Biases in Social Commerce Users' Rational Risk Considerations

Research-in-Progress

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Abstract

Social commerce has emerged as a new commercial platform which uses social media features in addition to conventional commerce facilities to enhance users' shopping experience. It thus adds a social context to the conventional online commerce platforms. Nonetheless, the effect of these social facets on social commerce users' behaviors is not fully studied. Furthermore, current social commerce literature mainly focused on factors that drive social commerce acceptance; however, there are negative factors which may demotivate or deter the social commerce use. In this study, we suggest potential risks that may hinder users' engagement in the social commerce platforms. Moreover, drawing upon the "risky/choice shift" logic, habit literature, and information cascade theory, we propose that social identification, habitual use, and herding behavior can skew the way social commerce users consider and weight risks in their purchasing and participation decisions.

Keywords: Social commerce, perceived risk, social identity, habit, herding behavior, rational decision making

Introduction

Social commerce integrates social media with traditional commerce facilities in order to enhance users' social interactions and information contributions (Wang and Zhang 2012). Recently, the extensive use and popularity of social networking sites have provoked the growth of social commerce (Anderson et al. 2011); moreover, online customers prefer to have interactions with other customers, discuss about products/services, seek recommendations from others and enjoy having social activities with their friends. As a result many social commerce websites have emerged (e.g. etsy.com, Pinterest, Facebook/Instagram fan pages, etc.). It is expected that the growth of social commerce popularity will continue and its global revenue will grow to $80 billion US dollars by 2020 (HnyB Insights 2012).

Given the abovementioned increase in social commerce market potential, motivations to use social commerce platforms have been the focus of recent literature. For instance, social support, social presence and trust have been shown to propel the social commerce use (e.g. Ng 2013; Shin 2013; Zhang et al. 2014).

Nonetheless, in addition to these factors which encourage users to engage in social commerce activities, there might be negative factors which can demotivate individuals to use social commerce. In the current social commerce literature, the role of these negative facets has been largely neglected. However, negative factors can play an instrumental role in deterring the use of online platforms (Cenfetelli and Schwarz 2011; Featherman and Pavlou 2003; Lim 2003). Thus, to fill this gap, this study focuses on users' risk perceptions as the negative facet and examines their influence on deterring social commerce use. We focus on consumers' risk perceptions which may demotivate them from using social commerce. Perceived risk has been considered as a significant deterrent of approach-oriented behaviors (Tversky and Kahneman 1992). Accordingly, perceived risk has been studied as an important barrier for online shopping (Verhagen et al. 2006), and social interactions (Cooper and Rege 2011; Doolin et al. 2005). Since social commerce users' behaviors (purchasing and participating in forum's activities) can present some risks (such as social loss risk, privacy violations, and financial/product risk); we suggest that these potential risks may hinder the use of social commerce.

Social commerce platforms include a broader social context in compare to traditional commercial websites. Hence, the effects of risk factors might be influenced by social facets. While several studies have suggested the importance of context in studying individuals' behaviors (Johns 2006), e-commerce literature has been mostly silent regarding this issue; specifically in the social commerce studies, the influence of social aspect on users' behaviors has been overlooked. Thus, to ameliorate this gap, we rely on social identity theory (Hogg 1996), habit literature, and information cascade theory (Bikhchandani et al. 1992) to suggest potential influences of social aspects on users' behaviors. Specifically, we focus on the role of social identity, habit, and herd behavior in social commerce users' behavioral decisions.

