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 s-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 milestoning), 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. Expending 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).

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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 s-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 a*l.'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
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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 R^2s 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
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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

Acquisti, A. (2004). Privacy in electronic commerce and the economics of immediate gratification. in *Proceedings, ACM Electronic Commerce Conference*, New York: ACM Press, 21-29.

Acquisti, A., & Grossklags, J. (2005). Privacy and rationality in individual decision making. *IEEE Security and Privacy*, 3(1), 26-33.

Aljifri, H. A., Pons, A., & Collins, D. (2003). Global e-commerce: A framework for understanding and overcoming the trust barrier. *Information Management and Computer Security*, 11(3), 130-138.

Aral, S., Dellarocas, C., & Godes, D. (2013). Introduction to the special issue-Social media and business transformation: A framework for research. *Information Systems Research*, 24(1), 3-13.

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

Ba, S., & Pavlou, P. A. (2002). Evidence of the effect of trust building technology in electronic markets: Price premiums and buyer behavior. *MIS Quarterly*, 26(3), 243-268.

Bagozzi, R. P., & Dholakia, U. M. (2002). Intentional social action in virtual communities. *Journal of Interactive Marketing*, 16(2), 2-21.

Ballantyne, D., & Aitken, R. (2007). Branding in B2B markets: Insights from the service-dominant logic of marketing. *Journal of Business and Industrial Marketing*, 22(6), 363–371.

Bansal, H. S., & Voyer, P. A. (2000). Word-of-mouth processes within a services purchase decision context. *Journal of Service Research*, 3(2), 166-177.

Bélanger, F., & Crossler, R. E. (2011). Privacy in the digital age: A review of information privacy research in information systems. *MIS Quarterly*, 35(4), 1017-1041.

Bélanger, F., Hiller, J., & Smith, W. J. (2002). Trustworthiness in electronic commerce: The role of privacy, security, and site attributes. *Journal of Strategic Information Systems*, 11(3/4), 245-270.

Bell, J. (2010). *Doing your reserch project*, New York, NY: McGraw-Hill.

Berendt, B., Günther, O., & Spiekermann, S. (2005). Privacy in e-commerce: Stated preferences vs. actual behavior. *Communications of the ACM*, 48(4), 101-106.

Berkman, L.F., Glass, T., Brissette, I., & Seeman, T.E. (2000). From social integration to health: Durkheim in the new millennium. *Social Science & Medicine*, 51(6), 843-857.

Berthon, P., Pitt, L., DesAutels, P. (2011). Unveiling videos: Consumer-generated ads as qualitative inquiry. *Psychology & Marketing*, 28(10), 1044-1060.

Bostrom, R. P., & Heinen, J. S. (1977). MIS problems and failures: a socio-technical perspective, part II: The application of socio-technical theory. *MIS Quarterly*, 1(4), 11-28.

Brewer, M. B., Campbell, D. T., & Crano, W. D. (1970). Testing a single-factor model as an alternative to the misuse of partial correlations in hypothesis-testing research. *Sociometry*, 33(1), 1-11.

Cayla, J., & Arnould, E. J. (2008). A cultural approach to branding in the global marketplace. *Journal of Interactive Marketing*, 16(4), 88-114.

Chen, J., & Dibb, S. (2010). Consumer trust in the online retail context: Exploring the antecedents and consequences. *Psychology & Marketing*, 27(4), 323-346.

Chen, Y., Fay, S., & Wang, Q. (2011). The role of marketing in social media: How online consumer reviews evolve. *Journal of Interactive Marketing*, 25(2), 85-94.

Chin, W. W. (1998). Commentary: Issues and opinion on structural equation modeling. *MIS Quarterly*, 22(1), vii-xvi.

CNBC (2012). As investors fawn over Facebook, poll finds user distrust, apathy. http://www.cnbc.com/id/47413410

Cobb, S. (1976). Social support as a moderator of life stress. *Psychosomatic Medicine*, 38(5), 300-314.

