new products. In marketing, values are created when customers shift from a passive audience to an active partner working with suppliers (Grönroos, 1997; Payne et al., 2008; Prahalad, 2004; Prahalad & Ramaswamy, 2000; 2004; Vargo & Lusch, 2004). Prahalad and
Ramaswamy (2000) posited that customers are the source of firm competence and suggested that firms offer more resources and activities to customers in order to maintain their long-term partnership, rather than focusing on producing core products. Drawing on the customer-centric (Sheth et al., 2000) and market-driven logic (Day, 1999), Vargo and Lusch’s (2004) service-dominant logic argues that customers become good value co-creators when they engage in dialogue and interaction with suppliers. The service-dominant logic concurs with earlier studies and posits that values are maximized as firms understand customers’ value-creating processes and support them by providing transparency with respect to product and firm information (Prahalad, 2004; Vargo & Lusch, 2004).

This paradigm shift views brand management through the lens of value co-creation with customers (de Chernatony’s, 2006; Hatch & Schultz, 2010; Merz, He, & Vargo, 2009; Payne et al., 2009). Brand is, thus, redefined as a cluster of functional and emotional values that accumulate in brand relationship experiences (de Chernatony, 2006). Brand co-creation is a continuous, social, dynamic and interactive process, in which firms share control over their brands with all stakeholders, and increase the brand value from stakeholder engagement (Ind & Bjerke, 2007; Muniz et al., 2005). Rather than unilaterally creating brand value, collaborating with stakeholders can facilitate customer-brand interactions and build sound brand relationships (de Chernatony, 2006; Swaminathan et al., 2007). Merz et al. (2009, p. 338) conceptualize this new paradigm and define brand co-creation as “creating brand value through network relationships and social interactions among the ecosystem of all the stakeholders.” This definition emphasizes that (1) brand value is co-created within a stakeholder network, rather than being dyadic brand relationships, and (2) brand value is dynamically constructed through social interactions among stakeholders.

Payne et al. (2009) developed a brand value co-creation framework consisting of customer and supplier value-creating processes, and encounter processes that help organizations build brand relationship experiences with stakeholders. This framework makes it possible for organizations to identify co-creation opportunities through technological solutions, develop a sequence of relationship experiences for customers, and establish appropriate metrics to measure the delivery of customers’ relationship experiences regarding their emotions, cognitions, and behavior. While researchers view technological breakthroughs as a catalyst for building customer relationship experiences (Payne et al., 2008; 2009), previous studies argued that brand value co-creation can be fostered in social media environments (Cayla & Arnould, 2008; Gensler et al., 2013; Hatch & Schultz, 2010; Ramaswamy & Ozcan, 2015; Schau, Muñiz, & Arnould, 2009). For example, Schau et al. (2009) observed brand communities that established collective value creation with their members: brand value increased over time when members engage in community
activities (e.g., documenting and milestoneing), effectively use social networking tools (e.g., welcoming and empathizing), share brand use experiences (e.g., commoditizing and caring for the brand), and manage the impressions of the brand (e.g., sharing the brand “good news”).

These studies on value co-creation and brand management led to the investigation of brand co-creation. Expanding Merz et al.’s (2009) definition, brand co-creation is co-created value through engagement in specific interactive experiences and activities in relation to a brand, triggered by the new design features of social commerce. Brand co-creation is a multidimensional concept encompassing engagement, value co-creation, and intentions towards a brand (Merz et al., 2009; Nambisan & Baron, 2009). We view brand co-creation as key for two reasons. First, although the process of how brand value is co-created in online brand communities is clear (Iglesias et al., 2013; Schau et al., 2009), the related issue of why customers participate in online brand value creation has received far less attention (Nambisan & Baron, 2009). Identifying why consumers participate in branding activities is crucial from the viewpoint of designing a social commerce site. Second, previous studies developed conceptual models or used qualitative studies (Hatch & Schultz, 2010; Healy & McDonagh, 2013; Iglesias et al., 2013; Pongsakornrungsilp & Schroeder, 2011). Here, we propose and test brand co-creation as a behavioral outcome. Third, the brand literature called for research on brand value measures that capture the essence of the brand value co-creation concept (Merz et al., 2009). The existing measures of brand value focused on either generally firm/goods-based perspectives or customer-based perspectives (Keller & Lehmann, 2006; Leone et al., 2006). As brand loyalty and brand equity are commonly used to measure brand value, a process orientation measure that captures the essence of brand value co-creation has not been developed. Nambisan and Baron (2009) measured the intentions to participate in value co-creation in virtual environments by the number of postings related to product support in the online product forum. This measure captures the actual outcome of value co-creation through engagement in online communities and is used as a dependent variable in their model. Similarly, we argue that brand co-creation can be affected by social commerce information sharing, social support, and relationship quality. We discuss these concepts next.

2.2 Social-technical features of social commerce

Socio-technical theory posits that a system consists of technical and social subsystems (Bostrom & Heinen, 1977). The technical subsystem comprises the processes, tools, and technologies that empower users to transform inputs into outputs and complete specific tasks within the system; the social subsystem comprises the users, knowledge, values, relationships, and reward systems. These subsystems must work together to produce optimized outputs.
Social commerce consists both of technical and social subsystems that enhance users’ interactions, collaborations, and their relationship quality in online transactions (Liang et al., 2011; Wang et al., 2012). From a technical perspective, social commerce contains social media tools and design features that empower consumers to share information and enhance their collaborations in consumer-generated content (Liang et al., 2011). From a social perspective, social commerce creates collaborative environments that improve consumers’ interactions and relationship quality within the system through their information sharing activities (Liang et al., 2011; Wang et al., 2012). Because brand co-creation intentions in SNSs are occurring in a social process, implementing social commerce related technologies without the consideration of other social factors might lead to failure (Bostrom & Heinen, 1977).