What makes social identity relevant to this study is the notion of "risky/choice shift" which contends that being a member of a group and having a high level of social identification, can motivate conducting risky behaviors (Kogan and Wallach 1967; Wallach and Kogan 1965). Following this notion, we suggest that social identification affects users' considerations of risk factors in making behavioral choices. Since social commerce has reliance on social media features, it may be also prone to habit formation like social media sites (Pempek et al. 2009; Turel and Serenko 2012). Habit literature has demonstrated that when a behavior becomes habit, individuals perform it without thinking (Ji and Wood 2007). Hence, we argue that when using a social commerce website becomes habitual, the attention users give to rational considerations, such as potential risks, may be reduced. According to the information cascade theory, people tend to follow the behaviors of others and make similar decisions. Since social commerce provides a platform for users to exchange ideas, recommendations, and experiences; it is probable that individuals' decisions become influenced by other users (Cheung et al. 2014). Hence, we argue that herd behavior (imitating others) would influence social commerce users' risk considerations in making decisions.

The main focuses of this study are: **1:** Understanding the role of users' perceived risk in reducing use intentions (i.e. purchase from the social commerce website and participate in social commerce discussions). **2:** Examining how users' risk -based decision making process may be distorted by possible biasing factors which exist in social commerce context (i.e. social identity, habit, and herding behavior).

Users Behavior in Social Commerce:

Social commerce is a form of electronic commerce which utilizes social media features in addition to the traditional facilities in order to enhance and support users' commercial activities (Wang and Zhang 2012). Social commerce integrates user-generated contents to enable users to have social interactions with each other and participate in websites activities before and after conduction commercial transactions. Facilitating users' interactions help businesses to better cater to their customers' needs, listen to their feedback, and modify the performance as needed. There are two types of social commerce; the first type includes direct purchasing (e.g. Groupon, Etsy, etc.); however, the second category does not support direct shopping and it is more focused on marketing and advertising products and services (e.g. fan pages of Facebook and Instagram) (Ng 2013). Social commerce users can have two different behaviors; participating in social activities of the website (such as writing comments, publishing posts, etc.) (Kaplan & Haenlein, 2010); and purchasing products/services offered by the website.

In this study, we study users' intentions to engage in these two behaviors. Intention to participate reflects users' willingness to participate in the social activities of the website(Liang et al. 2011). In the social

commerce participating can include different activities such as following other members, liking posts, writing comments, and so on. To study participation intention, we focus on writing comments/reviews; because this activity is the most prevalent and also it is important for both service providers and other users as it has a strong effect on members' behaviors (Charlton 2015). According to a recent report, 83 percent of users are willing to share their experiences on social media and also 67 percent of them make decisions based on others' recommendations (Marsden 2009).

Current social commerce literature has conceptualized users' intention to use social commerce as a rational behavior. Following this view, users perceptions regarding potential benefits (hedonic and utilitarian), as well as their attitudes toward social commerce were considered as predictors of social commerce use. For instance, it has been shown that social support, social presence, and flow experience (Zhang et al. 2014) as well as relationship quality (Liang et al. 2011) predict social commerce use intentions. In this study, we extend the current literature in two ways. First, in addition to studying drivers of social commerce use, we also consider deterrence factors in our model (perceived risk). Second, we propose that there are factors which can bias the way social commerce users' interpret and weight risk perceptions; thus, they may not rationally make risk-based decisions. We consider three potential biases: social identification, habit, and imitation (herding behavior). We argue that users' decisions regarding purchasing and participation may be skewed by these three factors. Our study also follows recent call in IS research which encourages to shift away from fully rationale-based models (Dinev et al. 2015; De Guinea and Markus 2009), as users and online consumers may not always behave rationally.

Theoretical Background and Research Model

Figure 1 shows our research model. As indicated, we consider potential factors which exist in the social commerce context and can bias users' risk-based decision making process. Specifically, we focus on three factors; social identity, habit, and imitation (herding behavior); which may skew users' rational risk considerations.

