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Assessing the effects of consumers' product evaluations and trust on repurchase intention in e-commerce environments

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ABSTRACT

This study enhances the existing literature on online trust by integrating the consumers' product evaluations model and technology adoption model in e-commerce environments. In this study, we investigate how perceived value influences the perceptions of online trust among online buyers and their willingness to repurchase from the same website. This study proposes a research model that compares the relative importance of perceived value and online trust to perceived usefulness in influencing consumers' repurchase intention. The proposed model is tested using data collected from online consumers of e-commerce. The findings show that although trust and e-commerce adoption components are critical in influencing repurchase intention, product evaluation factors are also important in determining repurchase intention. Perceived quality is influenced by the perceptions of competitive price and website reputation, which in turn influences perceived value; and perceived value, website reputation, and perceived risk influence online trust, which in turn influence repurchase intention. The findings also indicate that the effect of perceived usefulness on repurchase intention is not significant whereas perceived value and online trust are the major determinants of repurchase intention. Major theoretical contributions and practical implications are discussed.

1. Introduction

E-commerce websites are not only tools to support a business transaction, but also companies' channels to interact and communicate with their consumers (Al-Natour, Benbasat, & Cenfetelli, 2011). According to Gartner (2015), online consumers' expectations are continuing to increase in the last past years. These heightened consumer expectations have increased the complexity of online systems that businesses need to operate. In order to retain their consumers, online businesses need to redefine strategies to meet consumers' expectations and win their trust. Considering that it costs more time and effort to acquire new consumers than to retain existing one, it is crucial for online businesses to gain and sustain consumer loyalty in e-commerce markets (Harris and Goode, 2004; Hung, Cheng, & Chen, 2012; Zhang et al., 2011).

Research indicates that generating loyal consumer in electronic markets is challenging and considered more important than in offline markets (Harris and Goode, 2004). Establishing online loyalty is dependent on generating consumers' trust in online vendors (Harris and Goode, 2004). As in traditional markets, trust has been considered crucial in an e-commerce environment due to its ability to promote risk-taking behavior in the case of uncertainty (Fang, Qureshi, Sun, & McCole, 2014; McKnight, Cummings, & Chervany, 1998). Lack of trust tends to prevent consumers from purchasing online and causes them to abandon their shopping cart during an online transaction (e.g., Awad and Ragowsky, 2008). Trust in an e-commerce environment is imperative because online consumers generally are more vulnerable to transaction risks, especially when uncertainty regarding product or service quality offered by the online sellers is present (Ba and Pavlou, 2002). One of the most frequent ways to reduce these risks is by creating value to increase trust between online sellers and buyers (Zeithaml, 1988). Thus, as consumer's demands from business change simultaneously, trust can be a tool to create long-term revenue and growth.

To date, the study of online trust along with technology adoption factors, such as perceived usefulness, perceived ease of use, and willingness to transact with online firms have dominated the information systems (IS) literature. A particular attention has been given to identifying the relationships among these constructs (e.g., Al-Natour et al., 2011; Awad and Ragowsky, 2008; Benlian, Titah, & Hess, 2012; Gefen, Karahanna, & Straub, 2003). This effort has advanced our understanding on the e-commerce adoption and has resulted in an emerging

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consensus as to its implications in business. The results of prior empirical studies have contributed to the development of e-commerce since online business owners or managers have tied various adoption variables and trust to their business success factors. This is no doubt due to the assumption that improvement in perceptions of technology adoption and trust in online shopping markets should lead to consumers' willingness to purchase or repurchase products from online firms. However, it is here the confusion remains.

Online sellers who refer to the e-commerce literature will potentially find incomplete information. Although this literature suggests that the elements of e-commerce websites, such as website characteristics and perceived usefulness are associated with online trust, it is unclear how product or service value is created and to what extent it affects trust in an online environment. With this regard, the elements of product or service quality should be taken into account if online sellers aim to understand consumers' perceived value (Dodds, Monroe, & Grewal, 1991). Although a few studies (e.g., Lowry, Vance, Moody, Beckman, & Read, 2008) have measured the effects of quality-related attributes, such as reputation on online trust, no research has distinctively measure how quality attributes contribute to the formation of perceived value and trust in an online setting. This gap in the literature leads us to assess the importance of perceived value and trust, relative to perceived usefulness—a construct proven to be a major determinant of e-commerce adoption (Gefen et al., 2003).

Further, a large number of studies have been conducted to understand what makes online consumers repurchase from the same online sellers (e.g., Fang et al., 2014; Gefen, 2002; Kim, Ferrin, & Rao, 2009; Srinivasan, Anderson, & Ponnavolu, 2002) and these studies have demonstrated that first-hand experience with the seller in a repurchase situation is important and can serve as a dominating source for evaluating trust (Fang et al., 2014; Kim et al., 2009). However, despite the importance of first-hand experience, we argue that obtaining values is one's major motivation to engage in repeat purchasing (Chiu, Hsu, Lai, & Chang, 2012; Kim and Gupta 2009). This is because direct experience with the online seller lowers uncertainty and risk associated with online transactions by increasing consumers' familiarity and knowledge about transactions with the vendor (Kim and Gupta 2009). As repeat consumers have a better understanding of the attributes of the shopping object, we argue that they rely more on perceived value to establish their trust on online sellers and make a purchase decision. However, existing research on consumer trust and repurchase intention in e-commerce transactions has not adequately examine how value is perceived after an initial purchase experience and how it shapes trust perceptions and repurchase intention.

To address this gap in the literature, we draw on the theories in the IS and marketing disciplines to explain how consumers' perceptions of product value are generated as they interact with shopping websites. Specifically, we investigate the influence of perceived value on consumers' trust beliefs and their willingness to repurchase from the same website. We also compare the relative importance of perceived value and trust to perceived usefulness in influencing consumers' willingness to repurchase. We predict that individuals' perceived value will influence their trust on online shopping websites and both trust and perceived value will attenuate the effect of perceived usefulness on consumers' willingness to repurchase. Using data collected from actual e-commerce users, we attempt to answer the following questions:

RQ1: How does perceived quality of products influence perceived value in an online environment?

RQ2: Does perceived value of products influence online trust in an e-commerce environment?

RQ3: Do online trust, perceived usefulness, and perceived value equally influence repurchase intention? If not, how do these variables interplay to influence repurchase intention?

This study makes several contributions. First, it extends our understanding on trust in e-commerce by integrating perceived value of a product and/or a service in the research model. Second, by establishing the importance of not only e-commerce adoption factors but also product evaluation factors, our study advances the existing e-commerce research on the effect of perceived value on repurchase intention through trust. Third, by focusing on different aspects of perceived value (i.e., monetary aspect as in perceived competitive price and non-monetary aspect as in perceived quality), our study demonstrates that perceived value strengthens the trust formation in repurchase situation, even when risk or uncertainty is taken into account.

This paper is structured as follows: the next section reviews the current literature on trust and buyers' product evaluations model. Next, we present the research model that examines the effect of trust and e-commerce components and products' evaluation components on repurchase intention. The methodology, results, and hypotheses testing are then presented. The paper concludes by discussing the limitation, theoretical and managerial implications of the study and offering suggestions for future research.

2. Theoretical background

2.1. Trust in e-commerce

Trust has been studied in many disciplines, including psychology, economics, marketing, and IS (Kim and Benbasat, 2009). In the trust literature, trust in e-commerce can be understood in two different stages: pre-purchase and post-purchase (Kim et al., 2009; Zhang et al., 2011). Given we focus on investigating the impact of trust on repurchase intention, we measure trust at the post-purchase stage. Post-purchase trust differs from initial trust in that at the post-purchase phase, consumers have substantial and direct prior experience they needed to make a decision whether they will conduct a future transaction with the same sellers (Kim et al., 2009). In this repurchase situation, consumers tend to evaluate a product or service based on the actual performance of the product or service as perceived after its consumption. Using this first- hand experience, they are likely to re-evaluate their trust perception (Hsu, Chang, Chu, & Lee, 2014). In this case, familiarity or repeated interaction, which can lead to trust or mistrust, is only present in repurchase situation and considered a major source of trust (Ba and Pavlou, 2002).

Mayer, Davis, and Schoorman (1995) argued that risk-taking behavior, such as repurchase decision is a function of trust and perceived contextual risk of the behavior. If the level of trust exceeds the threshold of perceived risk, then consumers are likely to engage in repurchase behavior (Fang et al., 2014). To promote trust, credible signals should be provided to differentiate trustworthy sellers from untrustworthy ones (Ba and Pavlou 2002). Based on the above arguments and consistent with the existing literature (e.g., Ba and Pavlou 2002; McKnight and Chervany, 2001), we define trust as the subjective assessment of a website's performance (including its brand and the firm or seller associated with the website as a whole) based on buyers' confident expectations in a particular transaction that takes place in an environment characterized by uncertainty (Ba and Pavlou, 2002; Kim et al., 2009). This definition captures the notion of trust as a belief or an expectation about an exchange partner that results from the partner's expertise and reliability (Ganesan, 1994). Given an e-commerce website replaces a salesperson's functionalities on the internet, an exchange partner represents the website as well as the online seller or firm as a whole (e.g., www.amazon.com) (Kim et al., 2009). Trust as a belief also means that one believes that the other party is willing and able to "act in the consumer's interest, honest in transactions, and both capable of, and predictable at, delivering as promised" (McKnight and Chervany, 2001, p. 46). From this definition, both parties expect a possibility or mutually beneficial outcome from an online transaction (Ba and Pavlou, 2002).

Trust belief is also conceptualized as a multidimensional construct.

Two primary dimensions of trust that have been discussed and tested in the previous studies are *benevolence* and *credibility* (Ba and Pavlou, 2002; Ganesan, 1994). Benevolence is the belief that one partner has genuine intentions or motives beneficial to the other party even under unexpected conditions for which a commitment was not made and credibility refers to the belief that one party is honest and reliable (Ba and Pavlou, 2002). Whereas benevolence focuses on the motives and intentions of the exchange partners, credibility focuses on "an expectancy held by an individual that the partner's word or written statement can be relied on" (Ganesan, 1994, p. 3). Given we are interested in investigating the effect of trust in a repeated purchase situation, we specifically measure the credibility aspect of trust since this aspect of trust has a stronger effect on long-term relationships between sellers and buyers than the benevolence aspect of trust (Ganesan, 1994).

In order to understand the current status of trust research in the context of e-commerce, we reviewed empirical papers published in the leading IS journals (e.g., MIS Quarterly, Information Systems Research, Journal of Management of Information Systems, Journal of the Association of Information Systems, International Journal on Electronic Commerce, etc.). Appendix A summarizes numerous studies on trust in e-commerce and shows specified relationships between trust and adoption factors. Most factors empirically tested in the previous studies were shown to be technology adoption-related (e.g., perceived usefulness, website characteristics), highlighting the key roles of technology in an e-commerce environment. Further, a close evaluation of the literature review summarized in Appendix A reveals that trust in e-commerce research was dominated by technology adoption models (e.g., Technology Acceptance Model, Theory Reasoned Action, etc.), in which trust was generally associated with perceived usefulness, perceived ease of use (e.g., Al-Natour et al., 2011; Awad and Ragowsky, 2008; Benlian et al., 2012), and website characteristics, such as quality of information (e.g., Alam and Yasin, 2010; Chen and Dibb, 2010) and website designs (e.g., Cyr, 2008; Hampton-Sosa and Koufaris, 2005). Some of the empirical models used the theories from the economics discipline to measure how economic factors, such as price (e.g., Ba and Pavlou, 2002; Grewal, Gotlieb, & Marmorstein, 1994) and perceived risk (e.g., Alam and Yasin, 2010; Dinev and Hart, 2006; Gefen and Pavlou, 2012; Nicolaou and McKnight, 2006) were associated with trust. The most common dependent variables were attitude, purchase intention or willingness to purchase, and purchase behaviors (e.g., Aljukhadar, Senecal, & Ouellette, 2010; Bhattacherjee, 2002).