2.3 Technical features of social commerce

From a technical perspective, social media tools led to social commerce. Social media design features facilitated online collaboration and social information sharing (Aral et al., 2013; Kaplan & Haenlein 2010), empowering consumers to share shopping experiences and product information with peers (Liang et al., 2011). Information sharing behavior enhances interactions and provides information and knowledge. Social commerce facilitates sharing information and establishing social support, which are captured by forums and communities, ratings and reviews, and referrals and recommendations (Huang & Benyoucef, 2013). Thus, information sharing is a technical feature of social commerce.

Forums and communities are social platforms enabling customers to engage in group discussions and to share commercial information (Goel et al., 2013; Subramaniam et al., 2013). These platforms help gain relevant product information and knowledge about products and brands. Also, they provide customers with the opportunity to share opinions of brands, products, and companies, and to reassure each other through information exchange and experiences, thereby increasing willingness to purchase (Han & Windsor, 2011).

Ratings and reviews shape social commerce information sharing. Individuals can post their product reviews online and rate products (Chen, Xu, & Whinston, 2011). These give product information to other customers. In SNS communities, members can browse product reviews on a brand page, where an emotional aspect adds a personal touch to decision-making. Also, referrals and recommendations accelerate information sharing. Research shows that, as customers cannot experience the products, they rely more on other consumers’ experiences, such as their recommendations (Senecal & Nantel, 2004). Ratings and reviews as well as referrals and recommendations are user-generated content conveying positive or negative information related to sellers and products that is disseminated and
communicated within SNSs (Bansal & Voyer, 2000).

Each feature captures a unique angle of social media information sharing, which together reflect a more holistic picture of social commerce. These sharing mechanisms are primary forms of information sharing. There is a need to empirically examine the impacts of these mechanisms by conceptualizing them as social commerce information sharing (Ba & Pavlou, 2002).

2.4 Social features of social commerce

Benefiting from information sharing, social commerce brought into e-commerce two features—online social support and relationship quality—which form the social features of social commerce (Liang et al., 2011, Zhang et al., 2014).

Cobb (1976) defined social support as “information leading someone to believe that he is cared for and loved, esteemed, and a member of a network of mutual obligations” (p. 300). Pfeil (2009) defined it as “the exchange of verbal and nonverbal messages in order to communicate emotional and informational messages that reduce the retriever's stress” (p. 124). Information exchange plays a role in generating social support, which in turn affects behavior in different contexts. Prior studies examined its effects on helping people cope with stressful life events (Berkman et al., 2000), and in supporting physical, mental, and social health (Cohen & Wills, 1985). Social support was used to explain how social relationships influence cognitions, emotions and behaviors (Lakey & Cohen, 2000). The theory emphasizes that supportive behavior contributes to health by protecting people from the adverse effects of stress and promoting self-esteem and self-regulation (Lakey & Cohen, 2000).

Social support is also defined as “the social resources that persons perceive to be available or are provided to them by nonprofessionals in the context of both formal support groups and informal helping relationships” (Cohen, Gottlieb, & Underwood, 2010, p. 4). Previous studies (Cobb, 1976; Gottlieb & Bergen, 2010; House, 1981; Krause, 1986; Langford et al., 1997) highlight two types of social support—informational and emotional—considered as a measure of how individuals experience feelings of being cared for, responded to, and facilitated by people in their social groups. From a psychological perspective, emotional support is the offering of empathy, concern, affection, love, trust, acceptance, intimacy, encouragement, or caring (Langford et al., 1997). Informational support is the provision of advice, guidance, suggestions, or useful information (Krause, 1986). Drawing on these dimensions, Laing et al. (2011) examined its effects on online users’ social commerce use intentions in SNSs. Social support is thus a key variable in social commerce research (Hajli et al., 2017; Zhang et al., 2014). The underlying characteristic of
social commerce, information support, has been refined and refers to supportive problem solving based on user-generated commercial information as recommendations, ratings and reviews, and shared on social media platforms (Hajli et al., 2017; Liang et al., 2011; Zhang et al., 2014). Such information support enhances interactions in social commerce, generating emotional feelings of caring during the purchase process. As such, emotional support is “providing warmth and nurturance to another individual and reassuring the person that s/he is a valuable person who is cared about” (Taylor et al., p. 355).

Relationship marketing theory showed the effects of networks and cooperation with customers on marketing values by elaborating the roles of commitment and trust (Morgan & Hunt 1994). Relationship quality is a key variable that influences online behavior and loyalty (Hennig-Thurau et al., 2002; Palmatier et al., 2006). Social commerce is more social, creative and collaborative shopping owing to its key feature of commercial information sharing (Parise & Guinan, 2008), and relationship quality affects online behavior (Liang et al. 2011, Ng, 2013). For example, closeness, capturing a relationship quality with friends, has positive effects on purchase intentions and on trust in a community (Ng, 2013). Liang et al. (2011) examined the effects of relationship quality on intentions from that perspective. Relationship quality affects social commerce intentions and mediates the effects of social support on intentions (Hajli et al., 2017). Therefore, relationship quality is a social feature of social commerce.

2.5 The moderating effects of privacy concerns

Privacy concerns are subjective views of fairness toward information privacy (Malhotra et al., 2004). Online, users disclose their information to register as members of a website, and in their interactions with it. Specific to social commerce, they disclose their personal information, but also share their knowledge of products and shopping experiences, and provide peers with comments and suggestions about products (Liang et al., 2011). Thus, the more they share information online, the more concerns about information security arise, and consumers are reluctant to engage in social sharing activities (Vijayasarathy, 2004). Privacy concerns are derived from SNSs (Shin, 2010), where information may be collected, disclosed, and used without their consent. Such concerns have negative effects, such as less willingness to disclose personal information, decreasing intentions to use online services, and lower levels of trust (Bélanger et al., 2002; Chen & Dibb, 2010; Dinev & Hart, 2006). Thus, privacy concerns are used as moderators.

