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To cite this article: Van Dat Tran & Tuan Dat Nguyen | (2022) The impact of security, individuality, reputation, and consumer attitudes on purchase intention of online shopping: The evidence in Vietnam, Cogent Psychology, 9:1, 2035530, DOI: [10.1080/23311908.2022.2035530](https://doi.org/10.1080/23311908.2022.2035530)

To link to this article: <https://doi.org/10.1080/23311908.2022.2035530>



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Published online: 08 Feb 2022.



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Received: 30 August 2020
Accepted: 16 January 2022

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SOCIAL PSYCHOLOGY | RESEARCH ARTICLE

The impact of security, individuality, reputation, and consumer attitudes on purchase intention of online shopping: The evidence in Vietnam

Van Dat Tran^{1*} and Tuan Dat Nguyen²

Abstract: This study aimed to investigate the relationship between security, individuality, reputation on cognitive trust, perceived risk, consumer attitudes, and purchase intention of online shopping. This study extended the model of customers “online shopping intention, including from the positive impact of customer trust and the negative impact on customers” perceived risk on online sales businesses. The research method used to evaluate and test the scale and theoretical model in the study is quantitative research with sample size $n = 358$ through the survey to deliver questionnaires directly to subjects in Vietnam. Structural equation modeling (SEM) was employed for data analyses. The results showed that security, and reputation positively affect cognitive trust, whereas it negatively affects perceived risk. Additionally, privacy has a negatively influence cognitive trust and perceived risk. Besides, cognitive trust had a positive influence on attitudes towards online shopping, but perceived risks negatively affect attitudes towards online shopping. In addition, the attitude towards online shopping positively affected customers’ intention to purchase online. Finally, attitude as a mediator, we confirm that there exists an indirect relationship between cognitive trust, perceived risk and purchase intention, which make a considerable contribution to a better insight into consumer behavior on online shopping in Vietnam. This study gave enterprises owners’ recommendations which is understanding the nature of online transactions which

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PUBLIC INTEREST STATEMENT

This study will aim to investigate the relationship among the impact of security, individuality, reputation on cognitive trust, perceived risk, consumer attitudes, and purchase intention of online shopping. The author will have surveyed customers who used to shop online or intend to have online purchases with websites or browsers of suppliers in Vietnam such as Lazada; Shoppe; Tiki. The results of the research process will have brought a certain meaning to the retail industry, especially online shopping. According to the results of this research, confidentiality, privacy and reputation of suppliers will the factors be affecting the cognitive trust of customers towards suppliers. This study will also show management implications for corporate executives. Enterprises owners will need to grasp the nature of online transactions will be customers and enterprises interact and transact mainly through websites and interfaces.

are customers and enterprises interact and transact mainly through websites and interfaces, which needs to build trust and peace of mind for customers is definitely consider seriously. The results may be generalized to a limited extent.

Subjects: Social Psychology; Consumer Psychology; Business, Management and Accounting

Keywords: privacy; security; cognitive trust; perceived risk; attitude; purchase intention

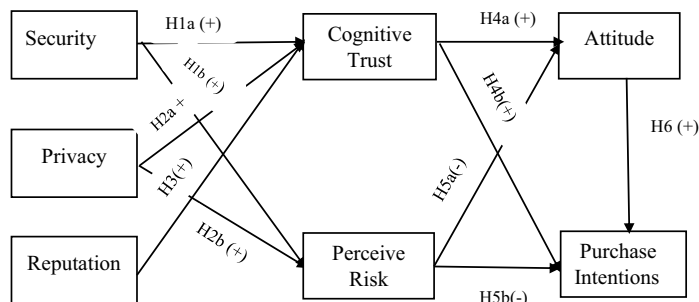
1. Introduction

In the new era of the Fourth Industrial Revolution, with the burst of technological advancement in the late 1990s and the early 2000s allowing more and more people to gain access to the Internet, new forms of business were shaped in the online environment, which latter are well-known as electronic commerce activities (e-Commerce). This day with the rapid development of technology plus the form of e-commerce in the world of online shopping is increasingly popular and is described as a boom in size and quality. In Vietnam, as a developing e-commerce business in Southeast Asia, has also seen massive development. According to the department of E-Commerce and Digital Economy, Vietnam's e-commerce grows impressively in 2020 with an increase of 18%, market size of 11.8 billion USD. It is forecasted that by 2023, Vietnam predicts that there will be more than 49 million people using e-commerce, which is up to 55% of the population will participate in online shopping (the national e-commerce development master plan for the period 2021–2025). Thus, there are popular online shopping websites such as Tiki, Lazada, Shoppe, etc., which will be becoming more and more familiar to consumers.

For e-commerce, many prior researchers argued that trust was an important factor leading to the impact of consumer buying intent. In particular, it is divided into several categories corresponding to the different components of the online product retail business (S. Jarvenpaa et al., 2000). Salo and Karjaluoto (2007) found that the extrinsic factors involved transaction security and privacy concerns, website security, and privacy protection-related attitudes toward online shopping (Y.H. Chen & Barnes, 2007). Besides, customers trust was found to impact the customers' attitudes. Customers' attitudes about purchasing (Alsajjan & Dennis, 2010) and utilizing (Flavián et al., 2006) products are influenced by their level of trust. Furthermore, prior studies in other situations have not established a consistent link between risk perception and online buying intention. Moreover, the relationship between risk perception and online shopping intention is not consistent in previous studies, which were found in other contexts. Risk perception has a negative association with online buying intention (Ha et al., 2021), which means the riskier customers feel the less they make online shopping (Ha et al., 2021). Whereas Gefen et al. (2003) found no influence of risk perception on internet shoppers' buying intentions.