Managers who look to the literature as a means of identifying critical success factors of e-commerce would agree that perceived usefulness of the website and website usability, which can be increased by improving website characteristics, perceptions of trust, and perceived risk are the primary factors leading directly to favorable outcomes. However, this implication is somewhat incomplete. Several points are apparent based on our review of previous studies. First, there is no evidence explaining a process of *value creation*—a trade-off between quality and price—in an online environment. Although a number of studies (Chiu et al., 2012; Fang et al., 2014; Grewal et al., 1994; Kim, 2014) measured repurchase intention as a dependent variable, none of these studies (with an exception of Chiu et al., 2012) specified the importance of perceived value dimensions on trust among repeat consumers. Given the perceptions of perceived value is critical when transactions involve monetary exchange, managers and researchers would benefit from identifying the link between trusting beliefs and perceived value. Second, although technology adoption-related factors are indisputably important determinants of behavioral intentions, there is no reported investigation of the significant importance of these variables when perceived value is integrated into the model. We argue that an effort to examine the relative importance of perceived value derived from the actual product quality is crucial in e-commerce environments.

In this current study, we extend the conceptualization of online trust and e-commerce adoption factors to include product evaluation components (i.e., perceived quality, perceived competitive price, and perceived value), which are discussed in the next section. We also report an empirical test of the effects of these components on perceptions of trust and repurchase intention.

2.2. Conceptual model for product evaluations

The relationships between perceived quality, perceived value, and purchase decision (i.e., the quality-value-purchase chain) have been widely conceptualized and tested in the marketing literature, especially in traditional business situations (e.g., Dodds and Monroe, 1985; Dodds et al., 1991; Monroe and Krishnan, 1985; Parasuraman and Grewel, 2000; Zeithaml, 1988). Dodds and Monroe (1985) proposed that price is a major determinant of product evaluations. Zeithaml (1988) adapted the model proposed by Dodds and Monroe to explain the relationships between the concepts of price, perceived quality, and perceived value. Zeithaml (1988) argued that Dodds and Monroe's model was too simplistic and research on how consumers evaluate product quality should be expanded beyond the price-perceived quality relationship. Using this basic conceptualization, Dodds et al. (1991) suggested that in addition to price, extrinsic cues[1] of brand name and store name should be added to the model and the direct relationships between the external cues and perceived value should also be tested (see Fig. 1).

According to the product evaluations model, objective price is different from perceived price. Whereas objective price is the actual price of a product, perceived price is "the perceived level of (monetary) price at a vendor (i.e., objective price) in comparison with the consumer's reference price" (Kim, Xu, & Gupta, 2012, p. 10). Because consumers do not always remember the actual prices of products, they tend to encode prices in ways that are meaningful to them (Dodds et al., 1991). The model indicates that objective price is likely to influence the perceptions of price. Thus, subjective perceptions of price (i.e., the difference between objective price and reference price) (Kim et al., 2012) has a more direct and stronger impact on perceived quality than objective price.

In addition to the perceptions of price, higher perceptions of brand and store also lead to higher perceived quality and consequently to a greater willingness to buy. The model also predicts that perceived quality influences perceived value, and in turn, purchase decision. Perceived quality is "the consumer's judgment about a product's overall excellence or superiority" (Zeithaml, 1988, p. 3). According to Zeithaml (1988), perceived quality has four characteristics: "(1) it is different from the actual quality; (2) a higher level abstraction rather than a specific attribute of a product; (3) a global assessment that in some cases resembles attitude; and (4) a judgment usually made within a consumer's evoked set" (pp. 3–4). Whereas objective quality refers to a specified level of quality based on some predetermined ideal standard, perceived quality is a subjective judgment constructed by an individual based on his or her personal evaluation. Perceived quality has also been referred to as a higher level abstraction (e.g., convenience and emotional feelings) rather than an attribute. Consumers organize information at various levels of abstraction ranging from simple product attributes (e.g., physical characteristics) to complex personal values (e.g., emotional payoff). Perceived quality is associated with the latest category—*somewhat abstract but measurable* (Zeithaml, 1988). Further, perceived quality can be viewed as a form of overall evaluation of a product, similar to attitude to some degree. This quality can either cognitively or affectively formed. Whereas cognitive quality is more

[1] According to Cue Utilization Theory, product's cues can be classified into two categories: extrinsic and intrinsic. Extrinsic cues are defined as product-related attributes that are not inherent to the product being evaluated and if altered, do not change the fundamental nature of the product (Wells et al., 2011). Intrinsic cues, on the other hand, represent product-related attributes that cannot be manipulated without also altering physical properties of the product (Richardson, Dick, & Jain, 1994).

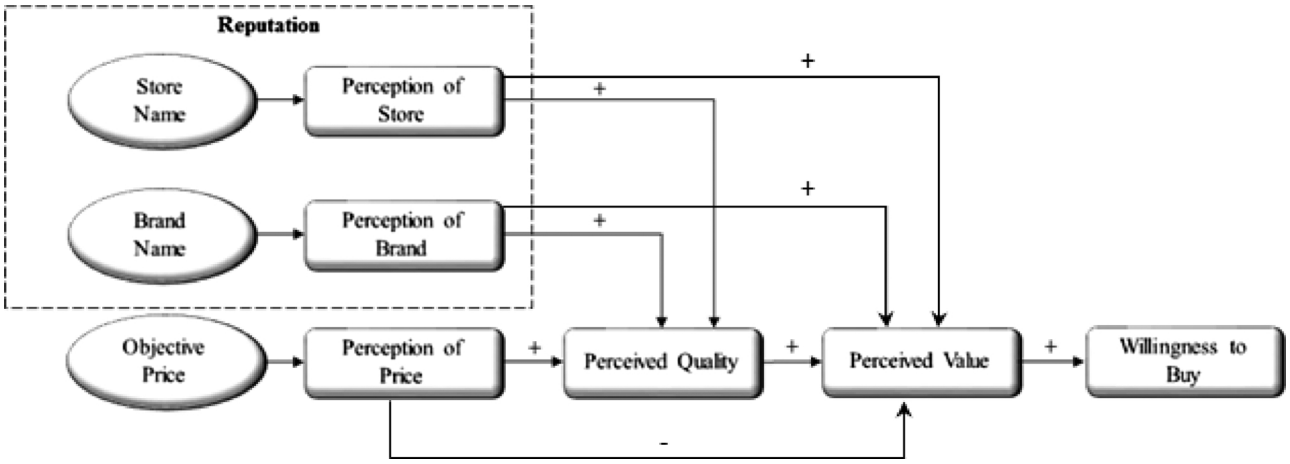

Fig. 1. Conceptual Relationship of Perceived Quality and Perceived Value of Products (Adapted from Dodds et al., 1991).

likely for consumer durable goods, affective quality is more likely for services and consumer nondurable goods. Lastly, perceived quality usually takes place in a 'comparison context.' Zeithaml claimed that "a product's quality is evaluated as high or low depending on its relative excellence or superiority among products or services that are viewed as substitutes by the consumer" (p. 5).

Perceived value is generally defined as "the ratio or trade-off between quality and price" (Sweeney, Soutar, & Johnson, 1999, p. 79). According to Zeithaml (1988), perceived value differs from perceived quality in two ways. First, perceived value is more individualistic and personal than quality and thus, is a higher level concept than quality. Second, perceived value (unlike perceived quality) filters through a higher level abstraction of appreciation and does not come directly through intrinsic cues or extrinsic cues. Perceived value can also be viewed as "a consumer's perception of the net benefits gained in exchange for the costs incurred in obtaining the desired benefits" (Chen and Dubinsky, 2003, p. 326). Perceived value includes relational benefits (e.g., quality, ease of use to shop) and sacrifice (e.g., money, time and effort consumption) as well as transaction costs (e.g., the evaluative effort required to search information before purchase, the effort required to prevent from being deceived, etc.) to maintain the ongoing relationship with an online store (Wu, Chen, Chen, & Cheng, 2014). Thus, perceived value can be viewed as the consumers' assessment of the utility of a product based on perceptions of what they received and what they gave up (Dodds et al., 1991).

3. Research model and hypotheses

Fig. 2 presents a proposed research model that is constructed based on the two theoretical lenses of the study: (1) product evaluations and (2) trust and e-commerce adoption. One of the major differences that distinguishes our current research model from those in prior research is that our model proposes an integrated relationship between online product evaluation components and trust and e-commerce adoption components. Based on the conceptual model of product evaluation (Dodds et al., 1991), we use extrinsic cues (i.e., perceived competitive price and perceived store reputation) as the indicators of quality under the assumption that consumers do not have sufficient information on intrinsic product attributes (e.g., taste, physical presence, etc.). Although consumers use both intrinsic and extrinsic cues to assess product quality, extrinsic cues may be more influential in certain contexts, such as when extrinsic cues are more readily available than intrinsic cues (Wells, Valacich, & Hess, 2011). This situation represents an interaction between sellers and buyers in an online environment since current technological capabilities of e-commerce limit seller's abilities to convey intrinsic product attributes (Wells et al., 2011). Given the nature of online stores, consumers are unable to physically observe and directly evaluate the products. Consequently, online consumers will depend on the extrinsic attributes, such as price and store reputation to gauge the quality of a product or service.

Consistent with the model of product evaluation, we specifically focus on the effect of two most researched external cues[2]—*website or online store reputation* and *perceived competitive price*—on perceived quality and perceived value in online shopping websites. Perceived competitive price is equivalent to perceived price. Whereas perceived price refers to one's subjective perception of price at a particular internet vendor is higher than prices at other vendors (Kim et al., 2012), perceived competitive price is the opposite of perceived price—it refers to one's subjective perception of price at a particular internet vendor is lower than prices at other vendors. Furthermore, although Dodds et al. (1991) conceptualized perception of store reputation as one of the product evaluation factors, the conceptualization of store reputation is similar to website reputation in an e-commerce environment. Given prior studies (e.g., Casalo, Flavián, & Guinalíu, 2007; Casalo, Flavián, & Guinalíu, 2008; Li, 2014; Zhang et al., 2011) have suggested that website reputation can be categorized as website characteristics, we classify website reputation as an e-commerce adoption component that influences not only perceived quality and perceived value (Dodds et al., 1991), but also online trust (Jarvenpaa, Tractinsky, & Vitale, 2000; Teo and Liu, 2007). From the e-commerce adoption perspective, our model is also intended to empirically investigate the roles of trust, perceived usefulness, and perceived risk in online shopping environments. This paper focuses specifically on the consumer's perceptions of trust in online stores, not trust in third parties that mediate the relationship between buyers and sellers. Given research has shown that perceived ease of use is less important than perceived usefulness at the post-purchase stage (e.g., Szajna, 1996), only perceived usefulness from the technology adoption model is tested in the model. Table 1 presents the definition of each factual construct tested in the research model.

3.1. Perceived risk and trust

Perceived risk is regarded as one's subjective belief that there is some "probability of suffering a loss in pursuit of a desired outcome"

[2] Dodds et al. (1991) proposed three external cues (i.e., perception of price, perception of store, and perception of brand) as the main predictors of perceived quality and perceived value. Given there are unlimited product options in online environments, we do not emphasize product brand in this current study. Thus, only two external cues—perception of price and perception of online store—are included in this current study.

