ONLINE SOCIAL COMMERCE USERS BEHAVIORS: THREE STUDIES

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Abstract

Social commerce has emerged as a new platform that enables users to conduct shopping assisted by inputs from other members and to publicly comment on transactions or products. It therefore adds a social aspect to traditional online commerce environments. Nevertheless, the role of the social facet embedded in such transactions in influencing user behaviors is not fully understood. In this dissertation, I develop three empirical studies to better understand social commerce user behaviors and to specifically consider the biasing factors that exist in these social platforms and can skew user rational decision-making. The results of these studies highlight the importance of social context in influencing users' behaviors. The first study's results show the role of interactions among social commerce users in affecting users' decisions. The second study shows that like most of social networking sites; the use of social commerce platforms are prone to become habitual. Furthermore, this study shows how the developed habit among users can influence their rational purchasing decision. Finally, the third study explores the role of group identification and it shows that social identity that will be developed among members can cause some bias and skew the rational behaviors of users.

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Chapter 1: Introduction

The question of "To what extent do we know our own minds when making decisions?" (Newell & Shanks, 2014) has been considered by several researchers in different domains ranging from psychology to cognitive neuroscience and behavioral economics (e.g. Kahneman, Slovic, & Tversky, 1982; Sherman & Corty, 1984). Evidence shows that in practice, the decision-making processes differ from the perspectives suggested by traditional decision-making theories (e.g. expected utility theory); and such processes are heavily influenced by different factors such as biases and assumptions of the decision maker (Korte, 2003). Traditional decision-making models are mostly built based on rationality assumptions; however, the reality shows that decision makers mostly make not fully rational decisions.

In this research, I am interested in studying key potential biases in online decision-making. "Cognitive Bias" is a term that was first introduced in the field of social psychology and it can be defined as a pattern of deviation in judgment which happens in specific situations and it can cause inaccurate judgment, illogical interpretation, or what is considered as irrationality (Kahneman & Tversky, 1972). In the psychology and social science literature, several factors that contribute to cognitive biases have been explored. For instance, it has been found that factors such as relying on personal experiences as heuristic evidence, relying more on intuition rather than analysis, or behaving based on emotions would impact human rational decision-making (e.g. Kahneman 2011; Korte

2003). In Table 1.1, I have summarized the main biases studied in the social psychology literature.

Table 0.1 Main biasing factors studied in social psychology literature

Biases	**Description**	**References**
Framing effect	People react to a particular choice in different ways depending on how it is presented	(Plous, 1993; Tversky & Kahneman, 1981)
Anchoring effect	Human tendency to rely too heavily on the first piece of information offered (the "anchor") when making decisions	(Furnham & Boo, 2011; Strack & Mussweiler, 1997)
Loss aversion	The disutility of giving up an object is greater that the utility associated with acquiring it	(Kahneman, Knetsch, & Thaler, 1991; Tversky & Kahneman, 1991)
Status Quo bias	The tendency to remain at the status que, because the disadvantages of leaving it loom larger than advantages	(Baron, 2000; Kahneman et al., 1991)
Illusion of control	The tendency to overestimate one's degree of influence over other external events	(Thompson, 1999)
Social desirability bias	The tendency to over-report socially desirable characteristics or behaviors in oneself and under-report socially undesirable characteristics or behaviors	(Dalton & Ortegren, 2011; Nederhof, 1985)
Herding effect	Following others and do what they are doing instead of making decisions based on one’s own information	(Bailey, 1997; Nolan, Schultz, Cialdini, Goldstein, & Griskevicius, 2008)

Decision making in uncertain situations pervades the life of humans. In these uncertain situations, individuals are more prone to rely on heuristics and biases to make decisions. Uncertainty is an inevitable element in online environments (such as e-

commerce websites; forums, social networking site, etc.). Hence, understanding factors in online environments that cause bias and less rationality in user decision-making has implications for both research and practice.

In the Information Systems (IS) literature there are very few studies that account for irrationality and biases in online user behaviors. Table 1.2 summarizes some of the biases that have been studied in IS literature.

Table 1.2 Main biasing factors studied in Information Systems literature

Context	Biases studied	References
E-commerce	Framing effect, herding effect, anchoring effect	(Bahmanziari & Marcus, 2015; Wang, Cavusoglu, & Deng, 2016; Wu & Cheng, 2011)
Technology/IS adoption and post adoption	Habitual bias, status quo bias, emotional bias	(Lee & Joshi, 2017; Limayem, Hirt, & Cheung, 2007; Turel & Qahri-saremi, 2016)
Decision support systems and recommender systems	Framing effect, herding effect	(Fleder & Hosanagar, 2009; Kahai, Solieri, & Felo, 1998)

1.1. Research Motivation and Objectives

The focus of this dissertation is on exploring key biases in online user decision-making. The reason to choose this focus is to fill the gap that exists in the IS literature that, in most existing studies, online user behaviors has been considered as rational and potential biases exist in different contexts have been largely neglected. Nevertheless, as discussed before, we know that humans' behavior is not fully rational. As table 1.2. shows, potential

biases have been studied in very few contexts in the IS literature; for instance, the biasing factors that exist in social networking sites are largely unknown. It is important to explore social media users' behaviors as these platforms has become very popular and the number of their users has grown exponentially in recent years. Social media play a significant role in daily lives of its members; it has changed the way that people interact with each other, share and receive information, and socialize with each other (Lin, Fan, & Chau, 2014). Thus, in this dissertation, I try to understand users' behaviors in social platforms and explore the potential biasing impacts of social elements embedded in social environments. As the context, the focus of this dissertation is on Social Commerce, which is explained in the next subsection (1.2).

This dissertation has the main objective, which is understanding social commerce user behaviors and exploring the most important elements that influence their decision-making. To address this research objective, I have developed three empirical studies, which are presented as chapter 2, 3, and 4 of this dissertation. Subsection 1.3 of this chapter explains these studies in more detail.

1.2. Research Context

The studies reviewed in this thesis have the same context, which is "social commerce". Social commerce includes "any electronic business transaction conducted from or involving a social network site or social networking activity" (Siau & Erickson, 2011, p. 3). Hence social commerce is treated as a form of commerce that uses social

media features for conducting or supporting commercial activities (Siau & Erickson, 2011; Wang & Zhang, 2012). By integrating user-generated content into typical commercial transactions, social commerce websites enable users to participate in the process, before and after commercial transactions. Such sites also allow businesses to better cater to customer needs, listen to customers, and adjust their performance as needed. Users of social commerce websites can indirectly collaborate with each other, exchange their experience and information about products and services, and obtain advice and recommendations from other site members (Leitner & Grechenig, 2009).

Social commerce websites can be categorized into two types. The first includes the purchasing option, where users can directly buy items from the website (e.g. *Groupon* and *Etsy*). The second does not support direct purchasing, and its focus is on marketing and advertising the products and services (e.g., fan pages on *Facebook*) (Ng, 2013). Nonetheless, all social commerce websites include three common traits: social media features, user interactions inside communities, and commercial activities (Liang & Turban, 2011). For instance, in all social commerce websites users can create profile for themselves and share their information such as their profile picture, their name, etc. with other members. Moreover, users of these platforms can interact with other users; for instance, in Facebook, users can send private messages to others or post comments on their profiles; or in Etsy, users again can post public comments and can send private messages to specific members. Social commerce platforms also support commercial activities; for example, Facebook fan pages provide details about products, such as their prices, where to buy them, etc.

Research on social commerce can be classified into two major streams. The first one is more descriptive and focuses on social commerce business applications and strategies such as exploring design features of social commerce platforms (Huang & Benyoucef, 2013), the business value of social commerce (Stephen & Toubia, 2010), social commerce website technical features (Curty & Zhang, 2013) and factors or conditions which will lead to social commerce success (Kim, 2013). The second theme focuses on social commerce user behaviors. Two types of behaviors have been the main emphasis of current research: participation (such as sharing/seeking information, electronic word of mouth (EWOM)) and purchasing.

Table 1.3 summarizes selected prior research on social commerce user behaviors, showing salient factors that influence user behaviors, attitudes, and intentions.

Table 0.3 Prior studies on consumer behavior in the social commerce context

Salient Factor	Study	Definition	Implication
Social Presence	(Zhang, Lu, Gupta, & Zhao, 2014)	"The extent to which the social commerce environment enables a customer to establish personal, warm, intimate, and sociable interaction with others"	Social presence affects social commerce intentions (participation and purchasing behavior)
Social Support	(Hajli, 2014; Liang, Ho, Li, & Turban, 2011; Shin, 2013; Zhang et al., 2014)	"Individual's experience of being cared for, being responded to, and being helped by people in that individual's social group"	Social support has been studied as a predictor of social commerce intentions.

Relationship Quality	(Hajli, 2014; Liang, Ho, Li, & Turban, 2011; Pentina, Gammoh, Zhang, & Mallin, 2013)	"Provides an evaluation of the strength of a relationship between a service provider and a customer. It refers to a user's total evaluation of a service provider."	Relationship quality has positive effects on user intentions to use social commerce.
Website Quality	(Hsu, Chang, Chu, & Lee, 2014; Liang, Ho, Li, & Turban, 2011; Zhang, Lu, Gupta, & Gao, 2015)	"Consumers' evaluations of the web site's features and excellence, reflecting the extent to which the web site meets customers' needs"	Website quality has also been found to affect social commerce intentions /continuance.
Trust	(Chen & Shen, 2015; Hsu, Chuang, & Hsu, 2014; Huang, Nambisan, & Uzuner, 2010; Kim & Park, 2012; Ku, 2012; Ng, 2013; Pentina, Zhang, & Basmanova, 2013; Shi & Chow, 2015; Shin, 2013)	"The willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party" (Mayer, Davis, & Schoorman, 1995)	Trust has been studied as an important predictor of user behaviors in social commerce. Different types of trust (such as trust toward members/website/vender) have been explored in social shopping environments. It has been found that trust toward website mediates the relationship between trust toward members and social commerce intentions.
Hedonic Value	(Kim, Sun, & Kim, 2013; Lee, Kim, Chung, Ahn, & Lee, 2016; Pöyry, Parvinen, & Malmivaara, 2013; Sun, Wei, Fan, Lu, & Gupta, 2016)	"Emotional value that is the perceived utility of a product or service based on its capacity to stimulate feelings or emotional states"	Hedonic value increases social commerce intentions (purchasing and participation).

Satisfaction	(Hsu, Chuang, & Hsu, 2014; Zhang, Lu, Gupta, & Gao, 2015; Zhang & Luo, 2016)	"the summary psychological state after purchase and consumption experience"	Satisfaction with the social commerce community can increase participation intentions (eWOM) and also repurchase intentions among the members.

Many online intended behaviors are feasible to study on such sites; for instance, intention to become a member of these websites, to make friendship with other members, or to refer a social commerce website to others. However, two behaviors have been the prime foci of prior research: intentions toward participation in social activities (e.g., posting reviews on the website) and purchasing from the website. Intention to participate encapsulates a user's plan to be an active member of and be engaged in the online activities, which include writing comments, publishing posts, liking other user activities, and so on (Kaplan & Haenlein, 2010; Liang, Ho, Li, & Turban, 2011). Intention to purchase reflects user plans to purchase products offered by the social commerce website (Liang, Ho, Li, & Turban, 2011).

As stated, in this dissertation, I study social commerce users' behavioral intentions. In the existing literature, a strong correlation between behavioral intention and actual intention has been confirmed (e.g. Fishbein & Ajzen, 1975; Kim & Hunter, 1993); thus it is reasonable to consider behavioral intentions as a proxy for actual behavior. This proxy is common in IS literature (Agarwal & Prasad, 1998). Therefore, I also use behavioral intentions (intention to purchase and intention to participate) as a proxy for actual purchasing and participating behaviors.

1.3. Outline of Dissertation

This dissertation is organized as follows. Chapter 2 describes the first study, which fulfills the first objective of this dissertation by exploring the social commerce and user purchasing behaviors in social commerce platform. This study takes a trust, risk, benefit perspective to explore how users behave in social commerce environments. In chapter 3, the second study fulfills the first and second objectives of the dissertation. This study seeks to examine (1) the role of social factors such as trust toward site members in determining user trust and risk evaluations, and (2) the role of social commerce user habits in attenuating user rational risk and trust considerations for developing purchase intentions. Chapter 4 presents the third study, which relies on theories of risk deterrence in decision-making and the "risky/choice shift" logic to suggest that the social identification of users regarding their community members skews the way they consider risks in decision-making on these sites. Finally, chapter 5 provides a discussion of findings from these three empirical studies and outlines their contributions, limitations, and recommendations for future research. Table 1.4. summarizes the three developed studies.

Table 1.4 Summary of three developed studies

Study	Objective	Research Gap	Research Question	Approach
1	Study behavior deterrents in conjunction with relevant drivers as a means to better understand social commerce user behavioral choices.	Social commerce literature has mostly neglected the role of deterring factors.	1. What are the relevant risk elements in the social commerce context? 2. What is the impact of social elements such as	Online survey- 196 users of etsy.com Test the model with Smart PLS 3.0

			trust toward site members?	
2	Studying the purchase behavior of social commerce users; Understanding the role of social commerce use habit in attenuating users' rational risk and trust considerations for developing purchase intentions	The role of habit in attenuating risk and trust considerations related to social commerce is largely unknown	Can habit influence the weight or attention that social commerce users give to risk and trust in their purchasing decisions?	Online survey- 187 users of etsy.com Test the model with Smart PLS 3.0
3	Account for social context and study the role of social identification in influencing decisions regarding purchasing and posting comments	Literature have largely taken a rational perspective regarding social commerce use decisions by relying on the planned behavior model and largely ignored potential biases in decision-making in this context.	Does social identification bias considerations of risk elements in making purchasing and posting comments?	Online survey- 175 users of etsy.com Test the model with smart PLS 3.0

The models developed in the three studies of this dissertation help us to better understand social commerce users' behaviors. Through these studies, different elements that can drive or deter social commerce use are compared. The results of these models show that despite the fact that current social commerce literature mainly neglected the role of deterring factors in influencing users' behaviors, these negative elements such as perceived

risk play a significant role in affecting behaviors and their impact are even stronger than driving elements. Moreover, the developed studies show the importance of the context in influencing users' behaviors. Again, in the social commerce literature, the role of context and how it affects behaviors has not been fully studied before. The results of developed studies show that social elements (such as users' interactions and group affiliations) that are embedded in the social commerce websites have significant impact on users' behaviors and can skew their rational decision-making.

Chapter 2.

Study 1. Understanding Social Commerce Acceptance: The Role of Trust, Perceived Risk, and Benefit

2.1. Introduction

As described in section 1.2 of this dissertation, current studies on social commerce acceptance and use have been mostly one sided as they focused on drivers (and not inhibitors or deterrents) of these phenomena. Drivers include social support, social presence, relationship quality, and trust (e.g. Liang, Ho, Li, & Turban, 2011; Shin, 2013; Zhang, Lu, Gupta, & Zhao, 2014). Nevertheless, the prospect theory (Tversky & Kahneman, 1992) suggests that behavior deterrents are often more important than drivers in decision-making. They indeed have a strong negative influence on website use (Cenfetelli & Schwarz, 2011; Featherman & Pavlou, 2003; Lim, 2003). Hence, the objective of this study includes examining the role of negative factors in deterring social commerce behaviors, including purchasing and posting. The deterrent I focus on is perceived risk, defined as user beliefs regarding potential negative consequences of online transactions with a specific website (Kim, Ferrin, & Rao, 2008). This study has taken this focus because risk perceptions tend to be overemphasized compared to perceptions regarding the benefits in decision-making processes and can consequently be weighed much higher and heavily influence decision outcomes (Tom, Fox, Poldrack, & Trepel, 2007). Given that typical social commerce behaviors (purchasing and posting comments) can pose some risks for users, I contend that such risks may hinder users from effective

participation in social commerce activities. Thus, this study seeks to account for such risk facets (behavior deterrents) in conjunction with relevant drivers as a means to better understand social commerce user behavioral choices. To do so, this research takes a broader perspective, which parsimoniously accounts for key drivers (trust and benefit) and deterrents (risk) of human behavior.

In order to extend and contextualize this perspective, this research focuses on the relatively unique features of social commerce sites. One key aspect of such sites is that, given its social context, user assessments related to risk and trust may be driven by assessments of the trustworthiness of site members. If these members are perceived as trustworthy, then purchasing from the site may be perceived as less risky. Furthermore, through trust transference (Stewart, 1999), user trust in the members will enhance their trust in the website (acceptance of vulnerability to website behaviors (Moorman, Deshpandé, & Zaltman, 1993)). Moreover, according to the trust-risk perspective (Lim, 2003; Pavlou, 2003) I propose that trust toward site members will serve to reduce perceived commerce risk (uncertainties regarding the potential negative outcomes of transacting with a particular website (Kim et al., 2008)). Consistent with existing models of risk and trust influence on decision making (Dennis, Robert, Curtis, Kowalczyk, & Hasty, 2012; Ponte, Carvajal-Trujillo, & Escobar-Rodríguez, 2015; Turel & Gefen, 2013), this research posits that these factors, in turn, will drive purchasing and participation intentions. This is consistent with prior research which has shown that risk is the most significant barrier of online shopping (Verhagen, Meents, & Tan, 2006) and social interactions (Cooper & Rege, 2011; Doolin, Dillon, Thompson, & Corner, 2005); trust and benefit are the key drivers of

these behaviors (Gefen, Karahanna, & Straub, 2003).