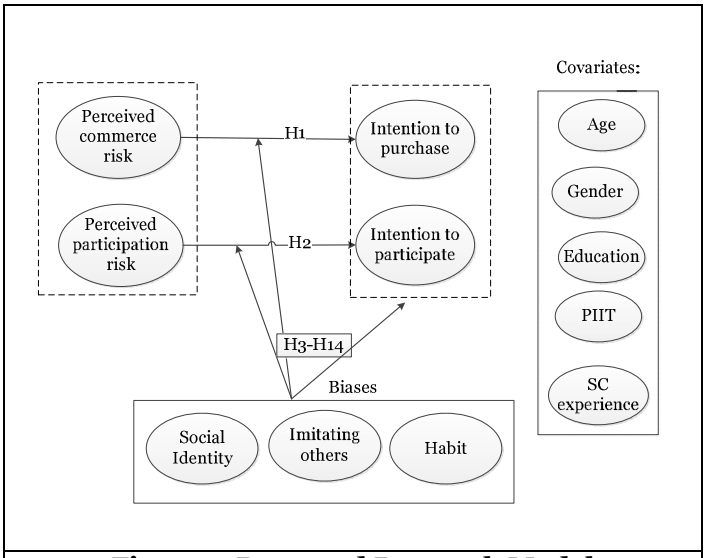

Figure 1. Proposed Research Model

Risk:

Perceived risk refers to the feelings of uncertainty regarding the potential negative consequences of using a product/service. In the literature, risk has been considered as a multifaceted concept, as it can be applied to different aspects of behavior. Therefore, several risk facets have been pointed in previous studies. For instance, financial risk, performance risk, physical risk, psychological risk, social risk, time risk, and opportunity cost risk have been identified (Jacoby and Kaplan 1972). According to the literature,

two primary categories of risks regarding online shopping behavior are product risk and financial risk (e.g., Kim et al., 2008; Grazioli & Jarvenpaa, 2000). These two risk facets usually have been aggregated into one assessment called "commerce risk". Commerce risk reflects uncertainties regarding purchased products or services and users' concerns regarding potential financial losses (Bhatnagar et al. 2000; Jarvenpaa et al. 1999; Park et al. 2005). In the social commerce, commercial side represents one risky element; the other side which is social community also involves some risks. In the social environments, privacy risk and social risk have been identified as two primary categories of risks (Featherman and Pavlou 2003). Privacy risk refers to users' loss of control over their personal information. In the social commerce, loss of information may occur during participating activities. For instance, when they write comments on forum's posts; their profile page which includes their information can be disclosed. This might result in violation of privacy. The other type of risk relevant to social activities is social risk. Perceived social risk reflects users' fear of losing their social status in their community (Featherman and Pavlou 2003). These two risks create an overall "participation risk" which is defined as users' uncertainty regarding the potential negative outcomes of participating (e.g. writing comments) in the social commerce website (Featherman and Pavlou 2003; Liang et al. 2011).

Perceived risk has been extensively studied to explain individuals' behaviors and intentions. Risk plays a key role in influencing people's thoughts and behaviors (Gefen et al. 2008). Due to the uncertainties that exit in online environments, risk has become an inevitable element. It has been well established that perceived risk reduces intentions to use a website (Shimp and Bearden 1982; White and Truly 1989). We also expect the same relationship here and we propose that:

H1*: Perceived commerce risk would reduce users' intention to purchase on the social commerce website.*

H2*: Perceived participation risk would reduce one's intention to participate in social commerce forums.*

Social identity:

Social identity reflects the psychological state which describes users as belonging to the collective rather than being separate individuals. The formation of this phenomenon is explained through the social identity theory (Abrams & Hogg, 1988; Tajfel & Turner, 1979). Social identity theory differentiates relationships within groups from interpersonal phenomena. Social identity is considered as an important factor in group interactions; because it explains how group affiliation affects individuals' choices. Because of the relevance of social identity for online communities, several studies have focused on examining the influence of social identification on users' behaviors. For instance, Gefen & Ridings (2003) studied the effects of social identity on IT acceptance among members of an organization. Their results showed that social identity increases members' acceptance of IT. Moreover, in virtual communities, social identity has been found to play a significant role in increasing members' intentions to contribute to forums' discussions (Tsai and Bagozzi 2014). Such studies demonstrate the importance of social identity in influencing people's behaviors in social settings; nevertheless, the role of social identity in social commerce platforms and its potential biasing effect on risk weighing process are still largely unexplored.