2.6. Research model

In this article, we develop a model of how brand value is co-created in SNSs and explore its antecedents including the technical and social features of social commerce, and privacy concerns as a moderator (Figure 1).
3. Hypotheses development

3.1 Social commerce information sharing and branding co-creation

The notion of co-creating brand values were highlighted in social media contexts (Chen et al., 2011; de Vries et al., 2012; Gensler et al., 2013; Goh et al., 2013; Laroche et al., 2012). Constantinides et al. (2008) explored social feature applications in terms of content, collaboration, and commerce, which can be used to develop s-commerce enabled business models in online retail environments. By conducting a historical analysis of e-commerce websites, Curty and Zhang (2013) found that website technical features regarding transactional, relational, and social emphases reshaped marketing and branding strategies, specifically strengthening customer and merchant ties through relational features. The use of social feature applications such as recommendations, referrals, ratings and reviews generated valuable information for consumers and influenced their intentions and purchasing decisions (Hajli et al., 2017). By providing an overview of managing brands in social media, Gensler et al. (2013) indicate that social media strengthens the dynamic interactions within online communities, making it possible for consumers to communicate brand stories with others and to co-create a brand’s linking values, resulting in the development of a successful brand. Laroche et al. (2012) demonstrate that the impact of brand community features such as user input or posting to site affect co-creation practices (e.g., shared rituals and traditions, and shared consciousness), in turn enhancing customers’ brand trust and loyalty. These imply that the construction of brands can be accelerated through frequent interactions with other consumers on SNSs (Pentina et al., 2013; Vargo & Lusch, 2004).

Therefore, brand value can be co-created through sharing information about brand use experiences. User participation and commercial information sharing behavior in social commerce are characteristics distinguishing it from e-commerce. Through intensive engagement, users interact with their peers on social commerce platforms, more often than in traditional e-commerce (Park et al., 2007). Unlike traditional non-interactive shopping websites, which merely provide commercial features to consumers, social commerce sites can help reach a collective consensus on a brand’s meaning and identity through social networking features (Cayla & Arnould, 2008). Through interacting with peers, consumers likely share their brand experiences, create brand stories, and deliver the sensory, emotional, cognitive, behavioral and relational values to peers. Indeed, the success of social commerce is dependent on the innovation of design features (Zhou et al., 2013), such as social content presentation, notification, topic focus, and
social ads and applications; these could be a catalyst for value co-creation (Huang & Benyoucef, 2013). These features help consumers gain product information prior to making a purchase decision and enable e-commerce sites to obtain insights from consumers and intensify selling and branding activities. Thus:

**H1:** Social commerce information sharing is positively associated with intentions to co-create branding.

### 3.2 Social commerce information sharing and social support

SNSs are important online tools for users to provide and receive social support (Gruzd et al., 2011), which can be encouraged by connections and interactions through weak ties when peers share commercial-related information. This may include both informational and emotional support, and users influence and help each other in product evaluations and purchase decisions (Ridings & Gefen, 2004). Some SNSs embed quality inference functions such as “like,” “share,” and “follow” buttons, also referred to as social bookmarking icons, which allow consumers to see how many times the objects have been bookmarked (Gerlitz & Helmond, 2013). These buttons and counters provide informational and emotional support to consumers.

Previous studies showed the relationship between information sharing and social support in online settings. Bagozzi and Dholakia (2002) indicated that members of online communities participate in different group activities and support other members through their social interactions and communications. For Saenger et al. (2013), consumers are encouraged to express their self-concepts and share their experiences and information with others. These communications provide support to consumers (Saenger et al., 2013). Thus:

**H2:** Social commerce information sharing is positively associated with social support.

### 3.3 Social commerce information sharing and relationship quality

Research shows that people in online environments prefer to reduce their uncertainty through more interactions with e-venders and other community members (Gefen & Straub, 2004). With social media, there is a need for trust mechanisms to make it possible for two parties to reduce their transactional perceived risk. Trust is a central issue in most economic and social transactions (Pavlou, 2003). Trust is important when risks are perceived to be high, as in e-commerce (Aljifri et al., 2003; Gefen, 2002; Gefen et al., 2003; Mutz, 2005; Pavlou, 2003).

If e-commerce websites describe their products accurately and comprehensively, consumers will trust them (Yang et al., 2009). In brick-and-mortar stores, customers spend time and interact with staff members to obtain information in order to make decisions, whereas it is a major challenge to create an online store that is socially rich
(Kumar et al., 2010). This can be facilitated by customer reviews, information and the experiences of others in forums and communities (Ba & Pavlou, 2002; Lu et al., 2010). Kim and Park (2013) indicated that the features of social commerce information sharing, such as reputation, information quality, and transaction safety, affect consumers’ trust and performance. However, information related to the identity of reviewers has an effect on members’ perceptions (Chris et al., 2008). This was raised as a result of fake ratings and reviews produced by third parties. Fake information may lead to incorrect judgments about purchasing, resulting in lower commitment and satisfaction toward e-vendors. E-vendors must take action to persuade reviewers to give more information about their identity to reassure consumers about the authenticity of ratings and reviews (Chris et al., 2008). Thus:

**H3:** Social commerce information sharing is positively associated with relationship quality.

### 3.4 Social support and relationship quality

In social support theory, the effects of social support cannot be separated from relationship processes that co-occur with support (Lakey & Cohen 2000, p. 29). The formation of social support mechanisms must be linked with interpersonal processes and constructs (Lakey & Cohen 2000). The positive effects of social support on relationship quality in social commerce has been found in prior studies (Hajli et al., 2017; Liang et al., 2011,). Users of a social commerce platform may believe that relationship quality can be guaranteed if they feel that people in online communities provide substantial support (Liang et al., 2011). Thus:

**H4:** Social support is positively associated with relationship quality.

### 3.5 Relationship quality and branding co-creation

Research on relationship marketing focused on the formation of partnerships between customers and service providers (Crosby et al., 1990; Thorsten et al., 2002). A high quality relationship raises the likelihood of positive interactions and fosters the formation of brand loyalty (Fournier, 1998; Yoon et al., 2008). Fournier (1998) showed that relationship stability is facilitated by a robust relationship quality, and emphasized that consumers with high levels of commitment most likely dedicate themselves to a brand that fosters brand relationship stability. Specific to SNSs, where relationships among users have become anonymous, impersonal, and automated (Wang & Emurian, 2005), users are more willing to participate in forums and communities, share their experiences and knowledge, and leave their advice and recommendations for others when they have strong feelings of trust, satisfaction, and commitment (Hajli et al., 2017; Liang et al., 2011; Pentina et al., 2013). If consumers are committed to an ongoing relationship
with a social commerce community, they will try to maintain that relationship (Chen & Shen, 2015). This relationship might turn them into brand ambassadors and recruit peers to become brand users. Thus:

**H5:** Relationship quality is positively associated with intentions to co-create branding.

### 3.6 Privacy concerns as a moderator

Managing the privacy of consumer information is harder in s-commerce sites than in e-commerce or offline environments due to the new design features of social commerce (Kim & Park, 2013; Shin, 2010). Information privacy concerns arise when new technologies with advanced capabilities for social features and information processing come into play (Flavián & Guinalíu, 2006; Preibusch et al., 2016). In prior research, privacy concerns were studied as an antecedent to intentions or behavior. For example, perceived risk was negatively related to intentions to disclose information and purchase a product on e-commerce (Kim, Ferrin, & Rao, 2008) and s-commerce sites (Hajli et al., 2017; Sharma & Crossler, 2014). These suggest that s-commerce has to engage in privacy-policy making and building trust activities to reduce risk perceptions.

Shin (2010) developed a model of SNS acceptance, where perceived privacy has negative effects on trust and attitudes, which affect their intentions to use SNSs. Thus, privacy concerns affect intentions indirectly. Cha et al. (2011) studied privacy concerns as a dimension underlying the perceived characteristics of online shopping, but found that they did not influence their purchase intentions. Bélanger and Crossler (2011) and Smith et al. (2011) highlighted the privacy paradox, which describes how intentions are inconsistent with behaviors as they face privacy issues. This implies that individuals may be concerned about their privacy being affected, but their behavior may be different (Bélanger & Crossler 2011). It may be that privacy decisions are influenced by bounded rationality (Acquisti 2004; Acquisti & Grossklags 2005), and protection intentions and behavior are dependent on the extent and intensity of their privacy concerns. Thus, the effects of privacy concerns on intentions or behavior may depend on the level of privacy concerns. Thus:

**H6:** Privacy concerns moderate the effect of social commerce information sharing on branding co-creation, such that the effects will be stronger for users with lower levels of privacy concerns.

### 4. Methodology

#### 4.1 Study setting

There are two types of social commerce contexts: (1) incorporating commercial features into SNSs; and (2) adding social networking features to traditional e-commerce sites, which promote transactions through social
interactions (Huang & Benyoucef, 2013; Liang & Turban, 2011; Zhang et al., 2014). Social commerce sites are grouped into seven categories, including social network-driven sales platforms, peer recommendation websites, group buying websites, peer-to-peer sales platforms, user-curated shopping websites, social shopping websites, and participatory commerce websites (Indvik, 2013). Our study focuses on the first type, and we selected social network-driven sales platforms such as Facebook, Twitter, and Pinterest for two reasons. First, they are open to all and allow discussion forums and threads based on common interests in a brand or product. Many companies use them to reach a broader audience of current and potential customers, spread product messages, organize events, and communicate directly with customers. These platforms are an important source of innovation and a channel for promoting brands. Second, as with online bulletin boards, members of social network-driven sales platforms share information about product reviews, referrals, recommendations, and personal experiences. The messages and discussions posted on these platforms are visible to members in real time and allow members to join a discussion, provide feedback, or share content. Also, customers share brand information on these pages and use the information provided by peers to make decisions. Thus, they provide an appropriate context to study how brand value co-creation can occur through the social and technical aspects of social commerce.

4.2 Data collection

We used a survey to collect primary data from active users on social network-driven sales platforms in the United States. The inclusion criteria were that participants have (1) been involved in at least one group page on social network-driven sales platforms, and (2) contributed at least one discussion or comment posted on the group page. Based on these criteria, we randomly invited users from Facebook, Twitter, and Pinterest. The questionnaire, sent by the SNSs’ messaging system, asked users to participate in the survey. In total, 1000 invitations were sent out in January 2014. After completing one month of data collection, 230 responses were received, achieving a 23% response rate, with 207 valid responses. 52.2% were male, 46.4% female (3 missing values); 67.2% were White, 12.3% Black or African American, and 20.6% Asian (3 missing values); 4.9% had a post-graduate level degree, 85.4% a bachelor degree, and 9.7% were enrolled in college or with a high school degree. The age range was under 39 (70.1%), with fewer subjects over 40 (26.6%) (7 missing values). The demographic characteristics indicated that most were active online consumers; 90.3% reported they had purchased products at least five times online the previous year. Approximately 65% had spent more than $50 online in the previous three months. See Table 1.
4.3 Measure development

The model includes five constructs: social commerce information sharing, social support, and relationship quality as independent variables, privacy concerns as the moderating variable, and intentions to brand co-create as a dependent variable. All items (Table 2) were adapted from the literature and modified to fit the study. A pilot study with 10 doctoral students and 5 MIS researchers was used to ensure the questions and wording were clearly understood (Bell, 2010). All constructs were measured with 7-point Likert scales (1=“strongly disagree” to 7=“strongly agree”). Social commerce information sharing was measured as the degree to which an individual is willing to share and request commerce-related information in the formats of forums and online communities, ratings and reviews, and referrals and recommendations. The items to measure this construct were adopted from Liang et al. (2011) and Hajli et al. (2017).

