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Abstract: This study examines the influences of online trust and self-efficacy on the online purchase intention of Generation Z. Based on the social cognitive theory and the decomposed theory of planned behaviour, this study proposes a research model and verifies the hypotheses using structural equation modelling

and data gathered from online interviews of 366 young online buyers in Vietnam. The findings reveal that: 1) online trust, self-efficacy, subjective norm and compatibility have a determinant impact on online purchase intention; 2) online trust is verified as being a factor that plays the dual role of mediator and moderator in the relationship between self-efficacy and online purchase intention. Both theoretical and managerial implications are provided to broaden the current understanding of online trust and suggest that business managers should focus on imperative factors to drive users to choose to make online purchases.

Keywords: self-efficacy; online trust; subjective norm; compatibility; online purchase intention; Generation Z; Vietnam.

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1 Introduction

Online shopping is a feasible preference for customers, whilst it has also become a practical choice and an efficient channel for communication in business worldwide (Kamalul Ariffin et al., 2018). The role of online shopping in e-commerce has received increasing attention across many disciplines in recent years, as well as its development

changing to the various dimensions of the supply and demand perspective (Kooli et al., 2014). This enables internet users to be offered multi-approaches to the innovative, technological and beneficial systems which enhance the consumer experience (Groß, 2015; Kamalul Ariffin et al., 2018). The young generation can find that the many benefits of online shopping have already been submitted in previous studies, especially for developing countries. In Vietnam, according to the White Book in E-commerce 2021 of the Vietnamese Ministry of Industry and Trade, 88% of internet users visited a website and purchased online. Trusting the website and vendor is one of the most important parts (77%) for Vietnamese internet users in their online purchase intentions. Moreover, 49% of the young users are aged between 18 and 25. This statistic indicates the potential of the Vietnamese e-commerce market. Therefore, the behavioural intention of internet users should be a productive area in electronic marketing research (Rezaei and Amin, 2013).

In online shopping, customers must rely on their online trust and shopping experiences of e-marketplaces and online retailers. Furthermore, online trust plays a key role in proceeding with online purchase intention and other behavioural consequences. Most studies have focused mainly on online trust as a dependent variable which has a direct impact on online purchasing (Hsu et al., 2015; Zhu et al., 2019). Likewise, the mediation role of online trust is also demonstrated as a critical component of online purchase intention in e-commerce (Hong and Cha, 2013; Jeon et al., 2017; Gefen et al., 2003). However, the moderating role of online trust is reviewed less in the literature review in which the effect of online trust on intention to buy online will be different to the high-low level. This study examines the dual role of online trust where this variable performs a combination of mediating and moderating functions to online purchasing intention.

Previous studies concentrate on social cognitive theory (SCT) and its constructs on the path to behavioural intention. Therefore, SCT, a psychological theory, is widely used across disciplines such as sociology, information science and customer behaviour. This theory describes how people learn and preserve specific behavioural models and serves as a foundation for intervention efforts (Bandura, 1986). It may also be utilised in acceptance and information technology research in general (Venkatesh et al., 2012). SCT-derived self-efficacy is utilised as a type of self-evaluation and impacts the decision and effort required to engage in particular behaviours, which is more appropriate due to the fact that, in the context of online shopping, individuals have specific goals with their outcome expectations and active thinking, and attempt to achieve their targets by responding to the external environment (Mccormick and Martinko, 2004). Experience is regarded as the most powerful source of self-efficacy (Bandura, 1986). Previous studies argue that individuals with high self-efficacy are likely to perform well through their proactive interaction with the environment (Mccormick and Martinko, 2004; Stajkovic and Luthans, 1998; Susanty et al., 2021). Due to the online purchasing circumstances, SCT delivers a transparent and influential elucidation of how online customers may control and direct their decisions and responses individually. For that reason, this study explores the associations between self-efficacy and online trust with purchase intention on online platforms and the duo role of online trust in combination with mediation and moderation. In the meantime, utilising the theory of planned behaviour (TPB) to investigate online consumers through their buying intention and certain behaviour is the general basis of the original model – unidimensionality and independence of each belief structure (i.e., attitude, subjective norm and perceived behavioural control). However, this structure of unidimensionality is incapable of giving specific information on how

customers think about making purchases via their cognitive process. As a replacement, the decomposed theory of planned behaviour (DTPB) seems to produce more intelligible and frugal models (Taylor and Todd, 1995) to validate a stronger exploration of behavioural beliefs than a unidimensional structure. Consequently, a construct of DTPB is expected to substitute the former construct as unidimensionality.

This study has major contributions to online retailers and researchers interested in understanding consumer purchase behaviour. Firstly, our study aims to emphasise the dual role of online trust as the mediator and moderator of online purchase intention. In empirical studies, online trust is demonstrated as either a moderated or a mediated role, without the dual function of conducting online purchase intention. Secondly, the theoretical evidence, in combination with SCT and decomposed theory of planning behaviour to examine online purchase intentions in which self-efficacy and other components of the TPB construct are the fundamental frameworks for further studies. Lastly, a practical contribution will provide deep insights into the young generation towards the relationship between online trust, self-efficacy and purchase intention in e-commerce in developing countries such as Vietnam.

Therefore, following the above conducted reasons, this study aims to answer the following research questions:

RQ1 Is there a significant association between self-efficacy and DTPB's construct (subjective norm and compatibility) towards online purchase intentions?

RQ2 Is there a mediating role of online trust towards self-efficacy and online purchase intentions?

