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Drivers of E-Commerce Continuance Intention: A Comparison across Baby Boomers, Generations X, Y, and Z in Thailand

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ABSTRACT

Globalization of trade and investments coupled with advancements in telecommunication and transportation technology have driven growth in international business, particularly e-commerce. Focusing on business-to-consumer (B2C) e-commerce, this study investigates the drivers of post-COVID-19 pandemic e-commerce continuance intention across baby boomers, Generations X, Y, and Z in Thailand. Self-administered online survey data from 851 Thai respondents obtained after the first lockdown were analyzed using multiple-group structural equation modeling. Results show that perceived risks in e-commerce have the strongest negative effect on trust, followed by utilitarian motivations while hedonic motivations only have marginal effect. From the total sample, utilitarian motivations are the most influential driver for continuance intention while trust has the least impact. Within each generation, although hedonic motivations represent the most important driver among baby boomers, utilitarian motivations are the only significant factor in Generation X, and are the most significant across Generations X, Y, and Z with trust being unimportant to Generations X and Y. Proposed relationships are marginally different between Generations X and Z, but not in other pairwise comparisons.

Keywords: Online Shopping, Baby Boomers, Generation X-Y-Z, Trust, Motivations

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ตัวขับเคลื่อนความตั้งใจชอปปิ้งออนไลน์อย่างต่อเนื่อง: เปรียบเทียบระหว่างกลุ่มเบบี้บูมเมอร์, เจเนอเรชัน X, Y และ Z

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บทคัดย่อ

โลกาภิวัตน์ผลักดันการเติบโตในธุรกิจระหว่างประเทศและพาณิชย์อิเล็กทรอนิกส์ การศึกษานี้มุ่งเน้นไปที่พาณิชย์อิเล็กทรอนิกส์ระหว่างธุรกิจและผู้บริโภค (B2C) โดยมีวัตถุประสงค์เพื่อตรวจสอบตัวขับเคลื่อนความตั้งใจของผู้บริโภคไทยในการชอปปิ้งออนไลน์อย่างต่อเนื่องในกลุ่มเบบี้บูมเมอร์ เจเนอเรชัน X, Y และ Z หลังจากการการระบาดของโรคไวรัสโควิด-19 ผู้วิจัยใช้วิธีวิเคราะห์แบบจำลองสมการโครงสร้างในการทดสอบสมมติฐานโดยใช้จากข้อมูลที่เก็บโดยแบบสอบถามออนไลน์จากผู้บริโภคชาวไทย 851 คน ผลการศึกษาแสดงให้เห็นว่าการรับรู้ความเสี่ยงในพาณิชย์อิเล็กทรอนิกส์มีอิทธิพลอย่างมากต่อความไว้วางใจตามมาด้วยแรงจูงใจที่เน้นประโยชน์ใช้สอย และแรงจูงใจที่เน้นความเพลิดเพลินทางอารมณ์มีผลเพียงเล็กน้อย จากกลุ่มตัวอย่างทั้งหมดแรงจูงใจที่เน้นประโยชน์ใช้สอยเป็นตัวขับเคลื่อนที่มีอิทธิพลมากที่สุดต่อความตั้งใจในการชอปปิ้งออนไลน์อย่างต่อเนื่องในขณะที่ความไว้วางใจมีผลกระทบน้อยที่สุด ในกลุ่มเบบี้บูมเมอร์แรงจูงใจที่เน้นความเพลิดเพลินทางอารมณ์เป็นตัวขับเคลื่อนที่สำคัญที่สุด แรงจูงใจที่เน้นประโยชน์ใช้สอยเป็นปัจจัยที่สำคัญที่สุดในเจเนอเรชัน X, Y และ Z และเป็นเพียงปัจจัยเดียวที่สำคัญต่อผู้บริโภคเจเนอเรชัน X ความไว้วางใจไม่มีความสำคัญต่อเจเนอเรชัน X และ Y โดยรวมความแตกต่างอย่างมีนัยสำคัญมีเพียงเล็กน้อยระหว่างเจเนอเรชัน X และ Z

คำสำคัญ: ชอปปิ้งออนไลน์ เบบี้บูมเมอร์ เจเนอเรชัน X-Y-Z ความไว้วางใจ แรงจูงใจ

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Introduction

Electronic commerce (e-commerce) has provided companies around the world a convenient and fast venue to internationalize and to increase market shares and profitability (Mainardes et al., 2019). Given the mature nature of developed economies, many firms from developed nations have been using e-commerce to exploit market opportunities in emerging markets (King et al., 2016; Sheth, 2011). Yet, the volume of e-commerce worldwide is still small in relation to traditional stores (Mainardes et al., 2019; Thongpapanl et al., 2018) despite the fact that it has been around since early 1990's (csponline, 2016). According to Coppola (2020), online electronic retail sales represent only 14.1 percent of global retail sales. While the United States has led the world in terms of e-commerce sales volume, which reached USD 8.62 billion in 2018 (UNCTAD, 2020), the fastest growing region is Asia Pacific with India and China being among the top three countries (Coppola, 2020). With the emergence of mobile shopping, countries in Asia such as Indonesia, China, Thailand, South Korea, and Vietnam have been recently ranked among the top countries in using mobile phones for shopping, with Indonesia leading the share in this sector (Coppola, 2020).