Social identity is considered as a multifaceted concept which includes three aspects of identification: cognitive, affective, and evaluative (Ellemers et al. 1999). Cognitive social identity reflects the categorization processes between in group and out group, in which individuals become aware of their membership, the similarities that exist between members, and dissimilarities that they have with individuals who are non-members (Dholakia et al. 2004). Affective social identity refers to members' "identification with, involvement in, and emotional attachment to" their social community (Allen & Meyer, 1996, p. 253). Evaluative social identity reflects users' perceptions of being an important member of their group (Dholakia et al. 2004).

Social commerce creates a sense of community and each user has the feeling of being affiliated with other members. Thus, social commerce can be considered as a suitable context for developing social identity and allowing the social identity to affect its users' behaviors. Consistent with previous studies, we argue that when social commerce users have high social identity, they will be more willing to purchase and participate in the social commerce activities (i.e. write comments on posts):

H3: *social identity would increase users' intentions to purchase on the social commerce website.*

H4*: social identity would increase users' intentions to participate in social commerce forums.*

One concept which can explain how social identification may influence social commerce users' behaviors is "Risky/choice shift" phenomenon (Kogan and Wallach 1967; Wallach and Kogan 1965). This concept indicates that individuals are more willing to engage in risky behaviors when they are in groups. It means that when individuals consider themselves as part of a group with which they strongly attach (i.e., their social identity is high), although they will understand the potential risks, but will tend to overlook or downplay their effects. The reason is that group members feel that they are sheltered by their group and other members, so it would be easier for them to deal with negative consequences. Furthermore, studies have shown that being a member of a group and having social interactions will increase member's risk-taking dispositions (Cartwright 1973; Wallach and Kogan 1965; Zhu et al. 2012). Hence, when there is a strong group affiliation, people are more willing to accept potential risks and even ignore risks, since they tend to believe that they are protected by their group. We suggest that in a social commerce community, users who feel stronger attachment and belongingness to their community, perceive to have more similarities with other members, and evaluate themselves as an important member of the group, will be more likely to neglect the risks and would be more willing to engage and use the website, regardless of their assessed levels of risks; hence, we have following hypotheses:

H5: *Social identity will moderate the relationship between perceived commerce risk and intention to purchase, such that the negative relationship will be weaker when social identity is high.*

H6: *Social identity will moderate the relationship between perceived participation risk and intention to participate such that the negative relationship will be weaker when social identity is high.*

Habit:

Habit is defined as "learned sequences of acts that have become automatic responses to specific cues, and are functional in obtaining certain goals or end-states" (Verplanken and Aarts 1999, p. 104). Habitual behavior refers to an automatic behavior caused by environmental stimulus which usually is not cognitively evaluated (Aarts et al. 1998). Therefore, when people conduct a behavior act out of habit; they might not fully understand the reason of doing the behavior and do not rationally evaluate the consequences (Ouellette and Wood 1998). Habit has been extensively studied in different disciplines such as social psychology, health sciences, consumer behavior, and organizational behavior (e.g. Bargh 2002; Louis and Sutton 1991; Thorngate 1976; Verplanken et al. 1997). In the IS context, habit is defined as the "extent to which people tend to perform behaviors (use IS) automatically because of learning" (Limayem et al. 2007, p. 709).

Habit literature mostly studied three different aspects of habit: the effect of habit on relationships between intentions and use (moderation); the direct effect of habit on intention to use; and the direct influence of habit on actual use. IS use habit has been found to moderate the relationship between intentions and actual IS use; which means that when habit is low, intentions can be considered as important predictors of use; however, when strong habit develops, continue usage decisions will become less goal-oriented and less dependent on intentions (Limayem and Cheung 2011).