Cohen, S., & Wills, T.A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin,* 98(2), 310.

Cohen, S., Gottlieb, B., & Underwood, L. (2000). Social relationships and health. In: Cohen, S., Underwood, L., Gottlieb, B. (eds). *Measuring and Intervening in Social Support*. New York, NY: Oxford University, 3-25.

Crosby, L. A., Evans, K. R., & Cowles, D. (1990). Relationship quality in services selling: An interpersonal influence perspective. *Journal of Marketing*, 54(3), 68-81.

Day, G. S. (1999). *The market driven organization: Understanding, attracting, and keeping valuable customers*. Simon and Schuster.

de Vries, L., Gensler, S., & Leeflang, P. S. H. (2012). Popularity of brand posts on brand fan pages: An investigation of the effects of social media marketing. *Journal of Interactive Marketing*, 26(2), 83-91.

Dinev, T., & Hart, P. (2006). An extended privacy calculus model for e-commerce transactions. *Information Systems Research,* 17(1), 61-80.

Dwyer, C. (2007). Digital relationships in the "myspace" generation: Results from a qualitative study. In *System Sciences*, 2007.

Flavián, C., & Guinalíu, M. (2006). Consumer trust, perceived security and privacy policy: Three basic elements of loyalty to a web site. *Industrial Management & Data Systems*, 106(5), 601-620.

Fournier, S. (1998). Consumers and their brands: Developing relationship theory in consumer research. *Journal of Consumer Research*, 24(4), 343-373.

Garbarino, E., & Johnson, M. S. (1999). The different roles of satisfaction, trust, and commitment in customer relationships. *Journal of Marketing*, 63(2), 70-87.

Gefen, D. (2002). Reflections on the dimensions of trust and trustworthiness among online consumers. *Database for Advances in Information Systems*, 33(3), 38-53.

Gefen, D., & Straub, D. W. (2004). Consumer trust in B2C e-commerce and the importance of social presence: Experiments in e-products and e-services. *Omega*, 32(6), 407-424.

Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly*, 27(1), 51-90.

Gefen, D., Rigdon, E. E. & Straub, D. (2011). An update and extension to SEM guidelines for administrative and social science research. *MIS Quarterly*, 35(2), iii-xiv.

Gensler, S. Volckner, F., Liu-Thompkins, Y., & Wiertz, C. (2013). Managing brands in the social media environment. *Journal of Interactive Marketing*, 27(4), 242-256.

Gerlitz, C., & Helmond, A. (2013). The like economy: Social buttons and the data-intensive web. *New Media & Society*, 15(8), 1348-1365.

Goel, L., Johnson, N., Junglas, I., & Ives, B. (2013). Predicting users' return to virtual worlds: a social perspective. *Information Systems Journal, 23*(1), 35-63.

Goh, K. Y., Heng, C. S., & Lin, Z. (2013). Social media brand community and consumer behavior: Quantifying the relative impact of user- and marketer-generated content. *Information Systems Research*, 24(1), 88-107.

Gottlieb, B. H., & Bergen, A. E. (2010). Social support concepts and measures. *Journal of Psychosomatic Research*, 69(5), 511-520.

Greene, C. N., & Organ, D. W. (1973). An evaluation of causal models linking the received role with job satisfaction. *Administrative Science Quarterly*, 18(1), 95-103.

Gruzd, A., Wellman, B., & Takhteyev, Y. (2011). Imagining Twitter as an imagined community. *American Behavioral Scientist*, 55(10), 1294-1318.

Gustafsson, A., Johnson, M. D., & Roos, I. (2005). The effects of customer satisfaction, relationship commitment dimensions, and triggers on customer retention. *Journal of Marketing,* 69(4), 210-218.

Hair Jr., J., Black, W., Babin, B. & Anderson, R. (2010). *Multivariate data analysis: with readings* (7th ed.), Upper Saddle River NJ: Pearson.