RQ3 Even if there is, is there a moderation role of online trust towards self-efficacy and online purchase intentions?

2 Literature review

2.1 Social cognitive theory

Fundamentally, SCT states how behaviours of humankind are organised between personal cognitions, environmental stimuli and behavioural outcomes in a dynamic causal relationship pattern (Stajkovic and Luthans, 1998). Primarily, studies of SCT investigate performance, training and other matters relate to the corporate sector. This theory extends to broader fields such as personality, human behaviour and adaptation in the business context. The environment, behaviour and the person all have mutual interactions that explain how a personal online consumer evaluates online virtual stores or vendors, and lastly, begins to form trustworthiness from the trustor's aspect. For this reason, this study aims to explore the role of online trust in the association between self-efficacy and online purchase intention that is relevant to SCT. Such self-efficacy impacts the extent to which online buyers consider their external environment.

The author also specified that "people's beliefs in their efficacy influence their choices, their aspirations, how much effort they mobilise in a given endeavour and how long they persevere in the face of difficulties and setbacks" (Bandura, 1991). Moreover, self-efficacy should not be recorded as a skilful measurement because people believe in performing using their skills (Eastin and LaRose, 2000). Consequently, self-efficacy pays

attention to what people think they may accomplish now. There is no doubt that self-efficacy should be understood as a key determinant that clarifies the influential connection of internal and external stimuli that impact humankind's behaviour. As a result, in B2C e-commerce, online self-efficacy was the most important determinant affecting online trust and purchase intention (Kim and Son, 2009). The role of self-efficacy was also demonstrated by a strong direct influence on user trust when using mobile apps to purchase in e-commerce (Keith, 2015).

2.2 Decomposed theory of planning behaviour

Both TPB and DTPB are widely used to explain the linkages between users' belief structures (i.e., attitude, subjective norm and perceived behavioural control) with behavioural intention and usage. While TPB addresses the belief structures as combined and unidimensional constructs, DTPB decomposes these same belief sets into multi-dimensional constructs (Taylor and Todd, 1995). Decomposed TPB delivers more advantages than TPB such as introducing multiple determinants of belief sets across settings and then emphasising the influencing factors for intention and usage. According to DTPB:

1 behavioural beliefs are split into three components, namely complexity, relative advantage and compatibility

2 subjective norm is derived from normative beliefs

3 efficacy and facilitating conditions are decomposed from control beliefs.

Researchers have largely applied TPB and DTPB to investigate user adoption and continuance usage of IT-enabled services and systems. While Hsu and Chiu (2004) examined users' CI by using electronic services (web-based tax) with DTPB constructs and satisfaction as a mediator of their relationships, Ajjan et al. (2014) investigated planned behaviour factors for users' continuous usage of enterprise instant messaging applications and their knowledge outcome activities in the organisation. Another approach, derived by Merikivi and Mantymaki (2009), investigated the continuance usage of virtual social networks by integrating DTPB concepts with critical mass and the quality of rivals. Regarding the digital platform context, while Khoi et al. (2018) explored the strong effects of planned behaviours factors (e.g., attitude, subjective norm and perceived behavioural control) on mobile commerce adoption, Joia and Altieri (2018) observed the significance of DTPB user beliefs (e.g., subjective norm, compatibility) on satisfaction and continuance in the ride-hailing service platform context. Thus, the DTPB approach and its factors can explain the behavioural intention and usage in the ride-hailing service context. These factors (i.e., user belief structures) are selected contextually and may become potential influencers of users' adaptation to the digital platform and their continued use (Bhattacherjee and Barfar, 2011; Bhattacherjee and Harris, 2009; Joia and Altieri, 2018; Taylor and Todd, 1995).

2.3 Online purchase intention

The rapid growth of the internet platform and the rocketing development of e-commerce have made online purchasing become one of the most popular activities in the world behind emailing and surfing the web (Gao et al., 2015; Nguyen and Ha, 2021). Scholars

have defined online purchasing and the intention to purchase online in various ways. In general, the description of purchase intention could be generated in the same way as the possibility of a buying decision and a vital determinant of future buying behaviour (Schiffman and Kanuk, 2010). The study by Close and Kukar-Kinney (2010) argues that the online purchase behaviour is the consequence of buying intention, which is the decision that online buyers perform money transactions for an item or a service via the internet or virtual stores. Online purchase intention has been largely considered as a crucial outcome construct and a proxy for actual buying behaviour in online and e-commerce research (Poddar et al., 2009; Chaudhuri et al., 2021; Venkatesh et al., 2022). Previous studies that investigate online purchase intention employ multiple theoretical frameworks. Akar and Dalgic (2018) investigate the customer's intention to shop online through the lens of the TPB. Hsu et al. (2013) explains that the online intention to shop is also influenced by the trust and attitude of each blogger's reputation and perceived usefulness of the recommendation. Hong and Cha (2013) have investigated the mediating role of consumer trust in the relationships between perceived risk and purchase intention. The study by Chen and Lan (2018) examines online shopping (e.g., mobile commerce) based on technology acceptance modelling (TAM). Likewise, various components of different background theories impact the online intention to buy. TAM and its extensions are important theories for determining online purchase intention. Researchers define determinants of intention towards e-commerce platforms, with trust underlined as an important indicator to proceed with this kind of intention and boost other purchase behaviour (Chen et al., 2012; Chen and Lan, 2018; Lu et al., 2017). Currently, Nguyen and Ha (2021), are basing their work on the expectation-confirmation model (ECM), and have confirmed that mobile purchase intention is driven by user perception of trust, perceived usefulness, satisfaction and the process of user adaptation to the online platform.