2.2 Theoretical Background

In this study, I focus on both drivers and deterrents of social commerce use. In the theoretical framework, I consider perceived risk as a negative factor which may deter social commerce use, and perceived benefit and trust as motivators. This is consistent with risk-return strategy in consumer decision-making (Bilkey, 1953; Bilkey, 1955; Peter & Tarpey, 1975). According to expectancy theory, consumers behave in a way that maximizes their positive outcomes and minimizes negative consequences (Vroom, 1964). A trust-based consumer decision making model has been developed by Kim, Ferrin, & Rao (2008) to investigate the impact of trust, risk, and benefit in the setting of electronic commerce. I extend this theory and contextualize it to the social commerce context, and propose that user decisions to purchase or participate in a social commerce website would be influenced by their cognitive considerations of elements such as trust, perceived risks and benefits.

2.2.1. Perceived risk in online communities

Perceived risk reflects user feelings of uncertainty regarding potential negative outcomes of using a product or a service. It is based on a combined assessment of the uncertainty and the seriousness of outcomes involved in actions (Bauer, 1960). It therefore encapsulates an expectation of losses associated with actions, and it often acts psychologically to inhibit actions that are deemed to have likely negative consequences, including some online purchase behavior (Peter & Ryan, 1976). Risk is a multifaceted

concept because it can apply to many aspects of one's behavior, each of which presents some uncertainty and potential for negative outcomes. For instance, posting private information on a website may lead to financial damages, privacy loss, and psychological stress, all of which are reflected in separate risk assessments. Consequently, the literature has pointed to prevalent risk facets, which may include financial risk, performance risk, physical risk, psychological risk, social risk, time risk, and opportunity cost risk (Jacoby & Kaplan, 1972). Decision field theory suggests that risk is an important consideration in decision-making. According to this theory, risk drives deliberation, which may deter approach-oriented behaviors (Busemeyer & Townsend, 1993). Indeed, it has been shown that risk is one of the most significant barriers for online shopping (Verhagen et al., 2006). Risk is also an important deterrent of social interactions (Cooper & Rege, 2011; Doolin et al., 2005). The deterring effects of perceived risk on consumer transactions have received much research attention. For instance, in e-commerce, perceived risk deters online purchasing (e.g., Featherman & Pavlou, 2003; Kim, Ferrin, & Rao, 2008; Lee, Warkentin, & Johnston, 2016; Park, Lennon, & Stoel, 2005). Product risk and financial risk, specifically, have been identified as two primary categories of risks related to purchasing behavior in online environments (e.g., Grazioli & Jarvenpaa, 2000; Kim, Ferrin, & Rao, 2008). These two risk facets have often been aggregated into a "commerce risk" assessment, which captures uncertainties regarding the purchased products as well as possible financial losses (Bhatnagar, Misra, & Rao, 2000; Jarvenpaa, Tractinsky, & Saarinen, 1999; Park et al., 2005). Hence, commerce risk is an overarching assessment of the potential negative outcomes of purchasing from a social commerce website; it includes

both the product (e.g., receiving a malfunctioning or inferior product) and financial (e.g., losing their money due to fraud) risk facets (Grewal, Gotlieb, & Marmorstein, 1994).

The commercial side represents one risky element in social commerce. The other is the social community that presents users with privacy risk and social risk (Featherman & Pavlou, 2003). Privacy risk reflects users' potential loss of control over their information. In social commerce transactions, the loss of privacy may occur when users engage in posting and participating activities. For instance, by writing comments on the site, their profile page including their personal information can be disclosed and affiliated with their opinions; which may lead to discomfort. The other relevant risk related to the social community is perceived social risk, which reflects potential loss of social status in the group. The combination of these two risk facets creates an overall "participation risk" for individuals, defined as user assessment of the potential negative consequences of acting (purchasing, posting) on the social commerce website. These risk facets are important for understanding social commerce behaviors because such concerns may deter two types of common behaviors on which this research focuses: participating in social commerce discussions and purchasing.

2.3. Research Model and Hypotheses Development

Figure 2.1 shows the proposed research framework as the extension of Kim, Ferrin, & Rao, (2008)'s model in the setting of social commerce.

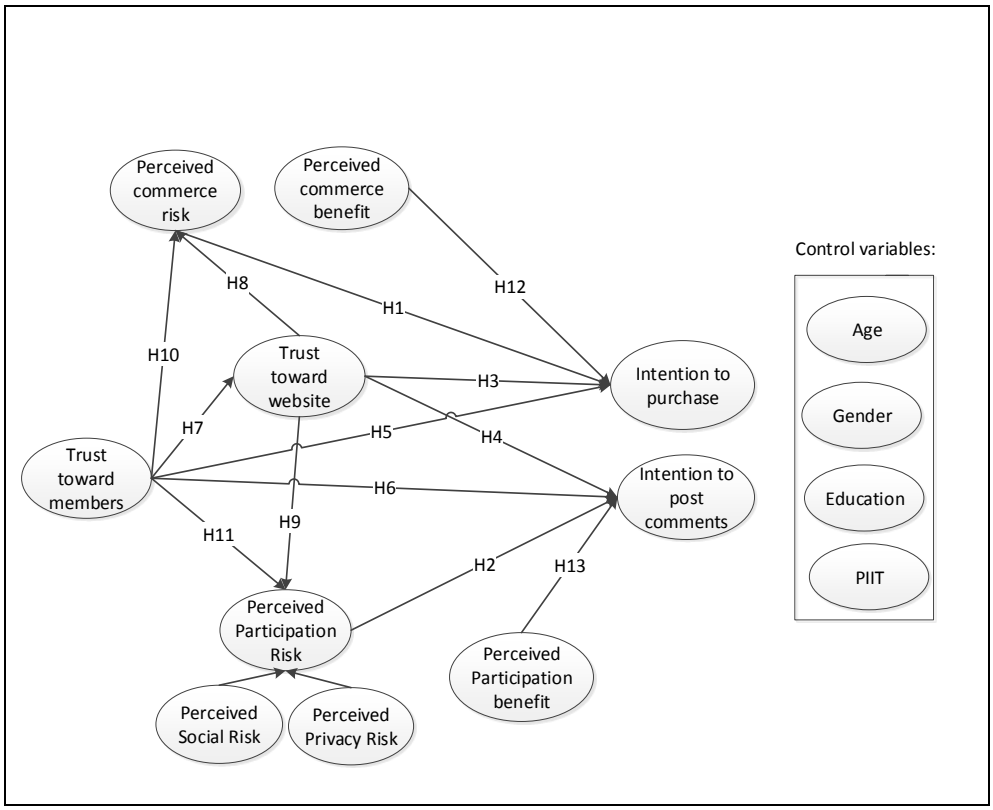


Figure 2.1 Research Model

2.3.1. Risk and behavioral intentions

The risk deterrence principle suggests that humans and animals tend to prefer less risky than more risky behavioral choices (Tversky & Kahneman, 1992). Hence, risk is a major deterrent of approach-oriented behavior (e.g., jumping into a burning room) and a major promoter of avoidance-oriented behavior (e.g., leaving a burning room). As such, risk is a key consideration in decision-making, and it consequently has the capacity to influence behavioral plans (Gefen, Wyss, & Lichtenstein, 2008). It specifically deters people from intending to engage in behaviors that can increase the chances of a person to be harmed (Nidumolu, 1995). Particularly in online environments, risk has become an

inevitable element that can deter people from transacting with websites and other people online (Shimp & Bearden, 1982; White & Truly, 1989). I expect the same association here because uncertainties regarding possible negative consequences of online purchase transactions (e.g., delivery issues, getting the wrong product, or not getting a product) can deter individuals from purchasing from the social commerce website. Hence, I propose that

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

Participating in discussions on the social commerce website may include different activities such as writing comments, following other users, and liking others' posts. In this study, I focus on writing comments/reviews as a focal user participation activity because this behavior is prevalent, presents social risks, and is very important for service providers. Among other activities, writing comments and sharing experiences have stronger effects on other member behaviors (e.g., purchasing) (Charlton, 2015). Moreover, this behavior is common; approximately 83% of users are interested in sharing their shopping experiences on social media, and nearly 67% of them make their purchasing decisions based on their contacts' suggestions (Marsden, 2009).

Participation risk relies mostly on the assessment of social and privacy threats that may stem from participation in the above-mentioned discussions. When users consider such behaviors, they may reflect on two types of potential negative outcomes: receiving negative judgments and reactions from other members such that they lose their social status, and

possible violations of their privacy as a result of revealing their information and opinions to others.

Users can have uncertainties regarding possible negative consequences of participation in transactions (e.g., disliked by others, offending others, retaliation by others, and reduced self-image). It is therefore reasonable to expect, based on prospect (Tversky & Kahneman, 1992) and decision field (Busemeyer & Townsend, 1993) theories, that such concerns may deter their intentions to engage in the behavior that produces these risks. That is, participation in (and specifically posting on) forums on social commerce websites is less likely when users perceive participation risk. Therefore, I postulate

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

2.3.2. Trust Effects

Trust in general refers to a reliance on someone or something to act in a specific manner, when there is some uncertainty regarding these actions (Gefen et al., 2003). Trust is a crucial factor in many transactional buyer-seller relationships, especially when there are elements of uncertainty and risk (Gefen et al., 2003). In e-commerce settings, since there are no proven guarantees that the vendor will not behave in a harmful and/or opportunistic way, trust is a critical driver of decisions to transact on a website (e.g. Gefen, Karahanna, & Straub, 2003; Lee & Turban, 2001; McKnight, Choudhury, & Kacmar,

2002) . This happens because trust is needed for developing a relationship with the website which can happen only if the perceived vulnerability of a person is reduced; which is exactly what trust is doing (Turel & Gefen, 2013).

On social commerce sites, since user interactions and information contributions can play a significant role in shaping the success of transactions, users are likely to use cues for trust building (Zucker, 1986), including cues from two sources for trust development. First, they may consider trust-building cues from the social commerce website (vendor). Second they may also consider trust-building cues from other users of the website with whom they have interactions (members) (Turel & Gefen, 2013). Both of these trust assessments should drive purchase and participation intentions, because both put consumers at ease and cognitively assure them that the users and the website operators have good intentions, will have their best interests in mind, and are honest. In contrast, when the users and website operator are perceived as less trustworthy, a person will be less likely to believe user feedback, trust the website's intentions, and/or believe in its honest and benevolent motivations. Indeed, trust in a website has been shown to drive future transactions with the website (e.g. Salo & Karjaluoto, 2007; Schaefer, Coyne, & Lazarus, 1981; Shen, 2011; Wu & Chang, 2006) and trust in the community of users in social sites has been shown to do the same (Chen & Shen, 2015; Turel & Gefen, 2013). Hence, I hypothesize that:

H3: Trust toward a social commerce website is positively associated with user intentions to purchase via the website.

H4: Trust toward a social commerce website is positively associated with user intentions to post comments in social commerce forums.

H5: Trust toward members of the social commerce site is positively associated with user intentions to purchase via the website.

H6: Trust toward members of the social commerce site is positively associated with user intentions to post comments in social commerce forums.

Trust toward site members captures individuals' willingness to be vulnerable to other social commerce users' actions and opinions. Based on trust transfer theory (Stewart, 2003) user trust in the website can be based in part on trust cues they receive from members of the website. The reason for this trust transfer is that people tend to rely on signals and make mental shortcuts based on affiliation. When users of a website are deemed to be trustworthy, this information is used as a basis for judging the trustworthiness of the website (Turel & Gefen, 2013). Thus, when trust is high among social commerce users, individuals will have a stronger basis for developing trust in the website that accommodates and is affiliated with these users. Hence, I contend that:

H7: Trust toward members of the social commerce site is positively associated with user trust toward the website.

Trust can directly increase intentions to transact online and indirectly by reducing one's risk assessment. This happens because trust reduces the uncertainty which underlies risk assessments (Bensaou & Venkatraman, 1995; Gulati & Gargiulo, 1999; Nicolaou & McKnight, 2006). In essence, trust acts as an assurance even when the outcomes are

uncertain; by doing so, it reduces risk perceptions (Holmes, 1991). Indeed, trust has been found to reduce perceived risk in various contexts, such as online auctions and web stores (Jarvenpaa, Tractinsky, & Saarinen, 1999; Nicolaou & McKnight, 2006; Pavlou & Gefen, 2004; Pavlou, 2003). Given that psychological assurances regarding both the website and its users can help to alleviate commerce risk as they both reduce uncertainty to some extent, I hypothesize that:

H8: User trust toward the social commerce website is negatively associated with users' perceived commerce risk.

H9: User trust toward the social commerce website is negatively associated with users' perceived participation risk.

H10: User trust toward members of the social commerce site is negatively associated with users' perceived commerce risk.

H11: User trust toward members of the social commerce site is negatively associated with users' perceived participation risk.

2.3.3. Perceived Benefit

Perceived benefit reflects “a consumer’s belief about the extent he or she will be better-off from the online transaction with a certain website” (Kim, Ferrin, & Rao, 2008). In the social commerce setting, user perceived benefits include two categories: benefits related to commercial activities, and benefits related to their participation activities. Previous studies have found that individuals engage in social activities in order to receive companionship, approval, and respect from others (Eisenberger, Fasolo, & Davis-

LaMastro, 1990; Hemetsberger, 2002). Perceived commerce benefit is define as benefits that social commerce users expect to receive by purchasing a product/service. Similarly, I consider user belief regarding positive outcomes they would get from participation in a social commerce website as perceived participation benefit.

Online users have reported that they perceive receiving more benefits from online shopping comparing to the traditional way of shopping. These benefits include: increased convenience, cost savings, time savings, and increased variety of the products (Kim, Ferrin, & Rao, 2008). Perceived benefit has also been studied as a motivator for online purchasing (Kim, Ferrin, & Rao, 2008); hence,

H12: Perceived commerce benefit would increase one's intention to purchase on the social commerce website.

As previous studies show, users will participate in online communities in order to get companionship, social support, and social approval (Hemetsberger, 2002). Thus, in the social commerce setting, these outcomes would be motivators for users to share their experience with others (write comments/reviews); therefore,

H13: Perceived participation benefit would increase one's intention to post comments in social commerce forums.

2.4. Methodology

To test the hypotheses, I developed measurements for the constructs. Wherever possible, the measurement items were taken from the literature. For the measurements that were developed in this study, I followed the three steps (item creation; scale development;

instrument testing) proposed by Moore & Benbasat (1991). I also conducted a questionnaire pilot test through a panel of experts in IS (professors and IS professionals) who reviewed the questions. Necessary changes and improvements were made according to their suggestions.

Table 2.1 includes the items; they were measured on a 7-point Likert scale. Perceived participation risk was measured as a second order formative construct, since its two dimensions do not have to covary and the total perceived participation risk is calculated by the weighted sum of these two dimensions (Petter, Straub, & Rai, 2007). However, I also tested the model with reflective perceived participation risk; the results regarding the significance or the sign of path coefficients stayed the same as in the formative construct. I also considered perceived commerce benefit and perceived participation benefit as formative constructs; since they were formed with indicators reflecting different types of benefits (convenience, saving money, time, variety of products for commerce benefit; and monetary bonus, seeking friendship, and gaining popularity for participation benefit). This is consistent with operationalization in a study by (Kim, Ferrin, & Rao, 2008). Again, to alleviate concerns, I checked the model with considering perceived benefit construct as reflective, with the results remaining the same.

User age, gender, education and their personal innovativeness with IT (PIIT) have been considered as control variables in the model. PIIT refers to "the willingness of an individual to try out any new information technology" (Agarwal & Prasad 1998, p. 206).