Although the growth in e-commerce was forecasted to be double digits throughout 2020, the outbreak of COVID-19 urged everyone towards social distancing and a contact-less society, which has made the growth more difficult to predict (UNCTAD, 2020). As such, there has been a surge in business-to-consumer (B2C) e-commerce. Not only were consumers forced to switch to shop online, but also businesses were abruptly urged to develop online channels to communicate and market their products. This has given a rise in online shopping activities globally with emerging economies leading the shifts (UN, 2020). This trend has also driven disruptions in retail businesses as increasing investments have been made to develop and expand online and mobile platforms to facilitate online shopping at a faster pace than formerly forecasted (Perez, 2020). As suggested by Carlo Terreni, President of NetComm Suisse eCommerce Association, "In the post-COVID-19 world, the unparalleled growth of e-commerce will disrupt national and international retail frameworks," (UN, 2020).

Regardless of the shift from in-store to online purchases, resulting primarily from the pandemic, the key question remains whether this change in consumer shopping behavior will persist in the future. Since a huge amount of capital has been invested in developing online and omni channels in response to the pandemic coupled with a relatively low penetration rate of online shopping prior to the pandemic (Anwar et al., 2020), it would be worthwhile to understand the factors driving continuance intention in online shopping. Hence, this research aims to study the factors driving continuance intention in online shopping with a particular focus on Thailand, an emerging economy with rapid increase in online shopping in the Asia Pacific region (Coppola, 2020). With the COVID-19 pandemic, Thailand's growth in e-commerce has been accelerated at a much faster pace than originally predicted. Accordingly, the volume of Thailand's B2C e-commerce has been projected to reach THB 220 billion (USD 7.33 billion) with approximately 35% growth in 2020 (Leesa-Nguansuk, 2020). Similar to other nations, with such increasing demand in online

activities, investments have been allocated to develop technological infrastructure (Bangkok Post, 2021), and online and mobile platforms to facilitate such dramatic growth in Thailand (Kate, 2021; Prachachat.net, 2021).

In addition to examining drivers of continuance intention in online shopping, this research also aims to compare the drivers across consumers of different generations, including baby boomers, Generation X, Generation Y (or millennials), and Generation Z (or the 'i generation'). Understanding the similarities and differences across consumers of different generations will help B2C e-commerce businesses, including global retailers, to formulate strategies accordingly. Therefore, this study contributes to international business, management, and marketing literature in terms of strategic formulation (i.e. standardization versus customization) and context-specific theoretical advancements for emerging economies. Ultimately, the results of this study will enable both local and international B2C e-commerce businesses to not only build and sustain their competitiveness in attracting and retaining online shoppers even after the pandemic, but also exploit and enhance their investments over the long run. Given the aforementioned objectives, a research model and hypotheses were grounded in behavior motivation studies (Babin et al., 1994; Hirschman & Holbrook, 1982; Kim et al., 2013) and the Theory of Planned Behavior (Ajzen, 1991; Fishbein & Ajzen, 1975).

Literature Review

E-commerce is broadly defined as "a way to trade electronically using the Internet" (Mainardes et al., 2019, p. 447). This has encompassed a wider scope of electronic trading via the Internet, including web-based and mobile-based commerce (M-commerce), ranging from business-to-business (B2B) to business-to-consumer (B2C) transactions. This definition includes activities such as online information search and retrieval and purchase decision, which characterize the nature of online shopping. Thus, this study explores literature on e-commerce and online shopping with a particular emphasis on B2C retail businesses, including web-based and M-commerce since the fundamental of e-commerce is the 'electronic' attribute which requires Internet accessibility regardless of the devices (i.e. computers, tablets, mobile phones) or platforms (i.e. websites or mobile applications). Hence, the term e-commerce and online shopping will be used interchangeable throughout this study.