Pleasure gratification can strengthen habit development (LaRose 2010). The main reason is that human memory can be influenced by emotions and feelings such as enjoyment; because these positive feelings stimulate cognitive and neural mechanisms which in turn would enhance humans' memory (Hamann 2001). Social media is considered as a platform which provokes thrills and can fill social voids in its members' lives (Echeburúa and de Corral 2009; Pempek et al. 2009). Since social commerce websites rely on social media features; using social commerce is probable to become habit for its users. The direct influence of habit on intentions has been established in previous studies; therefore, we also expect the same association in our study and we hypothesize that:

H7: *Habit would increase users' intentions to purchase on the social commerce website.*

H8*: Habit would increase users' intentions to participate in social commerce forums.*

It has been demonstrated that there are two alternative determinants for behaviors: deliberate cognitive processing (considering intentions and beliefs) or automatic processing (through habit) (Petty and Cacioppo 1996; Ronis, David L. et al. 1989). Therefore, once a behavior becomes habit, it is performed automatically without a conscious decision (Ouellette and Wood 1998), and the intention to conduct that behavior is an automated decision which is not considered through a cognitive evaluation (Aarts et al.

1998). Thus, relying on these findings, we extend the role of habit and propose that the automaticity of habit weakens the consideration of cognitive factors leading to intentions. In other words, when using a social commerce website becomes a habit, individuals will be more likely to overlook the role of perceived risk in their purchasing and participating decisions. Hence, we contend that:

H9: *Habit will moderate the relationship between perceived commerce risk and intention to purchase, such that the negative relationship will be weaker when habit is high.*

H10: *Habit will moderate the relationship between perceived participation risk and intention to participate, such that the negative relationship will be weaker when habit is high.*

Herding Behavior:

Herding behavior has been observed in various situations; such as opening bank accounts (Chang et al. 1997), downloading new software (Duan et al. 2009; Walden and Browne 2009), or writing reviews (Cheung et al. 2014). The most prominent theory of herd behavior is called "information cascade theory" (Banerjee 1992; Bikhchandani et al. 1992). According to this theory, information cascade occurs when individuals follow the behavior of others and make similar decisions independent from their own information (Bikhchandani et al. 1998). Since uncertainty is an inevitable element of the online environment and there are various products/services offered online for shopping; herd behavior is very likely to occur in these platforms (Jones et al. 2004). Since social commerce users share their opinions, recommendations, and experiences with each other; it is reasonable to assume that individual's choices become influenced by other members.

In order to reflect social commerce users' herd behavior, we study imitating others construct from two perspectives: imitating others in purchasing and imitating other in participation. Imitating others in purchasing is defined as following other members' choices in purchasing and making similar purchasing decisions (Shen et al. 2014). It has been demonstrated that in social communities and online forums, individuals prefer to write comments on posts which have larger number of reviews, and these kind of posts encourage other users to join the conversation (Wang et al. 2015). We define imitating others in participation as following other members in writing comments and joining discussions. It has been shown that imitating others would enhance one's intention to use a technology/service (Cheung et al. 2014; Sun 2013); hence, we contend that:

H7: *Imitating others in purchasing would increase users' intention to purchase on the social commerce website.*

H8*: Imitating others in participation would increase one's intention to participate in social commerce forums.*

When herding behavior occurs, individuals would abandon their own beliefs and they may neglect their own private information (Sun 2013). Hence, we suggest that when users imitate others' choices, they would be more likely to overlook their risk perceptions in making decisions. Therefore, we hypothesize that:

H9*: Imitating others in purchasing will moderate the relationship between perceived commerce risk and intention to purchase, such that the negative relationship will be weaker when imitating others is high.*

H10: *Imitating others in participation will moderate the relationship between perceived participation risk and intention to participate, such that the negative relationship will be weaker when imitating others is high.*

Methodology:

In our study, the unit of analysis would be individual social commerce users. First our study will be commenced with a pilot study to check the reliability and validity of adapted measurement scales. The pilot study will be conducted with a sample of 50 graduate students who have used social commerce for purchasing and participation. Then we will collect the final data using an online survey distributed to etsy.com users. Etsy.com is one of the most popular social commerce websites which has 21.7 M active users. Users of this website can have different social activities; they can create a profile, follow other members, write comments, and become members in different groups, and so on. We will target active

users who have purchased and participated in discussions of the websites in the past two months. Ethics approval for pilot and main study will be secured prior to any data collection. The collected data will be then analyzed with SmartPLS 3.2 (Ringle et al., 2015).