Table 2.1 Measurement items

CR: Composite Reliability

Construct	**Items**	**Developed from**
Perceived Privacy Risk (PPR) Alpha=0.825 CR=0.896	By writing comments in this social commerce, 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 I increase the chances of misuse of my private information.	(Featherman & Pavlou, 2003)
Perceived Social Risk (PSR) Alpha=0.821 CR=0.893	Please rate the chances that writing comments in this social commerce website will negatively affect the way others think of you Writing comments in a social commerce site 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 & Pavlou, 2003) (Gupta, Su, & Walter, 2004)
Perceived Commerce Risk (PCR) Alpha=0.813 CR=0.889	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, Tractinsky, & Saarinen, 1999; Kim, Ferrin, & Rao, 2008)
Perceived Commerce	I think purchasing from this social commerce website is convenient. I can save money by purchasing from this social commerce website.	(Kim, Ferrin, & Rao, 2008)

Benefit (PCB) NA	I can save time by purchasing from this social commerce website. This social commerce website provides good products/services which I might not find by other ways of shopping.	
Perceived Participation Benefit (PPB) NA	I will receive a bonus by sharing my experience in this social commerce website. I will find new friends by writing comments and sharing my experiences in this social commerce website. I will become more popular among my friends by sharing and writing comments in this social commerce website.	New items
Trust toward members (TrM) Alpha=0.840 CR=0.904	Members of this social commerce website are in general reliable. Members of this social commerce website are in general trustworthy. Members of this social commerce website are in general honest.	(Pavlou & Gefen, 2005)
Trust toward website (TrW) Alpha=0.876 CR=0.907	I believe that this social commerce website is consistent in quality and service. I believe that this social commerce website is keen on fulfilling my needs and wants. I believe that this social commerce website is honest. I believe that this social commerce website has my best interests in mind. I believe that this social commerce website is trustworthy. I believe that this social commerce website has high integrity.	(Fang et al., 2014)
Intention to Purchase (IPU) Alpha=0.869 CR=0.920	I intend to purchase from this social commerce website in the next three months. I plan to purchase from this social commerce website in the next three months. I predict I would purchase from this social commerce website in the next three months	(Venkatesh, Morris, Davis, & Davis, 2003)

Intention to post comments (IPC) Alpha=0.852 CR=0.910	I intend to participate (write comments) in activities on this social commerce website in the next three months. I predict I would participate (write comments) in activities on this social commerce website in the next three months. I plan to participate (write comments) in activities on this social commerce website in the next three months.	(Venkatesh et al., 2003)

Empirical data were collected to verify the model. First, I conducted a pilot study (separate from the one to check the content of questions) to check the initial reliability of the measurement items. I gathered 65 respondents from graduate students who had used social commerce before. Next to test the proposed research model, I focused on *etsy.com*, a popular social commerce website with 21.7 million users. This website connects its members to each other, enabling both social and commercial interactions. Users of this website can create a profile for themselves, follow other members, become members in different groups, and take different social actions such as "liking" other members' posts and writing comments. A research firm was hired to distribute online surveys to *Etsy's* active users. The research firms recruited the participants through research panels, and all respondents were compensated by the company. This data collection method has been demonstrated to be valid and useful (e.g., Gerow, Thatcher, & Grover, 2015; Ghasemaghaei, Hassanein, & Turel, 2017; Sun, 2012). I specifically targeted active users who had purchased from the website and posted on discussion forums in the past two months to ensure experience (rather than heuristic)-based perceptions, social identification, and intentions. I recruited 196 respondents. The respondents included 137 females and 29

males; 36% were in the 30-39 age group, 31% were in the 21-29 age group, 9% were in the 18-20 age group, 9% were in the 40-49 age group, 8% were in the 50-59 age group, and 7% were in the 60 or older age group. Most of the respondents (74%) had been members of the website for more than a year. In the sample, 31% held bachelor's degrees, 27% had some college training, 14% had master's degrees, 12% had high school degree, 12% had associate degrees; 3% had professional degrees, and 1% had doctorate degree.

2.5. Results

2.5.1 Model Validation

SmartPLS Version 3.0 (Ringle, Wende, & Becker, 2015) was used to analyze the data. The model assessment in PLS follows two steps. First, we evaluated the measurement properties, which includes reliability and convergent/discriminant validity. Tables 2.2 and 2.3 show a summary of the tests that were performed to evaluate the measurement model.

Table 2.2 Summary of measurement model tests (reflective constructs)

Analysis	**Test**	**Acceptance criterion**	**Source**
Item reliability	Item loading	value > 0.50	(Gefen, Straub, & Boudreau, 2000)
Construct reliability	Cronbach's alpha	value > 0.70	(Nunnally & Bernstein., 1994)
	Composite reliability	value > 0.60	(Bagozzi & Lee, 2002)
Discriminant validity	Average Variance Extracted (AVE)	The square root of the AVE of the variable must be larger than the	(Barclay, Higgins, & Thompson, 1995)

		correlation between that construct and any other construct in the model	
	Item cross-loading	Item loadings on their corresponding construct should be larger than their loadings on any other construct, and the difference should be at least 0.1	(Chin, 2010; Gefen & Straub, 2005)
Convergent validity	Average Variance Extracted (AVE)	value > 0.50	(Au, Ngai, & Cheng., 2008)

Table 2.3 Summary of measurement model tests (formative constructs)

Analysis	**Test**	**Acceptance criterion**	**Source**
Construct validity	Indicator weight-PCA	Weight should be significant	(Petter et al., 2007)
Construct reliability	Absence of multicollinearity (Variance inflation factor-VIF)	VIF less than 3.3	(Diamantopoulos & Winklhofer, 2001)
External validity	Multiple indicators and multiple causes model (MIMIC)	Goodness of fit indices (RMSEA, GFI)	(Diamantopoulos & Winklhofer, 2001)

For convergent validity, the procedure suggested by Fornell & Larcker (1981) was followed: the Cronbach's alpha, composite reliabilities, and the average variance extracted by constructs were checked. As tables 2.1 and 2.4 show, all three criteria were met (Cronbach's alpha and composite reliabilities are more than 0.7 and average variance extracted are more than 0.5). All the indicators were loaded on their corresponding

construct, and the variance inflation factor (VIF) for participation benefit and commerce benefit items were below 3.3; hence, no multi-collinearity was detected. To address common method variance, first, Herman's one-factor test (Podsakoff & Organ, 1986) was followed. The results of unrotated exploratory factor analysis showed that five factors accounted for 62.3% of the variance and no single factor explained more than 29% of the variance. Second, the procedure described by Liang, Saraf, Hu, & Xue (2007) was followed. As shown in table 2.5, the average variance explained by indicator is 0.695783 while the average method-based variance is 0.016585. In addition, most of the loadings of the method construct were not significant. Thus, it was concluded that common method variance is not a major component in the data.

Table 2.4 Descriptive statistics and discriminant validity (N=196)

(Diagonal values are square roots of the latent variables' average variance extracted)

	Mean	SD	IPA	IPU	PPR	PSR	PCR	PCB	PPB	TrW	TrM
IPA	5.87	0.831	**0.772**								
IPU	6.22	0.732	0.560	**0. 792**							
PPR	4	1.48	-0.105	-0.322	**0.741**						
PSR	3.23	1.63	-0.152	-0.328	0.626	**0.737**					
PCR	3.86	1.53	-0.155	-0.415	0.684	0.551	**0.727**				
PCB	5.88	0.731	0.552	0.654	-0.217	-0.207	-0.299	**NA**			
PPB	4.86	1.24	0.476	0.253	0.174	0.263	0.188	0.266	**NA**		
TrW	5.86	0.736	0.511	0.590	-0.240	-0.064	-0.299	0.641	0.381	**0.620**	
TrM	5.92	0.748	0.440	0.534	-0.236	-0.155	-0.326	0.675	0.260	0.717	**0.758**

Table 0.5 Common method bias analysis

Construct	Indicator	Substantive factor loading (R1)	$R1^2$	Method Factor Loading (R2)	$R2^2$
Intention to purchase	IPU1	0.999***	0.998001	-0.095	0.009025
	IPU2	0.839***	0.703921	0.055	0.003025
	IPU3	0.830***	0.6889	0.043	0.001849
Intention to participate	IPA1	0.859***	0.737881	0.006	0.000036
	IPA2	0.881***	0.776161	0.017	0.000289
	IPA3	0.896***	0.802816	-0.023	0.000529
Trust toward site members	TrM1	0.902***	0.813604	-0.079	0.006241
	TrM2	0.882***	0.777924	-0.009	0.000081
	TrM3	0.833***	0.693889	0.080	0.0064
Trust toward the social commerce website	TrW1	0.889***	0.790321	-0.093	0.008649
	TrW2	0.548***	0.300304	0.236*	0.055696
	TrW3	0.792***	0.627264	-0.095	0.009025
	TrW4	0.733***	0.537289	0.019	0.000361
	TrW5	0.804***	0.646416	0.011	0.000121
	TrW6	0.910***	0.8281	-0.078	0.006084
Perceived commerce risk	PCR1	0.830***	0.6889	-0.008	0.000064
	PCR2	0.842***	0.708964	-0.014	0.000196
	PCR3	0.887***	0.786769	0.021	0.000441
Perceived social risk	PSR1	0.803***	0.644809	-0.075	0.005625
	PSR2	0.857***	0.734449	0.032	0.001024
	PSR3	0.914***	0.835396	0.041	0.001681
Perceived privacy risk	PPR1	0.843***	0.710649	0.033	0.001089
	PPR2	0.909***	0.826281	0.008	0.000064
	PPR3	0.830***	0.6889	-0.042	0.001764
Perceived participation benefit	PPB1	0.791***	0.625681	-0.415**	0.172225
	PPB2	0.757***	0.573049	0.257**	0.066049
	PPB3	0.862***	0.743044	-0.155**	0.024025
Perceived commerce benefit	PCB1	0.800***	0.64	-0.016	0.000256
	PCB2	0.463***	0.214369	0.277**	0.076729
	PCB3	0.768***	0.589824	-0.073	0.005329
	PCB4	0.914***	0.835396	-0.224*	0.050176
Average		**0.8279**	**0.695783**	**-0.0115**	**0.016585**

2.5.2. Structural model

The proposed hypotheses were tested with a bootstrap procedure with 500 re-samples (Gil-Garcia, 2008). Since the model had a formative second order construct, I followed the procedure proposed by Lowry & Gaskin (2014) to check the structural model.

As figure 2.2 shows, most hypotheses were supported. The model explained 44% of the variance in intention to participate, 52% in intention to purchase. Among the control variables, PIIT had a significant effect on the intention to participate; other control variables had no significant effects. To test if trust toward the social commerce website and perceived commerce risk mediate the relationships between trust toward site members and intention to purchase and trust toward site members and intention to participate; first I checked the direct relationships between trust toward site members and intention to purchase and intention to participate without the presence of mediators. The relationships were positive and significant (p-values: 0.000). However, with the presence of mediators, these relationships become insignificant. Then I conducted the Sobel test; the Sobel test statistics were significant for both mediating relationships. Hence, both perceived commerce risk and trust toward the social commerce website fully mediate the relationship between trust toward site members and intention to purchase. Moreover, in Smart PLS, the indirect effects of the two relationships between trust toward site members and intention to purchase and trust toward site members and intention to participate were significant ($p=0.000$; and $p=0.04$ respectively), but the direct effects were non-significant; which again support the full mediation implied in Figure 2.2.

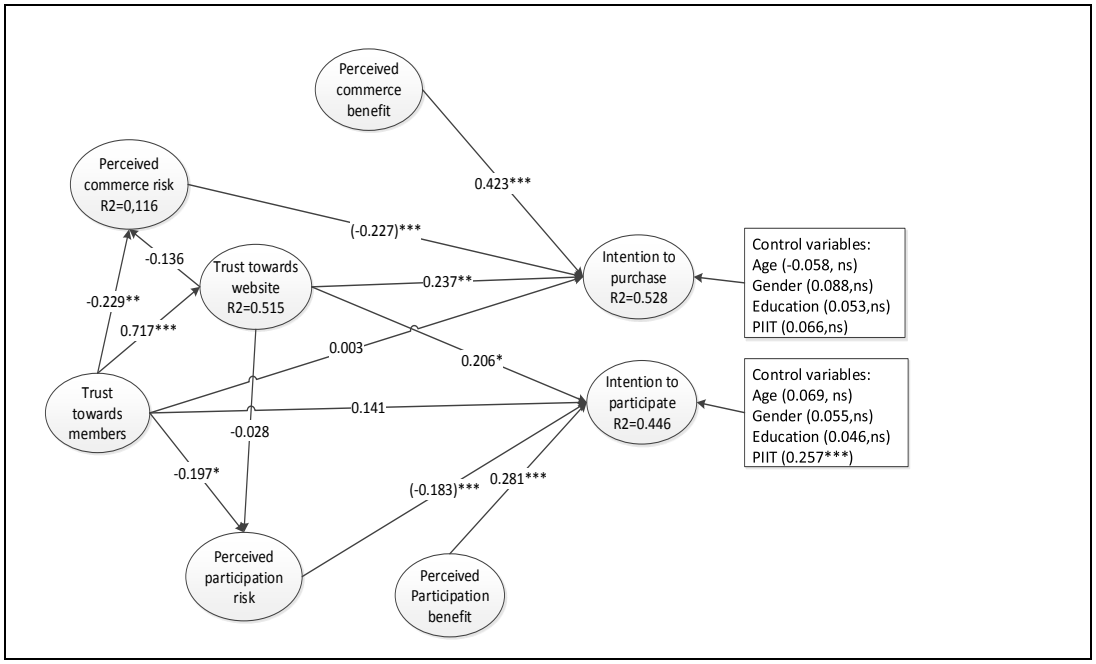


Figure 2.2 Analysis results of the structural model

*p<0.05; **p<0.01; ***p<0.001

2.6. Discussion

This study aimed to examine the deterring effect of perceived risk along with motivating effects of trust and perceived benefits in social commerce use. I pinpointed relevant facets of risk in the social commerce context: perceived commerce risk and perceived participation risk. I analyzed the relationships between the risk (perceived commerce and participation risk) and intention to use social commerce (purchase and participate). The results confirmed the deterring effects of these risk factors for purchasing and participating intentions; hence, hypotheses 1 and 2 are supported. I also conducted a post-hoc analysis to check if adding the deterring factors to the model could better explain the variances in intentions. The model with only positive factors (trust and benefit) could

explain 48% of variance in intention to purchase and 41% of variance in intention to participate; however, these values are 52% and 44% in my model. Hence, it can be concluded that considering deterring factors along with positive factors would better explain users' behaviors.

I also examined the relationship between trust (toward the website and toward the members) and intentions to purchase and participate. The results showed that trust toward members had a positive effect on trust toward the website that is consistent with trust transfer theory and the hypothesis 7 is supported. Moreover, trust toward the website motivates users to use social commerce for both purchasing and participating. Thus, hypotheses 3 and 4 are supported. However, trust toward members had neither a significant effect on user intentions to purchase nor to participate; thus, hypotheses 5 and 6 are not supported. I checked whether trust towards the website mediates the relationships between trust toward members and intentions to use social commerce. For both behaviors (purchasing and participating), I found a full mediation effect. I also checked the relationship between both trust toward website/members and perceived commerce/participation risk. I found that trust toward the website does not have a significant effect on reducing perceived commerce and participation risk (hypotheses 8 and 9 are not supported). Nonetheless, trust toward members reduces both participation and commerce risk (hypotheses 10 and 11 are supported). Previous studies in traditional online shopping found a significant relationship between trust toward website and perceived commerce risk (e.g. Kim, Ferrin, & Rao, 2008). However, this association is weak in the social commerce context because of the existence of strong social inferences in social

commerce community. Social commerce involves interactions and collaborations between members and this makes social commerce different from traditional electronic commerce. Hence, trust toward members plays a more important role in reducing user perceived commerce risks as well as participation risks.

Moreover, as expected, the results show that perceived commerce benefit has a significant positive effect on intention to purchase; and similarly, perceived participation benefit increases user intention to participate; therefore, hypotheses 4a and 4b were supported.

2.7. Contributions to Theory and Implications for Practice

This study contributes to the IS literature by extending the current understanding of social commerce use. Current social commerce literature has focused mainly on examining drivers of social commerce use (e.g. Liang, Ho, Li, & Turban, 2011; Zheng, Zhu, & Lin, 2013; Zhou, Zhang, & Zimmermann, 2013). However, this research's model integrates drivers and deterrents of social commerce acceptance. Negative factors can play a significant role in deterring online user behaviors (Featherman & Pavlou, 2003); and according to the Prospect Theory (Tversky & Kahneman, 1992), their impact on humans' behavior is greater than driving factors; hence their effects should not be neglected. Future research should study a broader set of demotivating factors in the social commerce context.

Both possible behaviors of social commerce users were considered: purchasing and participating. Accordingly, two categories for perceived risk are defined: perceived participation risk and perceived commerce risk. Commerce risk mainly includes

uncertainty regarding financial issues (Kim, Ferrin, & Rao, 2008). As facets of participation risk, I considered social risk and privacy risk. Comparing the standardized path coefficients and explained variances in my model with previous studies (e.g. Featherman & Pavlou, 2003; Weeger & Gewald, 2014) showed that I was able to identify relevant risk factors in the social commerce context. Future studies in social commerce can also use these risk facets; however, I also encourage the examination of additional risk facets and a study of their possible effects.

Moreover, the results show that trust toward a website/vendor does not have a significant effect on reducing perceived commerce and participation risks. Previous studies in e-commerce found that trust toward a website/vendor would reduce risk perceptions (e.g. Kim, Ferrin, & Rao, 2008; Pavlou, 2003). Instead, I found that in the social commerce context, trust toward members is the important factor in reducing perceived commerce and participation risk. This result highlights the primary difference between social commerce and other forms of e-commerce which is that social commerce involves a broader social context. Future research in social commerce should consider this difference in model construction and analysis.