The unrelenting development of e-commerce especially during the Covid 19 epidemic led to an interest in understanding the factors as well as how influence of these factors in decision-making of online shoppers. Research by Nielsen shows that, since the outbreak of the pandemic, the demand for shopping on e-commerce sites has increased sharply. Last year, 70% of Vietnamese people had access to the internet, and 53% of e-wallet users made payments when buying online, an increase of 28% compared to 2019. Furthermore, for previous research literatures, no researchers have found the links between cognitive trust and perceived risk to attitude and intention to buy or factors that directly or indirectly affect cognitive trust and perceived risk towards online shopping in Vietnam. Thus, as Vietnam's e-Commerce is rapidly developing, it is crucial to conduct the literature on the interaction effects of security, individuality, reputation on supplier trust, perceived risk, consumer attitudes and purchase intention in the scenario of today's rapidly changing e-commerce platforms in Vietnam. Additionally, the following research is proposed: To examine the indirect relationship between cognitive trust and purchase intention via the mediating role of attitude and examining the indirect relationship between perceived risk and purchase intention via the mediating role of attitude.

Figure 1. Research framework.



Moreover, the results of this study have been valuable in both research and practice. Firstly, from a theoretical viewpoint, our study builds on the TRA and previous research by addressing trust-building elements. In addition, a mediating variable was included in this study to better explain the relationship between cognitive trust, perceived risk, and purchase intention. Besides, the attitude mediating variable revealed in this study had both positive and negative impacts on cognitive trust and perceived risk. Furthermore, this model was used for the first time in Vietnam, there is any researchers had done previously. This research also has implications for business executives in terms of management. In specially, enterprises owners need to grasp the nature of online transactions which are customers and enterprises interact and transact mainly through websites and interfaces. Websites and interfaces must be invested in and improved to protect client safety from hackers while also focusing on keeping the company's image.

The study is organized as follows: The working theories will be formalized in the following section. Next, validation procedures for data collection and analysis are explained, accompanied by analytical results. Finally, the author discusses the study's key conclusions, organizational consequences, and shortcomings, as well as some future research possibilities.

2. Theoretical foundations and research model

According to the TPB, behavioral beliefs which referred to the inner beliefs of an individual about the consequences of performing a certain action do influence attitudes toward the actual behavior (Ajzen, 1991). In Bhatti et al. (2018) research, they explored perceived benefits and perceived risks effect on online shopping behavior with the mediating role of consumer purchase intention in Pakistan. The findings are consistent with Rehman et al. (2019) that convenience played an important role in determining online shopping behavior. Moreover, the variety of products significantly drives online shopping behavior. Those beliefs differed from an individual to another based on their backgrounds such as their personal previous experiences, personality traits, and characteristics, in addition to their personal mentalities (Al-Lozi, 2011). Based on the conducted review of relevant literature, the study model was constructed in which the key constructs along with their relationships were defined (see, Figure Figure 1). This study postulates that attitudes of Vietnam consumers toward online shopping are mainly influenced by cognitive trust and perceived risk and attitude. In the following subsections, we provide a comprehensive literature review concerning the identified predictors of attitudes toward online shopping along with their antecedents. We also utilize relevant literature to develop and support the hypotheses of this study

2.1. Security and privacy

Consumers who shop online always consider the internet concern for themselves because they fear that personal information may be stolen; The media has made extensive and concrete warnings about negative internet usage such as privacy and security leaks; creating opportunities for fraudulent acts to create obstacles and difficulties for consumers when shopping online. In which, consumers trust in online commerce is most likely to be boosted by perceptions of privacy and security (Riquelme & Román, 2014). Numerous previous studies have already shown that consumer trust in

online commerce is favorably influenced by perceived privacy (Ganguly et al., 2011; Kim et al., 2008; Van Dyke et al., 2007). They argued that consumers' risk perceptions associated with online exposure of personal information are reduced by perceived privacy protection on the website (Metzger 2006), which encourages online transactions by enhancing the website's perceived trustworthiness (Kim et al., 2008). Besides, the protection of consumers' privacy is related to the ability to control whether the information disclosed in market transactions or private information will be illegally provided to others through taking advantage of customer loopholes or collusion (Koufaris & Hampton-Sosa, 2004; Miyazaki & Fernandez, 2001; Nguyen et al., 2020; Pavlou, 2003; Y.H. Chen & Barnes, 2007). Previous researched found out that received security positively influences consumer trust in the online retailer (Riquelme & Román, 2014). Consumer perceptions of these security enforcement concepts relate to their trustworthy experience with online commerce in a positive way (Chellappa & Pavlou, 2002). Moreover, high-risk perceptions may lead individuals to have high levels of privacy concern, and vice versa for low perceptions of risk (Y. Chang et al., 2018). It can be seen that a higher sense of risk will increase one's privacy concerns (Xu et al., 2011). As a result, security and privacy will be important in an online shopping environment, so we propose four hypotheses as follows:

H1a: Perceived security positively influences cognitive trust.

H1b: Perceived security positively influences perceived risk.

H2a: Perceived privacy positively influences cognitive trust.

H2b: Perceived privacy positively influences perceived risk.

2.2. Reputation

Reputation is considered an extremely important factor to bring trust to customers (Fedorko et al., 2017). The reputation of the supplier has seen as the consumer trust that the supplier is capable of being professional, honest and kind, and always in a favorable position (Doney & Cannon, 1997; Jin et al., 2008; Teo & Liu, 2007). Additionally, consumers online tend to prefer vendors that have good reputation in e-commerce because of lower risk and easy to find help when problems happen (Sikandar et al., 2021). Previous works had rich empirical evidence to find a positive relationship between supplier reputation and consumer trust (S. Jarvenpaa et al., 2000; Kabadayi et al., 2011; Teo & Liu, 2007). A buyer who is unfamiliar with a perceived e-tailer reputation may base his or her opinions only on the firm's reputation (Johnson & Grayson, 2005). . Thus, the author proposed this hypothesis:

H3: Perceived reputation positively influences cognitive trust

2.3. Cognitive trust

Trust is defined as "a party's readiness to be susceptible to the acts of another party in the expectation that the other would do a specific activity that is significant to the trustor, regardless of the trustor's ability to monitor or control that other party" (Mayer et al., 1995). It can be said that trust, facing uprightiness, and kindness to another party is considered the subject's belief in each other in an exchange relationship, both sides are also beneficial and not available. Who is motivated to take advantage of the other party (Qureshi et al., 2009). While, McKnight et al. (2002) defined that trust is the willingness to accept vulnerability (risks) from internet commerce websites after acquiring knowledge about them on the e-commerce. Previous studies showed consumers' online purchase behavior has long been thought to be influenced by their level of trust (P. A Pavlou & Fygenson, 2006). . In the context of online purchasing, Punyatoya (2019) defined that cognitive trust is as a consumer's belief that an online merchant is trustworthy, knowledgeable, and capable of delivering on its promises, whereas affective trust is described as the trust that a customer has

in an online shop based on instincts, intuitions, or sentiments triggered by the online retailer's degree of care and concern. In this study, the author is mainly based on customers' beliefs about the purchasing website and trust with suppliers based on previous studies (Gefen et al., 2003; S. Jarvenpaa et al., 2000; Y. Lu et al., 2010; P.A. Pavlou & Gefen, 2004; Shu & Chuang, 2011).

In addition, trust has a direct influence on behaviour, the more trust can have a positive impact on behaviour (S. Jarvenpaa et al., 2000), on the other hand, the trust in an online shopping site if it is maintained, it creates a positive relationship with buyers according to J. Chen and Dibb (2010). In recent studies, the majority of the researchers consider trust as the key factor to create a complete and successful transaction. Moreover, the majority of studies suggest that a sense of overall control and consumer trust has a positive influence on consumers' buying intentions (Keh & Xie, 2009; Pavlou, 2003). Zhang et al. (2004) shown that customers' cognitive trust in online merchants influences their emotional trust, which leads to purchasing intention. Thus, trust not only influences consumers' buying intent but also strongly motivates their attitudes, in online transactions, beliefs limit uncertainty and increase consumer awareness. Use control of uncertainty in online transactions. Therefore, in this study, the author will propose two hypotheses:

H4a: Cognitive trust positively influences attitude toward online shopping.

H4b: Cognitive trust positively influences online purchase intention.

2.4. Perceived risk

Perceived risk relates to the belief of the person who places his trust in the relationship between the possibility of profit or loss without considering the relationship of the specific trustee (S. Jarvenpaa et al., 2000). In terms of online shopping, perceived risk is considered as a factor that can hinder successful transactions because customers are always proactively aware of risks when evaluating products or services from Online shopping, according to Forsythe and Shi (2003). In recent studies related to risks and uncertainties, if this happens, the attitude of customers with online shopping is worsening, which creates a negative relationship between risks and risks (Hsu & Chiu, 2004; Zimmer et al., 2010).

Perceived risk in online shopping can be determined through subjective expectations of financial risks, performance, psychology, time, and convenience of customers when shopping on the internet with shopping plans, online (Forsythe & Shi, 2003). Perceived risk is considered an uncertainty about the potential result of an operator and because this result also creates discomfort for customers, on the other hand, perceived risk also represents uncertainty about the loss. In the future, there is a tendency for consumers to gain a lot of cool or gain in specific future transactions (Forsythe & Shi, 2003; Murray, 1991). In online shopping, consumers do not have the opportunity to test or test products or services at the time of purchase, so they are afraid or worried because they are not as expected so perceived risk is a weak factor. Important factors to form buying behaviours and intentions and recent studies perceived risk have a negative relationship to purchase intention (Mitchell, 1999; Park et al., 2005; Vijayasathy & Jones, 2000). However, the finding from Ventre and Kolbe (2020) has shown that in their context perceived risk is not a real barrier in the buying decision-making method of knowledgeable shoppers. Definding how important of perceived risk for online purchasers, the author will propose two hypotheses:

H5a: Perceived risk negatively influences attitude toward online shopping.

H5b: Perceived risk negativey influences online purchase intention.

2.5. Attitude

The theory of reasoned action posited that a person's positive attitude together with the individual's thought constituted the behavioral intention of one person (Ajzen and Fishbein (1980); Ajzen (1985, 1991)). Thus, attitude is generally defined as a positive measure of emotion when buying online. Consumers who have a more positive attitude will buy online more. Attitude is considered the main factor for the intention to accept the behavior (Ajzen and Fishbein (1980); Ajzen (1985, 1991)). Also, an attitude toward a behavior can be viewed as a negative or positive assessment of an individual concerning the relevant behavior, including the individual's belief in perceived results (Al-Debei et al., 2013). From that argument, some of the previous studies have shown that attitude plays a very important role in forming the intention to buy or buy more goods according to research by P. A Pavlou and Fygenson (2006). When purchase intention rises, consumers demonstrate a favorable attitude toward products or services (Ko et al., 2005). On the other hand, there are many relevant research documents on the e-commerce segment, the information system also provides a lot of empirical evidence talking about the positive relationship between attitude and attention to purchase (Tsai et al., 2011). Therefore, with the current form of online shopping, consumers believed that they have a more positive attitude, they will buy more online so we will propose the hypothesis:

H6: Attitude toward online shopping positively influences online purchase intention.

2.6. The mediating role of attitude

It is suggested that trust in online suppliers has a significant influence on consumers' intentions to find out and purchase from the site. Additionally, thanks to attitudes, trust is capable of navigating the behavior of consumers in the Website (Gefen, 2000). Such a statement is equally suitable the Theory of Planned Behavior (Ajzen, 1985) and the Theory of Reasoned Action (Fishbein & Ajzen, 1975). Consequently, beliefs greatly affect attitudes, leading to behavioral intentions. According to studies, through the Website trust exerts a direct impact on the attitude of consumers and behavioral intentions. Take the studies of S. L. Jarvenpaa et al. (1999) and S. Jarvenpaa et al. (2000) for an example, there is a direct correlation between trust and consumers' store attitudes. Therefore, thanks to the correlation, consumers are willing to buy goods. Moreover, Eroglu et al. (2003) consumers' attitudes toward a Website has a significant impact on their approach/avoidance behaviors such as time spent on the site, the desire to explore, the desire to approach/avoid the site when shopping, the desire to revisit the site, and the intention to recommend the site to others.