Given a relatively low return on investments geared towards expanding online shopping markets, a study of motivations towards adoption and continual usage intention seems warranted (Thongpapanl et al., 2018). Based on Plato, the mental constructs of the human mind consist of 'cognition,' 'emotion,' and 'conation,' which can be simply interpreted as 'knowing,' 'feeling,' and 'willing,' respectively (Hirschman & Holbrook, 1982). These three constructs serve as fundamentals for several motivational and behavioral studies, including the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), the Theory of Planned Behavior (TPB) (Ajzen, 1991), and the Technology Acceptance Model (TAM) (Davis, 1989; Davis et al., 1989)

since they elaborate human behavior into three basic components, namely cognition (knowing), affection (emotion or feeling), and conation (willingness or intention) (Kim et al., 2013). Building on these theoretical constructs and prior motivational studies, this study conceptualized a model to explain factors that drive consumers towards continuance intention in online shopping as illustrated in Figure 1.

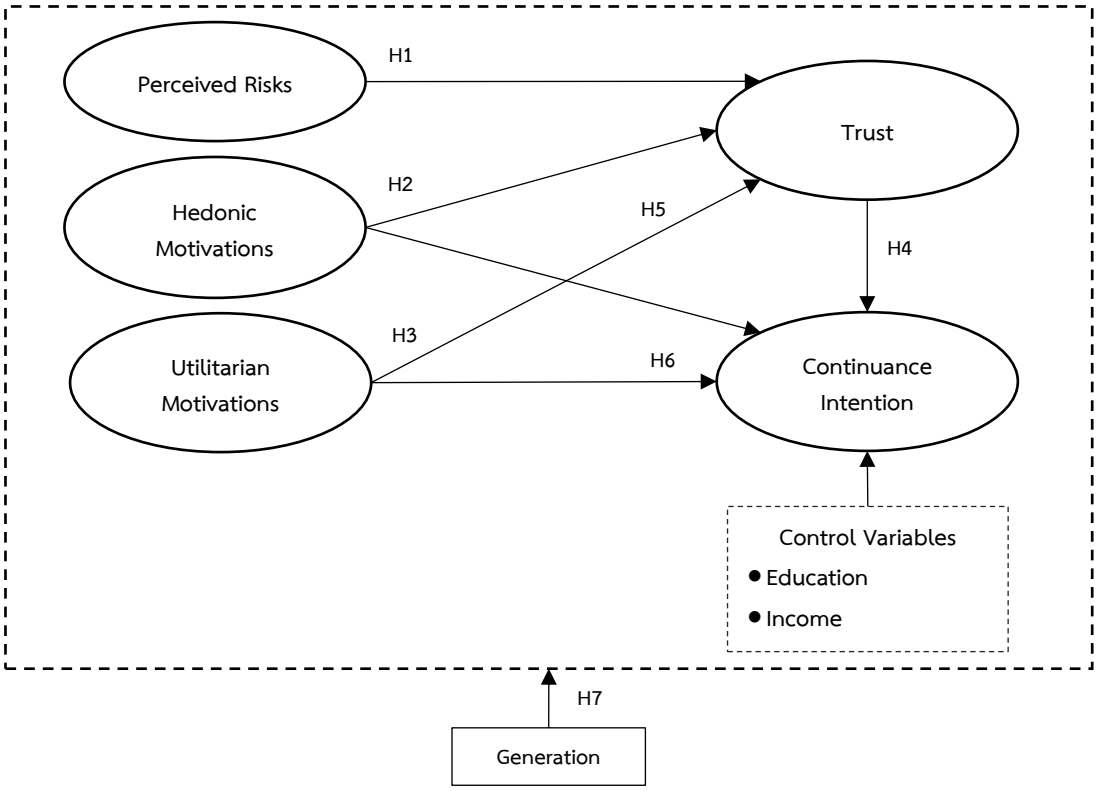

Figure 1 Research Model

Based on the aforementioned theoretical perspectives, the cognition element of the model is perceived risks, hedonic and utilitarian motivations, which indicate consumers' knowledge regarding online shopping while trust represents the affection element illustrating the feelings consumers develop towards online shopping. The last component, continuance intention, exemplifies the willingness or intention aspect of consumers' motivation towards online shopping. This model differs slightly from traditional models of online shopping motivations which consist of hedonic and utilitarian motivations (O'Brien, 2010; To et al., 2007) and/or trust (Shao et al., 2019; Thongpapanl et al., 2018) because it incorporates perceived risks which represent a particularly unique aspect of emerging markets. Unlike developed nations, emerging markets are characterized by a high degree of uncertainties, including political instability and lack of well-developed infrastructure (Sheth, 2011). These distinct characteristics of emerging markets exert influences on consumers' mental process in purchase decisions (Mainardes et al., 2019; Sheth, 2011; Thongpapanl et al., 2018). For this reason, factors such as perceived risks and trust play vital roles in addition to traditional hedonic and utilitarian motivations in driving consumer's purchase intention.