Relationship quality is multidimensional in nature, with its three dimensions classified into trust, satisfaction and commitment (Garbarino & Johnson, 1999; Morgan & Hunt, 1994; Palmatier et al., 2006). Trust is “willingness to rely on an exchange partner in whom one has confidence” (Moorman et al., 1993, p. 82). Commitment is a desire to maintain a relationship (Moorman et al., 1993; Morgan & Hunt, 1994). Satisfaction is a customer’s overall emotional evaluation of the performance of a provider (Gustafsson et al., 2005). The 9-item scale was adapted from Liang et al. (2011). Social support was measured by the two dimensions of emotional and informational support (Laing et al., 2011). Privacy concerns were measured by the subjective views of fairness toward information privacy (Stewart & Segars, 2002; Malhotra et al., 2004).

The dependent variable is brand co-creation intentions. Since there was no existing measure, we designed items to assess this outcome from a similar context in the co-creation value literature. We first defined brand value co-creation by expanding from Merz et al.’s (2009) definition, which captures the notion that brand value can be co-created by engagement in digitalized platforms (Ramaswamy & Ozcan, 2015). We developed the items based on the co-creation value practices provided by Schau et al. (2009). These practices are used to craft brand experiences in online brand communities. Through these practices, consumers act as co-creators of brand value with others through social networking tools, engaging in community activities, sharing brand use experiences, and boosting the impressions of the brand. For example, we asked participants to rate the extent to which they participate in co-creation
value activities (e.g., sharing brand use experiences with others, lending emotional to peers) on the SNSs of which they are a member. The items are reproduced in Table 2.

| Table 2 |

5. Findings

The partial least squares (PLS) technique SmartPLS 2.0 was used to test the model (Ringle et al., 2005). PLS has more power in maximizing the variance explained than covariance-based SEM methods (Gefen et al., 2011). Analyses proceeded by testing the measurement and structural models. The measurement model was evaluated by testing each construct’s reliability and validity. In the structural model, a bootstrapping procedure was applied to test the statistical significance of the parameter estimates.

5.1 Common method bias

To reduce common method bias, Podsakoff et al. (2003) suggest utilizing structural procedures during the design and data collection processes. We protected respondent-researcher anonymity, provided clear directions, and proximally separated independent and dependent variables (Podsakoff et al., 2003). We assessed the effect of common method bias statistically with two tests. First, Harman’s one-factor test (Brewer et al., 1970; Greene & Organ, 1973; Podsakoff & Organ, 1986) generated ten principal constructs, and the unrotated factor solution shows that the first construct explains only 17.9% of the variance, indicating that our data do not suffer from high common method bias. Second, we performed a partial correlation technique using a marker variable to eliminate the influence of common method bias. Following a procedure suggested by Pavlou et al. (2007), we compared correlations among the constructs. The results revealed no constructs with correlations over 0.9, whereas evidence of common method bias ought to have produced higher correlations (r > .90). Thus, common method bias is not a major concern.

5.2 Reliability and validity

Using SEM-PLS we examined reliability through composite reliability (CR), as in Table 3. CR measures internal consistency scores (Gefen et al., 2000; Hair Jr. et al., 2010), which along with Cronbach’s alpha, exceed 0.70 (Nunnally & Bernstein 1994). Next, we report the average variance extracted (AVE), shown in Table 3. To achieve convergent validity, each AVE must be more than 0.50 (Kline, 2010). Table 3 shows that all AVEs are higher than 0.50. Next, for discriminant validity, we compare and report the square of the correlations among latent variables with
the AVEs (Chin, 1998), providing evidence of discriminant validity. An alternative approach to test both convergent validity and discriminant validity is the examination of factor loadings (Ping, 2003). As shown in Table 3 there is no cross loading among the constructs.

Table 3

5.3 Structural model

Using Smart-PLS software, we found all paths were positive and significant at the 0.05 level. The R²'s account for 36%, 31%, and 35% of the variance in branding co-creation, relationship quality, and social support, an acceptable level of explanation. We examined the path coefficients (Figure 2), to report the relationships among the constructs. All our hypotheses are supported. According to the findings, both relationship quality (0.404) and social commerce information sharing (0.302) have positive effects on brand co-creation, and the effect of relationship quality is stronger. Social commerce information sharing and social support positively affect relationship quality (0.208 vs. 0.302), highlighting the stronger effect of social support on relationship quality. Social commerce information sharing positively affects social support (0.209) and its greatest influence is on brand co-creation (0.309 vs. 0.209 and 0.208). Finally, we confirm the moderating effects of privacy concerns (0.201) on the relationship between social commerce information sharing and brand co-creation.

Figure 2

6. Discussion

Brand building in social commerce is a promising research area. Drawing on the social-technical theory, this article incorporates the technical and social features of social commerce into brand co-creation. Specifically, we examine how social commerce information sharing, social support, and relationship quality influence consumers’ intentions to brand co-create on SNSs. We found that information sharing, by using forums and communities, ratings and reviews, and referrals and recommendations, directly influences social support, relationship quality and brand co-creation. This is different from previous findings that a high quality relationship raises the likelihood of positive customer interactions and fosters the formation of brand loyalty (Fournier, 1998; Yoon et al., 2008). Social support also affects relationship quality, which in turn facilitates consumers’ intentions to brand co-create. Additionally, privacy concerns moderate the effect of social commerce information sharing on brand co-creation. This finding
supports previous finding (Shin, 2010) that privacy concerns affect intentions indirectly. These findings not only provide new insights for social commerce research, but generate practical implications for companies who wish to build their brand using SNSs or s-commerce sites. We discuss our contributions next.

6.1 Theoretical contributions

First, one contribution is to refine the concept of brand co-creation and provide an understanding of its motivations from a user perspective. We delineate brand co-creation in social commerce and highlight its importance in engaging consumers in managing brands. This article provides a good understanding of this new concept of brand management by extending it to SNSs or social commerce. It may serve as a foundational model for studying social commerce behavior and exploring its strategic benefits in the digital marketplace.