Measurement:

We adapted the measurement items from well-established scales. Table 1 shows these items. We will measure all the items on a 7-point Likert scale. We will consider participation risk as a second order formative construct which is the weighted sum of privacy risk and social risk. It is a reasonable operationalization, since the two dimensions do not need to covary and they can be considered as adding up to the participation risk rather than being caused by it[1] (Petter et al. 2007). All other constructs will be considered as reflective, which is consistent with their prior research operationalization.

Table 1. Measurement Items

Constructs	Items	Developed from
Perceived Commerce Risk (PCR)	Purchasing from this social commerce website would involve more product risk (e.g., not working, defective product) compared with other ways of shopping. By purchasing from this social commerce website, there is a chance I will lose my money. Purchasing from this social commerce website poses a risk that I will not be satisfied with product, service or delivery.	(Jarvenpaa et al. 1999; Kim et al. 2008)
Perceived Privacy Risk (PPR)	By writing comments in this social commerce website, my personal information from the online profile might be collected and used for other purposes. By giving my information to this social commerce website, I increase my exposure to privacy violation risks. By posting my name on this social commerce website, I increase the chances of misuse of my private information.	(Featherman and Pavlou 2003)
Perceived Social Risk(PSR)	What are the chances that writing comments in this social commerce website will negatively affect the way others think of you? Writing comments in this social commerce website would lead to a social loss for me because other members would think less highly of me. Please rate the likelihood that writing comments in this social commerce website would affect unfavorable how others view you?	(Featherman and Pavlou 2003; Gupta et al. 2004)
Intention to Participate (IPA)	I am willing to write comments on this social commerce websites. I am willing to share my experiences/opinions on this social commerce website. I intend to provide my recommendations/opinions to other members of this social commerce.	(Liang et al. 2011)
Intention to Purchase (IPU)	I am willing to purchase products/services offered in this social commerce website. I plan to purchase products/services offered in this social commerce website in future. I intend to purchase products/services offered in this social commerce website in future.	(Liang et al. 2011; Venkatesh et al. 2003)
Habit	Using this social commerce website has become automatic to me Using this social commerce website is natural to me	(Limayem et al. 2007)

[1] To alleviate any concerns, we will test the model measuring participation risk as reflective to check whether any path's sign or significance will be changed.

Evaluative Social Identity (ESI)	I am a valuable member of this social commerce website community. I am an important member of this social commerce website community.	(Tsai and Bagozzi 2014)
Affective Social Identity (ASI)	How attached are you to members of this social commerce website? How strong would you say your feelings of belongingness are towards the community of members on this social commerce website?	(Tsai and Bagozzi 2014)
Cognitive Social Identity (CSI)	How would you express the degree of similarity between your personal identity and the identity of members of this social commerce website? Please indicate to what degree your self-image is similar to this of the members of this social commerce website as you perceive it.	(Tsai and Bagozzi 2014)
Imitating others in purchasing	I would purchase products/services that many other users are purchasing on this social commerce website. I follow other members in purchasing on this social commerce website. If many social commerce users have bought a product, I am also willing to purchase it.	(Sun 2013)
Imitating others in participating	I follow other users' choices for selecting posts to write comments. I would write comments on the posts that already have many written comments from other users. If so many users have already written comments on a post, I am also willing to write a comment.	(Sun 2013)

Table 1. Measurement Items

Control variables:

We will control for the possible influences of demographics which include user age, gender, education level, and users' experience of using the website. Furthermore, we will control for users' personal innovativeness with IT (PIIT), which is defined as "the willingness of an individual to try out any new information technology" (Agarwal & Prasad, 1998, p. 206). It has been shown that PIIT is a predictor of online users' behaviors such as shopping (e.g. Keisidou et al., 2011; Limayem et al., 2000). Therefore, we will consider controlling for its possible effects in our model.