This study therefore concentrates on clarifying the online purchase intention and measuring the readiness of young customers in Vietnamese e-commerce. Consumer purchase intention has a critical role in conquering consumer behaviour. Practically, this depends on the influencing antecedents, and it is difficult to measure this effect under various circumstances. The customer's purchase intention is frequently utilised as a measurement to forecast the actual buying activities.

2.4 Online trust

The impact of trust is widely recognised as an indispensable determinant of relationships between purchase intention along with behavioural buying as well as being continuously studied over recent years (Hong and Cha, 2013). Trust or other constructs of trust have been examined in various business contexts, involving mutually beneficial relationships that involve trust among organisation-organisation, people-people, people-organisation and people-computing systems (Lee and Turban, 2001). This study concentrates on online trust between people (customers) and organisations (online stores) to measure this kind of belief. Generally, the definition of trust can be summarised as the belief that people will act in their preferred approach (Morgan and Hunt, 1994).

In e-commerce, online trust immediately becomes a more critical issue in which exchange relationships focus on the nature of infrastructure via the internet instead of being based on personal nature. Notably, consumers may encounter the challenge and

risk of conducting a product or service purchasing via an online internet platform from an unfamiliar virtual store while they may not touch or experience the product. Online trust plays a key role in supporting buyers to overwhelm the perceptions of the risk level, uncertainty or insecurity (McKnight et al., 2002). Once privacy, certainty and security considerations are the main barriers to internet transactions, customers will not provide virtual stores of their private information and communication to vendors (Hoffman et al., 1999). Accordingly, online trust is gradually osmotic over time as an online consumer accumulates experience through continuous transactions and closes their deals via online channels (Gefen et al., 2003; Hsu et al., 2015; Close and Kukar-Kinney, 2010). In this study, the definition of online trust is the consumer's belief that the online vendor cannot trade opportunistically. There is a secure environment in e-commerce to provide risk-free transactions.

Meanwhile, online trust and purchase intention have a causal relationship which has been exploited continuously by global researchers. Kim et al. (2012) proved a strong influence of online perceived trust and price on the purchase intention of potential buyers in internet shopping. Furthermore, Lee et al. (2011) emphasised that online trust and a low level of confidence in online influence entailed electronic dealings or online purchase intention. Xu-Priour et al. (2017) described that trust and social interaction have positive effects related to online purchase intention. Groß (2016) has the same viewpoint when the study found that trust remarkably increased consumers' m-shopping continuance intention, as well as reducing risk perceptions towards their shopping online. Similarly, online trust is extended to influential continuance intention for using mobile shopping that is a part of the e-commerce ecosystem (Nguyen and Ha, 2021; Groß, 2016; Shang and Wu, 2017). As a consequence, this study proposes the following hypothesis:

H1 Online trust conducts a positive association with online purchase intention.

2.5 Self-efficacy

Self-efficacy is conceptualised as a cognitive factor in building online trust inside the e-commerce environment in combination with the behavioural outcome (for both successful and unsuccessful transactions or dealings, combined with experiences in the past from other individuals) and the related environment (internet or e-commerce environment of this study) all interacting with each other (Stajkovic and Luthans, 1998).

The environment, the behaviour and the individual have mutual interactions that explain how a personal online consumer evaluates online virtual stores or vendors, and lastly, begins to form trustworthiness from the trustor's aspect. That is the reason why this study aims to explore the role of online trust in the association between self-efficacy and online purchase intention, which is relevant to SCT. Such self-efficacy impacts the extent to which online buyers reflect on their external environment.

The association between self-efficacy and trust is recorded in social media as being: "enhancing self-efficacy will lead to trust and will prompt customers to find any information online" (Hocevar et al., 2014). Furthermore, self-efficacy was proven positively by its relationships as a remarkable predictor of behavioural intention through previous studies (Bhattacherjee and Harris, 2009; Sharif et al., 2014) and this was also realised by the studies of Thakur (2018), Aldholay et al. (2018) and Nguyen and Ha (2022). Customers are not able to have physical experiences with online stores or

unfamiliar merchants; online trust is more important even if they have both high self-efficacy and behavioural intentions.

Moreover, as the mediation of online trust, Hong and Cha (2013) demonstrated a mediating role of online trust to predict online purchase intention through determinants of perceived risks. This role of online trust is also found by Jeon et al. (2017) through the mediation of online trust with utilitarian value and the perceived interactivity of a website towards the online travel community and a remarkable mediation character of online trust are also explored. Recently, perceived online trust took an entirely mediating role in customer purchase intention in the non-frontier of e-commerce, explaining that customer response is a consequence of eliminating uncertainty and risk in online transactions (Zhu et al., 2019). Regarding the moderating role of online trust, when displayed with uncertain circumstances, consumers who have a low trust are more likely to be cautious or even hold a negative opinion. This is in contrast to consumers with a high propensity for trust who are more likely to be optimistic and accepting of things at first glance (Chen et al., 2015; Johnson, 2005). For customers who do not have any experience of online stores or unfamiliar merchants, online trust is more important, even if they have high levels of self-efficacy and behavioural intentions.

Hence, this study suggests that the moderation of online trust will influence self-efficacy towards online purchase intention, and the hypotheses will be summarised as follows:

H2 Self-efficacy has a positive association with online purchase intention.

H3 Self-efficacy has a positive association with online trust.

H4 Online trust conducts a mediating role based on the relationship between self-efficacy and online purchase intention.