Perceived Risks and Trust

Although prior literature has documented multiple dimensions of perceived risks of online shopping (c. f. Almousa, 2011; Ariffin et al., 2018; Featherman & Pavlou, 2003; Han & Kim, 2017), some of these are context-specific. For instance, Almousa (2011) focused on financial, performance, social, time, psychological, and privacy risk in an apparel industry in Canada; Featherman and Pavlou (2003) investigated financial, performance, time, psychological, social, privacy and overall risks in e-services adoption; and Han and Kim (2017) compared economic, privacy, security, product, social/psychology, and time risks between high- versus low-product involvement categories. Ariffin et al. (2018) studied the influence of financial, product security, psychological, social, and time risks on online purchase intention in general, which is similar to the present study. Based on their results, Ariffin et al. (2018) found that security, financial, product, psychological and time risks have negative impact on online purchase intention, in respective order of effect size, while social risk does not have any impact. After scrutinizing both conceptual and operational definitions of these various dimensions of perceived risks and findings from the aforementioned studies regarding the effect sizes of parameters of these perceived risk dimensions on online purchase intention, the top two significant dimensions of perceived risks are financial and performance risks.

Perceived risks in online e-commerce refer to the possibility that the online purchase transactions are unsuccessful (Biucky et al., 2017; Gan & Wang, 2017; Malaquias & Hwang, 2016). These risks include both performance and financial counterparts (Chang & Tseng, 2013). While financial risks involve monetary costs, potential financial loss due to fraud (Featherman & Pavlou, 2003), performance risks primarily deal with the fact that the purchased products fail to fulfill the expected benefits. Based on these conceptualizations of perceived risks, this study integrates both financial and performance risks and refers to it as the possibility that a purchased product fails to meet expectations, which may result in potential financial loss including frauds.

Shao et al. (2019) defined trust as, "a faith that the other party will act following the proper behavior of generosity, integrity and ability" (p. 2). While perceived risks represent a cognitive behavior, trust represents affective behavior. The 'affect' element of the human mind can exhibit positive or negative feeling towards an object (Wilkie, 1994). In this scenario, trust exhibits positive feelings about e-commerce. When consumers trust in e-commerce, they are willing to adopt it. Given the nature of emerging markets characterized by less-developed technological infrastructure, the penetration of e-commerce in Thailand is less pervasive than that of the developed countries. Moreover, weak regulatory institutions in such emerging economies also result in a low e-commerce adoption due to higher perceived risks and lack of trust (Mainardes et al., 2019). Since consumers do not have physical access to the products sold via e-commerce, the perceived risks that the products may not perform as promised may be more exaggerated. This may later result in potential financial losses. Due to this nature of time and space separation between buyer

and seller in e-commerce, the level of trust can be reduced (Chiu et al., 2014; Kim, 2014). Therefore, it is hypothesized that perceived risks tend to lower trust, and the first hypothesis can be stated as follows:

H1: Perceived risks have a negative impact on trust.

Hedonic and Utilitarian Motivations and Trust

According to Batra and Ahtola (1991), two primary reasons for shopping are: 1) hedonic; and, 2) utilitarian. While hedonic motivations refer to affective gratification resulting from searches for happiness, fantasy, sensuality, and enjoyment (Hirschman & Holbrook, 1982; Holbrook & Hirschman, 1982), utilitarian motivations refer to instrumental or functional aspects (Babin et al., 1994). Customers shop not only for the functional or utilitarian benefits of the products, but also for the fun and joy gained through shopping experiences. Regardless of in-store or online shopping, numerous studies have shown that both hedonic and utilitarian motivations drive purchase intentions (e.g. Ashraf & Thongpapanl, 2015; Büttner et al., 2013; O'Brien, 2010; Parker & Wang, 2016; To et al., 2007). Regarding online shopping, customers with utilitarian motivations gain utilitarian values due to convenience and efficiency while customers with hedonic motivations gain pleasure from aesthetics, appeal and joy from the websites (Ashraf & Thongpapanl, 2015; Ashraf et al., 2017; Büttner et al., 2013; To et al., 2007).

On the one hand, utilitarianism-driven customers are more focused on product attributes; therefore, they emphasize the practicality and efficiency of online shopping. On the other hand, hedonism-driven customers emphasize the adventure, entertainment, and simulated experience during online shopping. According to Kim et al. (2013) and Thongpapanl et al. (2018), motivations serve as pre-condition for intention. Motivations are reasons for individual actions. Accordingly, customer motivations are also drivers of trust in shopping experiences (Thongpapanl et al., 2018). Based on studies of Akhlaq and Ahmed (2013), Bart et al. (2005), and Li and Yeh (2010), customers' motivations drive trust. For instance, customers' trust in online banking is driven by utilitarian (extrinsic) and hedonic (intrinsic) motivations (Akhlaq & Ahmed, 2013). Bart et al. (2005) also found that customers' perceptions of trust is positively influenced by utilitarian and hedonic website experiences. Moreover, Li and Yeh (2010) showed a positive relationship between utilitarian and hedonic goals and customers' trust in the context of mobile retailer. Hence, this study hypothesizes:

H2: Hedonic motivations positively enhance trust.