Potential Contributions

The proposed model will contribute to the IS literature in several ways. First, the social commerce literature has mainly studied drivers of social commerce use (e.g. Liang *et al.*, 2011; Ng, 2013; Kim & Park, 2012; Chen & Shen, 2015). Thus, the role of negative factors in deterring the use of social commerce has been largely overlooked. Nevertheless, these negative facets (for instance risk perceptions) play a significant role in determining online users' decisions (Cenfetelli and Schwarz 2011; Featherman and Pavlou 2003). Hence, we extend the current literature in social commerce context by examining users' decisions from both negative and positive standpoint. Specifically we consider social identity, habit, and imitating others as drivers of social commerce use and perceived risk as deterrent factor which may hinder the use of social commerce.

Second, relying on social identity theory, habit literature, and herd behavior literature; we propose that due to the existence of social community and social interactions in social commerce, users' decision making might be biased and tends to be "risk-immune". Thus, our model extends previous studies in which mainly focused on rational-based theories. Moreover, we adhere to recent calls which suggest to reconsider the economic principles of rational behavior and expand the current models to include behavioral economic factors (Ariely 2009; Dinev et al. 2015). We hence encourage future research to consider possible deviations from rationality, especially in the social commerce context.

Finally, our model will extend the current understanding of these three factors, social identity, habit, and imitating others, and their roles in determining human's behaviors. Hence, the future results of our model can inform research on online users' risky behaviors by explaining the reasons why users continue a risky

behavior even though they are aware of the risks; and why they overlook the role of risks (or other rational cognitive factors) in their decision making.

On the practical side, our research findings will help social commerce developers to consider ways to increase the use of their website. We pinpoint two potential categories of risk in social commerce. Therefore, social commerce managers can make use of these insights in designing the social commerce community features in order to mitigate the potential risks and enhance the level of users' participation and engagement. Furthermore, social commerce providers can increase users' engagement by enhancing their social identification, habitual use, and also herd behaviors. They can do so by improving social features which encourage users to have more social interactions; for instance, they can include different types of groups in the community, suggest related groups to the members, and connect users to each other to encourage friendships (Ahearne et al. 2005; Ren et al. 2012).

Finally, our results will help social commerce users to become aware of potential biases and their influences on their risk-based decision making.

Limitations and Future Research

Notwithstanding the contributions of our research, there are some limitations which should be acknowledged. First, our study will be cross-sectional; we will examine users' intentions and risk perceptions at a single point in time. Future research can design longitudinal studies to analyze users' behaviors in the social commerce context and study whether their perceived risk and intentions (purchasing and participation) would change over time. Second, we use intentions instead of actual use. In IS literature, intonations are considered as a good proxy for actual behaviors (Davis 1989); however, we encourage future research to study whether there is a gap between intentions and use in the social commerce context. Third, we considered three potential biasing factors in our model (social identity, habit, and imitating others); nevertheless, there could be more possible biasing factors in the social commerce context. Future research can examine other facets and their possible biasing effects on social commerce users' behaviors. Furthermore, we consider perceived risk as deterrent element of social commerce use, and social identity, habit, and imitating others as drivers of social commerce use. Future studies may consider a broader set of predictors of social commerce use in their models. Finally we focused on writing comments as users' participation activity. However, there are various activities which users may be engaged in, such as following other members, following a product/store, sending messages and so on. Future studies can consider a broader range of activities as social commerce users' participation behavior.

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