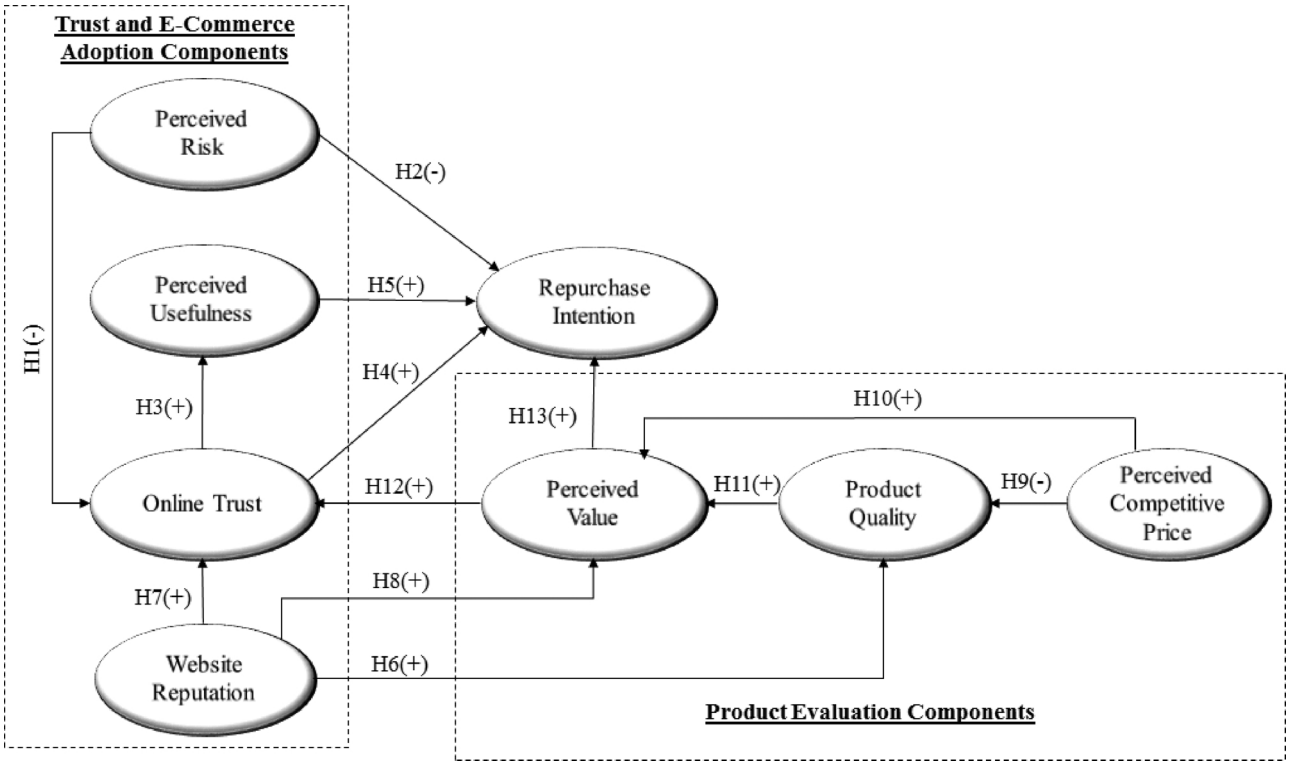

Fig. 2. Proposed Research Model.

Table 1
Construct Definition.

Construct	Definition
Perceived Risk	"[A] consumer's expectation that the actions entailed in purchasing a good or a service from a B2C [Business to Customer] e-commerce site could have unwanted outcomes" (Glover and Benbasat, 2010, p. 48).
Perceived Usefulness	The degree to which a person believes that using a particular e-commerce website would enhance his or her purchase performance (Davis et al., 1989).
Online Trust	The subjective assessment of the website's performance (including the website brand and the firm or seller as a whole) based on buyers' confident expectations in a particular transaction that takes place in an environment characterized by uncertainty (Ba and Pavlou, 2002; Kim et al., 2009).
Website Reputation	An overall assessment of a website's product and service expertise, consumer experience, and effective communications about the firm's credibility in serving consumers (Li, 2014).
Perceived Competitive Price	One's subjective perception of price at a particular internet vendor is lower than prices at other vendors (Adapted from the definition of perceived price; see Kim et al., 2012).
Perceived Quality	"[T]he consumer's judgment about a product's overall excellence or superiority" (Zeithaml, 1988, p. 3).
Perceived Value	"[A] consumer's perception of the net benefits gained in exchange for the costs incurred in obtaining the desired benefits" (Chen and Dubinsky, 2003, p. 326).
Repurchase Intention	Consumers' subjective probability of revisit an online store (Wu et al., 2014).

(Pavlou and Gefen, 2004, p. 41). Perception of risk is commonly associated with the uncertainty[3] caused by the possibility of opportunistic behaviors of the seller that can result in a loss for the consumer (Dinev and Hart, 2006). In the context of e-commerce, perceived risk can be described as the extent to which a user believes that using the website may have negative consequences or unwanted outcomes (Glover and Benbasat, 2010). The virtual separation between consumers and online sellers and the unpredictability of the internet infrastructure generate an implicit uncertainty around online transactions (Pavlou, 2003). From this perspective, perceived risk includes issues such as download delays, limitations in the interface, search problems, inadequate measurement of web application success, security weakness, and a lack of internet standards (Chang and Chen, 2008). When engaging in online transaction processes, consumers are usually aware of the existence of risks that confront them (Pavlou, 2003). However, since the notion of objective risk is difficult to measure while at the same time a consumer has a certain expectation regarding an online seller's behavior, different forms of uncertainty can be viewed collectively to estimate risk (Pavlou, 2003).

Perceived risk in online settings is associated with risks that arise from financial transactions as well as the product itself. Consumers are

[3] In theory, risk can be viewed as distinct from uncertainty (Peter and Ryan, 1976). It is argued that uncertainty exists when there is a lack of knowledge about the possible outcomes and thus one cannot assign a probability to uncertainty events, whereas risk exists when one can predict the possibility of a future outcome (Littler and Melanthiou, 2006). There can be uncertainty about: the outcomes of adopting new technology, which features of technology may pose vulnerability, the credibility of information that is available, etc. In circumstances where uncertainty is recognized, however, it has been suggested that uncertainty can be translated into risk by accumulation of information (Hart, Tzokas, & Saren, 1999; Littler and Melanthiou, 2006). Given risk mainly consists of uncertainty (Taylor, 1974), they are often used interchangeably in e-commerce research (e.g., Kim et al., 2012; Pavlou, 2003; Pavlou and Gefen, 2004). This is also consistent with Dowling and Stealin's (1994) argument that "the concept of perceived risk most often used by consumer researchers defines risk in terms of the consumer's perceptions of the uncertainty and adverse consequences of buying a product (or service)" (p. 119) (see also Littler and Melanthiou, 2006). For this reason, perceived risk and uncertainty are used interchangeably in this current study.

concerned that the product or service they buy on the internet might not deliver the expected benefits or fear that they may face unpredicted harm (e.g., loss of privacy) when they conduct an online transaction (Glover and Benbasat, 2010). Given attracting new consumers is considerably more expensive than retaining the existing consumers, reducing consumers' perception of risk is especially relevant to ensure they are willing to return to the online store (Gefen et al., 2003). Compared to potential consumers, repeat consumers usually perceive a lower level of certainty in a transaction with the website because of a direct experience with the website (Kim et al., 2012). Nevertheless, any existence of perceived risk will reduce the likelihood of trust relationship between repeat consumers and online sellers. One way to retain these consumers is maintaining their trust in an online store (Gefen et al., 2003; Jarvenpaa et al., 2000; Pavlou, 2003). Trust plays a crucial role in helping buyers overcome perceptions of risk and uncertainty in online environments (Lai and Tong, 2013). If consumers feel that the online seller will violate its formal and informal obligations (e.g., not delivering the right product at the right time as promised), they would choose not to trust the website (Kim et al., 2009). Mayer et al. (1995) suggested that "the need for trust only arises in a risky situation" (p. 711). This is because in a risky situation, consumers become vulnerable to trusted parties. Thus, consumer trust could be described as a function of the degree of risk involved in the situation (Pavlou, 2003). Consistent with the previous literature, we hypothesize that perceived risk is negatively associated with online trust.

H1. Perceived risk is negatively associated with online trust.

3.2. Perceived risk and repurchase intention

Although perceived risk has been well known as a determinant of buyers' purchase intention (during the pre-purchase stage), it also plays a crucial role in the post-purchase stage. Whereas purchase intention is formed under the assumption of a pending initial transaction (Chang and Wildt, 1994), repurchase intention is formed under the assumption that online buyers have completed an initial transaction with the website (Hellier, Geursen, Carr, & Rickard, 2003). Unlike in a purchase intention situation, buyers already have the first-hand experience with the seller in a repurchase situation and can use this experience as a source of decision making (Fang et al., 2014). Thus, online purchase intention can be defined as the likelihood of a consumer performing a specified purchasing behavior over the internet for the first time (Dodds et al., 1991; Salisbury, Pearson, Pearson & Miller, 2001), whereas repurchase intention can be viewed as the consumer's subjective probability of revisit an online store, taking into account his or her current situation or likely circumstances (Hellier et al., 2003; Wu et al., 2014).

A number of e-commerce studies have empirically tested the effect of perceived risk on behavioral intention—both at the pre- and post-purchase stages (see Appendix A). For example, Jarvenpaa et al. (2000) found risk perception is negatively associated with willingness to buy books online. Similarly, Pavlou (2003) found a negative relationship between perceived risk and willingness to buy. The perception that third parties could perform opportunistic behaviors reflects the possibility that individuals might suffer the consequences of conducting online transactions. This perception of uncertainty in an online environment makes individuals hesitant to conduct e-commerce transactions (Dinev and Hart, 2006). If online sellers successfully deliver a product as promised, the risk of uncertainty will be lower and consumers are likely to return and repurchase from the same website (Pavlou, Huigang, & Yajiong, 2007). In contrast, if buyers are worried about the outcomes of online transactions due to uncertainty, they are likely to avoid future exchange relationships with the sellers (Chiu et al., 2012).

Perceived risk explains why consumers decide not to conduct online transactions. Higher perceived risk in e-commerce markets is commonly caused by being unable to fully monitor the seller's behavior and/or concerns regarding the security of the website (Chiu et al., 2012). Consumers are more often motivated to avoid uncertainty than to maximize utility in purchasing (Lim, 2003). Thus, once consumers have learned that interacting with the website could produce negative consequences, they will likely to avoid those consequences by staying away from the website (Chiu et al., 2012). In other words, given the uncertain context of e-commerce, it is expected that perceived risk would lower consumer's willingness to repurchase from the same website. Pavlou (2003) indicated that the relationship between perceived risk and transaction intentions can be explained by the notion of perceived behavioral control. In this context, perceived risk associated with online transactions may reduce perceptions of behavioral control (e.g., no control over future outcomes), and this lack of control is likely to negatively influence transaction intentions. Consistent with these arguments, we hypothesize that perceived risk is negatively associated with repurchase intention.

H2. Perceived risk is negatively associated with repurchase intention.

3.3. Trust and perceived usefulness

Online trust has been considered a major determinant of perceived usefulness, especially in an online environment (e.g., Gefen et al., 2003; Pavlou, 2003). Perceived usefulness is defined as the degree to which people believe whether using a technology will improve their performance (Davis, Bagozzi, & Warshaw, 1989). The usefulness of a website depends on both the effectiveness of its relevant technology properties and on the extent of the human service behind the technology (Gefen et al., 2003). This implies that buyers weight benefits of using the website based on their interaction with the website (e.g., whether they get the items they ordered, whether they can find product information online, or whether the website is able to increase their purchase experience) (Zhang et al., 2011). With regard to these benefits, Gefen et al. (2003) noted that "trust should increase the perceived usefulness of the interaction through the Web site by increasing the ultimate benefits, in this case getting the products or services from an honest, caring, and able vendor, as expected" (p. 61). A high level of trust transfers the satisfaction from past transactions with the sellers and increase buyers' expectations for the current interactions (Sun, 2010). When a website is viewed as trustworthy in the past, buyers are willing to pay a premium price just for that added special relationship with the website they trust (Gefen et al., 2003).

In the context of online shopping, feelings of trust developed between online sellers and users will allow users to better understand the information presented on the websites and receive more benefits from the websites (Al-Natour et al., 2011). Consumers can only fully accomplish their tasks on the website if they can trust the medium (Gefen et al., 2003). Thus, trust provides a subjective guarantee that online sellers will fulfill what they have promised. Consistent with the literature, we hypothesize that trust positively influences perceived usefulness in that it allows consumers to be vulnerable to conduct online transactions and in turn, ensures that they receive the expected useful interaction (Pavlou, 2003).

H3. Online trust is positively associated with the website's perceived usefulness.

3.4. Trust and repurchase intention

From a relational perspective, trust is often portrayed as an outcome of the ability of an actor (e.g., a firm or brand) to meet set obligations (Harris and Goode, 2004). Trust has been presented as a central attribute in relationship initiation and formation in various exchange contexts (Harris and Goode, 2004). In an online environment, trust is viewed as a confidence belief that can positively influence willingness to conduct an online transaction (Dinev and Hart, 2006). Since

consumers need to deal with the social complexity embedded in online interactions (Gefen et al., 2003), trust is built on the basis of gradual interaction between buyers and sellers (Chen and Rau, 2014). In this context, trust is a significant antecedent of participation in e-commerce because it helps reduce the social complexity by allowing consumers to subjectively eliminate undesirable yet possible behaviors of online sellers (Gefen et al., 2003).