H3: Utilitarian motivations positively enhance trust.

Trust, Hedonic Motivations, Utilitarian Motivations, and Continuance Intention

The intention to continue online shopping is grounded in tenets of the Theory of Planned Behavior (Ajzen, 1991) and the Technology Acceptance Model (Davis et al., 1989), which are designed to explain

individual behavioral intention. For any business, the retention of current customers, i.e. when the customers repurchase products of the business, is as crucial as the acquisition of new ones. Since firms invest in online platforms to offer an alternative communication and shopping channel to customers, the intention to continue shopping online is crucial for their survival and success (Bhattacherjee, 2001; Kim et al., 2013). Thus, instead of investigating initial purchase intention or adoption of new technology, an investigation of drivers for continuance intentions is essential for business competitiveness and sustainability. While continuance intention in adopting new technology can be influenced by factors such as system quality, perceived ease of use, perceived usefulness (Yang et al., 2017), and prior satisfaction (Bhattacherjee, 2001), this study approaches this phenomenon through a behavioral standpoint and focuses on trust and shopping motivations. The relationship between trust and purchase intention and continuance intention in online transactions have been well documented in past literature. For example, Mainardes et al. (2019) found that lack of consumer trust in online transactions have a negative impact on consumers' intention to purchase via the Internet. Thongpapanl et al. (2018) also found that trust leads to mobile commerce (M-commerce) usage. In a similar vein, Shao et al. (2019) revealed a strong positive relationship between trust in mobile platform and continuance intention. Therefore, the next hypothesis is stated as:

H4: Trust positively influences continuance intention.

Extant studies on shopping motivations have long advocated that motivations lead to intentions. As mentioned eariler, two fundamental mechanisms that drive shopping intention include utilitarian and hedonic motivations (Babin et al., 1994; Batra & Ahtola, 1991; Hirschman & Holbrook, 1982; Kim et al., 2013; Voss et al., 2003). In terms of online transactions, To et al. (2007) found that utilitarian motivations have a positive impact on both search and purchase intentions while hedonic motivations positively affect search intention on e-commerce. Later, O'Brien (2010) suggested that hedonic motivations, including adventure or gratification shopping motivations, are salient to users' engagement in online transactions, and should be incorporated into further studies of user engagement experiences. Recently, Parker and Wang (2016) discovered through qualitative in-depth interviews that both utilitarian (i.e. efficiency and convenience) and hedonic (i.e. leisure relaxing, personalized services, and reducing pressure) motivations are primary reasons for customers' engagement in fashion retail applications.

Building on this stream of literature, it is believed that motivations not only lead to purchase intention, but also to continuance intentions. Therefore, it is postulated that:

H5: Hedonic motivations positively influence continuance intention.

H6: Utilitarian motivations positively influence continuance intention.

Differences among Consumers across Four Generations

In market segmentation, companies can use several factors, of which age represents the most common one due to behavioral differences inherent in consumers in different age groups (Debevec et al., 2013; Dorie & Loranger, 2020; Ryder, 1965). People of the same generation seem to possess similar characteristics and exhibit common behaviors as a result of similar beliefs and motivations (Ryder, 1965). Currently, four generations that are active consumers include baby boomers, Generation X, Y and Z. Based on Dimock (2019), baby boomers were born between 1946 and 1964; Generation X were born during 1965 and 1980; Generation Y or millennials were born during 1981 and 1996; and, Generation Z, a.k.a. Post-millennials or the 'i' Generation were born during 1997 and 2012. Since Generation Y represents the largest share of consumers, recent research studies mainly focused on the behaviors of this generation (e.g. Debevec et al., 2013; Ordun, 2015; Pentecost et al., 2019; Vouchilas & Ulasewicz, 2014) with a few exceptions such as that of Dorie and Loranger (2020), who compare multiple generations (baby boomers, Generation X and Y), and that of Priporas et al. (2017), who emphasize Generation Z. This study aims to incorporate all four generations that are active shoppers and to make comparisons of the relationships among key constructs depicted in the hypothesized model.