H5 Online trust has a moderating effect on the relationship between self-efficacy and online purchase intention.

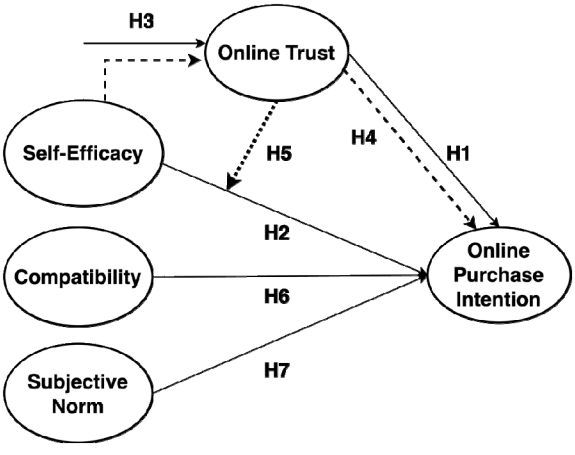
2.6 Compatibility in online shopping

The innovation diffusion theory (IDT) (Rogers, 2003) explores factors that affect one's decision to adopt an innovation or an innovative service. The theory defines the process by which an innovation is disseminated in multiple ways over time among the employees of an organisation or the users of a certain community. According to IDT, there is a host of factors influencing the diffusion of a new technology or an IT-enabled service (Elnadi and Gheith, 2022; Nguyen and Ha, 2021). These include relative advantage, complexity, compatibility, trialability and observability (Joia and Altieri, 2018; Wang and Lin, 2019). Among these influencers, compatibility has drawn much attention from researchers in online shopping (Hsieh, 2021; Usman and Kumar, 2021). Compatibility is defined as the extent to which an innovation is consistent with users' recent values, principles, and their present and previous practices. Compatibility and its driving impacts on user acceptance and continuance have been studied in multiple contexts (see, e.g., Chau et al., 2020; Joia and Altieri, 2018; Kim and Ammeter, 2014; Nguyen and Ha, 2022). Regarding the processes of innovation diffusion, scholars claim that, at the initial stage of usage, one accepts whether to start using or to refuse new technology. At a later stage, by perceiving the compatibility of the innovation, users each make their decision to continue or suspend

using it (Karahanna et al., 2006; Crespo et al., 2013). In the mobile platform context, previous research reveals that, if users perceive a strong compatibility with an online platform, they will continue using that platform (Chau et al., 2020; Joia and Altieri, 2018; Nguyen and Ha, 2022). For social networks, scholars show that compatibility is a determinant of user intention (Lin and Lu, 2015; Yen et al., 2019). Recently, in mobile commerce, several studies have discovered that users' perceived compatibility has a relationship with the adoption of mobile commerce (Al-Jabri and Sohail, 2012; Hsieh, 2021; Kim and Ammeter, 2014; Mallat et al., 2009). Therefore, the following hypothesis is proposed:

H6 Compatibility has a positive association with online purchase intention.

Figure 1 Research model



2.7 Subjective norm

According to Ajzen's (1991) TPB, and Taylor and Todd's (1995) DTPB, the subjective norm has been regarded as a key social determinant inducing user intention to specific actions (Liébana-Cabanillas et al., 2015; Taylor and Todd, 1995; Wang et al., 2014). Subjective norm is defined as the perceived external pressures (e.g., from imperative people) on whether to perform or act in a certain situation (Ajzen, 1991; Fu and Juan, 2017; Lee and Kim, 2021). In our study, the subjective norm is regarded as suggestions, advice or thoughts from vital persons (i.e., superiors, colleagues or family members) for users to purchase online (Hasbullah et al., 2016; Marinkovic and Kalinic, 2017; Phonthanukitithaworn and Sellitto, 2017; Wang et al., 2014). The influencing effect of subjective norms on user behavioural intention has been recognised by previous studies, including Fu and Juan (2017) in online public transportation, Liébana-Cabanillas et al. (2015) in mobile payment, Hasbullah et al. (2016) and Lin (2007) in online shopping, Zhao and Bacao (2020) in online food-delivery, and Hamilton et al. (2021) and Zoghlami et al. (2021) for e-health platforms. The more the users receive recommendations, the more likely it is that they will decide to buy online. Recently, scholars such as Mainardes et al. (2020), Nguyen and Ha (2022) and Si et al. (2020) have investigated the impact of

subjective norms on user intention in the online business platform. Hence, it is hypothesised as follows:

H7 Subjective norm has a positive association with online purchase intention.

Figure 1 presents a hypothesised model of this study that exhibits the interrelationships among the variables of interest.

3 Methodology

3.1 Data collection and sampling

This study has been conducted to obtain data from students at Vietnam National University of Ho Chi Minh City (VNU-HCMC), the largest university in southern Vietnam through survey research which was performed obligatorily. This is one of the most common research designs (Ha, 2022). Online questionnaires were utilised as one of the key data collection techniques that were applied in a range of approaches, involving business and marketing (Ian, 2018). Students with majors in Business Administration, who were freshmen and sophomores are accounted for in this collection, and respondents would have received a link to Google Forms through social media and e-mail. Before distributing the survey, this study launched a pretest with a small group (n = 10) who already had experience in shopping online before data collection. The objective of the pretest is to identify whether there was anything difficult to address in the sentences, such as anonymity, wording or technical term (Colton and Covert, 2015; Ha, 2022). Before completing the second part of the survey, participants are informed of the purpose of the study. A total of 366 respondents answered and collected their evaluation from 2nd to 18th August 2022. Because the structural equation modelling (SEM) technique is adopted in processing the primary data, this sample size is appropriate with a minimum number of respondents that Hoelter (1983) recommended.