PIIT was included as one of control variables. Prior studies found a positive relationship between personal innovativeness and online shopping intentions (e.g. Limayem, Khalifa, & Frini, 2000; Liu, Li, & Carlsson, 2010). In this model, the effect of PIIT on participating behavior is significant; however, its effect is not significant for purchasing. A possible explanation is that online shopping was considered innovative few years ago, but over time this has changed and online shopping is no longer considered as

innovative; however, participation and writing comments are considered to be more innovative. Future research should further study this explanation.

This study's results also have practical implications. Important negative factors which deter social commerce use have been found. Social commerce developers should understand these potential risks and focus on reducing their likelihood of occurrence. For instance, to mitigate commerce risk, managers can consider having some strategies such as money back and consumer satisfaction guarantees which can help in reducing risks (Featherman & Pavlou, 2003). They can also have strategies for mitigating privacy and social risk. For instance, having a clear website privacy policy (Featherman & Pavlou, 2003), responding to users' unfavorable comments, and including online chat (Turel, Connelly, & Fisk, 2011) can be useful. Furthermore, the results showed that trust toward members would reduce user risk perceptions. Hence, social commerce developers should try to provide a trustful and comfortable environment to encourage members to participate in related activities and purchase from the website.

Chapter 3.

Study 2. A trust-risk perspective on social commerce use: An examination of the biasing role of habit

3.1. Introduction

Similar to Study 1 (chapter 2), this study has the objective of understanding social commerce user behaviors. The results of chapter 2 showed that trust and risk are two important elements, which affect social commerce users' purchasing behavior. Hence, in this study, I focus on purchasing behavior of users, with trust as the driving element, and perceived risk as the deterring factor.

A key aspect of social commerce sites is their reliance on social media features. Hence, like social media sites they may be prone to habit formation (Pempek, Yermolayeva, & Calvert, 2009; Turel & Serenko, 2012) and their use may become habitual over time. Habit refers to "situation-behavior sequences that are or have become automatic" (Triandis 1979, p. 204) and it can drive repurchase behaviors by reducing the attention people give to rational considerations. This, in essence, semi-automates their stimuli response behaviors (Honkanen, Olsen, & Verplanken, 2005; Liao, Palvia, & Lin, 2006; Limayem, Hirt, & Cheung, 2007). The role of habit, though, in attenuating risk and trust considerations related to social commerce is largely unknown; prior research focused primarily on the attenuating role of habit in the intention→behavior relationship

(Limayem, Hirt, & Cheung, 2007). Understanding these roles is important. From the perspective of a website developer, habit may increase repurchasing behaviors on which social commerce sites rely for financial survival. However, from a user perspective, habit may reduce rational decision-making and lead to low awareness regarding over-consumption. Given the role of habit in attenuating attention and awareness to future consequences (Honkanen, Olsen, & Verplanken, 2005; Liao, Palvia, & Lin, 2006; Limayem, Hirt, & Cheung, 2007), this research proposes that habit will influence the weight or attention that social commerce users give to risk and trust in their purchasing decisions. In other words, habituation of the use of a social commerce website would skew users' rational weighing of factors they typically consider in making purchasing decisions; these considerations will be suppressed when social commerce use is habituated but integrated into decision processes when the behavior is not habituated.

To test the proposed model, partial least squares (PLS) analysis was employed to survey data collected from a sample of 187 users of a popular social commerce site. The results largely support the proposed model and point to interesting implications for research and practice.

3.2. Conceptual Background

3.2.1. Drivers of Social Commerce Use

Reviewing the social commerce literature (see section 1.3) further emphasizes the importance of considering social factors to reflect user interactions on such sites. Nevertheless, prior studies have not sufficiently emphasized this perspective and hence

there is a gap in the way the "social" aspect is used for explaining social commerce behaviors. These social components distinguish social commerce from traditional e-commerce environments and hence represent an important theoretical and practical target.

Another aspect of the gap stems from the fact that previous social commerce studies have mostly adopted perspectives such as motivation theories and technology acceptance models. By doing so they have implied that users make decisions based on their conscious perceptions of utilitarian and hedonic values, as well as their attitudes toward the social commerce site (Hajli, 2015; Liang, Ho, Li, & Turban, 2011; Shin, 2013). Thus, the current social commerce literature has largely conceptualized user behaviors as rational. Nevertheless, with increased habituation of the use of such sites, the full rationality, weighing of perceptions and awareness assumptions may be imprecise, because habit promotes automaticity and lower reliance on perceptions and assessments (Ajzen, 2002; Giannakos, Chorianopoulos, Giotopoulos, & Vlamos, 2013; LaRose, 2010).

Accordingly, the current social commerce literature is extended in three ways. First, consistent with findings of study one, instead of only considering drivers of social commerce acceptance (factors that motivate users to engage and purchase from these websites), I examine the effect of negative facets (potential risks) which may deter social commerce use. This is a more comprehensive and realistic view; users often consider both risk and benefit factors when making use decisions (Cocosila & Turel, 2016; Cocosila, Turel, Archer, & Yuan, 2007) and not just one of these factors at a time. In fact, risk perceptions have been found to be more influential than benefit perceptions in affecting user intentions (Tversky & Kahneman, 1992). Thus, I consider perceived risk as the

negative factor, which may deter users from purchasing products offered via the social commerce website. Consistent with the trust-risk perspective, I consider risk in conjunction with trust (Pavlou, 2003). As explained in chapter 2, trust has been extensively studied in the IS literature and it is considered an essential element in purchasing transactions, especially in environments where risk elements exist. Therefore, similar to the study in chapter 2, trust has been considered as the driver of social commerce use which can motivate users to purchase from the social commerce website, and the effects of which can counterbalance the effects of risk. Second, I suggest that given the social context of social commerce platforms, users develop some site assessments based on interactions with site members (a trust transference mechanism, see Stewart, 2003). Third, I further argue that given the enjoyable and sometime repetitive nature of social commerce (e.g., buying on *eBay* can even become addictive, see Turel, Serenko, & Giles, (2011) it is very likely that users develop habitual behaviors; i.e., using social commerce website becomes a habit for them (Pempek et al., 2009). Consistent with habit theories (Orbell & Verplanken, 2010; Wood & Neal, 2007; Wood, Quinn, & Kashy, 2002), I posit that this habitual use may affect and attenuate user considerations of cognitive factors (risk and trust) and bias the way they interpret and weigh such rational perceptions in their mental calculus of purchasing decisions.

3.2.2. Habit

Habit refers to learned sequences "of acts that have become automatic responses to specific cues, and are functional in obtaining certain goals or end-states" (Verplanken & Aarts 1999, p. 104). Habitual behavior is an automatic response to an environmental

stimulus which usually is minimally or in strong habit cases not cognitively evaluated (Aarts, Verplanken, & Knippenberg, 1998). Thus, when people act out of habit they may be unaware of why they are performing the behavior and may not evaluate outcomes rationally (Ouellette & Wood, 1998). In the IS context, habit is defined as the "extent to which people tend to perform behaviors (use IS) automatically because of learning" (Limayem, Hirt, & Cheung, 2007, p. 709). Previous habit literature mainly studied habit from three related perspectives: 1) the influence of habit on the intention and use relationship (moderation) (e.g. Limayem, Hirt, & Cheung, 2007; Verplanken, Aarts, & VanKnippenberg, 1997; Verplanken & Aarts, 1999); 2) the direct influence of habit on intention to engage in a behavior (e.g. Ouellette & Wood, 1998); and 3) the direct effect of habit on actual behavior (Limayem & Hirt, 2003; Ouellette & Wood, 1998). In the IS context, it has been demonstrated that IS use habit moderates the relationship between intentions and usage behaviors. It means that intentions are an important predictor of system use when habit is low; however, when strong habit develops, IS continuance decisions become less goal-oriented and rely to a lesser extent on deliberated intentions (Limayem & Cheung, 2011). This biasing effect of habit, which reduces the deliberation burden on users, has received support in numerous studies including in social media contexts (Giannakos et al., 2013). Given this biasing-effect of habit on decision-making, I seek to explore its effect on considerations related to key rational drivers of purchase intentions on social commerce sites (perceived risk and trust). This extends the current body of work which has focused primarily on how habit attenuates the intonation→behavior link.

3.3. Research Model and Hypotheses

3.3.1. Commerce Risk Effect

As discussed in the previous chapter (see section 2.3.1), risk theory has been widely studied by researchers in psychology (Coombs & Lehner, 1981, 1984; Pollatsek & Tversky, 1970) and consumer behavior studies (Bauer, 1960; Mitchell, 1999; Mitchell, 1992; Murray, 1991). These studies have confirmed that (1) consumer purchasing behaviors involve risk elements since the consequences of their purchases cannot be anticipated, and (2) that these risk assessments drive protective behaviors and deter approach behaviors, as most people are risk averse. Adopting this perspective, it has been shown that perceived risk reduces consumer purchasing intentions/behaviors (e.g. Dowling & Staelin, 1994; Lim, 2003).

Risk is typically inevitable in online environments, even though it demotivates users to engage in online activities such as online shopping. When individuals perceive risk, they expect some level of potential loss; hence, they psychologically act to inhibit and control the action associated with the risk (Peter & Ryan, 1976). Furthermore, according to the risk deterrence principle, people prefer less risky activities/behaviors over the more risky choices (Tversky & Kahneman, 1992). Thus, perceived risk is considered as an inhibitor which deters people from conducting actions which can increase the chance of their loss (Nidumolu, 1995). The deterrence effect of risk perceptions on online shopping intentions is well established (Shimp & Bearden, 1982; White & Truly, 1989). A similar association is expected in social commerce context:

H1: Perceived commerce risk is negatively associated with user intention to purchase via a social commerce website.

3.3.2. Trust Effects

Similar to the study in chapter 2; trust toward site members and trust toward social commerce site are considered as two important elements. Relying on explanations provided in the previous chapter (section 2.3.2), I hypothesize that:

H2: Trust toward a social commerce website is positively associated with user intentions to purchase via the website.

H3: Trust toward members of a social commerce site is positively associated with user intentions to purchase via the website.

H4: Trust toward members of a social commerce site is positively associated with user trust toward the website.

H5: User trust toward members of the social commerce site is negatively associated with users' perceived commerce risk.

H6: User trust toward a social commerce website is negatively associated with users' perceived commerce risk.

3.3.3. Habit Effects

Social commerce website use habits are likely to emerge, at least among some users, because such sites include key elements which drive habituation, including repeated enjoyable use (Limayem, Hirt, & Cheung, 2007); it is common for people to develop habits on social websites that provide them with hedonic experiences (Turel & Serenko, 2012).

A unique feature of habits is that they partially automate the response behavior and help in maintaining cognitive efficiency; habituated behaviors require minimal deliberation (Aarts, Verplanken, & Knippenberg, 1998; Ouellette & Wood, 1998). As such, habit weakens the reliance on user intentions for determining IS use (Limayem & Cheung, 2008; Limayem, Hirt, & Cheung, 2007). I use the same argument for automaticity and low cognitive deliberation under habit conditions, a key tenant of habit theories (Aarts, Paulussen, & Schaalma, 1997; Verplanken, 2010; Verplanken & Aarts, 1999), and suggest that when a behavior becomes habituated, people will also pay less attention to risk and trust considerations. This suggests that people with a strong social commerce site use habit will almost automatically engage in site use without fully reflecting on risk and trust when they see stimuli (e.g., a computer screen) associated with the response behavior. In essence, I extend the moderating role of habit beyond the intention-action link to include a broader set of reflection-action links. The logic here is that as social commerce users repeat the use behavior and form mental associations of cue (e.g., seeing the website), action (using it) and reward (enjoying the use), automatic response will start to replace conscious and rational processing. In such cases, purchasing intentions will be automatically triggered without fully considering the influences of risk and trust elements. This is similar to texting while driving. When such a behavior is habituated people will rely to a lesser extent on their reflective abilities and will not fully consider risk assessments; they will simply respond to cues from their cell-phone (e.g., a new message notification) with a pre-recorded behavior (checking the cell-phone) (Turel & Bechara, 2016a, 2016b). Accordingly, I hypothesize that:

H7: Habit moderates the relationship between perceived commerce risk and intention to purchase, such that the negative relationship will be weaker (more positive) when habit is high.

H8: Habit moderates the relationship between trust toward the social commerce website and intention to purchase, such that the positive relationship will be weaker when habit is high.

H9: Habit moderates the relationship between trust toward members of the social commerce website and intention to purchase, such that the positive relationship will be weaker when habit is high.

3.3.4. Control Variables

The influence of demographic factors including user age, gender, and education level was controlled. Moreover, I considered accounting for possible effects of user personal innovativeness with IT (PIIT). This trait is included since it can help to explain online purchasing behaviors, especially on relatively new platforms (Hwang, 2009; Keisidou, Sarigiannidis, & Maditinos, 2011; Kim & Forsythe, 2010). Figure 3.1 depicts the proposed research model.

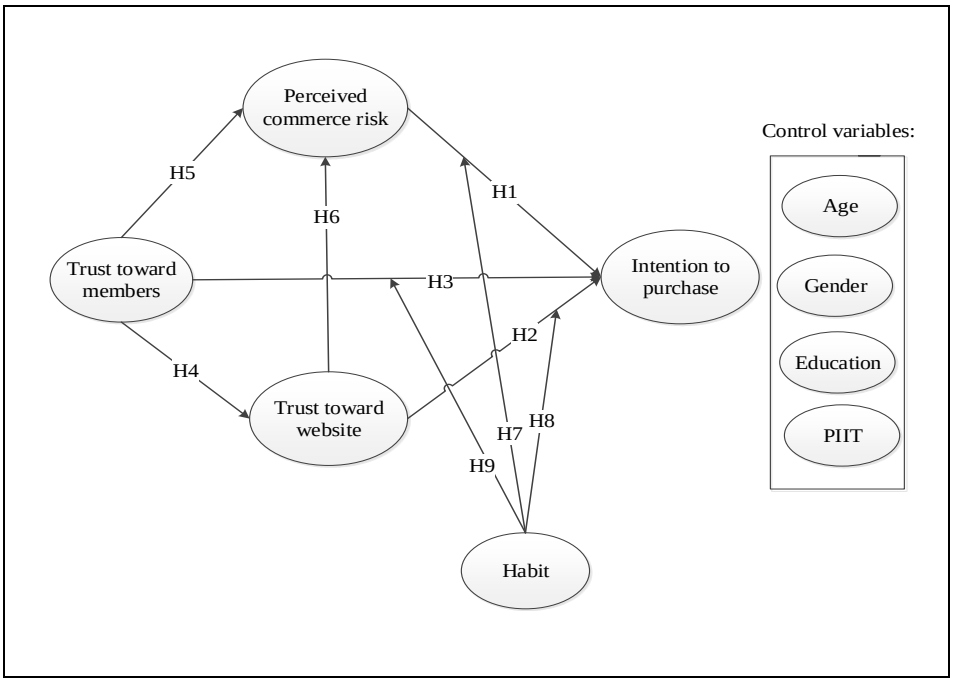


Figure 3.1 Proposed research model

3.4. Research Methodology

The study commenced with a pilot study using a sample of 60 graduate students who had social commerce use experience as a means to check the reliability and validity of the measurement scales. Then, it used the validated scales for gathering online survey responses from 187 active users of *etsy.com*. Etsy is a popular social commerce website, which has over 20 million active users. Users of this website can create a profile, which includes their personal information, follow other members, join different groups, and engage in social activities such as liking, commenting on others' posts, etc. In order to reach these users, a market research firm was employed, which distributed the online

survey to active users of etsy.com. Only users who had purchased from the website in the past two months have been considered in order to ensure familiarity with the site and established perceptions regarding the site and its users. These data were then subjected to structural equation modeling (SEM) analyses for model validation.

3.4.1. Construct Operationalization

Table 3.1 includes the measurement items, which were adapted from well-established scales and pilot-tested. The items were measured on a seven-point Likert scale.

Table 3.1 Measurement Items

Construct	Items	Developed from
Perceived Commerce Risk	• 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, Tractinsky, & Saarinen, 1999; Kim, Ferrin, & Rao, 2008)
Intention to Purchase	• I intend to purchase from this social commerce website in the next three months. • I plan to purchase from this social commerce website in the next three months. • I predict I would purchase from this social commerce website in the next three months	(Venkatesh et al., 2003)
Trust toward the social commerce website	• I believe that this social commerce website is consistent in quality and service. • I believe that this social commerce website is keen on fulfilling my needs and wants. • I believe that this social commerce website is honest. • I believe that this social commerce website has my best interests in mind. • I believe that this social commerce website is trustworthy.	(Fang et al., 2014)

Trust toward site members	• I believe that this social commerce website has high integrity. • Members of this social commerce website are in general reliable. • Members of this social commerce website are in general trustworthy. • Members of this social commerce website are in general honest.	(Pavlou & Gefen, 2005)
Habit	• Using this social commerce website has become automatic to me • Using this social commerce website is natural to me	(Limayem, Hirt, & Cheung, 2007)

3.4.2. Sample Demographics

A total of 187 valid responses were gathered. They included 158 women and 29 men. Out of the sample, 36 percent were in the age group of 30-39; 31 percent aged between 21 and 29; 10 percent were in the age group 18-20; 9 percent aged between 40 and 49; 7 percent aged between 50 and 59; and 7 percent were in the age group 60 or older. A big portion (32 percent) of respondents held a bachelor's degree; 26 percent had some college training, and 14 percent of them held a master's degree. While all participants purchased from etsy.com in the last two months, many were more experienced; 71 percent of the respondents were users of the website for more than a year; 20 percent of them had used the website for more than a month but less than a year; and 9 percent were users for about one month.