Using age or generation as a segmenting variable implies that consumers of various generations exhibit different behaviors. From the distribution channel literature, the choice of preferred channels adopted by consumers of different generations differ based on utilitarian and hedonic motivations (Debevec et al., 2013; Pentecost et al., 2019; Vouchilas & Ulasewicz, 2014). For instance, Pentecost et al. (2019) found that the choice of shopping channels differs across sub-segments of Generation Y on the basis of utilitarian and hedonic rationales. Specifically, younger millennials (Generation Y) are not as value-seeking as older millennials (Debevec et al., 2013; Pentecost et al., 2019; Vouchilas & Ulasewicz, 2014). This indicates that older millennials tend to search for deals and emphasize utilitarian motivations more than younger millennials. Similarly, Bilgicer et al. (2015) discovered that social influence contributes to mobile shopping among older consumers while entertainment does among the younger cohorts. Recently, Dorie and Loranger (2020) reported significant differences in purchasing frequency and average spending per transactions across various channels, including mobile phone, tablet, computer, social media, and brick-and-mortar stores, among baby boomers, Generation X, xennials (a sub segment of Generation X designating individuals born between 1970 and 1980), and Generation Y.

In Thailand, a survey of Internet user behavior in 2019 conducted by the Electronic Transaction Development Agency based on 10,998 usable responses across four generations (baby boomers 4.1%; Generation X 26.3%; Generation Y 61.8% Generation Z 7.8%) reveals differences in online shopping behaviors (ETDA, 2020). While only 46.9% of baby boomers shop online, 59.6% of Generation X, 59% of Generation Y, and 38.5% of Generation Z engage in e-commerce (ETDA, 2020). Since this survey only

provides descriptive statistics on usage frequencies across four generations without relating to the shopping motivations, this study aims to compare the underlying shopping motivations across these four generations. As suggested by the aforementioned studies, different generations have varying hedonic and utilitarian shopping motivations, thus, the last hypothesis is stated as:

H7: Impacts of the drivers of online shopping continuance intention vary across four generations of consumers.

Research Methodology

Sample and data collection

The research context of this study is Thailand, with a general interest in online commerce and shopping without a specific focus on any product category since accessing a list of online shoppers for a particular product category is not easy nor feasible due to consumer confidentiality and privacy protection. With a primary objective of the study aiming to compare Thai consumers of four generations, non-probability sampling (i.e. purposive, quota, and snowball sampling techniques) was used to acquire a homogenous set of respondents (Reynolds et al., 2003). The researcher attempted to achieve approximately equal proportions of male-female and generation-based divisions of respondents. Data were collected via self-administered electronic survey during July and August 2020, after the initial Bangkok lockdown to ensure timely data relevant to the research objectives. The link of the Google Form questionnaire was emailed to the initial target sample, i.e., fifty fourth-year university students and their family members who have engaged in online shopping. They were requested to forward the link to others in their circle of relatives, friends, co-workers, etc. who have experience in online shopping and belong to different age groups. All respondents were presented with the broad objectives and potential benefits of the study and asked for their consent before completing the survey. The final set of usable questionnaires yielded 851 respondents. Although the researcher attempted to gain equal proportions of respondents based on gender and generation, it was not possible to achieve due to the self-selection nature of online surveys. To ensure that the sample is a valid representation of the target consumers who have experience on online shopping, a question regarding their most recent online shopping was included. All (100%) of the respondents reported that they had shopped online within the past one year, with most (91.4%) engaged in online shopping within the past three month prior to data collection period, which is during the start of the lockdown. Although the pattern of frequency distribution is quite consistent across generations, 76.7% of baby boomers and 86.2% of Generation X shopped online during the past three months, while over 96.1% and 95% of Generation Y and Z did during that time, respectively. The details of the sample are presented in Table 1.

Table 1 Sample Profile

Characteristics*	Total (*n* = 851)	Baby Boomer (*n* = 103)	Generation X (*n* = 160)	Generation Y (*n* = 261)	Generation Z (*n* = 160)
Gender					
Male	42.5%	51.5%	46.9%	47.6%	34.7%
Female	55.5%	7.6%	51.9%	50.6%	62.5%
Prefer not to say	2.0%	1.0%	1.3%	1.7%	2.8%
Age (years)					
Mean	32.7	59.6	46.9	28.2	21.5
S.D.	14.0	4.2	4.9	4.6	1.3
Monthly income (THB)					
< 15,000	28.6%	6.8%	6.9%	11.3%	55.7%
15,001 -30,000	35.4%	22.3%	20.6%	51.9%	35%
30,001 - 45,000	13.9%	10.7%	20.6%	23.8%	5.3%
> 45,000	22.2%	60.2%	51.9%	13.0%	3.9%
Highest Education					
Below undergraduate	15.2%	35.9%	23.1%	20 87%	9.8%
Bachelor degree	74.0%	52.4%	52.5%	76.6%	88.2%
Post bachelor degree	15.2%	11.7%	39 24.4%	14.7%	2.0%
Recent shopping					
Yesterday	24.4%	8.7%	20.0%	27.3%	29.1%
Within the past week	34.1%	23.3%	34.4%	33.3%	37.5%
Within the past month	21.6%	22.3%	20.6%	25.1%	19.6%
Within the past three months	11.3%	22.3%	11.3%	10.4%	8.7%
Within the past six months	4.1%	8.7%	6.9%	2.6%	2.5%
Within the past year	4.5%	14.6%	6.9%	1.3%	2.5%

Note: Percentages may not total up to 100 due to non-responses on demographic items.