Second, our finding reveal that social commerce information sharing positively affects consumers’ intentions in brand co-creation. This is consistent with Gensler et al. (2013), who demonstrated that social communication generates various benefits for a brand. As prior studies (Ballantyne & Aitken, 2007; Merz et al., 2009) argued that any brand is dynamically constructed through social interactions, and its value is located in the minds of its customers and the wider group of opinion makers and stakeholders, our study provides empirical evidence that social interactions driven by social technologies—such as sharing and obtaining advice and recommendations—can increase consumers’ intentions to brand co-create. Thus, once a sharing culture exists in a brand community, the brand co-creation values will be attained. Also, we measured social commerce information sharing by its three dimensions—forums and communities, ratings and reviews, and referrals and recommendations—which provide further insights into information sharing activities. As such, this finding provides a deeper understanding of what kinds of social commerce features facilitate brand co-creation.

Third, the positive effects of social commerce information sharing on social support and relationship quality provided understanding of how these social commerce features may be formed. Our results highlight the influences of social support and relationship quality on brand co-creation. It is important to understand consumer behavior in brand communities, since supportive interactions and relationships are the catalysts of social commerce success (Liang et al., 2011). Such supportive climate encourages members to be brand spokespersons through disclosing their experiences and posting brand information on their personal pages. These supportive behaviors most likely enhance the quality of relationships among community members. Thus, this finding shows the strong linkage between social support theory and relationship marketing theory in social commerce and provides further evidence that social
commerce adoption is triggered by both social support and relationship quality (Laroche et al., 2012; Liang et al., 2011; Pentina et al., 2013). Once consumers receive support from the brand community, they have a high level of trust, satisfaction, and commitment toward the brand page, which increases the intentions to brand co-create. However, these studies treat social commerce as a context, without taking the features of social commerce into consideration. Thus, our study contributes to understanding the impact of social commerce information sharing on brand value co-creation in social commerce and explains the important role of social support and relationship quality.

Fourth, our study confirmed the moderating effects of privacy concerns. This indicates that the higher the privacy concerns towards a brand community, the lesser the willingness to use social commerce tools, which results in hindering brand co-creation. This finding reaffirms the view of Acquisti (2004) and Acquisti and Grossklags (2005), that intentions are affected by concerns about information privacy. This is confirmed by JWT reporting that 8 in 10 American and British adults stated that the functionality provided by Facebook, such as Facebook Credit transactions, is not a secure tool and makes them concerned about the privacy issues of shopping directly on Facebook (JWT 2011).

6.2 Managerial implications

First, brand co-creation may serve as a brand management strategy. Taking advantage of our findings, businesses may better engage their consumers in SNSs, and increase their brand and general reputation. An example of brand co-creation as a business strategy through social commerce information sharing with social support and relationship quality is Restaurant.com on Facebook. The page managers constantly post news about restaurants, such as newly launched products, discount information, and image advertising. Meanwhile, members share their dining experiences through posting comments, emotional feedback, and sharing information on their page. Through this two-way information sharing, restaurant owners can use this feedback to take appropriate actions which may lead to customer trust and satisfaction, and members acquire useful dining information contributed from other members, giving them a sense of belonging to this community.

By contrast, consumer feedback posted on SNSs can be a double-edged sword, and pose threats to the brand when negative evaluations are posted, especially for professionally-oriented SNSs. Their members are likely to be knowledgeable and familiar with the quality and features of companies’ products. Consequently, low-quality products or sellers with a questionable reputation instantly suffer as irate or perplexed members rate their overall quality as subpar, hurting the brand image and sales (Chen et al., 2012). Also, managers need to involve consumers in online commerce information sharing activities and manage brands. Managers must take precautions to monitor comments,
and establish an internal rapid response mechanism to deal with all kinds of inappropriate content. Also, when firms launch a new product or brand, marketing managers should “put customers to work” through establishing a high degree of social interactions on SNSs.

Second, through understanding of the social features of social commerce, managers can better manage their relationships with their customers and provide sufficient support on SNSs to improve the brand effectiveness. For example, managers may organize social events and create a more collaborative and supportive environment for consumers to share their brand-oriented information. Third, the moderating effects of privacy concerns also provide meaningful practical implications. Arkowitz et al. (2013) indicated that privacy concerns are viewed as a hurdle to social commerce adoption and brand management, and the reason consumers distrust brand pages is that they worry about payment mechanisms and the content they have posted. Consequently, managers should devote their efforts on developing trust-building plans, such as (1) implementing secure payment systems, (2) frequently posting payment security information, (3) making explicit privacy policies about permission, (4) providing more openness about privacy settings, allowing consumers to leave anonymous feedback to some posts or whereby users could control who sees their feedback/ratings similar to how they control their status updates (Arkowitz et al., 2013), and (5) improving third-party payment accreditation and logistics, which may alleviate the privacy concerns on SNSs. In doing so, users will trust brand page owners, leading to more information sharing and brand reputation.

6.3 Limitations and future research

First, there is a need to improve data collection to increase generalizability. For example, to examine cultural differences a follow-up study might involve collecting data from different markets. Likewise, researchers could assess potential differences among age groups with a more representative sample. For instance, older consumers may be more concerned about threat to their private information (Chakraborty et al., 2013). For these adults more efforts and time may be needed before they develop trust in brand communities. This may reflect different effects on brand co-creation.

Second, we incorporated social support and relationship marketing theories into brand co-creation through our model to examine the relationships among the proposed constructs in brand pages in Facebook. Specifically, we treated social media as a homogenous online space. Bigger and varied samples that collect sufficient data from different online communities, such as professionally-oriented brand communities, may offer more insights into how different communities and social media tools affect brand co-creation.
Third, researchers could consider applying qualitative methodologies (e.g., content analysis and focus groups), exploring questions such as what behaviors regarding brand co-creation are, and what types of user-generated content obtain the most likes or shares, to complement the insufficiency of survey methods that limit inferences.