3.5. Data Analysis and Results

The proposed model was assessed using Partial Least Squares (PLS) techniques with Smart PLS 3.0 (Ringle et al., 2015) and bootstrapping with 500 re-samples (Gil-Garcia, 2008).

As a first step, the validity and reliability of the measurement model were examined. See Cronbach's alpha, composite reliability, and average variance extracted in Table 3.2. The results demonstrated reasonable convergent validity with Cronbach's alpha and Composite Reliability scores over 0.7 and Average Variance Extracted over 0.5. Reasonable discriminant validity was established by showing that the square root of AVE for each construct is larger than the corresponding correlations (see Table 3.2). An examination of loadings and cross-loadings (Table 3.3) indicated an appropriate loading pattern.

Table 3.2 Descriptive statistics and discriminant validity (N=187)

		Alpha	CR	AVE	Mean	SD	1	2	3	4	5
1	Intention to purchase	0.874	0.922	0.799	6.262	0.717	**0.894**				
2	Perceived commerce risk	0.812	0.889	0.727	3.823	1.548	-0.405	**0.853**			
3	Trust toward site members	0.839	0.903	0.757	5.951	0.749	0.526	-0.326	**0.870**		
4	Trust toward the social commerce website	0.872	0.904	0.611	5.905	0.717	0.573	-0.294	0.721	**0.781**	
5	Habit	0.700	0.867	0.766	5.661	0.899	0.538	-0.018	0.461	0.564	**0.875**

CR: Composite Reliability; AVE: Average Variance Extracted

Table 3.3 Cross loadings

	Intention to purchase	habit	risk	trust in members	trust in website
TrM1	0.404	0.380	-0.256	**0.832**	0.583
TrM2	0.474	0.386	-0.285	**0.876**	0.612
TrM3	0.491	0.435	-0.306	**0.901**	0.683
TrW1	0.393	0.426	-0.270	0.530	**0.797**
TrW2	0.514	0.499	-0.294	0.533	**0.740**
TrW3	0.344	0.340	-0.185	0.531	**0.706**
TrW4	0.410	0.375	-0.210	0.686	**0.790**
TrW5	0.488	0.506	-0.196	0.510	**0.803**
TrW6	0.518	0.486	-0.220	0.576	**0.845**
PCR1	-0.337	-0.023	**0.835**	-0.269	-0.272
PCR2	-0.306	0.006	**0.842**	-0.281	-0.258
PCR3	-0.388	-0.027	**0.880**	-0.283	-0.226
Habit1	0.395	**0.836**	0.086	0.396	0.457
Habit2	0.531	**0.913**	-0.092	0.414	0.525
IPU1	**0.915**	0.416	-0.361	0.451	0.497
IPU2	**0.886**	0.516	-0.369	0.468	0.519
IPU3	**0.880**	0.502	-0.353	0.489	0.517

Next, the potential existence of common method variance was examined with several procedures. First, Harman's single-factor test was performed (Podsakoff & Organ, 1986). The results showed that five factors accounted for 72% of the variance and no single factor explains more than 41% of the variance. Second, a latent common-method factor was included in the model (Liang, Saraf, Hu, & Xue, 2007). The results of this test are reported in Table 3.4. They show that the average variance explained by indicators is 0.720 while the average method-based variance is 0.012. In addition, most of the loadings of the method construct were not significant. Thus, it was concluded that common method

Table 3.4 Common method bias analysis

Construct	Indicator	Substantive factor loading (R1)	$R1^2$	Method Factor Loading (R2)	$R2^2$
Intention to purchase	IPU1	1.007***	1.014	-0.110**	0.012
	IPU2	0.831***	0.690	0.064	0.004
	IPU3	0.840***	0.705	0.048	0.002
Habit	habit1	0.924***	0.853	-0.080	0.006
	habit2	0.833***	0.693	0.076	0.005
Trust toward site members	TrM1	0.911***	0.829	-0.085	0.007
	TrM2	0.872***	0.760	0.003	0.000
	TrM3	0.833***	0.693	0.074	0.005
Trust toward the social commerce website	TrW1	0.982***	0.964	-0.199	0.039
	TrW2	0.463***	0.214	0.297*	0.088
	TrW3	0.844***	0.712	-0.149	0.022
	TrW4	0.690***	0.476	0.107	0.011
	TrW5	0.816***	0.665	-0.009	0.000
	TrW6	0.886***	0.784	-0.045	0.002
Perceived commerce risk	PCR1	0.819***	0.670	-0.031	0.000
	PCR2	0.859***	0.737	0.021	0.000
	PCR3	0.879***	0.772	0.009	0.000
Average		**0.840**	**0.720**	**-0.000**	**0.012**

After assuring the adequacy of the measurement model, I proceeded to test the structural model. As Figure 3.2 shows, most of the hypotheses were supported. The model explained a large proportion of variance in intention to purchase (R^2 = 53%) and trust toward the site members (R^2 = 52%), and a reasonable proportion of the variance in perceived commerce risk (R^2 = 11%). None of the control variables exerted a significant effect on the model's endogenous constructs. The results are depicted in Figure 3.2.

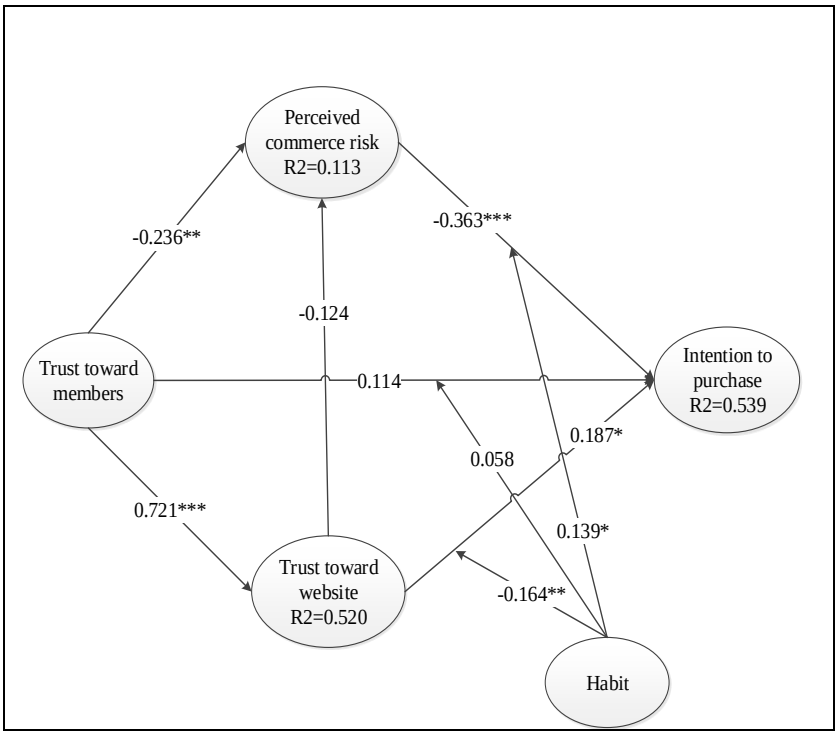


Figure 0.2 The structural model

* P<0.05; **P<0.01; *** P<0.001

3.5.1. Post-hoc analyses

Several post-hoc analyses were performed in order to shed more light on the findings. First, I considered the possibility that trust toward the social commerce website and perceived risk mediate the relationship between trust toward site members and intention to purchase. To do so, the direct relationship between trust toward site members and intention to purchase without the presence of mediators was checked. The relationship was positive and significant ($p < 0.000$). However, with the presence of the mediators, this relationship became insignificant. Then the Sobel test (Sobel, 1982) was conducted, which produced significant statistics for the mediated relationships. Hence, both perceived

commerce risk and trust toward the social commerce website fully mediate the relationship between trust toward site members and intention to purchase. Moreover, in Smart PLS, the indirect effect between trust toward site members and intention to purchase was significant (p=0.000), but the direct effect was non-significant; which again supports the full mediation implied in Figure 3.2.

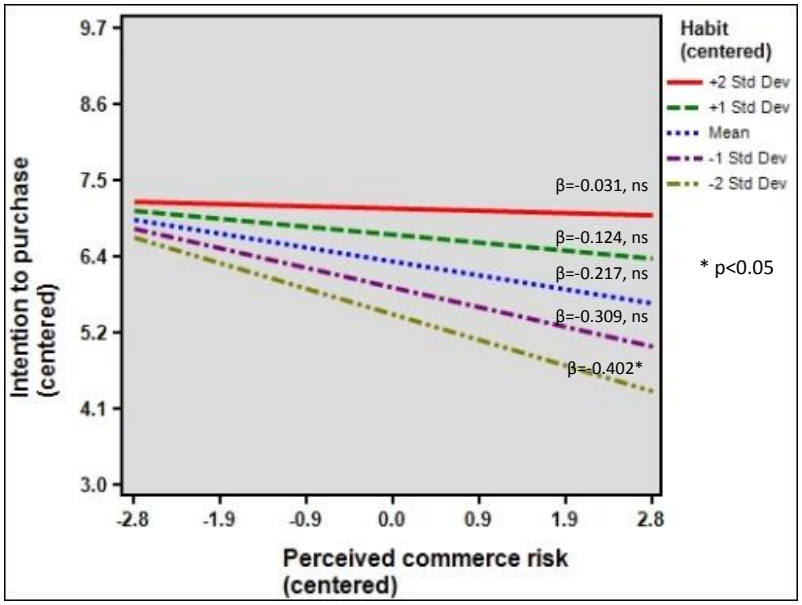
Second, in order to find whether the influence of perceived commerce risk on purchasing intention is stronger than the influence of trust (a difference which is consistent with prospect theory), the effect sizes of these two relationships (risk-intention and trust-intention) were compared (Cohen, 1988; Rosenthal, 1991). The effect size for risk-intention relationship was 0.197 (medium) and the effect size of trust-intention relationship was 0.056 (small) [1]; therefore, it can be concluded that the deterrence effect of perceived commerce risk on intention to purchase is stronger than the encouraging role of trust, which is in line with prospect theory (Tversky & Kahneman, 1991).

Third, I sought to shed more light on the moderation effects (see Figure 3.3). In panel A, as habit changes from low to high, the slope of the line which represents the relationship between commerce risk and intention to purchase become less negative (the relationship becomes weaker). It shows that risk perceptions reduce purchase intentions only for low levels of habit (below one standard deviation below the mean); at high levels of habit, risk is largely ignored. In panel B, as habit changes from low to high, the

[1] PLS results are calculated once with the IV included in the model, and once with the IV excluded from the model. The effect size is calculated based on R^2 of the DV as formulated below: $f^2 = \frac{(R^2_{included} - R^2_{excluded})}{(1 - R^2_{included})}$

relationship between trust toward the social commerce website and intention to purchase becomes less positive (weaker). It shows that the effect of trust in the website drives use intentions only when habit is low (below one standard deviation below the mean); at high levels of habit trust is largely ignored.

A.



B.

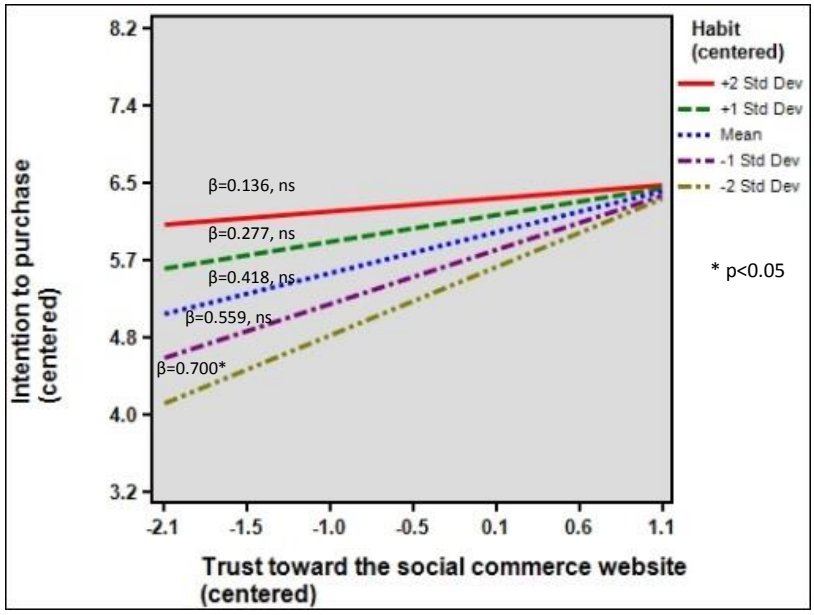


Figure 3.3 Interaction Plots

3.6. Discussion and Implications

This study sought to extend the trust-risk perspective to the context of social commerce in two directions: (1) by including social reflections (trust in members of the website) in the model, and (2) by considering how the habituation conditions under which many users of such sites operate, by attenuating rational trust-risk reflection effects on the behavioral choices of users. The first objective extends our understanding of social commerce use and represents an application of the trust-risk perspective in the social commerce context. The second one integrates the trust-risk perspective with habit theories and potentially represents a broader contribution which can apply to any IS toward which some users become habituated. The combined trust-risk-habit perspective taken in this study suggests that habit reduces the attention people give to trust-risk reflections when making behavioral choices in the context of IS use.

Integrating the trust-risk perspective with important social elements of social commerce resulted in a proposed model which examined the effects of three key factors, namely perceived commerce risk, trust toward members of the social commerce site, and trust toward the social commerce website on user intention to purchase from the social commerce website. The results showed that commerce risk deters purchasing on social commerce websites (supporting H1) and that trust toward the social commerce website increases user future purchase intentions (supporting H2). However, trust toward site

members did not directly affect intentions to purchase; this effect was fully mediated through both perceived commerce risk and trust toward the social commerce website. This result is consistent with trust transfer theory (Stewart, 2006) (supporting H3 but not H4). Furthermore, the idea that trust can alleviate perceived risk, which is consistent with risk conceptualization and theories, was tested. I found that trust toward site members reduced perceived commerce risk; nonetheless, the relationship between trust toward the social commerce website and perceived commerce risk was not significant (supporting H5, but not H6). These results highlight the importance of social interactions in the social commerce context, which makes it possibly different from other commercial platforms.

The moderation analyses showed that habit weakens both relationships between commerce risk and purchase intentions and between trust toward the social commerce site and purchase intentions (supporting H7 and H8). This means that the more habituated social commerce use becomes, the less attention is paid by users to risk and trust considerations in purchasing decisions. This finding extends the previously studied role of habit in moderating intention-action relationships and points to a broader role of habits in weakening rational considerations of behavior drivers and inhibitors.

3.6.1. Contributions for Research

The results of this study make several noteworthy contributions to research. First, the study extends the applicability of the trust-risk perspective to the social commerce context. This allows researchers to portray a more complete account of user reflections leading to use decisions, compared with the common view, which focuses mostly on

drivers of use decisions, but not on deterrents of such decisions. Specifically, most existing studies in the social commerce literature have focused on drivers of social commerce use while largely ignoring deterrents (e.g. Chen & Shen, 2015; Kim & Park, 2012; Liang, Ho, Li, & Turban, 2011; Ng, 2013). Therefore, the role of negative factors and their inhibiting effects on social commerce acceptance have been largely overlooked, especially in tandem with drivers of social commerce use. Nevertheless, deterring factors such as perceived risk have been shown to be significant de-motivators of online user behaviors (Cenfetelli & Schwarz, 2011; Featherman & Pavlou, 2003; Lim, 2003). Hence, I aimed to extend the current understanding of antecedents of social commerce use and study the simultaneous effects of both positive and negative factors on social commerce user purchasing decisions. Furthermore, the effect of trust and risk on purchasing intentions were compared. The influence of risk in deterring purchasing intention is stronger than the opposite effect of trust in encouraging the purchase behavior. This finding supports prospect theory (Tversky & Kahneman, 1992) in the social commerce context. Given this asymmetry, future studies in social commerce should consider a broader set of factors, which include not only drivers, but also inhibitors which may hinder user engagement in social commerce.

Second, according to habit theories, habitual behaviors are performed with little or no conscious evaluation of the merit and risk of behaviors; hence, when habit is strong, individual decision making does not involve deep reflections and is biased toward their pre-recorded habitual action. This study first showed that social commerce sites, given their social features, could be prone to habituation. As indicated in table 3.2, in the sample, the average score for habit is 5.66. Comparing this value with studies in other contexts; such

as habitual use of the Internet (mean=5.04) (Limayem, Hirt, & Cheung, 2007) or social media habit (mean= 4.64) (Turel & Serenko, 2012); indicates that social commerce sites can be habit prone. Therefore, it is important to consider habituation in future social commerce research.