Bauer (1967) argues it is evident that subsequent consumer behavior is shaped by this risk perception in the purchase situation. Similarly, perceived risk is also considered as a belief about situations. For instance, Mayer et al. (1995) defined risk perception as "the trustor's belief about likelihoods of gains and losses outside of considerations that involve the relationships with the particular trustee". For instance, it is experimentally verified that perceived risk affects consumers' attitudes by e-service (Ruyter et al., 2001). Furthermore, in accordance with McKnight et al. (1998) indicated that perceived risk increases, which makes it trusting intention more fragile, leading to having a negative impact on purchase likelihood.

3. Methodology

3.1. Procedure

The online survey will be conducted by the authors to collect the data. Because online data collection is shown to be less expensive per respondent and that data collection is faster (McDonald & Adam, 2003). Furthermore, during the Covid 19 breakdown, this form of data collection is appropriate for avoiding big crowds and preventing viral spread. In addition, the author will use online communication channels (Facebook, Zalo, emails) by designing and generating an online survey for online shoppers and their friend recommendations on these channels. The surveyed area is in Ho Chi Minh City. The reason for choosing this study area is because it currently has 35.4 million e-commerce users

in Vietnam, with an additional 6.6 million users to be shopping online by 2021. The average user spends 62 USD online, which will grow to 96 USD by 2021 (WorldBank, OECD, Statista, eShopWorld). The research objectives are consumers aged 18 years and over who bought goods online through websites or online shopping channels such as Lazada; Shopee; Tiki; Sendo. Furthermore, the authors focus on are the age group of 18–31 years old accounting for more than 20% which is a common age group in using the Internet and a major source of growth in the future for online shopping (Temkin, 2009). At the same time, the connection of this young-age segment on social networks to select products online has been increasingly popular (Temkin, 2009).

In addition, the pretests with a small sample amounting 10 respondents were done before to the actual survey. It helped pinpoint problematic questions, thus, conducting pretesting are typically more beneficial in gaining a better understanding of how and why particular questions might not operate as planned (Buschle et al., 2021). As a result, experts and academics were invited to review the questionnaire's relevance, logic, and readability, which resulted in modest changes to the original language and item sequence. After pretest, real online surveys are made by a Google form tool for collecting the data.

3.2. Questionnaires design

The scale of the variables in the model has been developed and based on previous documents. Firstly, the audiences surveyed will be asked to select their personal information such as gender, age, job, income, education, and most importantly, the online shopping channel they are using frequently. However, the approach can lead to a problem which is when the audiences are interested in the online shopping channel they choose, their reviews are mostly positive, therefore, negative reviews on this buying channel are very difficult to synthesize. Although there is a limitation in this approach, according to H. Kim and Niehm (2009) it was still widely used in retail-related studies because in this way it still helps the author to ensure that the audiences have enough experience or knowledge to answer surveyed questions related to online retailers. This was very important for research because it was for those who are experienced or knowledgeable about online shopping channels, they would have clear reviews or perceptions of their answers but those who did not have much awareness or experience in these online selling channels easily result in the inaccurate survey (S. Kim & Stoel, 2004a). The author designs the survey with variables rated on the 5-points Likert scale except for demographic variables.

To assess attitudes towards online shopping developed by Hsu et al. (2014), the author modified them to be suitable for the research context and this factor reached at a 0.778 confidence level and Cronbach's α exceeded the benchmark of 0.8 in the study. According to P.A. Pavlou and Gefen (2004), cognitive trust had a positive correlation with the intent and attitude towards online purchases, mainly from the trust of the supplier's website about the interface, transactions, operations. This is done on the same as the information presented on the supplier so to measure supplier confidence, in this study the author was based on the observations of Bhattacharjee (2002) and developed into 7 to be compatible with the online shopping context in Vietnam, the credibility of 0.877 and overall Cronbach alpha for the overall trust scale minimally from 0.93 to 0.92 were the result of this scale achieved. The perceived risk factor in the online purchase process is negatively correlated with the attitude and the intention of buying online, in other words, it has an impact on the transaction of buying online whether it happens successfully or not according to Forsythe and Shi (2003), and the worry of financial risks that lead to the disappointment and psychological damage to customers; Therefore, the author developed observations for this scale based on the study of McKnight et al. (2002) the risk-sensing factor gained a confidence level of 0.616, while the Cronbach alpha for Perceived Web Risk was higher than the standard which was 0.90 in this study.

Security and privacy are considered external forces that had an impact on individuals in terms of the trust towards suppliers and their sense of risk when buying online, in the process of dealing with what customers felt, are concerned about the disclosure of personal information by clicking on browsers, or providing personal information to online merchants when engaging in transactions (Salo & Karjaluo,

2007; Y.H. Chen & Barnes, 2007). On the other hand, there are confidential details related to the information on the internet or bank cards, customers can be stolen or taken advantage of to create financial losses for customers that reduce their trust in suppliers and increase the perceived risk when buying online. Consequently, in the process of creating a scale for two factors of confidentiality and privacy, the author relied on and developed the observations of Y.H. Chen and Barnes (2007), the results of the confidentiality and privacy show 0.874 and 0.841, respectively, and the Cronbach's index of perceived security was 0.947. The reputation of a supplier is based on its honesty and kindness, according to Jin et al. (2008), but in this study, the author would like to expand the consideration of these factors based on perceptions, customer reviews towards the suppliers' reputation through the information on the website or the supplier's reputation through their websites, therefore, the observations for these factors are based on Hsu and Chiu (2004) and the supplier's reputation factor reach at 0.754 in terms of the reliability and this Cronbach's index was 0.89 in the study.