Since data were obtained from a single informant (single source) for all variables, a condition prone to common method variance (CMV) (Podsakoff et al., 2003), Harman's one-factor method was used to assess CMV. A four-factor solution emerged with the first factor only accounting for 34.67% of all variances; therefore, CMV is not a concern here.

Scale assessment

All constructs were measured based on prior literature. Table 2 illustrates scale type, sources, standardized factor loadings, item-to-total correlations, Cronbach's alphas, composite reliabilities (CR's) and average variance extracted (AVE's) for multiple-item scales.

Table 2 Scale Assessment and CFA Results

Research Constructs and Items	Standardized Loadings	Item-to-total Correlations
1) Perceived risks (α = 0.76; CR = 0.761; AVE = 0.515)		
(seven-point Likert scale, anchored by "strongly disagree" and "strongly agree")		
Source: Anwar et al. (2020)		
— As I consider using online commerce, I worry about whether it will really perform as well as it is supposed to.	0.715***	0.592
— The thought of using online commerce causes me to be concerned for how really dependable it is.	0.750***	0.611
— There is a good chance that online commerce may not perform well and process my payments incorrectly.	0.687***	0.703
2) Trust (α = 0.81; CR = 0.904; AVE = 0.685)		
(seven-point Likert scale, anchored by "strongly disagree" and "strongly agree")		
Source: Adapted from Mainardes et al. (2019)		
— I think that shopping online is reliable.	0.832***	0.716
— I think online commerce is reliable because there are not many uncertainties.	0.826***	0.696
— Overall, I think I can rely on the promises made by the sellers of products/services advertised online.	0.660***	0.582
3) Hedonic motivations (α = 0.90.; CR = 0.874; AVE = 0.583)		
(seven-point semantic differential scale)		
Source: Voss et al. (2003)		
I find online shopping		
— Not fun/Fun	0.823***	0.758
— Dull/Exciting	0.812***	0.779
— Not delightful/Delightful	0.847***	0.786
— Not thrilling/Thrilling	0.725***	0.698
— Not enjoyable/Enjoyable	0.832***	0.779
4) Utilitarian motivations (α = 0.87; CR = 0.891; AVE = 0.603)		
(seven-point semantic differential scale)		
Source: Voss et al. (2003)		
I find online shopping		
— Ineffective/Effective	0.766***	0.703
— Unhelpful/Helpful	0.811***	0.748
— Not functional/Functional	0.807***	0.734
— Unnecessary/Necessary	0.661***	0.608
— Impractical/Practical	0.764***	0.699

Note: *** p-value < .001

The dependent variable, continuance intention, was measured using a single item ("I intend to continue shopping online") seven-point Likert scale where 1 = strongly disagree and 7 = strongly agree. The questionnaire items were originally in English but translated into Thai using a back translation technique (Brislin, 1970) to ensure translation equivalence. Confirmatory factor analysis (CFA) was used to assess the scales. The CFA model yielded χ^2 of 354.738 (98); CFI = 0.963; TLI = 0.954; GFI = 0.951; RMSEA = 0.056; and, SRMR = 0.039, which indicate very good fit (Bagozzi & Yi, 2012). As item-to-total correlations are over 0.40, all items established adequate reliability. Construct reliability was achieved since all Cronbach's alphas are above 0.70 (Nunnally & Bernstein, 1994) and all CR's are above 0.60 and all AVE's are above 0.50, which indicate scale reliability (Bagozzi & Yi, 2012).

Table 3 Discriminant Validity, Correlations and Descriptive Statistics

	1	2	3	4	5
1) Perceived Risks	**0.718**				
2) Trust	-0.444***	**0.827**			
3) Hedonic Motivations	0.037	0.155***	**0.764**		
4) Utilitarian Motivations	0.029	0.202***	0.550***	**0.777**	
5) Continuance Intention	-0.045	0.249***	0.516***	0.656***	
Mean	5.038	3.772	5.059	5.426	5.230
SD	1.139	1.305	1.158	0.976	1.493

Note: Numbers along the diagonal represent the square root of the average variance extracted (AVE) of the constructs measured by multiple-item scales in this study. † if $p < 0.10$, * if $p < 0.05$; ** if $p < 0.01$; *** if $p < 0.001$. (two-tailed)

All four constructs in this study established convergent validity since all items were loaded significantly to their designated constructs ($p<0.00$) (Diamantopoulos & Siguaw, 2000). The standardized factor loadings of all items are over 0.66, which indicate strong relationships between items and their corresponding constructs. To assess discriminant validity, a procedure outlined in Fornell and Larcker (1981) was implemented. Since the square roots of all AVE's are larger than their corresponding correlations of other constructs in the study, all four constructs established sufficient discriminating power. Table 3 shows descriptive statistics, correlations and the evidence of discriminant validity.