6.4 Conclusion

Drawing on the social commerce literature and social-technical theory, we explored the key antecedents of why individuals participate in the brand co-creation activities. We also examined the moderating effects of privacy concerns in the relationship of social commerce information sharing and brand co-creation. This article provides a better understanding of brand co-creation and its motivations from a consumer perspective. The findings provide instrumental insights for businesses to improve their brand management through motivating their customers to participate in brand co-creation. We also provide directions and guidance for future studies in social commerce. For example, drawing on our theorized concept of brand co-creation, researchers could provide further insights into this topic by exploring its motivations from different theoretical perspectives as well as its consequences. Our model of brand co-creation can help researchers interested in investigating the impact of social media use on consumer behavior. In addition, researchers might explore the strategic benefits of brand co-creation and study how these may improve marketing performance.
References


Arkowitz, J., Benjamin, B., Pearson, L. (2013). A brand owner’s guide to social media, Kilpatrick Townsend & Stockton LLP.


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.

Figure 1. Theoretical model
Figure 2. Results of the PLS analysis

\[ R^2 = 0.31 \]

\[ R^2 = 0.36 \]

\[ R^2 = 0.35 \]

** p<.01
*** p<.001

Informational Support

Emotional Support

Social Commerce Information Sharing

Trust

Satisfaction

Commitment

Privacy Concerns

Informational Support → 0.823***

Emotional Support → 0.902***

Social Commerce Information Sharing → 0.209*

Relationship Quality → 0.861***

Trust → 0.301**

Satisfaction → 0.208*

Commitment → 0.404***

Privacy Concerns → 0.302**
Table 1. Breakdown of respondents

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Range</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-29</td>
<td>85</td>
<td>41.1%</td>
<td></td>
</tr>
<tr>
<td>30-39</td>
<td>60</td>
<td>29.0%</td>
<td></td>
</tr>
<tr>
<td>40-49</td>
<td>30</td>
<td>14.5%</td>
<td></td>
</tr>
<tr>
<td>50-59</td>
<td>20</td>
<td>9.7%</td>
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</tr>
<tr>
<td>Over 60</td>
<td>5</td>
<td>2.4%</td>
<td></td>
</tr>
<tr>
<td>Missing value</td>
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<td>3.3%</td>
<td></td>
</tr>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>108</td>
<td>52.2%</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>96</td>
<td>46.4%</td>
<td></td>
</tr>
<tr>
<td>Missing value</td>
<td>3</td>
<td>1.4%</td>
<td></td>
</tr>
<tr>
<td><strong>Education level</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-graduate level degree</td>
<td>10</td>
<td>4.9%</td>
<td></td>
</tr>
<tr>
<td>Bachelor degree</td>
<td>177</td>
<td>85.4%</td>
<td></td>
</tr>
<tr>
<td>Enrolled in college or with a high school degree</td>
<td>20</td>
<td>9.7%</td>
<td></td>
</tr>
<tr>
<td><strong>Online shopping frequency last year</strong></td>
<td></td>
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<td>0-5</td>
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<td>6-10</td>
<td>76</td>
<td>36.7%</td>
<td></td>
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<tr>
<td>11-15</td>
<td>79</td>
<td>38.2%</td>
<td></td>
</tr>
<tr>
<td>16-20</td>
<td>21</td>
<td>10.1%</td>
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<tr>
<td>More than 20</td>
<td>11</td>
<td>5.3%</td>
<td></td>
</tr>
<tr>
<td><strong>Spending on online shopping in the last three months</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-50</td>
<td>74</td>
<td>35.7%</td>
<td></td>
</tr>
<tr>
<td>51-100</td>
<td>68</td>
<td>32.9%</td>
<td></td>
</tr>
<tr>
<td>101-150</td>
<td>34</td>
<td>16.4%</td>
<td></td>
</tr>
<tr>
<td>151-200</td>
<td>22</td>
<td>10.6%</td>
<td></td>
</tr>
<tr>
<td>More than 200</td>
<td>9</td>
<td>4.4%</td>
<td></td>
</tr>
<tr>
<td><strong>Social network platforms</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facebook</td>
<td>120</td>
<td>58.0%</td>
<td></td>
</tr>
<tr>
<td>Twitter</td>
<td>67</td>
<td>32.4%</td>
<td></td>
</tr>
<tr>
<td>Pinterest</td>
<td>20</td>
<td>9.6%</td>
<td></td>
</tr>
<tr>
<td><strong>Total Responses</strong></td>
<td>207</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>Codes</td>
<td>Scales</td>
<td>Factor Loading</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>--------</td>
<td>----------------</td>
<td></td>
</tr>
<tr>
<td><strong>Social support</strong> (Adapted from Liang et al., 2011)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional support</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SE1</td>
<td>When faced with difficulties, some people on my favorite social networking site are on my side with me.</td>
<td>0.84</td>
<td></td>
</tr>
<tr>
<td>SE2</td>
<td>When faced with difficulties, some people on my favorite social networking site comforted and encouraged me.</td>
<td>0.86</td>
<td></td>
</tr>
<tr>
<td>SE3</td>
<td>When faced with difficulties, some people on my favorite social networking site listened to me talk about my private feelings.</td>
<td>0.89</td>
<td></td>
</tr>
<tr>
<td>SE4</td>
<td>When faced with difficulties, some people on my favorite social networking site expressed interest and concern in my well-being.</td>
<td>0.87</td>
<td></td>
</tr>
<tr>
<td><strong>Informational support</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SI1</td>
<td>On my favorite social networking site, some people would offer suggestions when I needed help.</td>
<td>0.87</td>
<td></td>
</tr>
<tr>
<td>SI2</td>
<td>When I encountered a problem, some people on my favorite social networking site would give me information to help me overcome the problem.</td>
<td>0.95</td>
<td></td>
</tr>
<tr>
<td>SI3</td>
<td>When faced with difficulties, some people on my favorite social networking site would help me discover the cause and provide me with suggestions.</td>
<td>0.91</td>
<td></td>
</tr>
<tr>
<td><strong>Relationship quality</strong> (Adapted from Liang et al., 2011)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commitment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RC1</td>
<td>I am proud to belong to the membership of my favorite social networking site.</td>
<td>0.91</td>
<td></td>
</tr>
<tr>
<td>RC2</td>
<td>I feel a sense of belonging to my favorite social networking site.</td>
<td>0.93</td>
<td></td>
</tr>
<tr>
<td>RC3</td>
<td>I care about the long-term success of my favorite social networking site.</td>
<td>0.89</td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RS1</td>
<td>I am satisfied with using my favorite social networking site.</td>
<td>0.89</td>
<td></td>
</tr>
<tr>
<td>RS2</td>
<td>I am pleased with using my favorite social networking site.</td>
<td>0.88</td>
<td></td>
</tr>
<tr>
<td>RS3</td>
<td>I am happy with my favorite social networking site.</td>
<td>0.93</td>
<td></td>
</tr>
<tr>
<td>Trust</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RT1</td>
<td>The performance of my favorite social networking site always meets my expectations.</td>
<td>0.80</td>
<td></td>
</tr>
<tr>
<td>RT2</td>
<td>My favorite social networking site can be counted on as a good social networking site.</td>
<td>0.89</td>
<td></td>
</tr>
<tr>
<td>RT3</td>
<td>My favorite social networking site is a reliable social networking site.</td>
<td>0.89</td>
<td></td>
</tr>
<tr>
<td><strong>Brand co-creation</strong> (Developed from Schau et al., 2009; Ramaswamy &amp; Ozcan, 2015)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CB1</td>
<td>I am willing to provide my experiences and suggestions when my friends on my favorite social networking site want my advice on buying something from a brand.</td>
<td>0.94</td>
<td></td>
</tr>
<tr>
<td>CB2</td>
<td>I am willing to buy the products of a brand recommended by my friends on my favorite social networking site.</td>
<td>0.94</td>
<td></td>
</tr>
<tr>
<td>CB3</td>
<td>I will consider the shopping experiences of my friends on my favorite social networking site when I want to buy a brand.</td>
<td>0.85</td>
<td></td>
</tr>
<tr>
<td><strong>Social commerce information sharing</strong> (Sources: Liang et al., 2011; Hajli et al., 2017)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCIS1</td>
<td>I will ask my friends on forums and communities to provide me with their suggestions before I go shopping for a brand.</td>
<td>0.73</td>
<td></td>
</tr>
<tr>
<td>SCIS2</td>
<td>I am willing to recommend a product or a brand that is worth buying for my friends on my favorite social networking site.</td>
<td>0.81</td>
<td></td>
</tr>
<tr>
<td>SCIS3</td>
<td>I am willing to share my own shopping experience of a brand with my friends on forums and communities or through ratings and reviews.</td>
<td>0.93</td>
<td></td>
</tr>
<tr>
<td>SCIS4</td>
<td>I would like to use people’s online recommendations and reviews to buy a product from a brand.</td>
<td>0.83</td>
<td></td>
</tr>
<tr>
<td><strong>Privacy concerns</strong> (Stewart &amp; Segars, 2002; Malhotra et al., 2004)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Constructs and items with factor loadings
<table>
<thead>
<tr>
<th>PC</th>
<th>Statement</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC1</td>
<td>It usually bothers me when my favorite social networking site asks me for personal information.</td>
<td>0.74</td>
</tr>
<tr>
<td>PC2</td>
<td>When my favorite social networking site asks me for personal information, I sometimes think twice before providing it.</td>
<td>0.85</td>
</tr>
<tr>
<td>PC3</td>
<td>It bothers me to give personal information to so many people.</td>
<td>0.86</td>
</tr>
<tr>
<td>PC4</td>
<td>I am concerned that my favorite social networking site is collecting too much personal information about me.</td>
<td>0.82</td>
</tr>
</tbody>
</table>
Table 3. Quality criteria and square of correlation between latent variables