3.3. Demographic statistics

In this study, the questionnaire was delivered 390 Vietnam online shoppers using an online survey where the research objectives were explained to them. In addition to posting the survey on Facebook, an e-mail and Zalo messages were transmitted to the target sample that described the purpose of the research and invited each online shopper to participate in the online survey. The hyperlink of the survey questionnaire was posted on the Facebook and social groups for 30 days to invite the potential online shoppers to participate in the survey. The respondents were reminded several times via online contacts and e-mails, respectively. The delivered online questionnaires to the Vietnam online shoppers were 390 from 358 were valid for the analysis; the response rate was 92% which were used for the data analysis process. The sample size was selected based on the study by Hair et al. (1998). The sample size should be at least five times the number of variables in the factor analysis. With 33 observed variables, the minimum sample size should be 165, with the expectation that a valid sample has a proportion greater than 50% of the total number of samples collected, the study chooses a sample size of $N = 358$. The author surveyed 358 participants, in which female accounts for 57,3% and the young age ranging from 18 to 31. Among the 358 surveyed people, the university level is 52.8% and their main job is office work, accounting for 40.2%, while their main income is from 15 to 20 VND million per month accounted for 39.1% of the total 358 respondents. On the other hand, in the questionnaire, the author also surveyed the applications or websites that the survey participants used to buy online, the results showed that Tiki and Lazada are the two brands they use. The most are, respectively, 25.1% and 23.2%. (see, Table 1)

4. Results and discussions

4.1. Reliability of scale

Cronbach's coefficient alpha provided an indication of the average correlation between all items that make up the scale. In order for Cronbach's alpha to be valid, the following criterias were required: Testing the reliability of the scale through Cronbach's Alpha coefficient and the scale was accepted as Cronbach's alpha reliability coefficient greater than 0.7 (Nunnally, 1978). Elimination of observed variables have Item-Total correlation of less than 0.4, security = 0.873, privacy = 0.838, reputation = 0.728, cognitive trust = 0.873, perceived risk = 0.867, consumer attitudes = 0.777, and purchase intention = 0.848. The results showed that Cronbach's Alpha coefficient >0.7 and the Corrected Item—Total Correlation >0.4 . Therefore, the scale of subjective variables was reliable.

4.2. Confirmatory factor analysis

Confirmatory Factory Analysis (CFA) was a better method to assess the validity and reliability of measures (Bagozzi & Yi, 1988). The goodness-of-fit of CFA was used to further assess the convergent validity among the constructs. CFA was applied with the following important indexes: Chi-square, Chi-square/df, Comparative Fit Index (CFI), Index (TLI), Root Mean Square Error Approximation (RMSEA). The goodness-of-fit for each model was assessed by examining the chi-square statistic, the comparative fit index (CFI), and the root-mean-square error of approximation

(RMSEA), NFI, IFI, and CFI were greater than 0.90 (Hair et al., 2010). GFI and AGFI index exceeded 0.8. Chi-square/df was equal or lower 2 (Chisquare/df ≤ 3 can be accepted in some cases), and RMSEA was equal or lower 0.08 (RMSEA ≤ 0.05 is excellent; Hair et al., 1998). (see, Table 2)

The results reflected the threshold of goodness-of-fit indices and its current figures of the model. It was inevitable that the model good of fit is good. All fit indices were satisfied the recommended values: Significant at: $X^2 = 666.506$; $df = 474$ (p -value = 0.00); GFI = 0.901; AGFI = 0.893; NFI = 0.89; CFI = 0.973; RMR = 0.023; RMSEA = 0.028.

The prior step was checking reliability, it will then followed by a convergent validity check. The following indexed represent the convergent validity of each construct. The result of AVE and factor loading of each item. Firstly, all factors loading were ranging from 0.55 to 0.914. These numbers, however, were high approximately to 0.5. Other AVEs were greater than 0.5. Having factor loadings greater than 0.5 and AVE high approximately to 0.5, all constructs in this study can be ensured the convergent validity.

This is the extent in which a construct differs distinctively from others in term of how much it correlates with other constructs as well as how other variables that represent it (Hair et al., 2010). In order assess discriminant validity, a comparison between the value of square root of AVE of one factor and its inter-construct correlations with other factors must be made, in which the value of square root of AVE must be greater. As observed, discriminant validity of the construct could be concluded as the values of square root of AVE for each factor were greater than its inter-construct correlations. Once construct validity of the variables had been ensured, the final stage Structural Equation Modeling could be conducted. (see, Table 3)

The discriminant validity was assessed by comparing the values of AVE and correlation. According to Fornell and Larcker (1981), if the AVE value for each variable are higher than the squared of correlation between that and any other variables, discriminant validity will be achieved. Table 3 indicated that the lowest AVE (0.710 for TRU) exceeded the highest square root inter-construct correlation (0.780 for PI). As a result, discriminant validity of measurement model was acceptable

4.3. Hypothesis testing and result

The structural equation modeling (SEM) was employed to examine the relationship among the constructs in the model and its validity. Software AMOS was used to perform this data analysis. From this path diagram, it could be observed that all the statistics for model fit have been met at good or even great degree: $X^2 = 666.506$; $df = 485$; p -value = 0.00; GFI = 0.901; AGFI = 0.886; NFI = 0.879; CFI = 0.964; RMR = 0.039; RMSEA = 0.032). Normed X^2/df was 1.374 (Bagozzi & Yi, 1988), that the research model achieved the overall fit

The estimation of causal path parameters from SEM provides examination of three hypotheses (Figure Figure 2). Security had significant positively influences cognitive trust (path coefficient = 0.14, $p < 0.001$) and perceived risk (path coefficient = 0.27, $p < 0.001$), supporting H1a and H1b. However, privacy had significant negatively influences cognitive trust and perceived risk (path coefficient = -0.23, $p < 0.001$) and perceived risk (path coefficient = -0.26, $p < 0.001$), supporting H2a and H2b. Additionally, reputation had significant positively influences cognitive trust (path coefficient = 0.47, $p < 0.001$). Thus, H3 was confirmed. Moreover, cognitive trust had significant positively influences customer attitude (path coefficient = 0.67, $p < 0.001$) and perceived risk (path coefficient = 0.19, $p < 0.001$), supporting H4a and H4b. Perceived risk had significant negatively influences consumer attitude and purchase intention (path coefficient = -0.17, $p < 0.001$) and perceived risk (path coefficient = -0.09, $p < 0.001$), supporting H5a and H5b. Finally, customer attitude had significant positively influences purchase intention (path coefficient = 0.11, $p < 0.001$). Thus, H6 was confirmed