Empirical evidence has emerged in support of a strong relationship between consumers' online trust and intention to purchase. For example, Jarvenpaa et al. (2000) measured trust as the expectations that an online vendor would keep the best interests of the consumers. They found that these beliefs were positively associated with attitude, which in turn influenced willingness to make online purchases. Gefen et al. (2003) found a direct positive relationship between trusting beliefs and individual's willingness to conduct a transaction. Dinev and Hart (2006) used a set of beliefs including competence, reliability, and safety and found that a higher level of internet trust is related to a higher level of willingness to provide personal information to transact on the internet. Jarvenpaa, Tractinsky, Saarinen, and Vitale (1999) found that trust perceptions affected one's willingness to buy books from websites. Similarly, Malhotra, Kim, and Agarwal (2004) showed that trust was positively associated with intention to reveal personal information.

A buyer-seller relationship is considered high quality only when the previous interaction with the seller has been positive and future interactions with the seller are expected (Zhang et al., 2011). After an initial purchase, consumers tend to modify their repurchasing decision by adjusting their current beliefs to new information (Gupta and Kim, 2007). A high degree of trust is developed only when buyers feel satisfied in their relationship with the seller (Zhang et al., 2011). According to Ganesan (1994), trust affects long-term orientation between sellers and buyers by reducing the perception of risk associated with opportunistic behaviors by the sellers, increasing the confidence of the buyer that short-term inequities will be resolved over a long period, and reducing the transaction costs (e.g., costs of reaching an agreement satisfactory to both parties) in an exchange relationship. When a relationship based trust has been established, buyers acknowledge purchase experiences in the past and they may be hesitant to switch to a new online store because switching will require learning costs (Wu et al., 2014).

The relationship between trust and repurchase intention can also be supported by reciprocity arguments (Sirdeshmukh, Singh, & Sabol, 2002). When online sellers act in a way that builds consumer trust, perceived risk associated with the website is likely reduced, enabling consumers to make confident predictions about the sellers' future behaviors (Sirdeshmukh et al., 2002). Given that trust reduces the fear of being exploited and used, heightened levels of trust are associated with increased levels of use (Awad and Ragowsky, 2008). Therefore, trust in the website or online store is likely to have a direct effect on willingness to repurchase from the same website.

H4. Online trust is positively associated with repurchase intention.

3.5. Perceived usefulness and repurchase intention

A shopping website with high usability can improve consumers' buying experience and their positive perception of the website (Zhang et al., 2011). From a technology adoption perspective, perceived usefulness has been shown to be a strong determinant of usage intention (e.g., Davis et al., 1989; Taylor and Todd, 1995). People would only use a website if they believe that using that website will increase their performance (Davis et al., 1989). Although the relationship between perceived usefulness and intention was originated in an acceptance context, Bhattacherjee (2001) argued that it is likely to hold true in continuance or repurchase contexts because human tendencies for pursuing rewards or benefits are independent of the timing or stages of such behaviors. Therefore, we hypothesize that website perceived usefulness is positively associated with repurchase intention.

H5. Website perceived usefulness is positively associated with repurchase intention.

3.6. Website reputation and perceived quality

In the marketing literature, reputation is associated with brand equity and firm credibility (Zhang et al., 2011). Reputation is viewed as the result of the comparison between what the sellers promise and what they eventually fulfill (Casalo et al., 2007). In the context of e-commerce, reputation involves consumer's perceptions of the website's public image, innovativeness, quality of product and service, and commitment to consumer satisfaction (Zhang et al., 2011). Consumers can evaluate website reputation based on the evaluation of online sellers' past performance and behaviors (Zhang et al., 2011). The sources of this evaluation can come from consumers' relational networks (e.g., friends and relatives) and/or public opinions (e.g., online reviews). According to Dodds et al. (1991), external cues, such as perceptions of store reputation are the cues that influence perceptions of product quality and value. They usually signal competence and integrity (Urban, Amyx, & Lorenzon, 2009), and have been used to understand how consumers assess product quality when faced with information asymmetries (Wells et al., 2011). They can be used as a cue that a seller can use "to convey information credibly about unobservable product quality to the buyer" (Rao, Qu, & Ruekert, 1999, p. 259). Such a cue can also provide utility for consumers based on the predictive value and the confidence value of the cue (Chen and Dubinsky, 2003; Wells et al., 2011).

Reputation can be a powerful heuristic cue for evaluations and choice decisions because it represents an intangible offering property that must otherwise be learned through experience (Delgado-Ballester and Hernández-Espallardo, 2008). Reputation donates the persistence of quality and serves as a surrogate for quality by providing consumers with a bundle of information about the product (Chen and Dubinsky, 2003). According to the "affect-referral" process, consumers do not examine brand or website components every time they make a purchase decision; they simplify their decision making process by basing their judgments on brand or website attitudes (i.e., summary information) (Teas and Agarwal, 2000). Repeat consumers of online stores can use reputation, image, and general impression of the established website to judge the perception of the new and unknown online products offered on that website (Delgado-Ballester and Hernández-Espallardo, 2008). Consistent with the literature, we hypothesize that website reputation is positively associated with perceived quality.

H6. Website reputation is positively associated with perceived quality.

3.7. Website reputation and trust

Reputation can be seen a collective social knowledge about the trustworthiness of a website (Bansal, Zahedi, & Gefen, 2008). In the context of tradition buyer-seller relationships, reputation can be seen as a consequence of the interactions of business within its environment (Casalo et al., 2008) and is commonly defined as "the extent to which buyers believe a selling organization is honest and concerned about its consumers" (Jarvenpaa et al., 2000, p. 48). This definition can be extended to the online environment in which reputation is generally a result of an overall assessment of the website's product and service expertise, consumer experience, and effective communications about the website's credibility in serving consumers (Li, 2014). Firms with a good reputation are perceived to be reluctant to jeopardize their reputation assets by acting opportunistically (Jarvenpaa et al., 2000; Teo

and Liu, 2007). By making sacrifices and showing their concerns to another party, online sellers develop a reputation of fairness among their consumers (Ganesan, 1994). In contrast, sellers operating on an online store who have a reputation for terminating relationships and refusing to listen to consumers provide a signal to buyers that the website's sole purpose is to its own interest, rather than being concerned with consumer satisfaction. Such a negative reputation is likely to reduce website's credibility—one form of trust that is established based on the extent to which buyers believe that the website will perform its job effectively and reliably (Ganesan, 1994). Thus, improving reputation of a website will improve trusting beliefs because reputation is perceived as a characteristic that website has positive general traits that are absence among websites with a poor reputation (McKnight and Chervany, 2001).

H7. Website reputation is positively associated with online trust.

3.8. Website reputation and perceived value

A consumer forms website reputation based on subjective perceptions of various attributes, both tangible and intangible and thus website reputation is a way in which a website is defined in a consumer's mind (Chang and Tseng, 2013). Past interactions with the website can be a source of information which enables consumers to appreciate more deeply the value of any offers the seller makes (Casalo et al., 2008). Kotha, Rajgopal, and Rindova (2001) argued that reputation building activities may be a key determinant of competitive success for online sellers. For example, online companies with good reputations, such as eBay or Google are currently gaining the healthiest profits and a loyal client base (Casalo et al., 2008).

Due to the nature of online markets, well-established and reputable websites have been more readily accepted by consumers than have unknown websites (Park and Lee, 2009). Consumers are able to receive credible information from a reputable website, and in turn, increasing the predictive value of products offered on the website. Several empirical studies in the past have shown a positive relationship between reputation and perceived value. For example, Rangaswamy, Burke, and Oliva (1993) found that product value was enhanced by promotions of quality, durability, and reputation. Thus, we hypothesize that website reputation is positively associated with perceived value.

H8. Website reputation is positively associated with perceived value.

3.9. Perceived competitive price and perceived quality

A positive relationship has been observed between price and perceived quality in a traditional market (e.g., Devaraj, Matta & Conlon, 2001; Rao and Monroe, 1989). Buyers assume there is a linear relationship between price and perceived quality—the higher the price is, the higher the quality of the product is. This is consistent with the literature on hedonic quality measurement which indicates price information is the best measure of product quality (Zeithaml, 1988). Price is defined as "what is given up or sacrificed to obtain a product" (Zeithaml, 1988). Using price as a quality indicator represents a belief that price in the marketplace is determined by the interplay of competitive supply and demand (Dodds et al., 1991). This interplay would lead to a "natural ordering of competing products on a price scale," resulting in a strong relationship between price and product quality (Dodds et al., 1991). Although objective price is a factor often cited for its association with quality and value, perceived price has been identified as a relevant intermediate variable in the price-quality-value relationship (Chang and Wildt, 1994). Buyers do not usually remember the actual price of a shopping object. Instead, they mentally encode prices in ways that are meaningful to them (Kim et al., 2012). This price perception then influences the formation of quality perceptions (Chang and Wildt, 1994; Dodds et al., 1991).

In a traditional market, people can physically observe the quality of the product. In an online setting, however, consumers may not have easy access to information regarding the quality of the product and therefore, may be unable to judge the product quality (Ba and Pavlou, 2002). Online buyers have to rely on electronic information without having the ability to physically inspect the product (Ba and Pavlou, 2002). However, the internet provides consumers with information that allows for price comparison (Swaminathan, Lepkowska-White & Rao, 2003). In an experimental study, Lynch and Ariely (2000) found that price sensitivity declined as consumers received more information on product quality online and increased when cross-store price comparison was made easy. Nonetheless, others have shown that perceived price continues to be a quality cue despite the presence of other extrinsic cues (Chen and Dubinsky, 2003). Given a product with a higher price provides a cue that it has a better quality than a product with a lower price, perceived competitive price (i.e., one's perceptions of price of a particular website is lower than prices from other websites) should be a negative indicator of perceived quality in an e-commerce environment.

H9. Perceived competitive price is negatively associated with perceived quality.

3.10. Perceived competitive price and perceived value

Whereas we hypothesize that perceived competitive price has a negative relationship with perceived product quality, we argue that it has a positive relationship with perceived value (Chen and Dubinsky, 2003; Gupta and Kim, 2007). Perceived value is commonly viewed as a trade-off between the "give" and "get" components of a product or service (Chang and Wildt, 1994). The "give" component corresponds to perceived price (i.e., the difference between objective price at an online store and a consumer's reference price) (Gupta and Kim, 2007), whereas the "get" component corresponds to the quality of the product as perceived by the consumer (Dodds et al., 1991; Chang and Wildt, 1994). If consumers make purchase choices based on segregated evaluation of attributes in the frame of multiple gains (i.e., the prices in the online shopping stores are lower than the consumer's reference price) (Gupta and Kim, 2007), they will experience more satisfaction as if they gain more values in an exchange for lower price. Thus, perceived value increases when perceived competitive price increases as transaction utility increases (Kim et al., 2012).

Online buyers are likely to see price as an important cost component and compare prices between different alternatives (Chen and Dubinsky, 2003). In an online environment, product quality tends to be comparable across vendors and consumers are generally familiar with the product information (Kim et al., 2012). Consumers can use multiple websites to gather information and compare the product price (Choudhury and Karahanna, 2008). They would be more attractive to a website that offers a product within their acceptable price ranges, resulting in high perceptions of perceived value. Consequently, consumers are likely to seek out a website that offers the lowest price possible (Anderson and Srinivasan, 2003). In such a case, high levels of perceived competitive price may have a positive effect on perceived value. Further, according to Gupta and Kim (2007), repeat consumers of online shopping often consider price a monetary sacrifice. From a mental accounting theory perspective, a decrease in price implies higher transaction utility. Since transaction utility is a component of overall value, perceived competitive price should positively influence total value. Thus, we hypothesize.

H10. Perceived competitive price is positively associated with perceived value.