3.2 Research instrument

Adapted for practical context, this research established instruments to achieve purposive data. The measurement scale of self-efficacy involves four items that are recorded from technical shopping via online channels and mobile shopping related studies, with online trust items being recorded from different e-commerce and mobile shopping studies, and the most significant being registered by Gefen et al. (2003). Measurement of online purchase intention is registered by applying items of Pavlou and Fygenson (2006) that are adapted by Ajzen and Fishbein (1975), self-efficacy is measured by Pavlou and Fygenson (2006) that is based on Compeau and Higgins (1995). Measurement scale of online trust is conducted by four items of Gefen et al. (2003). Compatibility is measured by four items of Andrews and Bianchi (2013), adapted by Moore and Benbasat (1991). Subjective norms is composed by three items of Wu and Chen (2005), and adjusted by Ajzen and Fishbein (1975). A five-point Likert scale is constructed that varies from (1) strongly disagree to (5) strongly agree (Appendix).

3.3 Data analysis

Reliability and construct validity. This study utilises Cronbach's alpha index to examine the consistency of the measurement scale of each construct, showing that all of the factors are higher than 0.7 as a minimal requirement (Bagozzi and Yi, 1988). Construct validity, including convergent and discriminant testing, was calculated separately through its threshold. The average variance extracted (AVE) is estimated to test whether the standard factor loading of each measurement item of each construct is significant or not (Anderson and Gerbing, 1988). Convergent testing needs this value to exceed 0.5 for all variables (Fornell and Larcker, 1981). For discriminant testing, this criteria requires AVE to have a higher square correlation of the construct in comparison with other constructs (Fornell and Larcker, 1981)

3.3.1 Model fit

For testing the model fit, both confirmatory factor analysis and SEM, the indices of this essential fit should include: good of fitness index (GFI), comparative fit index (CFI), adjusted goodness-of-fit index (AGFI) and root mean square error of approximation (RMSEA). These indexes were applied when their value should be higher than 0.9, while RMSEA should be lower than 0.08 (Anderson and Gerbing, 1988; Hair et al., 2018).

3.3.2 Moderation analysis

This study suggests the interaction of online trust as a continuous variable in the structural model. Moderation analysis (Aguinis, 2004) is a statistical approach that is used to evaluate whether or not the values of a third variable can change the strength or direction of the relationship between the independent and dependent variables of interest. Plotting the influence of self-efficacy on online purchase intention at low and high online trust (Z-values) is typically useful for probing the interaction effect. Z values one standard deviation above and below the mean are commonly used for this, although any acceptable number can be used (and in some cases, there are more meaningful values from which to choose). Typically, the plot is created by assessing the values of online purchasing intention for high and low values of both self-efficacy and online trust, and then drawing two lines to indicate the influence of self-efficacy on online purchase intention at the two values of online trust.

4 Research findings

4.1 Demographic information

Upon screening and cleaning data of the 402 participants' responses, only a total of 366 participants are available in total and valid for statistical analysis which leaves a 91% response rate. With an accurate sample, the profiles of participants reveal that the majority of them are women (68.1%) compared to men (31.9%), and most of them had an income below 5 million (VND), which represents the typical amount for students. Sophomores are the main respondents (58%), and newcomers are the rest. The income of respondents has been simulated as Vietnamese students, and that explained a number of them having to rely on financial support from their own families. 42.8% of them are

recorded, which is by far the highest number, as having no income. They also registered an income of less than 5 million VND as 44.2% (as can be seen in Table 1).

Table 1 Demographic information

Variables	*Characteristics*	*Frequency*	*Percentage*
Gender	Male	115	31.9
	Female	245	68.1
Income	No income	154	42.8
	Less than 5 mil VND	159	44.2
	5 mil–8 mil VND	30	8.3
	8 mil–15 mil VND	17	4.7
Duration	Freshmen	151	42
	Sophomore	209	58

4.2 Reliability and validity

Before examining construct validity, a reliability test and an exploratory factoring analysis are necessary steps in testing consistency and validation of the measurement scale. Cronbach's alpha of each variable is recorded at least 0.8, so the evaluation of respondents for each item is consistent. Meanwhile, the criteria for factor analysis includes the KMO value (0.899), Bartlett's test of sphericity ($p = 0.00$), extraction sums of squared loadings (67.95%) and eigenvalue of three factors greater than 1. Therefore, the results attained all three suggestions by Hair et al. (2018).

Due to convergent validity, each item's loading must be greater than 0.5 for sufficient validity and 0.7 for precise validity. In addition, to make this validity certain, the criteria of AVE indexes of each factor should be equal to or greater than 0.5. Due to discriminant validity, the square root of the AVE for an element needs to be higher than the shared variance among all constructs in the conceptual model. According to Table 2, the numeric result indicates that the thresholds imply for each construct by Cronbach's alpha, composite reliability (CR) and AVE indexes and reports all constructs to be highly dependable in achieving the thresholds: > 0.7 for Cronbach's alpha, > 0.7 for CR (Nunnally and Bernstein, 1994), even so, > 0.5 for AVE respectively (Fornell and Larcker, 1981). In addition, Table 3 shows the correlations amongst the internal constructs to examine discriminant validity and claims all standardised factor loadings to be greater than the recommended 0.50 threshold (Gefen and Straub, 2000). Lastly, convergent or discriminant invalidity indexes are found. Hence, the collected data is entirely appropriate for further analysis.