Table 1. Demographics; characteristics and online shopping behavior of samples

		Frequency	%
Gender	Male	153	42,7%
	Female	205	57,3%
Education	Under University	96	26,8%
	University	189	52,8%
	Graduate	73	20,4%
Age	18–25	115	32,1%
	25–31	170	47,5%
	Over 31	73	20,4%
Work	University, College, ... (still attending school)	68	19,0%
	Business	144	40,2%
	Office	87	24,3%
	Other	59	16,5%
Income	Less than 5 million VND	68	19,0%
	From 5–14 million VND	78	21,8%
	From 15–20 million VND	140	39,1%
	From 20 million and up VND	72	20,1%
Application/web	Tiki	90	25,1%
	Lazada	83	23,2%
	Shopee	67	18,7%
	Sendo	63	17,6%
	Other (Facebook; Zalo; Viber; Instagram; ...)	55	15,4%

Furthermore, we also we used the explained endogenous variables' variance (R^2) criteria to demonstrate the predictive validity of the research model (Henseler et al., 2012). The Figure Figure 2 illustrates the explanatory power of the model were rather high, with R^2 value for cognitive trust = 0.23, perceived risk = 0.66, attitude = 0.74 and for purchase intention = 0.46. According to prior literature, when R^2 values exceeded 10%, acceptable explanatory power was proved (Henseler et al., 2012). The estimation of causal path parameters from SEM provides examination of three hypotheses with all paths in the research model were supported

Mediating effects of attitude: According to the calculation results, attitude was the mediating variable and only considers three factors: trust cognitive, attitude, and purchase intentions in the mediating impact model, the trust cognitive factor affected purchase intentions with R-squared of 4.05%, and the beta coefficient is 0.2466, in which the direct impact was 0.1717 and the indirect impact through attitude was 0.0749 and the p-value coefficient <0.05, hence leading to making it statistically significant.

Simultaneously, it was suggested that there was mediating impact model of three factors: perceived risk, attitude, and purchase intentions. Attitude was the mediating variable, therefore, perceived risk affects purchase intentions with R-squared of 3.42% and the beta coefficient was -0.1115, in which the direct impact was -0.0880 and the indirect impact through attitude was -0.0235 and the p-value coefficient <0.05, hence leading to making it statistically significant.

Table 2. Confirmation factor analysis

		Factor Loading	AVE	CR
SEC	Security		0.76	0.873
SEC1	The website/ browser you use has adequate online privacy.	0.748		
SEC2	Purchasing at these websites/ browsers shall not affect financial losses.	0.793		
SEC3	You believe in the transactions on the websites/ browsers you are using will be protected by the best tool.	0.823		
SEC4	Payment when buying the goods via the websites/ browsers you are using safely.	0.749		
SEC5	Websites/ browsers you are using can handle problems related to hackers	0.682		
PRI	Privacy		0.72	0.838
PRI1	All of the personal information you provide websites/ browsers will be confidential.	0.727		
PRI2	The information about payment, your bank provided to websites/ browsers will be protected adequately.	0.698		
PRI3	Websites/ browsers you are using methods shall be suitable to obtain your personal information.	0.758		
PRI4	Websites/ browsers you are using shall not obtain your personal information unnecessarily.	0.666		

(Continued)

Table2. (Continued)				
		Factor Loading	AVE	CR
PR15	Websites/ browsers you are using shall take advantage of your personal information provided on purpose.	0.740		
REP	Reputation		0.72	0.728
REP1	Websites/ browsers you are using are a big company.	0.587		
REP2	Websites/ browsers you are using are extremely famous.	0.594		
REP3	Websites/ browsers you are using have considerable reputation.	0.914		
TRU	Cognitive trust		0.71	0.873
TRU1	Websites/ browsers you are using have skills and specialization to conduct the transactions as expected.	0.547		
TRU2	Websites/ browsers you are using are entitled to access to necessary information to appropriately handle the transactions.	0.964		
TRU3	Websites/ browsers you are using shall be completely fair when handling the transactions for customers.	0.660		
TRU4	Websites/ browsers you are using always ensure in the service policies for customers when conducting the transactions.	0.588		
TRU5	Websites/ browsers you are using always open and welcome the needs of customers.	0.817		

(Continued)

		Factor Loading	AVE	CR
TRU6	Websites/ browsers you are using always make good efforts to handle all of the concerns of customers.	0.663		
TRU7	In general, websites/ browsers you are using shall be reliable.	0.623		
PR	Perceived Risk		0.73	0.867
PR1	Entering the information about credits via websites/ browsers during the using process shall be not safe.	0.767		
PR2	You think it is extremely risky when customers provide suppliers with the information about bank cards via websites/ browsers.	0.719		
PR3	You are afraid of entering the information about credits via websites.	0.669		
PR4	You think entering the personal information via websites shall be not safe.	0.655		
PR5	You think when entering some personal information related to social security via websites shall be not safe.	0.842		
PR6	You are afraid of providing personal information such as: name, address, telephone number, via websites.	0.688		
ATT	Attitude towards online purchases		0.73	0.777
ATT1	You like the idea of using Internet to shop from websites/ browsers.	0.765		

(Continued)

Table2. (Continued)				
		Factor Loading	AVE	CR
ATT2	Using internet to shop from websites/ browsers shall be a good idea.	0.728		
ATT3	Buying goods from websites/ browsers shall be a wise decision.	0.657		
PI	Purchase Intention		0.78	0.848
PI1	Shall we continue to return to websites/ browsers to buy goods?	0.855		
PI2	You shall consider you shall make purchases from websites/ browsers in the next three months.	0.710		
PI3	You shall consider buying goods via websites/ browsers in the next year.	0.671		
PI4	For purchasing transactions, how can you buy goods via websites/ browsers you access?	0.838		