Hajli, N., Sims, J., Zadeh, A. H., & Richard, M. O. (2017). A social commerce investigation of the role of trust in a social networking site on purchase intentions. *Journal of Business Research*, *71*, 133-14.

Han, B. O. & Windsor, J. (2011). User's willingness to pay on social network sites. *Journal of Computer Information Systems* 51(4), 31-40.

Hatch, M. J., & Schultz, M. (2010). Toward a theory of brand co-creation with implications for brand governance. *Journal of Brand Management*, 17(8), 590-604.

Hatch, M., & Schultz, M. (2009). Of bricks and brands. From corporate to enterprise branding. *Organizational Dynamics*, 38(2), 117-130.

Holt, D. B. (2003). *Brands and branding*, Boston, MA: Harvard.

House, J. S. (1981). *Work stress and social support*, Reading, MA: Addison-Wesley.

Huang, Z., & Benyoucef, M. 2013. From e-commerce to social commerce: A close look at design features. *Electronic Commerce Research and Applications,* 12(4), 246-259.

Iglesias, O., Ind, N., & Alfaro, M. (2013). The organic view of the brand: A brand value co-creation model. *Journal of Brand Management*, 20(8), 670-688.

Internet Retailer (2015). 2015 Social Media 500 Digital Report. https://www.internetretailer.com/shop/2015-social-media-500-report.html.

JWT. (2011). *Social commerce*, New York: JWTIntelligence.

Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of social media. *Business Horizons,* 53(1), 59-68.

Kim, D. J., Ferrin, D. L., & Raghav, R. H. (2008). A trust-based consumer decision-making model in electronic commerce: The role of trust, perceived risk, and their antecedents. *Decision Support Systems*, 44, 544-564.

Kim, S., & Park, H. 2013. Effects of various characteristics of social commerce (s-commerce) on consumers' trust and trust performance. *International Journal of Information Management,* 33(2), 318-332.

Kline, R. B. (2010). *Principles and practice of structural equation modeling*, New York: Guilford.

Krause, N. (1986). Social support, stress, and well-being. *Journal of Gerontology,* 41(4), 512-519.

Lakey, B., & Cohen, S. (2000). Social support theory and measurement. In*: Measuring and Intervening in Social Support*, S. Cohen, L. Underwood, & B. Gottlieb (eds.), New York: Oxford.

Langford, C. P. H., Bowsher, J., Maloney, J. P., & Lillis, P. P. (1997). Social support: A conceptual analysis. *Journal of Advanced Nursing,* 25(1), 95-100.

Laroche, M., Habibi, M. R., Richard, M. O., & Sankaranarayanan, R. (2012). The effects of social media based brand communities on brand community marker, value creation practice, brand trust and brand loyalty. *Computers in Human Behavio*r, 28(5), 1755-1767.

Li, C., & Bernoff, J. (2008).*Why the groundswell and why now? Social technologies are here to stay*, Boston, MA: Harvard.

Liang, T. P. & Turban, E. (2011). Introduction to the special issue social commerce: A research framework for social commerce. *International Journal of Electronic Commerce,* 16(2), 5-14.

Liang, T., Ho, Y., Li, Y., & Turban, E. (2011). What drives social commerce: The role of social support and relationship quality. *International Journal of Electronic Commerce*, 16(2), 69-90.

Lu, Y., Zhao, L., & Wang, B.(2010). From virtual community members to C2C e-commerce buyers: Trust in virtual communities and its effect on consumers' purchase intention. *Electronic Commerce Research and Applications,* 9(4), 346-360.

Madhavaram, S. & Appan, R. (2010), Potential implications of web-based marketing communications for consumers implicit and explicit brand attitudes: A call for research. *Psychology and Marketing,* 27(2), 186-202.

Malhotra, N. K., Kim, S. S., & Agarwal, J. (2004). Internet users' information privacy concerns (IUIPC): The construct, the scale, and a causal model. *Information Systems Research,* 15(4), 336-355.