4.3 Model fit

After examining the validity of the construct, the model fit was assessed by five incremental fit indexes and a good model fit is recommended to show that these thresholds are matched; chi-square/degree of freedom (CMIN/DF) ≤ 3, goodness-of-fit index (GFI) ≥ 0.85, AGFI ≥ 0.80, comparative fit index (CFI) ≥ 0.95 and RMSEA ≤ 0.08 (Hu and Bentler, 1999; Hair et al., 2010). Afterwards, the model accomplished a good model fit with the subsequent indexes: CMIN/DF = 2.343, GFI = 0.940, AGFI = 0.908,

CFI = 0.975 and RMSEA = 0.061; thus, a strong provision is made for sustained analysis to the SEM division.

Table 2 Construct validity and reliability

Construct	*Items*	*Standardised item loadings*	*Cronbach's alpha*	*CR*	*AVE*
Trust	Trust1	0.804	0.897	0.898	0.688
	Trust2	0.809			
	Trust3	0.797			
	Trust4	0.912			
Self-efficacy	SE1	0.871	0.907	0.907	0.621
	SE2	0.864			
	SE3	0.840			
	SE4	0.896			
	SE5	0.603			
	SE6	0.514			
Compatibility	COM1	0.764	0.872	0.864	0.698
	COM2	0.834			
	COM3	0.813			
	COM4	0.823			
Subjective norm	SN1	0.887	0.886	0.887	0.723
	SN2	0.855			
	SN3	0.909			
Online purchase intention	OPI1	0.811	0.912	0.913	0.724
	OPI2	0.817			
	OPI3	0.851			
	OPI4	0.914			

Table 3 Discriminant validity

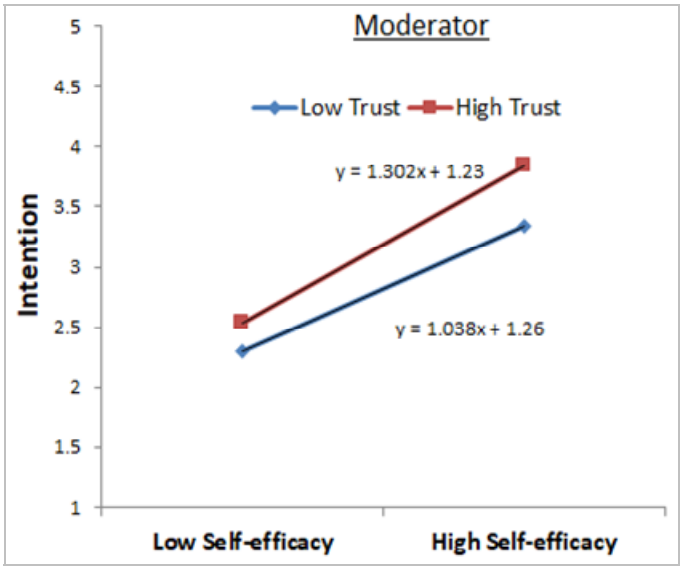
	AVE	*MSV*	*MaxR(H)*	*SN*	*SE*	*OPI*	*TRUST*	*COM*
SN	0.723	0.255	0.888	*0.850*				
SE	0.629	0.507	0.920	0.392	*0.793*			
OPI	0.724	0.329	0.915	0.468	0.574	*0.851*		
TRUST	0.689	0.251	0.902	0.501	0.491	0.455	*0.830*	
COM	0.698	0.507	0.878	0.505	0.712	0.554	0.416	*0.835*

The next step of analysis, i.e., calculating model fit of the structural equation, reveals CMIN/DF = 2.162, GFI = 0.916, AGFI = 0.886, CFI = 0.965 and RMSEA = 0.057. For hypothesis testing, the path coefficients reveal that online trust ($\beta = 0.221$, $p = 0.000$) and self-efficacy ($\beta = 0.570$, $p = 0.000$) play a role of remarkable predictors of online purchase intention. For that reason, Hypotheses H1 and H3 are completely supported. The direct relationship between self-efficacy to online trust is explored to be fully notable ($\beta = 0.595$, $p = 0.000$), accordingly supporting H4.

4.4 Mediation role of online trust

To examine the validity of the mediating role of online trust in the relationship between self-efficacy and online purchase intention (H2), a bootstrap computation needs to be delivered in comparison with the standardised direct impacts on whether or not the mediator and the standardised indirect effect of self-efficacy impact on online trust. A sample of 2,000 bootstrap numbers with 95% bias-corrected confidence intervals was registered using AMOS software. Both the standardised direct and indirect impact of self-efficacy were analysed, and the p-values were acquired from the two-tailed significance of the bias-corrected percentile method. The bootstrap reveals that self-efficacy plays a notable role in the direct impact on intention in the absence of the mediating relationship with trust ($\beta = 0.464$, $p = 0.001$). The mediating relationship is significant when self-efficacy and online trust is directly inspected ($\beta = 0.491$, $p = 0.001$). Moreover, self-efficacy has a significant indirect effect on intention ($\beta = 0.112$, $p = 0.011$), and therefore has both direct and indirect impacts on the intention. The partial mediation effect of trust completely supports Hypothesis H2.