Third, the proposed trust-risk-habit perspective extends both habit theories and IS use models, especially those relying on trust and risk reflections for explaining IS use. The findings extend the generalizability of the modulation effects of habit, which primarily have focused on intention-behavior relationships. They further extend the trust-risk perspective, at least in the social commerce context and perhaps in other settings in which IS use becomes habituated, by showing that the trust and risk assessment effects are not constant; rather, they depend on the level of habituation of the use of the system. Specifically, considering the biasing effect of habit, this research showed that social commerce site use habit can skew user risk and trust weighing in their purchasing intentions. This finding extends the current understanding of habit and its role in influencing human behaviors. In other words, it has been shown that once using the social commerce website becomes habituated, people would ignore or reduce attention to rational reflections on important considerations such as risk and trust, and their purchasing decisions will be based mostly on pre-developed stimuli-response sequences.

Furthermore, this study extends the habit literature in several ways. Previous studies have examined IS habit effects in different contexts such as social media (e.g. Turel & Serenko, 2012), e-commerce (Gefen, 2003; Pahnila & Warsta, 2010), and learning technology (e.g. Lankton, Wilson, & Mao, 2010; Limayem & Cheung, 2011).

Nevertheless, the role of habit in social commerce has been largely overlooked. This study not only extends the range of contexts in which habit effects take place, but also accounts for unique effects in social settings. It specifically examines the influence of habit on biasing user rational decision-making processes in settings in which multiple layers of trust and risk can be assessed. It shows that IS habit can bias not only the intention-use link but also the rational risk and trust considerations leading to intention formation. When habit is strong, such considerations become negligible.

Finally, the findings demonstrate that in contrast to previous studies in online shopping settings (e.g. Nicolaou & McKnight 2006; Pavlou 2003), in the social commerce context, trust toward the social commerce website does not have significant direct effect on reducing perceived commerce risk. However, trust toward site members reduces user risk perceptions. This result sheds light on a possible prime difference between social commerce and other commercial platforms; social commerce sites operate in a broader social context and this can explain the heightened importance of trust in site members in this context. Future research regarding social commerce should therefore pay closer attention to this difference and try to account for a broader set of social aspects.

3.6.2. Implications for Practice

Social commerce operators often want to increase use, since their revenues often depend on purchases. As per my model, they can do so by multiple means. First, they can increase trust in the website by using techniques reported in the trust literature (e.g. McKnight, Choudhury, & Kacmar, 2002; Pavlou, 2003), such as using trust seals, having

clear return policies or having built-in mechanisms to resolve complaints and disputes (Turel, Yuan, & Connelly, 2008). They can also follow the literature on promoting trust toward site members, and incorporate mechanisms to increase this trust, such as providing more information about users and their transaction history (Turel & Gefen, 2013). In addition, they should reduce commerce risk perceptions of the users. This can be done by considering strategies such as increasing consumer satisfaction and providing money back guarantees (Featherman & Pavlou, 2003), or having a contact person and live-chat facilities in order to be available to customers to answer their questions and resolve incidents quickly (EMarketer, 2009).

Furthermore, social commerce providers can increase habitual use among their members by following recommendations in the habit literature. As suggested by Limayem, Hirt, & Cheung, (2007), websites can encourage frequent usage by providing incentives to their members such as prizes and bonuses. In order to make the use of their websites easier, they should also enhance the accessibility of their facilities and features and provide tutorials. Frequent and enjoyable repetition of website use can eventually lead to habituation.

Chapter 4.

Study 3: Skewing users' rational risk considerations in Social Commerce: An empirical examination of the role of social identification

4.1. Introduction

As suggested in previous chapters, at least two gaps exist in the current social commerce literature. First, it has primarily examined factors that drive social commerce use (e.g. Ng, 2013; Shin, 2013; Zhang, Lu, Gupta, & Zhao, 2014), and has been relatively silent regarding factors that may demotivate or deter the use of social commerce (e.g., Featherman & Hajli, 2016). Second, these studies have largely taken a rational perspective regarding social commerce use decisions by relying on the planned behavior model and largely ignored potential biases in decision-making in this context. This study addresses these gaps.

A prime difference between social commerce and traditional forms of electronic commerce is that social commerce often involves a broader social context, namely, the members of the social group (members of the website) with whom one interacts (e.g., shares information with, or purchases from). Hence, the risk factors that exist in social commerce platforms do not work in isolation, and their effects may be influenced by the social context. Although several studies allude to the importance of contexts in determining the behaviors of individuals (Johns, 2006), the social commerce literature has been

relatively silent regarding this role with regard to the social group to which one interacts. Social identity theory (Hogg, 1996) is a reasonable lens for capturing this social aspect of social commerce. In the context of social commerce, social identification can be defined as user perceptions regarding their similarity to and the strength of the bonds and affiliation with other website-based group members.

What makes social identification important is its rational-biasing potential, as dictated by the "risky/choice shift" perspective. This perspective suggests that being a part of a group (e.g., as manifested by a high social identification) can promote risky behaviors by reducing the cognitive weighing of risks in decision-making (Kogan & Wallach, 1967; Wallach & Kogan, 1965). The importance of social identification, albeit as related to other aspects of social interaction, has been demonstrated in other online community contexts (e.g. Dholakia, Bagozzi, & Pearo 2004; Gefen & Ridings 2003; Tsai & Bagozzi 2014). Following the risk deterrence and "risky/choice shift" logics, this research specifically examines how two types of perceived risk that are highly relevant to typical social-commerce behaviors (perceived participation risk and perceived commerce risk) may affect two types of common social commerce user behaviors (intention to post comments in the social commerce forums and intention to purchase from the website) and how social identity may bias these relationships. Hence, the second research objective of this paper is to understand whether and how social identification can bias rational risk considerations in making common decisions in the social commerce context.

This study makes two key contributions: First, this research focuses on social commerce deterrence factors (risks) rather than motivating factors (benefits). Risk perceptions are not just important for decision choices but are often more influential than benefit considerations in this processes (Tversky & Kahneman, 1992). Hence, the focus on the effects of risk on social commerce behavior is worthy. Second, this research contributes to the social commerce literature by introducing risky/choice shift caused by social identity into a research framework that improves on previous models that only relied on rational-based theories.

4.2. Background

4.2.1. Social identity

Social identity captures individual identification within a group and the extent to which they view themselves as members of this group (Hogg, 2006). It is related to the psychological status that describes users as the members of collective rather than as separate individuals. The formation and activation of social identity is often explained through the lens of the social identity theory (Abrams & Hogg, 2006; Tajfel & Turner, 1979; Turner, 1982). This theory distinguishes between within-group and intergroup relations. This can be important for group interactions, such as those in social commerce, because it explains how group affiliation influences one's behavioral choices. Given the potential relevance of social identification for online communities and organizational units, several studies have ventured to understand how social identification can affect user behaviors in these situations. For instance, social identity increases user acceptance of IT:

when users feel fewer differences between them and the IT group, and when they believe they have similar values with the IT group, their acceptance of IT is increased (Gefen & Ridings, 2003). In virtual communities, it has been shown that social identity plays an important role in the development of behavioral participation (Tsai & Bagozzi, 2014) and purchasing intentions (Bagozzi & Dholakia, 2006). Nevertheless, how social identification might influence risk weighing processes, especially in social commerce settings, is still largely unknown. Given the possible biasing effect of social membership in group settings (Kogan & Wallach, 1967; Wallach & Kogan, 1965), I seek to explore such effects. From a theoretical perspective, this gap represents an opportunity to integrate theories of risk deterrence in decision-making with the social identity theory using the "risky/choice shift" logic, which will be explained later.

Social identity can include three facets of identification: cognitive, affective, and evaluative (Ellemers, Kortekaas, & Ouwerkerk, 1999). Cognitive social identity encapsulates categorization processes, in which individuals become aware of community membership, similarities with other members, and dissimilarities with nonmembers (Dholakia et al., 2004). Affective social identity relates to member feelings of attachment and belongingness. It is characterized as "identification with, involvement in, and emotional attachment to" the social group (Allen & Meyer, 1996, p. 253). Finally, evaluative social identity is defined as the evaluation of self-worth regarding the belongingness to the group. It reflects user perceptions of their value and importance as members of the group (Dholakia et al., 2004). I follow this conceptualization and its consequent operationalization in this study.

4.2.2. Risky/Choice Shift Logic

The social psychology literature indicates that a person's risk-taking behavior can be influenced by social factors such as his/her membership in a group. A "risky shift" was found in early research, whereby people seem more willing to take risky decisions when they were members of a group compared to when they were alone (Stoner, 1961). This phenomenon, called "risky/choice shift", was reaffirmed by several researchers investigating group risk-taking behaviors (e.g., Vinokur, 1971; Gardner & Steinberg, 2005; Hensley, 1977; Zhu, Dholakia, Chen, & Algesheimer, 2012). The "risky/choice shift" can be theoretically explained through the "diffusion of responsibility" notion. This notion suggests that group members are willing to take more risks because they assume that they are protected by their group members and that responsibility for the potential failure of risky decisions would be shared with others (Vinokur 1971; Kogan & Wallach 1967). In other words, people with strong affiliation with a group tend to psychologically and irrationally distance themselves from the potential harms and blame of risky choices associated with the group. Risky/choice shift phenomenon has been studied in different contexts such as gambling behavior (e.g., Felsenthal, 1979), making health-related decisions (e.g. Noe, McDonald, & Hammitt, 1983), and financial decision-making (e.g., Zhu et al., 2012).

In this study, the social identity theory is integrated with risky/choice shift logic to study the possible biasing role of social membership. Table 4.1 summarizes the related theories/concepts discussed in the background section. I have used concepts of "decision field theory" and "prospect theory" to contend that risk elements that exist in the social

commerce platforms demotivate social commerce users from engaging in key activities (e.g., purchasing and posting comments). The "social identity" theory has been adopted to suggest that social commerce members develop social identification that can affect their perspective on the situation. To propose the biasing role of social identity on risk weighing, I relied on the "risky/choice shift" perspective.

Table 4.1 Description of relevant theories

Theory	Description
Social Identity Theory	People's behaviors with their group are influenced by their often-biased evaluations of in-group members and the strength of their affiliation with the group
Risky/Choice Shift	Being a part of group can promote risky behaviors through under-weighing (and in extreme cases ignoring) the risks associated with the behaviors
Decision Field Theory	Explains decision-making behavior under uncertainty; it suggests that for rational people risks would deter approach-oriented behaviors
Prospect Theory	People assess gains and losses differently and are more susceptible to losses than gains.

4.3. Hypotheses development

This research relies on the theories described in Table 4.1 to suggest that (1) two relevant risk facets, participation risk and commerce risk, deter people from intending to engage in, correspondingly, social commerce participation and purchasing behaviors, and

(2) one's social identification with the group (members of the website) may bias (weaken) the translation of risk assessments into behavioral intentions.

4.3.1. Risk and behavioral intentions

Relying on discussion in section 2.3.1, I hypothesize that:

*H1**:** Perceived commerce risk will reduce user intention to purchase on the social commerce website.*

H2: Perceived participation risk will reduce one's intention to post comments in social commerce forums.

4.3.2. Group Identification Effects

The social commerce context provides a fertile ground for developing social identities and for allowing these social identities to influence user behaviors. First, social commerce users develop varying degrees of social identification. Each user feels to some extent affiliated with other members of the website, given the natural tendency of humans to evaluate where they socially stand with regard to other group members, as well as with regard to people who are external to the group (Jetten, Spears, & Manstead, 1996).

Second, one way in which social identification can guide behavior in this context is rooted in the "risky/choice shift" phenomenon, which indicates that given the same level of risk, individuals will demonstrate more risk-taking behaviors when they are in groups. That is, when individuals feel they are part of a group to which they strongly affiliate (i.e., their social identity is high), they will underweight (downplay) the risks associated with their choices in a group setting (Denscombe, 1993; Kim & Park, 2010). This happens

because group members have the illusion that they are sheltered by the group, and given their social ties to the group, it will be easier for them to deal with negative outcomes associated with the risk (Cartwright, 1973). Indeed, studies have shown that having interactions in groups leads to enhancement of individual risk-taking choices (Cartwright, 1973; Kogan & Wallach, 1967; Wallach & Kogan, 1965). Applying this logic here, I propose that in a social commerce community, users who have strong social identification with the group (i.e., sense stronger belongingness and affiliation to the community, perceive more similarities with other members, and consider themselves as important members of the community) will feel more sheltered by the group. This should increase their likelihood to underweight the risks and to consequently be more favorably disposed toward acting on the website. Thus, I hypothesize that:

H3: 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.

H4: Social identity will moderate the relationship between perceived participation risk and intention to post comments such that the negative relationship will be weaker when social identity is high.

Figure 4.1 depicts the proposed model.

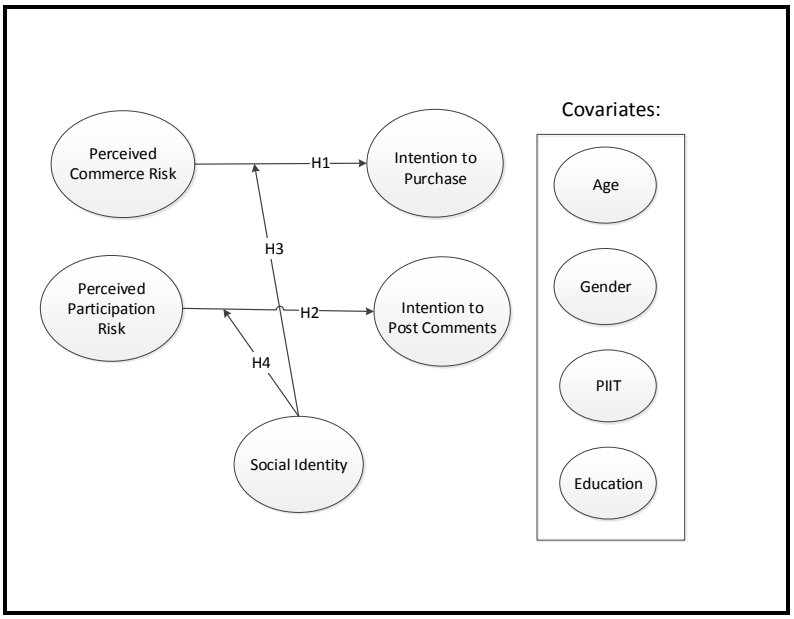


Figure 0.1 Proposed research model

4.4. Alternative Model

It is possible that risk assessments are being weighted by individuals to produce an overall risk estimate (Clemen & Reilly, 1999) and that this risk estimate deters purchasing and posting intentions. According to this view, social commerce users may assess the potential risk by weighing its different facets (i.e., social, privacy, and commerce risks in this case) and behave based on their overall risk assessment. This view is consistent with the marketing literature that suggests that an overall risk consisting of different risk facets influences consumer behaviors (e.g. Jacoby & Kaplan 1972; Lim 2003; Stone & Gronhaug 1993). Adapting this view and the logic of H1-H4, I propose to test an alternative model that includes the following hypotheses:

H5a: Perceived overall risk will affect user intentions to purchase on the social commerce website.

H5b: Perceived overall risk will affect user intentions to post comments on the social commerce website.

H5c: Social identity will moderate the relationship between perceived overall risk and (c) intentions to purchase, such that the negative relationships will be weaker when social identity is high.

H5d: Social identity will moderate the relationship between perceived overall risk and intentions to post comments, such that the negative relationships will be weaker when social identity is high.

4.5. Methodology

The study commenced with pilot-testing the study materials with a sample of 50 graduate students who had used social commerce sites for purchasing and posting. This was done to check the reliability and validity of the adapted measurement scales. All scales had alphas, composite reliability, and average variance extracted (AVE) scores >0.7 and presented an appropriate factor loading structure. All scales were clear to users, relevant, and captured the intended concepts, as post-pilot study interviews with the users indicated. Next, data for hypothesis testing were collected from 175 active users of *etsy.com*, which

is one of the most popular social commerce websites. The collected data were then analyzed with SmartPLS 3.0 (Ringle et al., 2015).

4.5.1. Participants and procedure

Data were collected using an online survey, which was distributed through market research firms to etsy.com users, in two rounds. The research firms recruited the participants through research panels, and all respondents were compensated by the company. I specifically targeted active users who had purchased from the website and posted on discussion forums in the past two months to ensure experience (rather than heuristic)-based perceptions, social identification, and intentions. In the first round of data collection, 135 valid responses were obtained; the sample comprised more number of females (83% were female). A smaller second round of data collection (exact same survey) was employed with a second marketing firm to increase sample size and increase the representation of men in the sample (34% of the combined sample are male). The second round yielded 40 more responses. Multivariate analysis of variance indicated that the two data subsets were statistically similar. Only "cognitive social identity" was higher in the first dataset. This was probably due to the difference in the gender ratio of the two datasets. Hence, I used the combined dataset in analyses but also included the data collection round as a control variable.