4.4. Discussion

Based on the theory of factors and making hypotheses for the research model along with the development of two experimental research models of Hsu et al. (2014) and S-H. Chang et al. (2016), the author has surveyed with customers who used to shop online or intend to have the online purchases with websites or browsers of suppliers in Vietnam such as Lazada; Shoppe; Tiki. Overall, the outcomes are inline with many prior researchers such as Y. Chang et al. (2018), Xu et al. (2011), Hsu et al. (2014), and Riquelme and Román (2014); Singh & Srivastava, 2018; TPB theory (Ajzen, 1991), etc. One result of the research model was that the security and privacy from customers who visit the website of an online retailer are guaranteed, which has a positive impact on cognitive trust. When participating in online purchases, all customers always need to be security and respect their privacy of personal information to avoid unrelated disturbances and financial losses when dealing via bank cards or harassment, so if the supplier satisfies this basic of the customer, the trust in the supplier will be increased, which brings more benefits to suppliers. This finding found the same relationship between security, privacy and perceived risk but it found the opposite direction compared to Y. Chang et al. (2018), which is security and privacy have a negative impact on perceived risk. In other words, it makes customers risky in the purchasing transaction, H1b and H2b hypotheses are supported. The reputation of suppliers has a positive effect on increasing the customer's cognitive trust with the supplier, H3 is supported. The results are also consistent with the TPB theory that intentions significantly increase consumer behavior (Ajzen, 1991). Additionally, the author realized that the reputation of suppliers would be through the popularity and the reputation of suppliers websites. Consequently, if the better supplier's can build the quality and the content of websites, the

Table 3. Discriminant validity and correlations among the constructs

	SEC	PRI	REP	TRU	RIS	ATT	PI
SEC	0.760						
PRI	0.092	0.720					
REP	0.101	0.066	0.720				
TRU	0.252	0.037	0.389	0.710			
RIS	-0.195	-0.171	-0.082	-0.131	0.730		
ATT	0.421	0.333	0.303	0.372	-0.198	0.730	
PI	0.187	0.223	0.167	0.273	-0.213	0.305	0.780

more enhanced the reputation of suppliers is. Thus, this outcome expanded the finding of (Punyatoya, 2018) that reputation of seller is a good predictor of cognitive trust.

Cognitive trust in suppliers has a positive impact on attitudes towards online shopping and customers' buying intent. This finding also expanded the results of Zhang et al. (2004). The higher the customer's cognitive trust is with the supplier or the online sales business through the supplier's characteristics; service policies; The more need is met and the honesty of the supplier will give them a good attitude towards online shopping thereby impacting their intention to buy online. However, in contrast to cognitive trust for suppliers, it is the risk perception for customers to buy online if the perceived risk is greater, it negatively affects customers' attitude. For online shopping and their purchase intention, it was found that perceived risk negatively influences attitude and intention toward online shopping, which is on the contrast Ventre and Kolbe (2020). This explains if customers feel unsafe in the process of trading, mental or financial losses, they will not have a good attitude to online shopping and show the intention to buy goods. In other words, they don't establish a transactional relationship with online sales providers. Based on the result of this calculation, we can conclude for the initially mentioned hypotheses. Attitudes towards online shopping have a positive impact on your intention to buy online, which is similar to Hsu et al. (2014) and S-H. Chang et al. (2016) at the empirical research into online shopping. This means if customers show a good attitude towards online shopping, it will increase the purchasing intention of customers through online sales channels. These conclusions are taken from Table 4 summarizing the result.

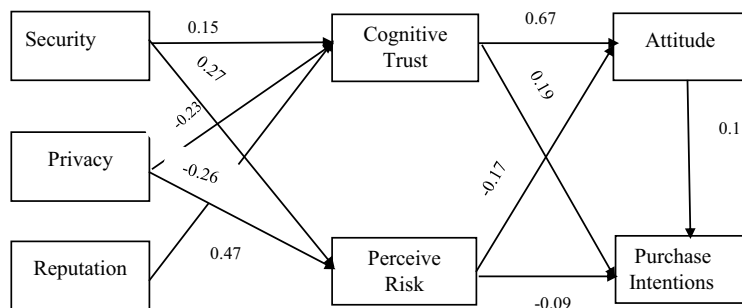
The mediating impact model of the three factors: trust cognitive, attitude, and purchase intentions, trust cognitive has a positive effect on purchase intentions. On the other hand, trust cognitive also positively affects attitude—a mediating factor for trust cognitive that has an indirect positive effect on purchase intentions, which supported the finding of Eroglu et al. (2003) It can be seen that if trust cognitive increases, it has a good impact on the attitude of customers, thus positively affecting the purchase intentions of customers (Eroglu et al., 2003). Additionally, the mediating impact model of three factors perceive risk, attitude, purchase intentions and perceived risk has a negative impact on purchase intentions. On the other hand, perceived risk also negatively affects attitude that is the mediating element for perceived risk indirectly negative affecting purchase intentions, which also contributed to the finding of Ruyter et al. (2001). They explained that if perceived risk increases, it has a negative impact on the attitude of customers, thus negatively affecting purchase intentions of customers (Ruyter et al., 2001).

5. Conclusions

The results of the research process have brought a certain meaning to the retail industry, especially online shopping. According to the results of this research, confidentiality, privacy and reputation of suppliers are the factors affecting the cognitive trust of customers towards suppliers, which is a similar result. In parallel with the two studies of Hsu et al. (2014) and S-H. Chang et al. (2016), the author not only got the inheritance but also expanded; emphasized and mainly focused on the core ingredients of these factors, which are the browsers or websites customers conduct transactions

Table 4. Result of the hypothesis test	
Hypothesis Test	Hypothesis
H1a: Perceived security positively influences cognitive trust.	Supported
H1b: Perceived security positively influences perceived risk.	Supported
H2a: Perceived privacy positively influences cognitive trust.	Supported
H2b: Perceived privacy positively influences perceived risk.	Supported
H3: Perceived reputation positively influences cognitive trust	Supported
H4a: Cognitive trust positively influences attitude toward online shopping.	Supported
H4b: Cognitive trust positively influences the intention to purchase.	Supported
H5a: Perceived risk negatively influences attitude toward online shopping.	Supported
H5b: Perceived risk negatively influences online purchase intention.	Supported
H6: Attitude toward online shopping positively influences online purchase intention.	Supported