Merz, M. A., He, Y., & Vargo, S. L. (2009). The evolving brand logic: a service-dominant logic perspective. *Journal of the Academy of Marketing Science*, 37(3), 328-344.

Moorman, C., Deshpande, R., & Zaltman, G. (1993). Factors affecting trust in market relationships. *Journal of Marketing* (57:1), 81-101.

Morgan, R. M., & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing,* 58(3), 20-38.

Muniz, A. M., Jr., Albert, M., & Schau, H. J. (2005). Religiosity in the abandoned Apple Newton brand community. *Journal of Consumer Research*, 31(4), 737–747.

Mutz, D. C. (2005). Social trust and e-commerce: Experimental evidence for the effects of social trust on individuals' economic behavior. *Public Opinion Quarterly,* 69(3), 393-416.

Naylor, R. W., Lamberton, C. P., & West, P. M. (2012). Beyond the "Like" button: The impact of mere virtual presence on brand evaluations and purchase intentions in social media settings. *Journal of Marketing* (76:6), 105-120.

Ng, C. S. P. (2013). Intention to Purchase on Social Commerce Websites across Cultures: A Cross-Regional Study.

Information & Management (50:8), 609-620.

Nunnally, J. C. & Bernstein, I. H. (1994). *Psychometric theory*, New York, NY: McGraw-Hill.

Palmatier, R. W., Dant, R. P. Grewal, D., & Evans, K. R. 2006. Factors influencing the effectiveness of relationship marketing: A meta-analysis. *Journal of Marketing*, 70(4), 136-153.

Park, D. H., Lee, J., & Han, I. (2007). The Effect of On-Line Consumer Reviews on Consumer Purchasing Intention: The Moderating Role of Involvement. *International Journal of Electronic Commerce*, 11(4), 125-148.

Pavlou, P. A. (2003). Consumer acceptance of electronic commerce: Integrating trust and risk with the technology acceptance model. *International Journal of Electronic Commerce*, 7(3), 101-134.

Pavlou, P. A., Liang, H., & Xue, Y. (2007). Understanding and mitigating uncertainty in online environments: a principal-agent perspective. *MIS Quarterly*, 31(1), 105-136.

Pelaez, A., Yu, M. Y., & Lang, K. R. (2013). Social buying: The effects of group size and communication on buyer performance. *International Journal of Electronic Commerce*, 18(2), 127-.

Pentina, I., Gammoh, B. S., Zhang, L., & Mallin, M. (2013). Drivers and Outcomes of Brand Relationship Quality in the Context of Online Social Networks. *International Journal of Electronic Commerce*, 17(3), 63-86.

Pfeil, U. (2009). *Online support communities*. Chapman & Hall

Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, 12(4), 531-544.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879-903.

Pongsakornrungsilp, S., & Schroeder, J. E. (2011). Understanding value co-creation in a co-consuming brand community. *Marketing Theory*, 11(3), 303-324.

Prahalad, C. K., & Ramaswamy, V. (2004). Co-creation Experiences: The next practice in value creation. *Journal of Interactive Marketing,* 18(3), 5-14.

Ramaswamy, V., & Ozcan, K. (2015). Brand value co-creation in a digitalized world: An integrative framework and research implications. *International Journal of Research in Marketing*.

Ridings, C. M., & Gefen, D. 2004. Virtual community attraction: Why people hang out online. *Journal of Computer-Mediated Communication*, 10(1).

Ringle, C. M., Wende, S., & Will, A. (2005). *Smart PLS*, Hamburg, Germany: University of Hamburg.

Roberts, D., Hughes, M., & Kertbo, K. (2014). Exploring consumers' motivations to engage in innovation through co-creation activities. *European Journal of Marketing*, 48(1/2), 147-169.

Saenger, C., Thomas, V. L., & Johnson, J. W. 2013. Consumption-focused self-expression word of mouth: A new scale and its role in consumer research. *Psychology & Marketing*, 30(11), 959-970.