Overall, 175 valid responses were obtained (the response rate is unknown; it is managed by the marking firm that collected the data). The combined sample included 115 women and 60 men; 39% of them were in the 30-39 years age group; 33% were in 21-29

years age group; 9% aged between 18 to 20; 9% aged between 40 and 49; 8% were in the 50-59 age group; and 2% aged 60 or older. The sample was relatively experienced with the website; 70.9% of the respondents had been members of the website for more than a year; 22% of them were members of the website for more than a month but less than a year; and 7.1% were members for about one month. Out of the sample, 38.3% held bachelor's degree, 23.4% had some college training, 10.3% had master's degrees, 12% had high school degrees, 9% had associate degrees, 5% had professional degrees, and 2% had doctorate degrees.

4.5.2. Measurement

The measurement items were adapted from well-established scales (See Table 4.2). All items were measured on a 7-point Likert scale and were operationalized in a way that is consistent with their operationalization in prior research. Participation risk was measured as a second-order formative construct, which supports its conceptualization as the mentally weighted sum of privacy risk and social risk. This operationalization stems from the logic that the two dimensions of participation risk (i.e., privacy risk and social risk) do not have to covary and that they can be viewed as adding up to, rather than being caused by an overarching participation risk (i.e., the total risk is a weighted sum of the sub dimensions) (Petter et al., 2007). To alleviate concerns regarding the possibility that a reflective operationalization is better, I also post-hoc tested the framework modeling–perceived participation risk as a reflective construct; the results were qualitatively the same, and no path changed in significance or sign. All other constructs were operationalized as reflective. Social identity was modeled as a second-order construct that is reflected through

three sub-dimensions—evaluative social identity, affective social identity, and cognitive social identity. This is consistent with the operationalization in Tsai and Bagozzi (Tsai & Bagozzi, 2014). In this case, the three dimensions are expected to reflect the underlying latent concept of social identification.

4.5.3. Control variables

The study controlled for user age, gender, and education level as a means to account for possible influences of demographics on the model's constructs. Furthermore, I controlled for user personal innovativeness with IT (PIIT).

Table 0.2 Measurement item

Construct	Items	Developed from
Perceived Privacy Risk *Alpha=0.782* *CR=0.873* *AVE=0.697*	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 & Pavlou, 2003)
Perceived Social Risk *Alpha=0.848* *CR=0.908* *AVE=0.767*	Please rate 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 how others view you unfavorably	(Featherman & Pavlou, 2003) (Gupta et al., 2004)

Perceived Commerce Risk *Alpha=0.811* *CR=0.888* *AVE=0.725*	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, Tractinsky, & Saarinen, 1999; Kim, Ferrin, & Rao, 2008)
Evaluative Social Identity *Alpha=0.680* *CR=0.862* *AVE=0.757*	I am a valuable member of this social commerce website community. I am an important member of this social commerce website community.	(Tsai & Bagozzi, 2014)
Affective Social Identity *Alpha=0.676* *CR=0.859* *AVE=0.753*	How attached are you to members of this social commerce website How strong would you say your feelings of belongingness are toward the community of members on this social commerce website	(Tsai & Bagozzi, 2014)
Cognitive Social Identity *Alpha=0.708* *CR=0.872* *AVE=0.773*	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 that of the members of this social commerce website as you perceive it.	(Tsai & Bagozzi, 2014)
Intention to Purchase *Alpha=0.841* *CR=0.904* *AVE=0.758*	I intend to purchase from this social commerce website in the next three months. I plan to purchase from this social commerce website in the next three months. I predict I would purchase from this social commerce website in the next three months.	(Venkatesh et al., 2003)

Intention to Post Comments *Alpha=0.786* *CR=0.875* *AVE=0.700*	I intend to participate (write comments) in activities on this social commerce website in the next three months. I predict I would participate (write comments) in activities on this social commerce website in the next three months. I plan to participate (write comments) in activities on this social commerce website in the next three months.	(Venkatesh et al., 2003)

4.6. Results

4.6.1. Measurement model

First, reliability, convergent, and discriminant validity were assessed and deemed to be appropriate (see Table 4.3). For discriminant validity, the square root of AVE for each construct was compared with the bivariate correlations between that construct and all others (Fornell & Larcker, 1981) and was found to be higher than all the corresponding correlations (See Table 4.3). Thus, reasonable discriminant validity was established. An assessment of loadings and cross-loadings indicated an appropriate loading pattern (see Table 4.4).

For the formative construct (participation risk), the multicollinearity between the dimensions was examined. A variance inflation factor (VIF) below 3.3 assures that multicollinearity is reasonable (Diamantopoulos, 2006). In this study, VIFs for privacy risk and social risk were 1.443. Furthermore, the bivariate correlation between privacy risk and social risk was below 0.7, which provides additional support for the nonexistence of multicollinearity in the formative construct (Cenfetelli & Bassellier, 2009). I also

conducted multicollinearity analysis for reflective constructs. VIFs for all reflective constructs were below 3.3.

Table 4.3 Descriptive statistics and discriminant validity (N=175)

	Mean	SD	1	2	3	4	5	6	7	8
1. Intention to post comments	5.615	0.749	**0.837**							
2. Intention to purchase	5.891	0.759	0.629	**0.871**						
3. Affective social identity	4.314	1.232	-0.139	-0.075	**0.868**					
4. Cognitive social identity	4.408	1.015	-0.058	0.018	0.644	**0.879**				
5. Evaluative social identity	5.202	0.950	0.317	0.389	0.187	0.173	**0.870**			
6. Perceived commerce risk	3.859	1.419	-0.291	-0.386	0.357	0.313	0.120	**0.851**		
7. Perceived privacy risk	4.177	1.228	-0.180	-0.357	0.377	0.331	0.131	0.660	**0.835**	
8. Perceived social risk	3.187	1.511	-0.297	-0.344	0.305	0.276	0.120	0.639	0.554	**0.876**

Table 4.4 Cross-loadings analysis

	Intention to post comments (IPC)	Intention to purchase (IPU)	Affective social identity (ASI)	Cognitive social identity (CSI)	Evaluative social identity (ESI)	Perceived commerce risk (PCR)	Perceived privacy risk (PPR)	Perceived social risk (PSR)
IPC1	**0.824**	0.422	-0.117	-0.028	0.295	-0.134	-0.080	-0.197

IPC2	**0.814**	0.647	-0.062	0.018	0.237	-0.312	-0.198	-0.277
IPC3	**0.871**	0.513	-0.177	-0.145	0.251	-0.283	-0.171	-0.269
IPU1	0.552	**0.875**	0.006	0.074	0.256	-0.353	-0.329	-0.283
IPU2	0.547	**0.877**	-0.105	-0.016	0.362	-0.313	-0.291	-0.285
IPU3	0.543	**0.860**	-0.106	-0.017	0.405	-0.342	-0.312	-0.330
ASI1	-0.145	-0.120	**0.832**	0.413	0.130	0.314	0.333	0.274
ASI2	-0.110	-0.023	**0.902**	0.677	0.190	0.313	0.325	0.260
CSI1	0.014	0.069	0.649	**0.901**	0.186	0.251	0.280	0.205
CSI2	-0.143	-0.048	0.471	**0.857**	0.112	0.309	0.305	0.288
ESI1	0.361	0.427	0.170	0.138	**0.868**	0.021	0.036	0.028
ESI2	0. 194	0.251	0.157	0.163	**0.873**	0.183	0.191	0.180
PCR1	-0.191	-0.279	0.256	0.160	0.113	**0.811**	0.485	0.457
PCR2	-0.301	-0.350	0.376	0.346	0.048	**0.879**	0.615	0.585
PCR3	-0.239	-0.350	0.273	0.273	0.148	**0.861**	0.574	0.576
PPR1	-0.077	-0.287	0.255	0.223	0.227	0.553	**0.830**	0.475
PPR2	-0.229	-0.331	0.342	0.314	0.063	0.582	**0.877**	0.510
PPR3	-0.138	-0.275	0.351	0.293	0.036	0.521	**0.796**	0.395
PSR1	-0.291	-0.348	0.263	0.270	0.155	0.685	0.544	**0.870**
PSR2	-0.215	-0.277	0.241	0.217	0.098	0.503	0.475	**0.874**
PSR3	-0.270	-0.276	0.298	0.236	0.058	0.485	0.431	**0.883**

Common method variance concerns were addressed by including common latent factors as described in Liang, Saraf, Hu, & Xue, (2007). The results (Table 4.5) demonstrated that the AVE explained by indicators was 0.74, whereas the average method-based variance was 0.007. Moreover, most loadings of the latent method construct were not significant. Hence, it can be concluded that common method variance is unlikely to be a major component in the data.

Table 0.5 Common method bias analysis

* P<0.05; **P<0.01; *** P<0.001

Construct	**Indicator**	**Substantive factor loading (R1)**	**$R1^2$**		**$R2^2$**

				Method factor loading (R2)	
Intention to post comments	IPC1	0.898***	0.805	0.131*	0.017
	IPC2	0.767***	0.588	-0.093	0.009
	IPC3	0.846***	0.716	-0.035	0.001
Intention to purchase	IPU1	0.875***	0.766	0.012	0.0001
	IPU2	0.904***	0.817	0.027	0.0007
	IPU3	0.833***	0.694	-0.039	0.002
Affective social identity	ASI1	0.849***	0.721	0.015	0.0002
	ASI2	0.888***	0.788	-0.014	0.0002
Cognitive social identity	CSI1	0.912***	0.832	-0.056	0.003
	CSI2	0.846***	0.716	0.060	0.003
Evaluative social identity	ESI1	0.860***	0.740	-0.106**	0.011
	ESI2	0.900***	0.81	0.106**	0.011
Perceived commerce risk	PCR1	1.047***	1.096	-0.101*	0.010
	PCR2	0.699***	0.489	0.114*	0.013
	PCR3	0.817***	0.667	-0.011*	0.0001
Perceived privacy risk	PPR1	0.869***	0.755	-0.054	0.003
	PPR2	0.812***	0.659	0.078	0.006
	PPR3	0.827***	0.684	-0.030	0.0009
Perceived social risk	PSR1	0.699***	0.489	0.209**	0.044
	PSR2	0.955***	0.912	-0.1	0.01
	PSR3	0.972***	0.945	-0.108	0.012

Average		**0.861**	**0.747**	**0.0002**	**0.008**

4.6.2. Structural model

Given the adequacy of the measurement model, the proposed hypotheses were tested with a bootstrapping procedure with 300 resamples (Gil-Garcia, 2008). As shown in Figure 4.2, all hypotheses were supported. The model explained 31% of the variance in intention to purchase, and 25% in intention to post comments. Among the control variables, only PIIT had a significant effect on intentions to post comments. I also accounted for "round of data collection" as a control variable; it was not a significant predictor of the outcome of my model. Hence, it can be concluded that age, gender, and round of data collection did not influence the research model.

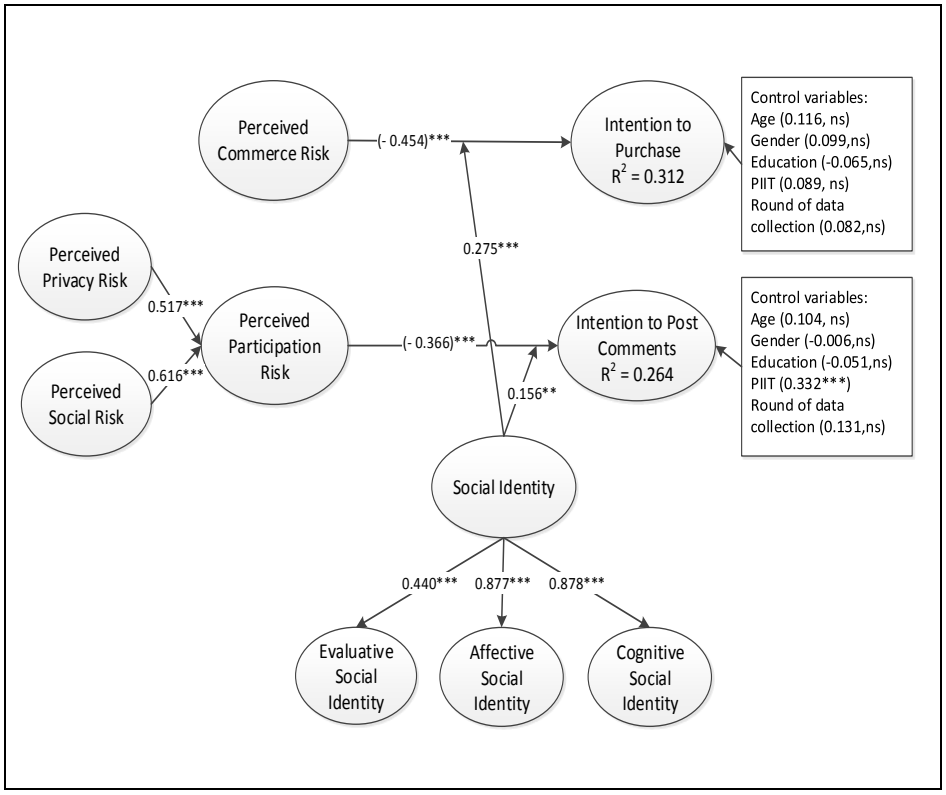


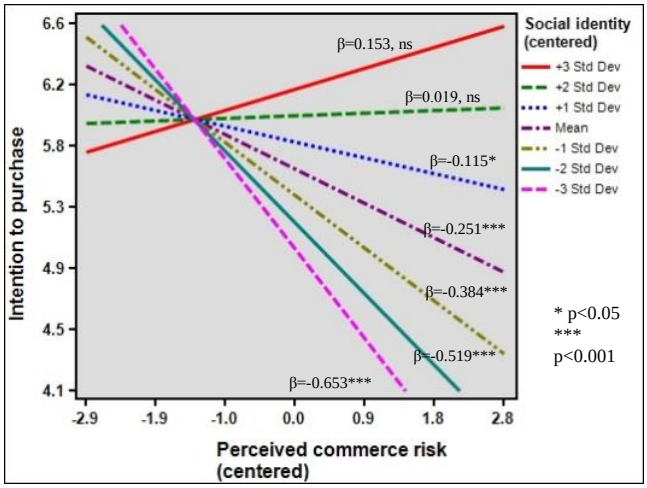
Figure 4.2 Analysis results of the structural model

* P<0.05; **P<0.01; *** P<0.001

Given the significance of the moderating effects of social identity, I explored them to obtain a more refined understanding of the levels of social identity at which risk considerations do not matter. Figure 4.3 portrays the results of this analysis. In panel A, as social identity changes from low to high, the relationship between commerce risk and intention to purchase, represented by the slope of the line, becomes weaker (less negative). Similarly, in panel B, when social identity changes from low to high, the relationship between participation risk and intention to post comments becomes weaker (less negative). The graphs show that for social identity values more than one standard deviation from the

mean, the risk factors that have been identified become irrelevant in decision-making processes because their effects on purchasing and posting intentions become non-significant.

A.



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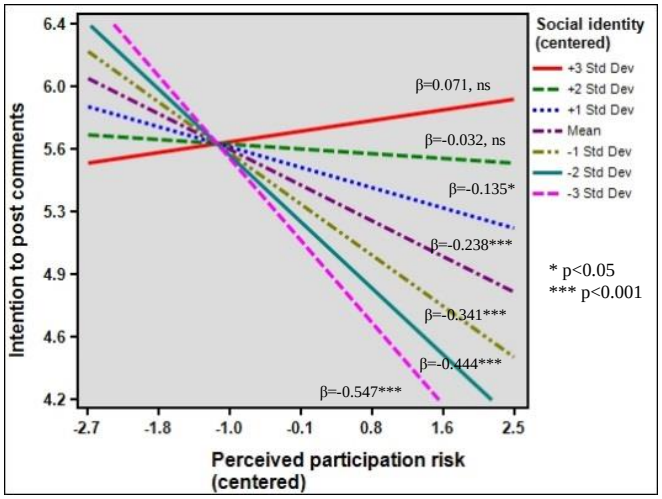

Figure 4.3 Interaction plots

4.6.3. Alternative Model Estimation

First, the post-hoc for possible cross-effects of perceived risks on the other intentions was tested. I added the paths between perceived participation risk (perceived commerce risk) and intention to purchase (intention to post comments) in the model. The results (path coefficients and their signs) remained qualitatively the same. The added paths were somewhat significant but with small effects, which is reasonable given the a-theoretical basis for such effects.

Second, an alternative model was tested to explore H5a-d (see results in Figure 4.4). Alternative hypotheses (H5a-d) remained significant. Hence, it can be concluded that this perspective (an overall risk assessment) is also viable. Comparing the R-squares of the research (Figure 4.2) and alternative (Figure 4.4) models, it seems that the alternative model is slightly better in explaining purchase and posting intentions.