Figure 2. Model tests.



or in other words, all of the activities aimed at shopping online through these channels, customers always would like to be safe in terms of personal information, bank cards and other privacy information; At the same time, the quality of websites or browsers for online sales of suppliers need to be well-qualified, hence ensuring the amount of information to be accurately provided about products or the policies of customer care to gain a deeper understanding (Keh & Xie, 2009; Pavlou, 2003). Contrary to customers' cognitive trust, it is the security and privacy that are inversely related to the perceived risk of customers when conducting online shopping. Online is that customers do not directly look at the product or have a real experience about it, which is a big drawback that suppliers need to make customers realize that the risk is unremarkable. On the other hand, this research also pointed out that if the privacy of customers can be encroached or stolen to threaten their mental and financial losses, they will increase them. The perceptions of risk are especially at the stage of technological development and the operation of hackers (Hunter et al., 2004).

Besides, online shopping is gradually a trend of the modern economy and big brands have fierce competition with each other to create the foothold and expand market share, hence creating a cognitive trust for customers alongside restricting the perceived risk of customers when shopping

online. This will help suppliers or businesses sell the goods online successfully. According to the research result of the cognitive trust of customers towards suppliers, there is a positive relationship with the attitude towards online shopping and vice versa, the perceptions of customers about the risk are negatively related to the attitude towards online shopping (Keh & Xie, 2009; Pavlou, 2003; Pires et al., 2004). In other words, cognitive trust for suppliers, perceived risk is an intermediary to show customers' appreciation towards supplier or enterprises selling online in the guarantee of confidentiality, privacy or reputation, the reputation of the organization. If customers show a good attitude towards online shopping, their intention to buy online will be enhanced or find it easier for customers to make buying decisions. The research result of the author is similar to those of Hsu et al. (2014) and S-H. Chang et al. (2016) at the empirical research into online shopping.

Most importantly, we also partly draw the existence of indirect influence of cognitive and perceived risk on purchase intentions via customer attitude. Trust cognitive also positively affects attitude—an mediating factor for trust cognitive that has an indirect positive effect on purchase intentions. On the other hand, perceived risk also negatively affects attitude that is the mediating element for perceived risk indirectly negative affecting purchase intentions (Ruyter et al., 2001).

6. Theory and managerial implications

The findings of this study have various implications for research, as well as for practice. From a theoretical perspective, our research extends the TRA and prior research to discuss trust-building factors. The result of this endeavor is the enrichment of the existing literature concerning trust-building factors. In addition, this study examines risk-related issues, based upon which consumers make judgments as they consider joining a buying group. This aspect of the present study distinguishes it significantly from the prior extant literature. First, the results showed that security, and reputation positively affect cognitive trust, whereas it negatively affects perceived risk. Besides, privacy has a negatively influence cognitive trust and perceived risk. Besides, cognitive trust had a positive influence on attitudes towards online shopping, but perceived risks negatively affect attitudes towards online shopping. Additionally, this study added a mediating variable to deeply understand the relationship between cognitive trust and perceived risk and purchase intention. This study has found the attitude mediating variable that has positive as well as negative effects on cognitive trust and perceived risk. In addition, variables in the model have different effects when applied in a different context. study. In addition, this model was first applied in Vietnam, which no one has done before.

In addition to the theoretical implications, this study also shows management implications for corporate executives. Enterprise owners need to grasp the nature of online transactions which are customers and enterprises interact and transact mainly through websites and interfaces. Consequently, managers need to perform the following main tasks aimed primarily at building the trust and peace of mind for customers. Firstly, due to the effect of the COVID-19 disease outbreak on purchasing intention, online retailers should make every attempt to expand their product portfolios on their websites by providing complete information about businesses, products, purchasing policies, and a hotline number that can enhance customers' cognitive trust. Besides, uniform resource locators (URLs) for company e-mail addresses, facebook accounts, or profiles on LinkedIn might assist build massive trustworthiness. Secondly, websites and interfaces must be invested and modernized to ensure the safety of customers from hackers, especially in the context of the encroaching of personal information or taking advantage of online shopping websites to be lucrative or lose money to customers; Thirdly, the construction and promotion of the image of the business should always be maintained by the images, achievements or benefits that bring customers honestly and always take customer needs to set up the operational goal as well as creating the sustainable development for future transactions for both parties; Finally, the completion and the innovation of sales form need to shown by recording customer feedback, suggestions or complaints to show a better operational performance.

7. Limitations and future research

While there is a definite contribution to this study in identifying factors that influence consumers' intention to buy online. Firstly, the data collection to customers is still located in Vietnam. At the same time, the surveyed customers are only members or shoppers of a website or a supplier, although this is not the only organization selling the goods online, on the other hand, every website or every other supplier can provide customers with different experiences. Second, customer reviews may be judged inaccurately, customers who place their preferences on a website or a supplier. Moreover, customers can conduct surveys hurriedly without careful consideration. Finally, the factors included in the model may not be sufficient to fully evaluate the impact on attitudes towards online shopping and customers' intention to buy the goods online.

In summary, the intention of customers to buy online has been enhanced by the supplier giving customers a good attitude to online shopping. Therefore, to do this, it is only necessary to make customers trust, safety, limit the perception of risks through the purchase and sale transactions by ensuring the confidentiality of the information and personal privacy when access to the website and provider's reputation or reputation. In the future, the author directs further research developed from this issue through the inclusion of more factors that influence the intention to buy the goods online; developing from purchasing intentions to purchasing decisions or customer loyalty towards suppliers; For the modern economic market, the brand identity is also a factor that the author has to research its influence on purchase intent; Finally, research is directed to the interests of customers in the context of online shopping.

Funding

The authors received no direct funding for this research.

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Disclosure statement

No potential conflict of interest was reported by the author(s).

Citation information

Cite this article as: The impact of security, individuality, reputation, and consumer attitudes on purchase intention of online shopping: The evidence in Vietnam, Van Dat Tran & Tuan Dat Nguyen, *Cogent Psychology* (2022), 9: 2035530.

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