Schau, H. J., Muñiz Jr, A. M., & Arnould, E. J. (2009). How brand community practices create value. *Journal of Marketing*, 73(5), 30-51.

Schmitt, B. H. (2003). *Customer experience management*, New York: John Wiley.

Scissons, M., Kalehoff, M., & Laufer, R. (2013). *The value of a Facebook fan 2013: Revisiting consumer brand*

currency in social media, New York: Syncopse.com.

Sharma, S., & Crossler, R. E. (2014). Disclosing too much? Situational factors affecting information disclosure in social commerce environment. *Electronic Commerce Research and A*pplications, 13(5), 305-319.

Sheth, J. N., Sisodia, R. S., & Sharma, A. (2000). The antecedents and consequences of customer-centric marketing. *Journal of the Academy of Marketing Science*, 28(1), 55-66.

Shin, D. H. (2010). The effect of trust, security and privacy in social networking: A security-based approach to understand the pattern of adoption. *Interacting with Computers,* 22(5), 428-438.

Shin, D. H. (2013). User Experience in Social Commerce: in Friends We trust. *Behavior and information technology*, 32(1), 52-67.

Smith H. J., Dinev, T., & Xu, H. (2011). Information privacy research: An interdisciplinary review. *MIS Quarterly*, 35(4), 989-1015.

Stephen, A. T., & Toubia, O. (2010). Deriving value from social commerce networks. *Journal of Marketing Research*, 47(2), 215-228.

Stewart, K. A., Segars, A. H. (2002). An empirical examination of the concern for information privacy instrument. *Information Systems Research,* 13(1), 36-49.

Subramaniam, N., Nandhakumar, J., & Baptista, J. (2013). Exploring social network interactions in enterprise systems: The role of virtual co-presence. *Information Systems Journal*, 23(6), 475-499.

Swaminathan, V., Page, K. L., & Gürhan-Canli, Z. (2007). 'My' brand or 'our' brand: The effects of brand relationship dimensions and self-construal on brand evaluations. *Journal of Consumer Research*, 34(2), 248-259.

Taylor, S. E., Sherman, D. K., Kim, H. S., Jarcho, J., Takagi, K., & Dunagan, M. S. (2004). Culture and social support: who seeks it and why? *Journal of Personality and Social Psychology*, 87(3), 354-362.

Thorsten, H. T., Gwinner, K. P., & Gremler, D. D. (2002). Understanding relationship marketing outcomes: An integration of relational benefits and relationship quality. *Journal of Service Research*, 4(3), 230-247.

Vargo, S. & Lusch, R. F. (2004). Evolving to a new dominant logic for marketing. *Journal of Marketing*, 68(1), 1-17.

Vijayasarathy, L. R. (2004). Predicting consumer intentions to use online shopping: The case for an augmented technology acceptance model. *Information & Management,* 41(6) 747-762.

Wang, Y. D., & Emurian, H. H. (2005). An overview of online trust: Concepts, elements, and implications. *Computers in Human Behavior,* 21(1), 105-125.

Wang, Y., & Yu, C. (2017). Social interaction-based consumer decision-making model in social commerce: The role of word of mouth and observational learning. *International Journal of Information Management*, 37(3), 179-189

Yadav, M. S., & Pavlou, P. A. (2014). Marketing in computer-mediated environments: Research synthesis and new directions. *Journal of Marketing*, 78(1), 20-40.

Yadav, M. S., de Valck, K., Hennig-Thurau, T. Hoffman, D. L., & Spann, M. (2013). Social commerce: A contingency framework for assessing marketing potential. *Journal of Interactive Marketing*, 27(4), 311-323.

Yoon, D., Choi, S. M., & Sohn, D. (2008). Building customer relationships in an electronic age: The role of interactivity of e-commerce web sites. *Psychology & Marketing*, 25(7), 602-618.

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.