<table>
<thead>
<tr>
<th></th>
<th>AVE</th>
<th>Composite reliability</th>
<th>CB</th>
<th>RC</th>
<th>SE</th>
<th>SI</th>
<th>PC</th>
<th>RQ</th>
<th>RS</th>
<th>SSIS</th>
<th>SS</th>
<th>RT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CB</td>
<td>0.83</td>
<td>0.94</td>
<td>0.92</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RC</td>
<td>0.83</td>
<td>0.94</td>
<td>0.17</td>
<td>0.92</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>SE</td>
<td>0.73</td>
<td>0.89</td>
<td>0.07</td>
<td>0.07</td>
<td>0.86</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SI</td>
<td>0.82</td>
<td>0.93</td>
<td>0.10</td>
<td>0.06</td>
<td>0.06</td>
<td>0.92</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC</td>
<td>0.56</td>
<td>0.82</td>
<td>-0.06</td>
<td>-0.06</td>
<td>-0.06</td>
<td>0.75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RQ</td>
<td>0.54</td>
<td>0.91</td>
<td>0.18</td>
<td>0.86</td>
<td>0.06</td>
<td>0.11</td>
<td>-0.05</td>
<td>0.74</td>
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<td></td>
</tr>
<tr>
<td>RS</td>
<td>0.81</td>
<td>0.93</td>
<td>0.15</td>
<td>0.53</td>
<td>0.02</td>
<td>0.09</td>
<td>-0.09</td>
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</tr>
<tr>
<td>SSIS</td>
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</tr>
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</table>

Notes: CB=brand co-creation; RC=commitment; RS=satisfaction; PC=privacy concerns; RT=trust; SE=emotional support; SI=informational support; SSIS=social commerce information sharing; RQ=relationship quality; SS=social support. (N=207; Cronbach’s alpha on diagonal)