3.11. Perceived quality and perceived value

From a consumer choice perspective, consumers estimate the value

of choice object by taking into account all relevant benefits and sacrifice factors (Kim, Chan, & Gupta, 2007). Perceived benefits are the combination of different products' attributes (e.g., tangible and intangible; intrinsic and extrinsic, etc.), available in relations to a particular transaction and use situation (Snoj, Pisnik Korda, & Mumel, 2004). As the perception of value is viewed as a trade-off between a "give" component (i.e., perceived sacrifice) and a "take component" (i.e., products and services) as described previously, it is reasonable to argue that higher levels of perceived quality will lead to higher levels of perceived value.

A number of empirical studies have reported a strong relationship between perceived quality and perceived value (e.g., Brucks, Zeithaml, & Naylor, 2000; Dodds et al., 1991; Teas and Agarwal, 2000). These studies have shown that consumers' perceived value can be affected by the confirmation or disconfirmation of perceived quality after consuming the product versus their expectation before purchase (Li and Hitt, 2010). Consumers' post-purchase value is typically determined by the trade-off between what consumers have received (e.g., quality) and what they have given up in order to acquire the product (Dodds et al., 1991; Jensen, 2001). Consistent with the prior literature, we hypothesize that perceived product quality is positively associated with perceived value.

H11. Product quality is positively associated with perceived value.

3.12. Perceived value and trust

Anderson and Srinivasan (2003) argued that online perceived value and trust exert similar influences with regard to the relationship between satisfaction and loyalty. By generating trust in online transactions, online vendors add value for consumers through reducing complexity and in turn, diminishing the uncertainty associated with the transactions and helping consumers form consistent and reliable expectations of electronic channels in ongoing relationships (Grabner-Kraeuter, 2002; Harris and Goode, 2004). A website perceived as being trustworthy may reduce non-monetary transaction costs that consumers have to give up, such as the time and effort needed to choose a reliable shopping website (Kim et al., 2012). By reducing non-monetary costs, consumers may increase the acquisition utility and non-monetary aspects of transaction utility (Kim et al., 2012). This perceived value may then lead to the formation of perceived trust.

The relationship between perceived value and trust can also be explained by the equity theory. The equity concept refers to "consumer evaluation of what is fair, right, or deserved for the perceived cost of the offering" (Yang and Peterson, 2004, p. 802). Consumers are refused to feel equitably treated if they perceive that the ratio of their outcomes to inputs is incomparable to the ratio of outcome to inputs experienced by the other parties (Yang and Peterson, 2004). If consumers feel unequally treated, then perceived value will decrease, impeding the formation of trust. Further, from a relational perspective, the benefits of the relationship is viewed as a precursor of trust (Moliner, Sanchez, Rodriguez, & Callarisa, 2007; Morgan and Hunt, 1994). Thus, perceived value can be considered an antecedent of consumers' trust. Consistent with the literature, we hypothesize that perceived value is positively associated with trust in the website.

H12. Perceived value is positively associated with online trust.

3.13. Perceived value and repurchase intention

Perceived value has been shown to be a determinant of repurchase intention (e.g., Cronin, Brady, & Hult, 2000; Wu et al., 2014). In general, if a product or a service is perceived to be low in value due to either low quality or high price, intention to purchase is expected to be low (Chang and Wildt, 1994). With this regard, it has been shown that consumer's value is the fundamental basis for all exchange activities and can drive buying intention (Wu et al., 2014). Consumer's perceived value in an online shopping environment includes not only more benefits (e.g., quality and a friendly shopping interface), but also less sacrifice (e.g., time saving, competitive price) (Wu et al., 2014). Although it is generally argued that a consumer's purchase decision is determined by expected utility before purchase, perceived value from a previous purchase can also affect the consumer's repurchase decision (Li and Hitt, 2010). In the post-purchase state, consumers may reassess the product's value by weighing the actual costs against the actual benefits and be inclined to rebuy, if the latter outweigh the former (Jensen, 2001). Therefore, we hypothesize that perceived value is positively associated with repurchase intention.

H13. Perceived value is positively associated with repurchase intention.

4. Research method

4.1. Measurement development

All measurement items were drawn from the literature. Items for all constructs were worded in regards to the e-commerce websites to match the context of the study. All items were translated in Korean, back-translated into English, and then carefully examined by the authors. Appendix B presents the measurement items used in the study along with the sources from which they were drawn. All constructs were measured using seven-point Likert scales ranging from "strongly disagree" (1) to "strongly agree" (7).

4.2. Survey administration

Online shopping websites in South Korea were selected as the target of the study. Data were collected among internet users in South Korea. Participants were asked to recall their most recent online shopping activity and specify the name of the shopping website. They were then asked to respond to the survey questions based on their selection. A total of 312 responses were collected. On average, respondents spent around 20 min on the shopping website. The majority of these respondents had done more than one transaction on the online shopping mall. 72.4% of the respondents (226 participants) were females; 63.1% (197 respondents) reported that they had a college degree and 12% (38 respondents) had a graduate degree. 51.3% (160 respondents) were at their 30 s and 39.4% (123 respondents) were at their 20s. The rest of the sample varied from 40 s to 50s. According to the survey on the world's population shopping online conducted by Neilsen Online, South Korea has the highest percentage of online shoppers, where 99% of those with internet access used it to shop online (Alphr, 2015). Statistics also shows that internet users who have purchased goods and services over the internet were dominated by females (Statista, 2015). From these demographic respondents, we believe that our sample represents the online shopper population in South Korea.

5. Data analysis and results

5.1. Testing the measurement model

First, an exploratory factor analysis (EFA) was conducted to determine the underlying relationships among measured variables. The EFA results showed that all of the items loaded on their intended factors (see Appendix C). We then used SmartPLS for assessing both the measurement model and structural model (Ringle, Wende, & Becker, 2015). PLS places minimal restrictions on measurement scales, sample size, and residual distributions (Chin, Marcolin, & Newsted, 2003). Thus, PLS was chosen to accommodate our fairly complex model.

A confirmatory factor analysis (CFA) was conducted in PLS to assess item loadings, discriminant validity, and internal consistency of all scales. The results of the CFA are consistent with the EFA results. Item

Table 2
Correlation Matrix and AVEs from PLS.

	Construct	CR	AVE	1	2	3	4	5	6	7	8
1	Repurchase intention	0.88	0.65	**0.81**							
2	Perceived Value	0.90	0.76	0.52	**0.87**						
3	Perceived Competitive Price	0.87	0.77	0.41	0.54	**0.88**					
4	Perceived Quality	0.91	0.76	0.44	0.61	0.41	**0.87**				
5	Website Reputation	0.90	0.74	0.48	0.41	0.28	0.36	**0.86**			
6	Perceived Risk	0.96	0.92	−0.33	−0.28	−0.21	−0.31	−0.20	**0.96**		
7	Online Trust	0.95	0.83	0.58	0.50	0.33	0.53	0.50	−0.35	**0.91**	
8	Perceived Usefulness	0.93	0.81	0.47	0.57	0.34	0.47	0.54	−0.29	0.61	**0.90**

*Composite reliability (CR) is a measure of scale reliability that estimates the total amount of true score variance in relation to the total scale score variance.
*Diagonal elements represent the square root of the average variance extracted (AVE). AVE measures the amount of variance captured by the measures of a construct in relation to error variance of those items.

loadings and internal consistencies greater than 0.70 are considered acceptable (Fornell and Larcker, 1981). To assess convergent and discriminant validity (Fornell and Larcker, 1981), (1) indicators should load more strongly on their corresponding construct than on other constructs in the model, and (2) the square root of the average variance extracted (AVE) should be larger than the inter-construct correlations. As shown in Appendix D, all indicators loaded more highly on their own construct than on other constructs. Further, as shown in Table 2, the square root of all AVEs are above 0.80, which are much higher than all the cross-correlations scores. These results suggest that all measures have adequate convergent and discriminant validity.

Common method bias was assessed using Harman's one factor test (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). An exploratory factor analysis was performed on the variables of interest. If a single factor is obtained or if one factor accounts for a majority of the covariance in the independent and criterion variables, then the threat of common method bias is high. This test does not indicate a single-factor structure that explained significant covariance, suggesting that common method bias is not a cause for concern in our sample. Next, we also ran a CFA in AMOS that included a method construct. Using this method construct allows us not only comparing the loadings of each item on its own factor and the method factor, but also calculating the amount of method bias present in the entire dataset (Podsakoff et al., 2003; Polites and Karahanna, 2012). The estimated amount of method bias present in the dataset was only 1.3%. This indicates the absence of method bias issues in our study.

5.2. The structural model

The PLS path coefficients are shown in Fig. 3. Eleven of thirteen hypotheses were supported. As hypothesized, perceived risk was negatively associated with trust ($\beta = -0.20$, $p < .001$), whereas perceived value and website reputation were positively associated with trust ($\beta = 0.30$, $p < .001$ and $\beta = 0.34$, $p < .001$, respectively). Together, perceived risk, perceived value, and website reputation accounted for 39.5% of the variance in online trust. Online trust was a significant predictor of perceived usefulness ($R^2 = 36.9\%$). Surprisingly, the impact of perceived usefulness on repurchase intention was not significant. The significant antecedents of repurchase intention were trust ($\beta = 0.38$, $p < .001$), perceived risk ($\beta = -0.11$, $p < .05$), and perceived value ($\beta = 0.27$, $p < .001$). Together, they accounted for 42% of the variance in repurchase intention. As hypothesized, perceived value ($R^2 = 49.3\%$) was predicted by website reputation ($\beta = 0.17$, $p < .01$), perceived competitive price ($\beta = 0.32$, $p < .001$), and perceived quality of the product ($\beta = 0.41$, $p < .001$). Contrary to our hypothesis, perceived competitive price was positively associated with product quality ($\beta = 0.35$, $p < .001$). Perceived competitive price and website reputation explained 24.6% of the variance in perceived product quality. The hypotheses and their level of support are summarized in Table 3.

Next, we formally test indirect or/and mediating effects of perceived usefulness, online trust, perceived quality, and perceived value as shown in our research model. Although indirect and mediating effects are commonly used interchangeably, Hayes (2009) suggests researchers to differentiate a mediating effect, which requires the presence of the X → Y relationship, from an indirect effect, which does not require the existence of the X → Y relationship. Failure to test for an indirect effect in the absence of a direct effect may cause researchers to miss potentially important and useful mechanisms by which independent variables exert some kind of effect on dependent variables (Hayes, 2009). Thus, we test for direct as well as indirect effects in our mediation paths. We ran a bootstrapping analysis to test for indirect effects using the SPSS Process macro that Hayes (2013) developed. Although several alternative approaches have been proposed, bootstrapping has been shown to be the most powerful method to detect an indirect effect (Hayes, 2009; Preacher and Hayes, 2008). The results (see Appendix E) indicate that: (1) online trust mediated the relationship between perceived risk and repurchase intention; (2) perceived usefulness *did* not mediate the relationship between online trust and repurchase intention; (3) product quality mediated the relationship between website reputation and perceived value; (4) product quality mediated the relationship between perceived competitive price and perceived value; and (5) online trust mediated the relationship between perceived value and repurchase intention. Appendix F shows total effects for all constructs.

5.3. The effect of perceived usefulness relative to perceived value and online trust

In order to compare the effects of perceived usefulness with perceived value and online trust, we analyzed three additional structural models. First, we ran a model in which perceived usefulness together with perceived risk are the antecedents of repurchase intention. The path coefficients from this model are shown in Table 4 (Model 1). The two independent variables jointly explained 27% of the variance in repurchase intention. Second, we analyzed another model in which perceived usefulness, perceived risk, and trust are the antecedents to repurchase intention (see Table 3, Model 2). The three independent variables jointly explained 38% of the variance in repurchase intention. Although the effect of perceived usefulness remained significant, its effect was slightly attenuated by trust. Next, we ran the third model (see Table 4, Model 3) by adding perceived value in the model. As expected, the effect of perceived usefulness became insignificant, whereas trust and perceived value were considered the major determinants of repurchase intention ($R^2 = 42\%$).