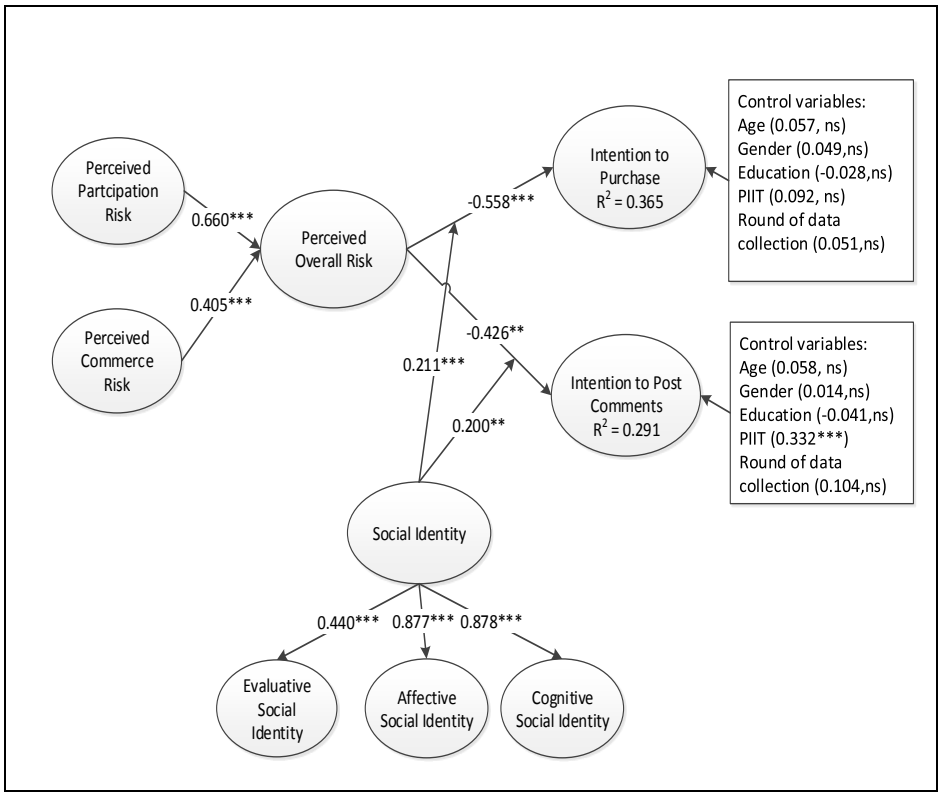

Figure 4.4 Analysis results of the alternative model

4.7. Discussion

This research aimed to understand (1) the deterring role of users' perceived participation and commerce risk in reducing intentions to purchase from the social commerce website and post comments in social commerce discussions and (2) how these risk-based decision-making processes may be distorted by social identification, as dictated by the risky/choice shift logic. To do so, the theories of risk deterrence in decision-making (decision field and prospect theories) were integrated with the social identity theory using the "risky/choice shift" logic to produce a research model. The results showed, consistent with risk deterrence (decision field and prospect) theories, that these risk factors deter purchasing and participation in social commerce, correspondingly, and hence support H1

and H2. An alternative model suggested that people weigh such risks rather than use them independently for relevant decisions and that this weighted overall risk assessment deters behavior. This model was also supported (hence supporting H5a-b). The alternative model was slightly better than the main model in explaining variance in purchase and posting intentions on social commerce sites. This increased the confidence in the results; regardless of risk perception modeling, the results consistently showed that risk demotivates behaviors on social commerce sites.

Next, the "risky/choice shift" logic was applied to examine whether user social identification with the social commerce community on the website influences the way they weigh risk factors for deterring action. I expected lower attention to risk considerations under conditions of high social identification. The findings support the hypotheses (H3 and H4 in the case of discrete risk assessment effects and H5c-d in the case of overall risk assessment effect). Support across risk conceptualization increased confidence in the finding; it indicated that social identity moderates (weakens) both relationships: between commerce (or alternatively, overall) risk and purchase intentions, and between participation (or alternatively, overall) risk and posting intention. This means that when users of social commerce feel that they have strong social identification with other members of the website, they downplay the potential risks of social commerce. The moderation analysis indicated that for somewhat high social identity values (more than one standard deviation from the mean), the relevance of social and commerce risk factors disappears, as the effect of such risk assessment on user decisions evaporates.

4.7.1. Contribution to theory and implications for practice

This study contributes to the IS literature in several ways. First, while current social commerce literature has mostly focused on rational-based theories and models (e.g. Featherman & Hajli, 2016; Tajvidi, Wang, Hajli, & Love, 2017; Zheng, Zhu, & Lin, 2013), this study takes a different perspective and shifts away from pure rationality; an approach which likely better accounts for how users actually act on such sites. This study develops and validates a context-specific (social commerce) integration of common risk deterrence theories (decision field and prospect theories) with the social identity theory using the "risky/choice shift" logic. This model explains reduced rationality in user behavior on social commerce sites, which can elucidate why in many cases purchases on such sites seem excessive and irrational (Chung, Song, & Lee, 2017; LaRose & Eastin, 2002). The model shows that when people socially identify with website users, they overlook and downplay risk factors in purchasing and posting decisions, which is consistent with the social identity theory and the risky/choice shift logic, according to which decision-making in groups is biased and tends to be "overconfident" and "risk-immune" (Hogg, 1996; Kogan & Wallach, 1967; Wallach & Kogan, 1965). Considering this biasing effect of group membership, this research showed that, as opposed to other commerce settings in which groups do not exist, they do exist in social commerce settings and can skew user risk perceptions. This finding extends the mostly rational-based theories that social commerce and general e-commerce research had previously relied on. It suggests that future research studying risk factors in social commerce and possibly other group settings (e.g., virtual teams) should consider possible biases in user risk weighing for decision-making. This

finding also adheres to recent calls in IS research to shift away from purely rational-based models (De Guinea & Markus, 2009), as we know that users and online consumers are not always fully rational. I hence encourage future research to reflect on possible deviations from rationality, in social commerce contexts and beyond.

Second, the extant social commerce literature has previously focused mostly on drivers of social commerce acceptance (e.g., Chen & Shen, 2015; Kim & Park, 2012; Liang, Ho, Li, & Turban, 2011; Ng, 2013) and largely neglected the role of negative facets that can deter social commerce use. Nonetheless, negative factors such as risk perceptions can play a significant role in deterring online user behaviors (Cenfetelli & Schwarz, 2011; Featherman & Pavlou, 2003; Lim, 2003). I found only one study that examined user risk assessment in an e-commerce context (e-bill-pay service) (Featherman & Hajli, 2016); this study differs from the social commerce context because the relevant risks did not involve interaction among users and community memberships were not included. This study takes a different approach and focuses on user risk perceptions in an interactive social environment, and focuses on social-commerce–specific risks that have not been extensively covered in prior research. Given that the standardized path coefficients and explained variances in this study are similar to those observed in prior risk research (e.g. (Featherman & Hajli, 2016; Featherman & Pavlou, 2003; Stone & Gronhaug, 1993; Weeger & Gewald, 2014)), it is reasonable to assume that this research managed to capture two highly relevant risk perceptions in the social commerce context. Future research in the social commerce domain can therefore rely on these risk facets and is also encouraged to consider and test possible effects of additional risk facets. Future research in social

commerce should also consider examining models that integrate drivers and deterrent factor effects.

On the practical side, the results suggest that social commerce website developers may consider two ways to increase the use of their websites. They can try to reduce risk perceptions while increasing social identification. To deal with reducing user risk perceptions, social commerce developers should understand the possible risks their users perceive, and focus on reducing the ones that matter most to the users. For instance, to mitigate the commerce risk, managers could consider having risk-reduction strategies such as money back guarantees and consumer satisfaction guarantees (Featherman & Pavlou, 2003), or respond quickly to unfavorable comments or incidents. Having a contact person to chat with, e.g., having live chat facilities, can also help (Turel, Connelly, & Fisk, 2013). Ultimately, when users are confident that the social commerce website stands behind its services, their perceived risk would be mitigated. These kinds of assurances should also be reflected in website policy statements. Moreover, to address privacy risk, social commerce websites should refrain from shady privacy practices and clearly state their privacy policies on the website (Featherman & Pavlou, 2003).

The study also showed that user social identification with the social commerce community could mitigate the effect of perceived risks on purchase and posting intentions. Social commerce marketers should therefore focus on increasing member identification with the community. They can do so by portraying and emphasizing their communities in a more favorable light, create engaging community-based activities, and encourage the

sharing of personal information and creating friendships (Ahearne, Bhattacharya, & Gruen, 2005; Tsai & Bagozzi, 2014). For instance, social commerce websites can include various types of groups within their general community, and use clustering techniques for suggesting related groups to their members (Ren et al., 2012). E-commerce websites may also consider providing online tools that increase feelings of membership among their users. Some of these online tools can include: notifying members about responses to their posts, establishing different forums, providing detailed profiles of their members, and establishing informal chat rooms (Gefen & Ridings, 2003; Hagel & Armstrong, 1997).

Chapter 5. Conclusion

The objective of this set of studies was to study behaviors of social commerce members and explore the biasing role of social elements that exist in these platforms. In particular, this dissertation focused on understanding two possible behaviors of social commerce users; purchasing from the website, and participation in its activities (i.e. posting comments). Moreover, in the three empirical studies of this dissertation, both positive and negative elements that can influence user decisions were explored; for instance, in the first study (chapter 2), the impact of trust, perceived risk, and perceived benefit on user intentions was investigated. In order to understand biasing factors, the second study (chapter 3) focused on the habitual use of social commerce platforms and how this habit can skew user considerations of cognitive factors (i.e. trust and risk) in making purchasing decisions. The third study (chapter 4) focused on social identification and how it affects risk considerations in making decisions regarding purchasing and participation.

5.1. Summary of Findings

In the first study (chapter 2), I studied the impact of perceived risk and perceived benefit on intentions from two perspectives. One element reflected the social side and the other represented the commerce side. Hence, perceived participation risk and perceived commerce risk were included; and also “perceived participation benefit” and “perceived commerce benefit”. To explore “trust”; “trust toward site members” was considered to reflect the community side of social commerce; and “trust toward social commerce website” to explore more the commerce side. The results showed that perceived risk

regarding commerce and participation play important roles in demotivating users from purchasing and participation respectively. It has been found that trust toward websites positively affects the intention to purchase and also intention to participate. However, trust toward members did not have a direct impact on intentions and it only indirectly impacted members (through the mediation of trust on website) which is consistent with trust transfer theory. Results of this study also showed that trust considerations could alleviate risk perceptions; however, in the social commerce context only trust toward members has this effect. This result highlights the importance of social interactions in the social commerce context, which makes it possibly different from other commercial platforms.

The second study (chapter 3) focused on purchasing behavior of social commerce users. In the model developed for this study, again the effects of "trust toward site members"; "trust toward the social commerce site"; and "perceived commerce risk" on user purchasing intentions were considered. In agreement with study 1 (chapter 2); the results showed that risk considerations deter and trust motivates purchase intentions. Similarly, this study found that trust toward other site members reduces user risk perceptions, demonstrating the importance of interaction among social commerce members. In order to study biasing factors, in this study, "habit" has been considered as an element that can skew user considerations of cognitive elements in making purchasing decisions. The results demonstrated that typical rational considerations, especially trust and risk, which often drive online purchase decisions, diminish and even become irrelevant when social commerce use becomes habituated.

Finally in the third study (chapter 4), since the results of previous studies showed that interaction among social commerce members is an important element in influencing their behaviors; I decided to focus on social identification as a potential biasing element. This study aimed at integrating the idea of biased (more risky) decision-making in groups into models of user behavior in social commerce. To this end, it theorized and examined the effects of social identity and risk assessments on social commerce user purchasing and posting intentions. The results showed that social identity weakens (moderates) the effects of perceived risk on intentions to engage in both purchasing and participating behaviors. These results highlight the important role of social identity in skewing social commerce user weighing of rational risks. This paves the way for better understanding of user behaviors in social commerce environments and in other online settings in which social identification can emerge.

This dissertation extends the current social commerce literature in two ways. First, by considering both deterrent and drivers of social commerce use. The three developed studies showed that consistent with prospect theory; in the social commerce platforms, deterrent factors play an important role in determining users' behaviors and their effects are even more significant than driving factors. Second, the developed models of this dissertation try to consider the context and the impact of it on users' behaviors. These models take a different perspective by accounting for not fully rational behaviors of users. This dissertation shows that behaviors of social commerce users are not always fully rational and their decisions do not follow the traditional decision-making models and theories.

Future research in this domain should focus more on the social context of social commerce platforms to better study the role of context in influencing behaviors. I suggest the future research to look more into the factors that exist in social commerce environments and can lead to some bias and skew users' rational thinking. For instance, the interaction and social activities that these environments provide cause the users to be aware of their friends' activities such as their purchases, their favorite items, etc. This would trigger the herding behavior among the users; hence, one possible future research that worth studying in the social commerce context is exploring "herding behavior" among users; the factors which can cause this bias; and how this bias might impact rational thinking of the users. Another interesting future research in the social commerce context could be studying social influencers' behaviors in social platforms such as Instagram, Facebook, and Twitter. Recently, the number of social influencers are increasing significantly especially on Instagram (a popular social networking site) and these influencers have great impact on their followers. Nevertheless, there are very few studies in IS literature exploring this phenomenon. Thus, studying the role of social influencers in affecting behaviors of social commerce members would have both research and practical implications.

5.2. Limitations and Future Research

Notwithstanding the contributions of this dissertation, there are several limitations, which point to potential future research. First, the studies developed in this dissertation were all cross-sectional in nature. Future research could employ longitudinal designs for better establishing causality and analyzing the ways through which social

commerce user perceptions are modified and how their behaviors change over time. Second, intentions have been often studied as a proxy for actual behaviors (Davis, 1989); I also measured user intention to purchase and participate instead of their actual behavior. Nonetheless, future research could study when and why there is a gap between intentions and actual purchasing behaviors among social commerce users.

Third, studies in this dissertation focused on a limited set of predictors of behaviors (trust, risk and benefit). Future research may consider more predictors. Fourth, a limited set of behavioral outcomes were considered. Users may also be engaged in more activities such as following other members, liking other members' posts, following a product, and sending messages. Future research can extend models developed in this dissertation into such behaviors. For instance, a fruitful study might consider the referral behavior of social commerce users and the social elements that can influence it (e.g., social distance as studied in (Hong, Pavlou, Wang, & Shi, 2017)). Fifth, in the studies reported in this thesis, the majority of samples that were used to test the models included both men and women; In an industry report ("Etsy Marketing Infographic: New Statistics on Using Etsy for Marketing," n.d.), 68% of etsy.com users were found to be female. Although gender can influence perceptions and behaviors in various contexts (e.g., risk perceptions (Garbarino & Strahilevitz, 2004), I did not find significant gender-based differences in this study's contexts. Future research may theorize and examine gender differences with regard to extension of my models in terms of predictors, outcomes, and contexts.

The sixth limitation is relevant to the third study (chapter 4). In that study, two rounds of data collection were employed that were conducted by two different market research firms. There is always a chance of people registering on multiple panels (note that this chance exists in any online survey and certainly in the case of using a single panel where a person could have multiple identities). Hence, although unlikely, I acknowledge this as a limitation of the current design. To alleviate it, I tested the model with the first sample (n=135) and the results remained the same. Future research may further alleviate this risk by replicating the findings of that study with users with verified identities.

Finally, the participants of the studies were active users of social commerce (who had made a recent purchase and wrote a comment recently). The reason for this sampling frame was that I was interested in collecting data from users with experience-based perceptions, assessments, and intentions. Users with no use experience or with remote memories of use experience will likely develop perceptions and intentions based on heuristics rather than on actual experience. However, because nonusers or users who stopped using such sites can also be relevant, I call for future research to extend these findings to non-active social commerce users.

5.3. Conclusion

The three studies reported in this dissertation aimed at understanding social commerce user behaviors and the biasing effects of elements that exist in these platforms. The first study examined the drivers and deterrents of two possible behaviors of social commerce users (purchasing and participating). That study took the trust-risk-benefit

perspective to get an overall perspective of how users behave in social commerce. The results of this study highlighted the importance of social interaction among social commerce members in influencing their decision-making in these platforms.

In the second study, I extended and integrated social commerce, trust-risk and habit theories and perspectives by recognizing the social nature of social commerce, which makes it a unique context, and accounts for the biasing effects of habituation. Relaying and integrating such perspectives, I sought to examine how the rational consideration of factors such as trust and risk is attenuated by social commerce use habits. The results demonstrated that typical rational considerations, especially trust and risk reflections, which often drive online purchase decisions, diminish and even become irrelevant when social commerce use becomes habituated.

The third study aimed at integrating the idea of biased (more risky) decision-making in groups into models of user behavior in social commerce. To this end, it theorized and examined the effects of social identity and risk assessments on social commerce user purchasing and posting intentions. The results showed that social identity weakens (moderates) the effects of perceived risk on intentions to engage in both behaviors. This highlight the important role of social identity in skewing the weighing of social commerce user rational risks. It paves the way for better understanding user behaviors in social commerce environments and in other online settings in which social identification can emerge. I call for future research to continue examining models involving rational and bias-related drives of user behaviors in online environments.

Overall, the three developed studies provide a better understanding of the social commerce users' behaviors. These models examine the positive and negative factors that are important in influencing users' decisions in these platforms; they also consider the role of social elements embedded in these websites and how they may lead to some biases and influence users' rational decision-making. Future research in the social commerce domain should focus more on the social elements and better study how these elements influence the behaviors of users in these environment.

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