Figure 2 Moderating effect of online trust (see online version for colours)



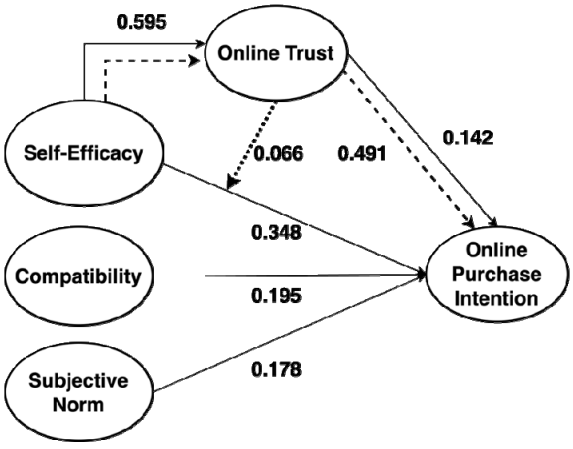
4.5 Moderation role of online trust

As a moderating role of online trust, this study applies an indicator method because moderation is perceived to be a continuous variable (Hair et al., 2010), and Cohen (1998) suggests this technique for evaluating moderating effects. The slope line for the relationship between self-efficacy and online purchase intention is moderated by online trust, showing that the moderation becomes more substantial when online trust is higher (see Figure 2). Hypothesis H5 is supported by a moderating role of online trust. Table 4 displays the hypothesis testing results and Figure 3 presents the results of all path analysis.

Table 4 Summary of hypothesis testing results

Hypothesis	*Effect*	*Coefficient*	*P-value*	*Conclusion*
H1	Online trust → intention	0.142	0.000	Supported
H2	Self-efficacy → intention	0.348	0.000	Supported
H3	Self-efficacy → online trust	0.595	0.000	Supported
H4	Online trust mediates self-efficacy and purchase intention	0.491	0.000	Supported
H5	Online trust moderates self-efficacy and purchase intention	0.066	0.000	Supported
H6	Compatibility → intention	0.195	0.000	Supported
H7	Subjective norm → intention	0.178	0.000	Supported

Figure 3 Results of structural model



4.6 Discussion

This study explored the causal relationships between online purchase intention and its influencing factors including perceived compatibility, self-efficacy, online trust and subjective norm from a Gen Z perspective in the online commerce context in Vietnam. The findings of the research confirmed all the hypothesised linkages between user purchase intention and its driving factors and moderator.

First, that the direct link between online trust and user purchase intention is revealed positive is entirely consistent with the findings of previous studies (Hong and Cha, 2013; Groß, 2016; Xu-Priour et al., 2017), which confirmed that trust is a determinant of purchase intention in an e-commerce context. Users who perceive trust in online purchasing will likely decide to buy online. In other words, the more buyers trust the online platform, the more they will use the platform to purchase. Interestingly, young consumers seem to be familiar with online shopping platforms and they took consideration in different factors besides trust.

Second, our findings reaffirm that self-efficacy positively affects online trust and purchase intention. An interesting finding is that self-efficacy is the most crucial factor in

enhancing the online shopping of young consumers. This result may be explained by the fact that customers' perception is oriented toward finding effortlessness and convenience when using online platforms for shopping, such as a vendor website with a hassle-free interface and payment, fast assistance, and efficient search and navigation. In line with the study of Gong et al. (2022), self-efficacy plays a role in influencing online trust and purchase intention.

Third, the study findings demonstrate that the relationships between the DTPB, subjective norm, and compatibility, are positive determinants of online shopping. These relationships are partly explained by the lifestyle of Generation Z. This type of consumer is highly compatible with adopting new technology and new trends and online buying also is more of a lifestyle fit than other enhancement of buying forms (Andrews and Bianchi, 2013). These findings align with those observed in earlier studies across the contexts, for instance, in an online shopping context (Peña-García et al., 2020; Chaudhuri et al., 2021; Nguyen and Ha, 2021; Hsu et al., 2015).

Last, this study completely supports the moderating effects of online trust as the research question. The moderating role of online trust was determined in the statistical analysis of the relationship between self-efficacy and online purchase intention. The most prominent finding to emerge from the analysis is that low registered trust and high trust will moderate the estimation of purchase intention through different levels of self-efficacy. This finding contradicts previous studies, which have suggested that self-efficacy plays a moderating role in online purchase intention (Zhou et al., 2016; Wang et al., 2013). However, no previous studies indicate a reasonable estimation of purchase intention through different levels of self-efficacy.

5 Conclusions and implications

Founded on the SCT and DTPB, this research proposes and validates a research model that encompasses the constructs, including online trust, self-efficacy, and other beliefs toward online purchase intention. The study provides empirical evidence to confirm the significant dual effect of online trust on young online customers. In addition, the study discloses that potential online buyers decide to purchase online according to their beliefs, such as perceived compatibility of online purchase, self-efficacy in using the online platform, and other important referents' recommendation (i.e., subjective norm). The results of this study suggest that online businesses concentrate more on important factors that affect most of their potential young consumers.

5.1 Implications

5.1.1 Theoretical implications

The study provides three theoretical contributions. First, this research, among a few types of research, establishes a theoretical framework to examine online user behaviour based on the combination of the SCT and DTPB. While prior studies have employed either the DTPB or SCT in various online contexts (Jekauc et al., 2015; Schoenfeld et al., 2016), little research attempted both theories to explore the user's online purchasing intention. The SCT is a psychological theory to predict behaviour that self-efficacy, a vital component, represents a personal belief in the capacity to perform in certain behaviour.