6. Discussion

The current paper aims to enhance the existing literature on online trust by integrating the model of buyers' product evaluations and trust

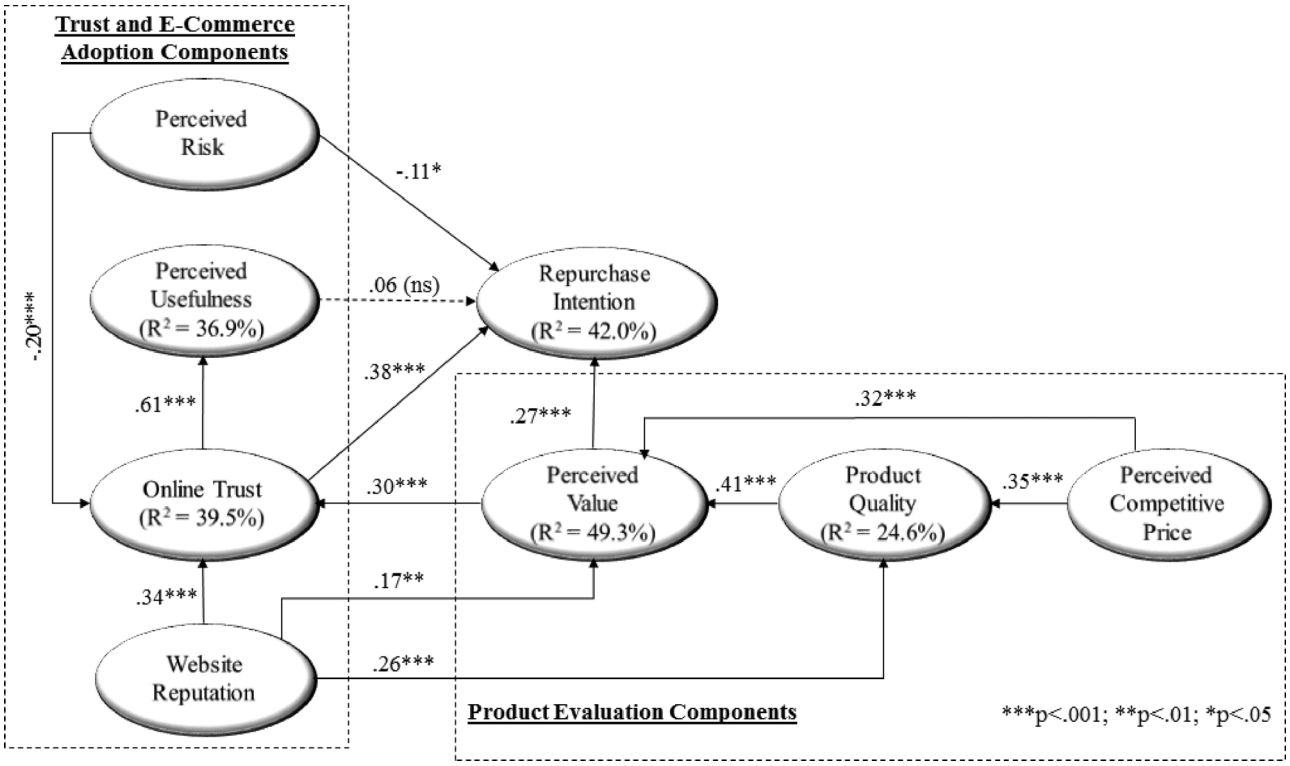

Fig. 3. PLS Results.

and e-commerce adoption model. This study identifies the influence of perceived value and trust on repurchase intention in the context of e-commerce. Our findings demonstrate that perceived value and trust may diminish the effect of perceived usefulness on repurchase intention. This study also shows that although e-commerce adoption factors are essential, product-related factors are also important in determining value perceptions of online buyers. With this regard, trust mediates the relationship between perceived value and repurchase intention. The findings also show that perceived value is influenced by perceived quality, perceived competitive price, and website reputation. Next, we discuss the implications of our findings for both theory and practice.

Table 4
Perceived Usefulness vs. Perceived Value and Online Trust.

IVs	Model 1	Model 2	Model 3
R^2	0.27	.38 (ΔR^2 = 0.11***)	.42 (ΔR^2 = 0.04***)
Perceived Usefulness	0.42***	0.18**	0.06 (ns)
Perceived Risk	−0.21***	−0.13*	−0.11*
Trust	–	0.43***	0.38***
Perceived Value	–	–	0.26***

Dependent Variable: Repurchase intention.
*** $p < .001$.
** $p < .01$.
* $p < .05$.

6.1. Implications for theory and research

This study makes several key contributions. First, it identifies the importance of the relationship between perceived quality and perceived value in studying trust in e-commerce. Although research in online trust has identified a number of factors influencing willingness to buy or purchase intention, our research elaborates and empirically tests the effects of extrinsic cues of price and website reputation on perceptions of quality and value, online trust, and repurchase intention. The findings of this study represent an important step forward in unrevealing the relationship between value, trust, and repurchase intention.

Table 3
Summary of Hypotheses Results.

Hypothesis	Supported?
H1: Perceived risk is negatively associated with online trust (−)	Yes (−)
H2: Perceived risk is negatively associated with repurchase intention (−)	Yes (−)
H3: Online trust is positively associated with the website perceived usefulness (+)	Yes (+)
H4: Online trust is positively associated with repurchase intention (+)	Yes (+)
H5: Website perceived usefulness is positively associated with repurchase intention (+)	No (ns)
H6: Website reputation is positively associated with perceived quality (+)	Yes (+)
H7: Website reputation is positively associated with online trust (+)	Yes (+)
H8: Website reputation is positively associated with perceived value (+)	Yes (+)
H9: Perceived competitive price is negatively associated with perceived quality (−)	No (+)
H10: Perceived competitive price is positively associated with perceived value (+)	Yes (+)
H11: Product quality is positively associated with perceived value (+)	Yes (+)
H12: Perceived value is positively associated with online trust (+)	Yes (+)
H13: Perceived value is positively associated with repurchase intention (+)	Yes (+)

Note: ns = not significant.

Second, the results suggest that perceived value and website reputation are the major determinants of (post-purchase) trust. Direct experience with the website in the past helps establish a good reputation by increasing consumer familiarity and knowledge about transactions that take place on the website. Thus, repeat consumers have a better perception on what to expect from the website, which can be translated into trust after the initial purchase took place. Further, given that online consumers are able to compare the array of benefits that they will derive from the products or services that they buy (Anderson and Srinivasan, 1998), perceived value can be used as an indicator of whether the online seller is honest and reliable. Perceived value contributes to the formation of trust by reducing complexity and uncertainty associated with online transactions. It also reduces an individual's need to search for alternative websites since such a search effort will be more expensive than staying with the current website (Hellier et al., 2003). This is why establishing a good reputation and increasing value after the initial transaction are crucial. They ensure consumers to buy and repeat a purchase from the same website by creating a favorable feeling that consumers' needs could be fulfilled by the website (Hsu et al., 2014) and even increase consumers' productivity (e.g., better purchase decision in a short time period) in shopping for products or services when they conduct a transaction using a trusted website (Kim et al., 2009).

In addition to perceived value and website reputation, perceived risk also shows a significant relationship with online trust. Perceptions of risk can contribute to the success or failure of e-commerce websites. Although we did not discuss specific types of risk (e.g., security risk, privacy risk, financial risk, etc.), our results demonstrate that general risk perceptions still play an important role after the initial purchase experience. The higher the post-purchase perception of risk, the higher the trust needed to facilitate future transactions. Drawing upon our empirical findings, it may be inferred that risk not only directly influences repurchase intention, but also indirectly through the mediating effect of trust. In order to eliminate the "doubt" after the initial transaction, website reputation and perceived value discussed previously can provide a reassurance that the website is trustworthy and will behave in accordance with the consumer's confident expectations. Nevertheless, despite the importance of maintaining the level of risk, our findings suggest that consumers are less likely to rely on the presence of perceived risk-repurchase intention relationship at the post-purchase stage. Instead, they depend more on the previous perceptions of product value and online trust to determine their future decision. Hence, we can expect less and less negative effect of risk on repurchase intention as trust and perceived value increase. Future research is needed to investigate the effect of perceived risk across different stages of technology adoption.

Although prior studies have shown a negative relationship between perceived competitive price and product quality (e.g., Chen and Dubinsky, 2003; Dodds et al., 1991), our results indicate that perceived competitive price is positively associated with perceived quality. We propose some possible explanations. First, in an online environment, consumers perceive price differently. Perceived competitive price can be considered less cost from the consumers perspective. Buying a product from a website with a high competitive price indicates consumers pay less and are able to reduce other costs of product acquisition and its use (Sweeney et al., 1999; Snoj et al., 2004). With the ability to compare price references across shopping websites, consumers are able to judge whether the product's price is high or low. According to Adaptation Level Theory, the result of this comparison may form consumers' perceived competitive price (Kim et al., 2007). By subjectively adjusting the price's point, consumers are likely to modify their quality expectation. In this sense, the adaptation level of competitive price perception may positively influence the quality perception in that consumers expect to buy a product within a standard level of quality weighted based on their lowest price point. Second, the positive relationship might be because the presence of website reputation cue. Some researchers suggest that the positive relationship between perceived competitive price and quality does not hold with the presence of other extrinsic cues (Teas and Agarwal, 2000). With this regard, consumers may develop high expectations of product quality with the lowest price they are willing to pay for the product.

Although perceptions of website usefulness have been consistently shown as a major determinant of behavioral intention in the context of e-commerce (e.g., Al-Natour et al., 2011; Benlian et al., 2012; Pavlou and Fygenson, 2006), our findings reveal that the effect of perceived usefulness becomes insignificant with the presence of online trust and perceived value. This insignificant relationship might be because at the post-purchase stage, users have had an actual experience in using the product or service. Consumers may transfer such experience to their next purchase decisions based on the value they gained from using the product bought on the website (Washburn, Till & Priluck, 2004). Consequently, the value perceptions help consumers establish a trust relationship with the websites. At the same time, perceived usefulness might be diminished as they rely more on perceived value and trust in making their repurchase decisions.

Further, the current study extends the literature on buyers' product evaluations in an online environment. The results show that online buyers tend to use price perceptions and website reputation as the indicators of quality. Although consumers are unable to physically observe and evaluate the products offered on the website prior to purchase, the internet enables them to search for complete information about the product. The findings reported here do provide evidence of the importance of website reputation, perceived competitive price, and product quality in creating value perceptions, and in turn, influencing repurchase intention. It is argued that a consumer who lacks knowledge about the product may use perceptions of reputation, if available, to make the quality assessment and rely less on the price cue (Dodds et al., 1991; Zeithaml, 1988). Although we did not control for the strengths of product knowledge or familiarity, we found that consumers are likely to rely on the price cue when they make an online transaction. This observation is inconsistent with the previous studies probably because in an e-commerce context, buyers may have a high relative advantage on comparing prices across different shopping websites (Choudhury and Karahanna, 2008). Hence, their ability to search for the best possible price plays a prominent role in forming their perceptions of product value.

Lastly, although IS research has empirically shown the role of trust and technology adoption variables in e-commerce environments, the role of these factors and their integration with product evaluation factors at the post-purchase stage, to the best of the authors' knowledge, has not been considerably studied. The relative importance of trust in mediating the relationship between perceived value and repurchase intention suggests that consumers' post-purchase evaluation of product value provides a basis for maintaining trust in e-commerce websites, and it is the trust perception that eventually determines repurchase intention. This finding reinforces the idea that both technology adoption and product evaluation factors remain important in an online repurchase situation, with trust as a significant mediator.

6.2. Implications for practice

For e-commerce environments, the results of this study are prominent. The insignificant relationship between perceived usefulness and repurchase intention indicates that most buyers may rely less on perceived usefulness as they recognize the product or service value to establish trust on websites. Online sellers who refer to the literature would agree that adoption-related elements of e-commerce websites are directly related to repurchase intention. By relying on this literature, e-commerce managers might have focused on optimizing their value through website designs. Our current study augments the existing literature by suggesting that the attempts of online businesses to increase consumers' value should be associated with both product and website elements.