Zhou, L., Zhang, P., & Zimmermann, H. D. (2013). Social commerce research: An integrated view. *Electronic Commerce Research and Applications*, 12(2), 61-68.
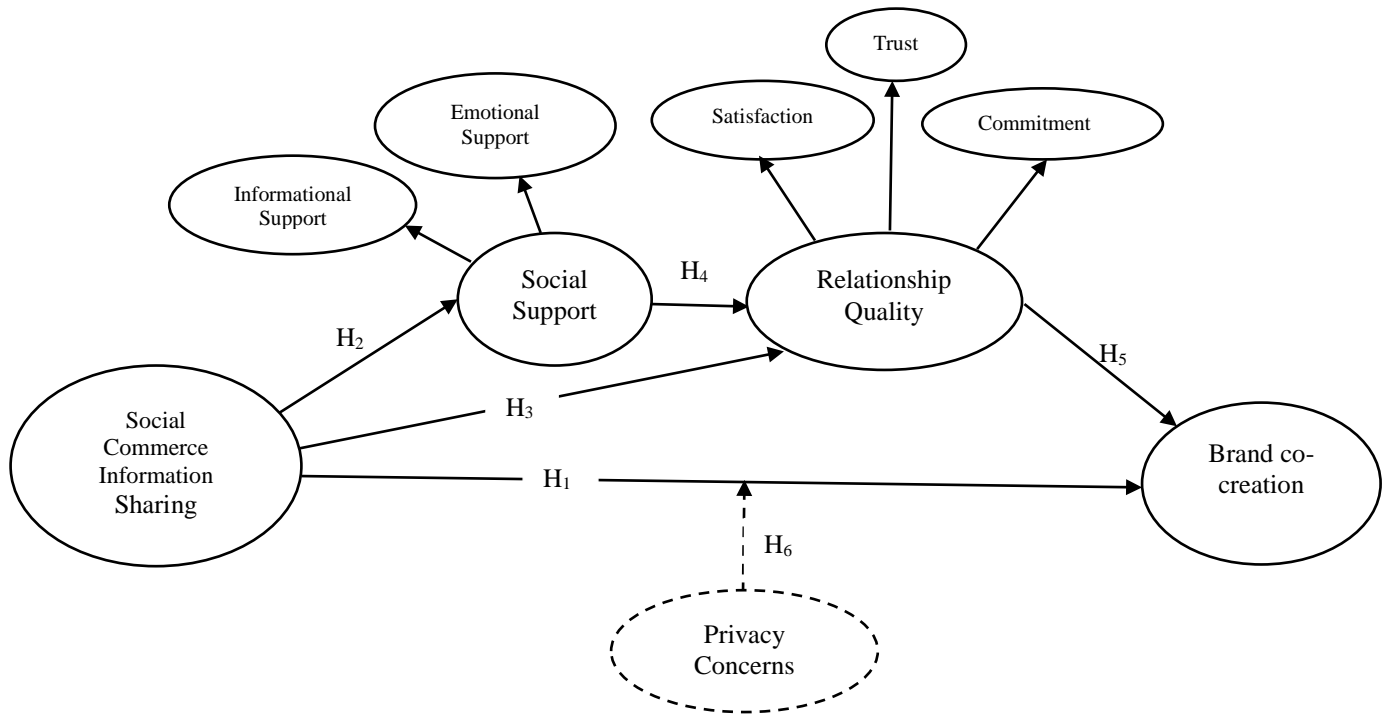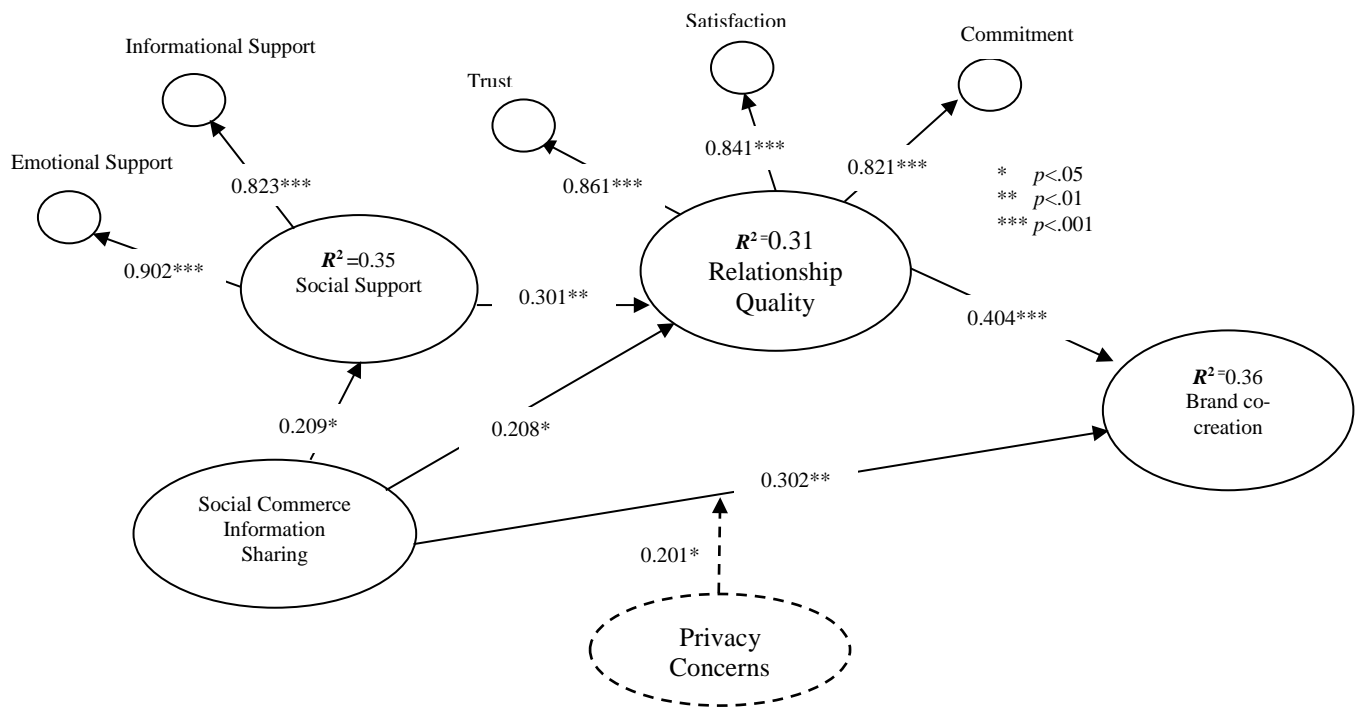
Figure 1. Theoretical model