Theoretically, the SCT thoroughly explained the concept of user self-efficacy, a building construct of online trust that leads to the decision of online purchase. The social-cognitive perspectives for the online commerce market or e-commerce users advocate that the customer's behaviour is strong-minded by the actions of the online aspect by trustworthy relationships. The DTPB is an extension of the TPB and has characteristically focused on forming consumer behaviour in online settings (Lin et al., 2021; Gangwal and Bansal, 2016; Taylor and Todd, 1995). Methodologically, the DTPB set an approach for researchers to decompose a monolithic construct into unique variables that are contextually appropriated for specific research settings (Taylor and Todd, 1995).

Second, our work contributes to existing online commerce literature by providing empirical confirmation of the dual role that trust plays in forming online shopping intention. While the direct and mediating influences of user trust in an online environment have been extensively studied (Groß, 2015), the moderating and the combination of the mediating and moderating effects have been ignored, regrettably. By empirical evidence of Zhu et al. (2019), this new understanding should help improve predictions of trust's dual role and explain motivation and behaviour in an e-commerce context.

A pool of variables to proceed with online buying, this study provides significant insights into the relationship between user trust, self-efficacy and DTPB extension. While trust has caused much consideration among researchers in e-commerce settings (Xu-Priour et al., 2017; Gong et al., 2022), the result of our work unravels and sheds light that self-efficacy is an essential factor in deciding online buying for young consumers.

5.1.2 Practical implications

Notwithstanding the relatively limited sample, this work offers valuable insights to practical implications, particularly for the young generation. First, for a profound understanding of the nature of online trust in B2C e-commerce, online trust in e-commerce has a diversity of antecedents and many scopes. Young people have a high adoption of new technology and interfaces that show their efficacy and skills when considering something new. Due to online buying behaviour, they utilise their ability and skills as well as the online experience to perform consumption despite the risks and other postponements in online transactions. Therefore, young people widely use applications for admissions and share the credibility of information related to modern technology, which must be efficient to enhance trust and experience for online customers. Second, online store vendors could improve the users' interface with front-end designs to enhance the customers' experience in several ways. There are several techniques for capturing the points. The user interface should be designed by customisation that makes internet users feel familiar with their website and enjoy using it through its content and community. For website content, product or service descriptions must have a complete description of technical information, original production, guarantee and payment methods.

Moreover, the website should recommend a product for which online customers search. This requirement is to have website content through customisation that makes the customer feel comfortable with their experience. Third, a website should create a community on its interface to share customer buying experiences about products and services. This will also answer the common questions from other customers and enhance trust in the website. Fourth, the compatibility of customers would influence online buying intention. Practically, the website should be arranged with simplicity or minimalism that

makes it easy to use for customers and consumers of the internet platform. The website structure's minimal design will enhance online customer compatibility. In addition, to optimise the website's compatibility, we need to consider writing excellent descriptions of the goods and services we sell. Beneficial cooperation between search engine optimisation and the fitness of keywords in the description of products sold on the website will help online vendors receive better business results.

5.1.3 Limitations and further studies

This study has several limitations that should be acknowledged. Firstly, this work only examined information on online purchase intention in general. Future studies should concentrate on a wider range of product categories or specific products in the industry to have a better understanding of moderation and mediation of online trust in online buying behaviour, as well as the influence of self-efficacy in this situation. Secondly, the data for this study is collected from undergraduate students who have participated in an online-based survey. It is challenging to have virtual interaction with respondents that captures data at one single point in time to validate the conceptual model. As a result, it is impossible to define the active fluctuation of online trust, self-efficacy, subjective norm and compatibility in the different stages of the environment. Therefore, a further study should be conducted in longitudinal installation in comparison with findings of variation of online trust, subjective norm and compatibility towards online buying. Thirdly, this study only considers the antecedents of online purchase intention and other perspectives of the customer relationship. We suggest that future studies could be involved in the extension of online purchase consequences. Lastly, the perception of online trust could be changing on demographic characteristics such as gender, income and region. Future research may consider these kinds of information as the moderating variables in the casual relationship of online purchase intention.

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Appendix

Measurement items and sources

Construct	*Items*	*Sources*
Online trust	Based on my previous online shopping experience, I know that online stores are very reputable.	Gefen et al. (2003)
	Based on my previous online shopping experience, I know that online stores are not opportunistic.	
	Based on my previous online shopping experience, I know that online stores keep their promises to customers.	
	Based on my previous online shopping experience, I know that the online stores are trustworthy.	
Self-efficacy	I can get to a specific website with a browser.	Compeau and Higgins (1995), Pavlou and Fygenson (2006)
	I could easily use the website to find information about products or services.	
	I feel comfortable searching the internet for my own purposes.	
	I would be able to use the website by myself to find online stores.	
	If I want to, I can buy from the online stores in the next 30 days.	
Subjective norm	People who are important to me believe that I should buy from online stores.	Wu and Chen (2005), Ajzen and Fishbein (1975)
	People who influence me think that I should buy from online stores.	
	People whose opinions are valuable for me would rather I buy from online stores.	
Compatibility	Buying from an online store would be compatible with every aspect of my life.	Andrews and Bianchi (2013), Moore and Benbasat (1991)
	I think buying from an online store fits well with the way I like to buy.	
	Buying from an online store is compatible with my current situation.	
	Buying from an online store fits with my lifestyle.	
Online purchase intention	If I have the opportunity, I intend to buy from online stores.	Pavlou and Fygenson (2006), Ajzen and Fishbein (1975)
	I can forecast what I should buy from online stores in the future.	
	I will recommend my family and friends to buy from online stores.	
	I will buy from online stores soon.	