As hypothesized, trust is a major determinant of what people expect in business transactions. Credibility and reliability in fulfilling both formal and informal obligations are the keys to improve consumer loyalty. The findings

reveal that perceived value can be used to assure trust in shopping websites. In particular, we advise business managers to maximize the trust levels of their consumers by using their previous interactions to create value. Perceived value will be generated if the consumers' expectations are met. Therefore, online firms should carefully evaluate the gaps between what consumers have sacrificed and what they have gained.

The results of the study also provide several important implications for designing B2C e-commerce websites. Although previous studies in IS have suggested that perceived usefulness is a crucial component of technology adoption, a continuous relationship between online buyers and sellers is not possible without trust and perceived value. Given perceived value is influenced by product evaluation components (i.e., website reputation, perceived competitive price, and product quality), it is suggested that the functional features of e-commerce websites should aim to increase these product evaluation components. For example, in order to increase the store reputation, sellers can divide online reviews into different categories (e.g., product price, product quality) and ask consumers to review each of the component independently. With the emphases on different product evaluation components, it is easier for sellers to promote companies' major strengths, while addressing problems identified by the buyers.

Lastly, given retaining existing consumers costs more time and effort than acquiring new ones, online businesses should be able to deliver high-quality products through a well-reputable website. To do this, companies can promote their websites by emphasizing the products and services offered on their websites. In a long -term, consumers may remember purchase as well as use experiences more readily than facts or information presented on the websites. Taken together, a trustworthy website, accompanied by high perceptions of product value and low levels of risk will lead to a successful online business.

6.3. Limitations and suggestions for future research

We acknowledge some limitations of the study. First, with respect to the external validity, the respondents were online shoppers in South Korea. Although this population is a suitable representative of internet users, future research is encouraged to collect data from different countries and compare the results with our current study. Second, in the conduct of our study, subjects were not given to acknowledge specific attribute/feature information associated with the products. Not having this information, subjects may use different product information as a reference when they answered the survey questions. Thus, future research is encouraged to use more controllable research environments (e.g., laboratory study) to manipulate the external cues.

Further, the literature suggests that trust can be conceptualized as a multidimensional construct. In our study, we measured trust as a unidimensional construct in the form of credibility. Research has shown that the benevolence component of trust, which focuses on the motives and intentions of the exchange partner (Ganesan, 1994; Pavlou, 2003) can also be important after the initial purchase decision. Future research should aim at identifying the impact of different components of trust in mediating the relationship between product evaluation components and repurchase intention. Future research can also theorize the interplay between these different components of trust and product values that influence a long-term relationship between buyers and online sellers.

Another limitation is the possible presence of social desirability bias due to the self-selection of products and an online shopping mall. Although this may result in relatively high means for the variables, there was enough variability in our measures to make the hypotheses testing possible. However, further research is required to test this assertion. Lastly, conclusions drawn in this study are based on a single study. All constructs were measured at one point in time, as such, the potential for common method variance exists. Future research is encouraged to measure the constructs at multiple time points.

7. Conclusions

This study augments the existing literature on online trust by integrating the product evaluations model and technology adoption model. This study argues that repurchase intention in the context of e-commerce can be better understood by assessing the relationships between perceived quality, perceived value elements, and trust in e-commerce. The findings indicate that the effect of perceived usefulness on repurchase intention is diminished by the effect of perceived value, online trust, and perceived risk. In sum, this study sheds light on how online buyer-seller relationships can be strengthened by considering the perceptions of product quality as well as product value to increase trust perceptions of online buyers.

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Appendix A. Empirical literature linking trust and adoption factors in e-commerce

Source	Relevant Constructs	Link(s) to Outcomes
Alam and Yasin (2010)	Good online experience, Quality of Information, Perceived risk, WOM, Brand reputation, Security	Online brand trust
Aljukhadar et al. (2010)	Media richness, E-Store social presence, Retailer trust, Agent trust	Perceived risk, Purchase intentions
Al-Natour et al. (2011)	Perceived personality similarity, Perceived decision process similarity	Perceived ease of use, Perceived usefulness, Trust, Perceived enjoyment
Awad and Ragowsky (2008)	WOM quality, Subjective norms, Perceived ease of use	Perceived usefulness, Online trust, Intention
Ba and Pavlou (2002)	Trust in seller, Product price	Price premium
Balasubramanian, Konana, and Menon (2003)	Trust disposition, Price, Operational competence, Satisfaction	Trustworthiness
Benlian and Hess (2011)	Usability, Transparency, Quality assured content, Security, Privacy, Interpersonal trust, System trust	Self-reported participation in community exchanges
Benlian et al. (2012)	Online product recommendation use, Product type, Trusting beliefs, Perceived usefulness, Perceived ease of use, Perceived affective quality	Intention to reuse online Product recommendation, Intention to purchase

Bhattacherjee (2002)	Familiarity with online firm	Trust, Willingness to transact
Bock, Lee, Kuan, and Kim (2012)	WOM, Offline trust, Website quality	Online trust, Online purchase intention
Chen and Dibb (2010)	Website usability, Security and privacy, Product information quality, Speed download, Trust in website	Website approach intention
Chen and Rau (2014)	Cognitive-based trust antecedent (i.e., reputation), Calculative-based trust antecedent	General trust and trust of B2C websites and group-buying websites.
Chen, Zhang, and Xu (2009)	Information interaction, Emotional interaction, Mutual trust among members, Trust in the platform provider	Loyalty to the platform provider
Chiu et al. (2012)	Familiarity, Trust, Value, Utilitarian value, Hedonic value, Satisfaction, Habit	Repeat purchase intention
Choi, Lee, and Kim (2011)	Social presence, Product type, Trust	Reuse intention
Choudhury and Karahanna (2008)	Relative advantage (trust is one of three dimensions of relative advantage)	Behavioral intention
Cyr (2008)	Navigation design, Visual design, Information design, Satisfaction, Trust in website	e-Loyalty
Delgado-Ballester and Hernández-Espallardo (2008)	Characteristics of brand associations (i.e., Perceived similarity and Degree of association)	Initial trust in the new online brand, Willingness to provide personal information, Bookmarking intentions, Purchase intention
Dinev and Hart (2006)	Privacy risk, Internet trust, Privacy concern	Willingness to provide personal information
Dinev, Hu, and Yayla (2008)	Perceived risk of online advertising, Perceived benefits of online advertising, Perceived effectiveness of third party solutions, Trust in search engine, Perceived support from search engine, Attitude toward online advertising, Subjective norm of industry	Intent to advertise online
Everard and Galletta (2006)	Trust, Perceived quality of online store	Intention to purchase
Fang et al. (2014)	Satisfaction with vendor, Perceived effectiveness of e-commerce institutional mechanisms, Trust in vendor	Repurchase intention
Gefen and Pavlou (2012)	Perceived effectiveness of institutional structure (PEIS), Trust, Risk	Transaction activities
Gefen et al. (2003)	Trust in e-vendor, Perceived ease of use, Perceived usefulness	Intended use of website
Grazioli and Jarvenpaa (2000)	Trust, Perceived deceptiveness, Trust mechanism	Attitude toward online shopping
Grewal et al. (1994)	Internet pricing, Size of price difference, Post-purchase trust	Repurchase intention
Hampton-Sosa and Koufaris (2005)	Website appeal, Initial trust	Intention to use website
Hu, Wu, Wu, and Zhang (2010)	Privacy assurance	Initial trust in an online vendor
Hung et al. (2012)	Trust, Perceived waiting	Repurchase intention
Ho and Chau (2013)	User's privacy concerns, Perceived location accuracy, Perceived location precision, Integrity trust in a merchant, Integrity distrust in a merchant	Intention to use the service by the merchant
Hwang (2014)	Trust (i.e., ability, benevolence, integrity)	Intention to use, Loyalty
Hwang and Lee (2012)	Social norms, Online trust beliefs, Uncertainty avoidance	Purchase intention
Jarvenpaa et al. (1999)	Perceived size, Perceived reputation, Trust in store, Attitude, Risk perception	Willingness to buy
Kim (2008)	Security protection, System reliability, Privacy concern, Third party seal, Referral	Trust in e-vendor, Willingness to use
Kim (2012)	Initial trust, Perceived usefulness, Perceived ease of use, Usage attitude	First purchase intention
Kim (2014)	Consumer trust propensity, e-vendor trust, e-channel trust, e-channel confirmation/disconfirmation, e-vendor confirmation/disconfirmation, e-channel satisfaction, e-vendor satisfaction	e-channel reuse intention, Repurchase intention
Kim et al. (2009)	Trust, Perceived risk, Perceived benefit, Expectation, Perceived performance, Confirmation, Satisfaction	Willingness to purchase, e-Loyalty
Kim and Benbasat (2009)	Content of trust-assuring arguments, Source argument, Price, Order of visit	Trusting beliefs in an internet store
Komiak and Benbasat (2008)	Perceived personalization, Familiarity, Cognitive trust, Emotional trust	Intention to adopt as a decision aid, Intention to adopt as a delegated agent
Lai and Tong (2013)	Security, Usability, Reliability and availability, Audits and verification, Interoperability	Trust in internet-based interorganizational systems adoption
Lee and Park (2014)	Cue multiplicity in text-based e-tail content, Telepresence, Social presence, Website trust, Social approval	E-Shopping enjoyment, Decision affirmation
Lee, Turban, Matthew, and Lee (2001)	Trustworthiness of internet merchant, Trustworthiness of internet shopping medium, Contextual factors, Individual trust propensity	Consumer trust in internet shopping

Li, Browne and Wetherbe (2006)	Quality of alternatives, Investment size, Satisfaction, Communication quality, Opportunistic behavior, Commitment, Trust	Stickiness intention
Liang, Ho, Li, and Turban (2001)	Social support, Relationship Quality (i.e., Trust, Satisfaction, Commitment), Website quality	Social commerce intention, Continuance intention
Lim, Sia, Lee, and Benbasat (2006)	Trusting beliefs	Attitude, Willingness to buy
Liu, Marchewka, Lu, and Yu (2004)	Privacy, Trust	Behavioral intention
Liu and Goodhue (2012)	Task-technology fit, Trust, Web aesthetics	Intention to revisit
Lowry et al. (2008)	Brand awareness, Brand image, Website quality, Dispositional trust, Institutional-based trust initial trusting beliefs	Initial trusting intention
Lowry, Wilson, and Haig (2014)	Disposition to distrust, Disposition to trust, Source credibility	Distrusting beliefs, Trusting beliefs, Trusting intentions
Malhotra et al. (2004)	Trusting beliefs, Risk beliefs	Behavioral intention
Mavlanova and Benbunan-Fich (2010)	Product presentation, Seller trust, Perception of counterfeit deception, Perception of trust in the seller	Willingness to buy
Nicolaou and McKnight (2006)	Perceived information quality, Perceived risk, Trust	Intention to use
Pavlou (2003)	Trust in web retailers, Perceived risk, Perceived usefulness, Perceived ease of use	Intention to transact
Pavlou and Dimoka (2006)	Outstanding text comment, Abysmal text comment, Trust propensity, Buyer's past experience, Price premiums	Trust (i.e., benevolence and credibility)
Pavlou and Fygenson (2006)	Trust, Perceived usefulness, Perceived ease of use, Website navigability, Perceived behavioral control, Attitude, Subjective norms	Intention to get information, getting information behavior
Pavlou and Gefen (2004)	Trust in intermediary, Trust in the community of sellers, Perceived risk	Transaction intention, Transaction behavior
Pavlou and Gefen (2005)	Psychological contract violation, Trust in community of sellers, Perceived risk from community of sellers	Transaction intentions, Transaction behavior
Pavlou et al. (2007)	Perceived uncertainty, Trust, Perceived information asymmetry, Fears of seller opportunism, Information privacy concern, Information security concerns	Purchase intention, Actual purchase
Pengnate and Antonenko (2013)	Relevant information, website visual appeal, website usability, metacognitive awareness	Website trust
Pennington, Wilcox and Grover (2003)	Vendor reputation, Attitude toward vendor, Perceived trust in vendor	Purchase intention
Pizzutti and Fernandes (2010)	Familiarity with the online seller, Quality of prior experience with the online seller, Familiarity with e-commerce, Quality of prior experience with e-commerce, Satisfaction with complaint handling, Trust in the online seller, Trust in e-commerce	Loyalty
Premazzi et al. (2010)	Initial trust, Compensation, Trust condition	Willingness to provide information, Behavioral information disclosure
Qiu and Benbasat (2005)	Life help interfaces	Cognitive trust, Emotional trust
Qiu and Benbasat (2009)	Social presence, Trusting beliefs, Perceived usefulness, Perceived enjoyment	Usage Intentions
Sia et al. (2009)	Culture, Portal affiliation, Peer consumer endorsement, Trusting beliefs	Attitude, Intention to buy, Actual buying
Shin and Shin (2011)	Risk, Security	Trust
Suh and Han (2003)	Perceived strength of control, Trust, Attitude toward using e-commerce	Behavioral intention to use, Actual use
Sun (2010)	Cognitive trust, Affective trust, Perceived usefulness, Perceived enjoyment	Retention to the marketplace
Utz, Matzat, and Snijders (2009)	Competence-based trust violations, Morality-based violations of trust, Trustworthiness judgments, Dispositional trust	Perceived trustworthiness
Van der Heijden, Verhagen, and Creemers (2003)	Trust in online store, Perceived risk, Perceived ease of use, Perceived usefulness	Attitude towards online purchasing, Online purchase intention
Vance, Elie-Dit-Cosaque, and Straub (2008)	System quality perceptions, Ease of use, Uncertainty avoidance, Trusting beliefs in IT artifact, Institution-based trust	Intention to use
Wu, Hu, and Wu (2010)	Disposition to trust, Perceived interactivity, Perceived web assurance, Perceived risk, Initial online trust in e-vendor	Attitude toward e-vendor's website, Purchase intention