Figure 2. Results of the PLS analysis

Table 1. Breakdown of respondents

Demographic	Range	Frequency	Percentage (%)
Age	20-29	85	41.1%
	30-39	60	29.0%
	40-49	30	14.5%
	50-59	20	9.7%
	Over 60	5	2.4%
	Missing value	7	3.3%
Gender	Male	108	52.2%
	Female	96	46.4%
	Missing value	3	1.4%
Education level	Post-graduate level degree	10	4.9%
	Bachelor degree	177	85.4%
	Enrolled in college or with a high school degree	20	9.7%
Online shopping frequency last year	0-5	20	9.7%
	6-10	76	36.7%
	11-15	79	38.2%
	16-20	21	10.1%
	More than 20	11	5.3%
Spending on online shopping in the last three months	0-50	74	35.7%
	51-100	68	32.9%
	101-150	34	16.4%
	151-200	22	10.6%
	More than 200	9	4.4%
Social network platforms	Facebook	120	58.0%
	Twitter	67	32.4%
	Pinterest	20	9.6%
Total Responses		207	100.0%

Table 2. Constructs and items with factor loadings

Codes	Scales	Factor Loading
Social support (Adapted from Liang *et al*, 2011)		
	Emotional support	
SE1	When faced with difficulties, some people on my favorite social networking site are on my side with me.	0.84
SE2	When faced with difficulties, some people on my favorite social networking site comforted and encouraged me.	0.86
SE3	When faced with difficulties, some people on my favorite social networking site listened to me talk about my private feelings.	0.89
SE4	When faced with difficulties, some people on my favorite social networking site expressed interest and concern in my well-being.	0.87
	Informational support	
SI1	On my favorite social networking site, some people would offer suggestions when I needed help.	0.87
SI2	When I encountered a problem, some people on my favorite social networking site would give me information to help me overcome the problem.	0.95
SI3	When faced with difficulties, some people on my favorite social networking site would help me discover the cause and provide me with suggestions.	0.91
Relationship quality (Adapted from Liang *et al*, 2011)		
	Commitment	
RC1	I am proud to belong to the membership of my favorite social networking site.	0.91
RC2	I feel a sense of belonging to my favorite social networking site.	0.93
RC3	I care about the long-term success of my favorite social networking site.	0.89
	Satisfaction	
RS1	I am satisfied with using my favorite social networking site.	0.89
RS2	I am pleased with using my favorite social networking site.	0.88
RS3	I am happy with my favorite social networking site.	0.93
	Trust	
RT1	The performance of my favorite social networking site always meets my expectations.	0.80
RT2	My favorite social networking site can be counted on as a good social networking site.	0.89
RT3	My favorite social networking site is a reliable social networking site.	0.89
Brand co-creation (Developed from Schau *et al*, 2009; Ramaswamy & Ozcan, 2015)		
CB1	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.	0.94
CB2	I am willing to buy the products of a brand recommended by my friends on my favorite social networking site.	0.94
CB3	I will consider the shopping experiences of my friends on my favorite social networking site when I want to buy a brand.	0.85
Social commerce information sharing (Sources: Liang *et al*, 2011; Hajli *et al*, 2017)		
SCIS1	I will ask my friends on forums and communities to provide me with their suggestions before I go shopping for a brand.	0.73
SCIS2	I am willing to recommend a product or a brand that is worth buying for my friends on my favorite social networking site.	0.81
SCIS3	I am willing to share my own shopping experience of a brand with my friends on forums and communities or through ratings and reviews.	0.93
SCIS4	I would like to use people's online recommendations and reviews to buy a product from a brand.	0.83
Privacy concerns (Stewart & Segars, 2002; Malhotra *et al*, 2004)		

PC1	It usually bothers me when my favorite social networking site asks me for personal information.	0.74
PC2	When my favorite social networking site asks me for personal information, I sometimes think twice before providing it.	0.85
PC3	It bothers me to give personal information to so many people.	0.86
PC4	I am concerned that my favorite social networking site is collecting too much personal information about me.	0.82

Table 3. Quality criteria and square of correlation between latent variables

	AVE	Composite reliability	CB	RC	SE	SI	PC	RQ	RS	SSIS	SS	RT
CB	0.83	0.94	0.92									
RC	0.83	0.94	0.17	0.92								
SE	0.73	0.89	0.07	0.07	0.86							
SI	0.82	0.93	0.10	0.06	0.06	0.92						
PC	0.56	0.82	-0.06	-0.00	-0.06	-0.06	0.75					
RQ	0.54	0.91	0.18	0.86	0.06	0.11	-0.05	0.74				
RS	0.81	0.93	0.15	0.53	0.02	0.09	-0.09	0.81	0.89			
SSIS	0.57	0.78	0.03	0.10	0.08	0.10	0.10	0.14	0.12	0.76		
SS	0.56	0.80	0.12	0.08	0.53	0.88	-0.08	0.12	0.08	0.12	0.75	
RT	0.74	0.90	0.19	0.56	0.06	0.13	-0.03	0.81	0.48	0.12	0.14	0.87

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