Yoon (2002)	Website trust, Transaction security, Website properties, Navigation functionality, Personal variables, Website awareness, Website satisfaction	Purchase intention
Zahedi and Song (2008)	Trustworthiness beliefs, Information quality, Reputation, Prior experience, Propensity to trust, Satisfaction	Trust attitude
Zhang et al. (2011)	Distrust in vendor behavior, Perceived website usability, Perceived expertise, Reputation, Relationship quality	Repurchase intention
Zhou, Lu, and Wang (2009)	Website design quality, Service quality	Trust, Satisfaction, Repurchase intention

Appendix B. Measurement items

Construct	Source	Items
Perceived Quality	Dodds et al. (1991)	1. The quality of the product sold on the shopping website was excellent. 2. The performance of the product sold on the shopping website was excellent. 3. Generally, I'm satisfied with the quality of the product sold on the shopping website.
Website Reputation	Jarvenpaa et al. (1999)	1. The shopping website has a good reputation among its consumers. 2. The shopping website is well known among people. 3. The website has a favorable rating.
Perceived Competitive Price	Dodds et al. (1991), Gupta and Kim (2007)	1. The price of the product on this website is cheaper than other shopping websites. 2. Compare to the price of the same product that I purchased before, the product's price on this website is (1) very expensive to (7) very affordable.
Perceived Value	Dodds et al. (1991)	1. The product I bought on the shopping website was a very good value for the money. 2. The product I bought on the shopping website was considered to be a good buy. 3. The price shown for the product I bought on the shopping website was very acceptable.
Perceived Trust	Ba and Pavlou (2002)	1. The shopping website properly delivers to me a product that matches the posted description. 2. There is no gap between the shopping website's posted delivery terms and conditions before and after purchase services (e.g., quality, follow-up, A/S, etc.). 3. I think the shopping website is honest. 4. Overall, I trust the shopping website.
Perceived Usefulness	Davis et al. (1989)	1. The website improved my performance in shopping (e.g., the transaction was processed quickly). 2. The transaction process on the shopping website enhanced my effectiveness in purchasing the product. 3. I think the shopping website was very useful in purchasing the product.
Perceived Risk	Pavlou et al. (2007)	1. The overall buying process at the shopping website involves a high degree of risk or uncertainty. 2. There was a high degree of risk or uncertainty when purchasing the product from the website.
Repurchase Intention	Gefen (2000); Jarvenpaa et al. (2000)	1. If I were to buy the product again, I would likely to buy it from the same website. 2. If I could, I would like to reuse to the website for my next purchase. 3. I intent to revisit the website in the future. 4. I would like to revisit the website to purchase products in the near future.

Appendix C. Exploratory factor analysis results

	Mean	SD	TRUST	RI	PU	REP	PQ	PV	RISK	PRICE
TRUST1	5.10	1.04	**0.82**	0.13	0.20	0.16	0.21	0.13	0.08	0.11
TRUST2	5.05	1.20	**0.86**	0.16	0.19	0.12	0.13	0.11	0.09	0.09
TRUST3	5.05	1.09	**0.83**	0.18	0.24	0.12	0.19	0.11	0.13	0.03
TRUST4	5.22	1.11	**0.72**	0.30	0.21	0.23	0.15	0.15	0.17	0.12
RI1	5.25	1.05	0.27	**0.74**	0.09	0.16	0.10	0.13	0.22	0.15
RI2	5.06	1.19	0.04	**0.79**	0.06	−0.08	0.26	−0.02	−0.03	0.16
RI3	5.27	0.95	0.33	**0.64**	0.18	0.25	0.06	0.22	0.07	0.14
RI4	5.60	1.03	0.24	**0.68**	0.11	0.29	−0.03	0.32	0.15	−0.03
PU1	5.13	1.10	0.26	0.05	**0.79**	0.11	0.18	0.08	0.04	0.16
PU2	5.24	0.99	0.27	0.11	**0.80**	0.23	0.10	0.20	0.16	0.01
PU3	5.31	0.99	0.25	0.21	**0.74**	0.24	0.11	0.28	0.09	0.12
REP1	5.13	1.06	0.24	0.17	0.31	**0.69**	0.19	0.09	0.06	0.10
REP2	5.18	1.34	0.04	0.05	0.09	**0.88**	0.01	0.08	0.08	−0.04

REP3	4.99	1.07	0.25	0.16	0.15	**0.81**	0.09	0.08	−0.01	0.17
PQ1	5.17	0.92	0.19	0.15	0.12	0.10	**0.81**	0.33	0.07	−0.02
PQ2	5.06	0.96	0.22	0.14	0.15	0.09	**0.85**	0.13	0.13	0.08
PQ3	5.17	1.06	0.28	0.09	0.13	0.11	**0.59**	0.08	0.13	0.46
PV1	4.95	0.97	0.07	0.17	0.26	0.00	0.39	**0.53**	0.00	0.37
PV2	5.30	1.06	0.11	0.20	0.18	0.13	0.28	**0.77**	0.13	0.19
PV3	5.24	1.04	0.29	0.13	0.24	0.15	0.16	**0.74**	0.06	0.22
RISK1	3.31	1.26	−0.12	−0.06	−0.09	−0.08	−0.08	−0.09	**−0.93**	−0.10
RISK2	3.33	1.28	−0.16	−0.16	−0.10	−0.03	−0.13	−0.05	**−0.91**	−0.02
PRICE1	5.20	1.14	0.14	0.23	0.03	0.08	0.15	0.30	0.13	**0.70**
PRICE2	5.12	1.02	0.05	0.08	0.13	0.06	0.03	0.12	0.02	**0.89**

Notes: RI = Repurchase Intention, PV = Perceived Value, PQ = Perceived Quality, REP = Website Reputation, PU = Perceived Usefulness. Bold shows the significant factor loadings of their intended factors at $p < 0.001$.

Appendix D. PLS item factor loadings and cross loadings

	RI	PV	PRICE	PQ	REP	RISK	TRUST	PU
RI1	**0.86**	0.47	0.38	0.41	0.47	−0.26	0.56	0.47
RI2	**0.85**	0.43	0.28	0.32	0.44	−0.29	0.48	0.42
RI3	**0.86**	0.43	0.37	0.38	0.40	−0.36	0.51	0.38
RI4	**0.64**	0.33	0.28	0.30	0.17	−0.14	0.29	0.19
PV1	0.39	**0.83**	0.49	0.55	0.27	−0.19	0.37	0.45
PV2	0.48	**0.90**	0.46	0.54	0.37	−0.29	0.41	0.48
PV3	0.47	**0.87**	0.48	0.50	0.40	−0.24	0.51	0.55
PRICE1	0.43	0.53	**0.91**	0.43	0.27	−0.24	0.35	0.32
PRICE2	0.27	0.42	**0.85**	0.29	0.21	−0.12	0.21	0.27
PQ1	0.40	0.57	0.28	**0.91**	0.31	−0.23	0.44	0.41
PQ2	0.37	0.50	0.32	**0.91**	0.32	−0.29	0.47	0.41
PQ3	0.38	0.51	0.50	**0.80**	0.32	−0.28	0.47	0.40
REP1	0.46	0.41	0.29	0.40	**0.89**	−0.21	0.50	0.56
REP2	0.28	0.21	0.09	0.15	**0.78**	−0.15	0.26	0.32
REP3	0.45	0.38	0.29	0.31	**0.91**	−0.15	0.48	0.45
RISK1	−0.29	−0.27	−0.22	−0.28	−0.21	**0.95**	−0.31	−0.27
RISK2	−0.35	−0.26	−0.18	−0.30	−0.18	**0.97**	−0.36	−0.29
TRUST1	0.49	0.46	0.31	0.51	0.46	−0.29	**0.90**	0.55
TRUST2	0.50	0.42	0.27	0.45	0.42	−0.29	**0.91**	0.53
TRUST3	0.51	0.44	0.24	0.48	0.43	−0.33	**0.93**	0.56
TRUST4	0.62	0.50	0.36	0.49	0.52	−0.37	**0.90**	0.57
PU1	0.33	0.47	0.28	0.41	0.40	−0.21	0.52	**0.84**
PU2	0.42	0.49	0.26	0.40	0.51	−0.31	0.55	**0.93**
PU3	0.50	0.58	0.36	0.44	0.52	−0.27	0.56	**0.92**

Notes: RI = Repurchase Intention, PV = Perceived Value, PQ = Perceived Quality, REP = Website Reputation, PU = Perceived Usefulness. Bold shows the significant factor loadings of their intended factors at $p < 0.001$.

Appendix E. Mediation test results (process model using SPSS)

Test	Total Effect [95% CI]	Direct Effect [95% CI]	Indirect Effect [95% CI]	Sig?
Perceived Risk → Trust → Repurchase Intention	-0.18^{***}	-0.10^{*}	-0.08^{**}	Yes
Trust → Perceived Usefulness → Repurchase Intention	0.37^{***}	0.36^{***}	0.01 (ns)	No
Website Reputation → Product Quality → Perceived Value	0.26^{***}	0.16^{**}	0.10^{***}	Yes
Website Reputation → Perceived Value → Trust	0.46^{***}	0.32^{***}	0.14^{***}	Yes
Perceived Competitive Price → Product Quality → Perceived Value	0.48^{***}	0.33^{***}	0.15^{***}	Yes
Perceived Value → Trust → Repurchase Intention	0.41^{***}	0.28^{***}	0.13^{***}	Yes

If the 95% confidence interval of the standardized value of direct and indirect effect did not include zero, we conclude that there was a significant effect (Hayes, 2009).

$^{***}p < .001$.

$^{**}p < .01$.

$^{*}p < .05$.

Appendix F. Total effects (PLS)

Dependent Variable	Independent Variable	Total Effect
Repurchase intention	Online Trust	0.41***
	Perceived Value	0.39***
	Website Reputation	0.25***
	Perceived Risk	−0.19**
	Perceived Competitive Price	0.18***
	Perceived Product Quality	0.16***
	Perceived Usefulness	0.06 (ns)
Perceived Value	Perceived Competitive Price	0.47***
	Perceived Quality	0.41***
	Website Reputation	0.27***
Online Trust	Website Reputation	0.43***
	Perceived Value	0.30***
	Perceived Risk	−0.20***
	Perceived Competitive Price	0.14***
	Perceived Quality	0.12***
Perceived Usefulness	Online Trust	0.61***
	Website Reputation	0.26***
	Perceived Value	0.18***
	Perceived Risk	−0.12***
	Perceived Competitive Price	0.09***
	Product Quality	0.08**
Product Quality	Perceived Competitive Price	0.35***
	Website Reputation	0.26***

***$p < .001$.
**$p < .01$.
*$p < .05$.

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