Research Findings

All hypotheses were tested using structural equation model (SEM) via AMOS 24.0.0. Based on Anwar et al. (2020) and (Mainardes et al., 2019), education and income may affect online purchase intention; therefore, these variables were included as control variables. Both education and income do not affect continuance intention (p> 0.10). The model fit the data well with χ^2 = 479.113 (137); CFI = 0.954; TLI = 0.943; GFI = 0.946; RMSEA = 0.054; and, SRMR = 0.037. Table 4 provides results of the hypothesis testing. From the total sample, only H2 gained marginal support while H1, H3, H4, H5, and H6 gained full support. When comparing standardized parameter estimates, the most important factor for trust is perceived risks (γ_{11}=- 0.543, p<0.001), followed by utilitarian motivations (γ_{13}=0.208, p<0.001) while hedonic motivations only have a marginal positive influence (γ_{12}=0.085, p=0.07). The most important path to continuance intention among Thais is utilitarian motivations (γ_{23}=0.538, p<0.001), followed by hedonic motivations (γ_{22}=0.186, p<0.001) and trust (β_{23}=0.118, p<0.001). When comparing standardized parameter estimates within each generation, the following results emerged:

For baby boomers, only perceived risks reduce trusts (γ_{11}=-0.609, p<0.001) while hedonic (γ_{12}=0.192, p=0.192) and utilitarian motivations (γ_{13}=0.085, p=0.572) have no effect on trust. Continuance intention is most positively influenced by hedonic motivations (γ_{22}=0.361, p<0.001), followed by utilitarian motivations (γ_{23}=0.328, p<0.001), and trust (β_{23}=0.2371, p<0.001).

For Generation X, trust is negatively affected by perceived risks (γ_{11}= -0.506, p<0.001), and positively by utilitarian motivations (γ_{13}= 0.313, p<0.01), but not by hedonic motivations (γ_{12}= -0.014, p=0.907). Only utilitarian motivations have a significant positive impact (γ_{23}= 0.571, p<0.001), while trust (β_{23}= 0.095, p=0.167) and hedonic motivations (γ_{22}= 0.145, p=0.106) have no impact on continuance intention.

For Generation Y, trust is negatively affected by perceived risks (γ_{11}= -0.498, p<0.001), and positively by utilitarian motivations (γ_{13}= 0.176 p<0.05), but not by hedonic motivations (γ_{12}= -0.060 p=0.498). Continuance intention is positively affected by utilitarian motivations (γ_{23}= 0.614, p<0.001), followed by hedonic motivations (γ_{22}= 0.129, p<0.050), but not by trust (β_{23}= 0.076, p=0.155).

For Generation Z, trust is negatively affected by perceived risks (γ_{11}= -0.553, p<0.001), and positively by utilitarian motivations (γ_{13}= 0.260 p<0.001), but not by hedonic motivations (γ_{12}= 0.051, p=0.493).

Continuance intention is positively affected by utilitarian motivations (γ_{23}= 0.522, p<0.001), followed by hedonic motivations (γ_{22}= 0.180, p<0.01), and trust (β_{23}= 0.097, p<0.05).

To check whether significant differences exist across generations, a multiple-group SEM was used. Table 5 presents results of multiple-group analyses with eight pairwise comparisons across 4 generations. The change in the model χ^2 between the unconstrained model and the model in which all structural paths are constrained to be equal across groups, are not significant ($\Delta\chi^2$= 57.519 (60), p=0.567) (See Model 2 in Table 5). However, when comparing each pair of generations (Model 3-8 in Table 5), marginal differences were detected between generation X and Z (see Model 7c-7h in Table 5). When the structural parameters (γ_{11}, γ_{12}, γ_{13}, β_{23}, γ_{22},γ_{23}) in the model were individually constrained to be equal across Generation X and Y, all changes in χ^2 show marginal differences (see Model 7c-7h in Table 5) but not when all structural parameters were constrained to be equal across generations X an Z (see Model 7b in Table 5). Therefore, hypothesis 7 is partially supported with marginal differences in all hypothesized path between consumers of Generation X and Z, but not between other pairs of consumer generations.

Although all relationships are mostly consistent with the proposed hypotheses across four generations, it is worthwhile to scrutinize parameter estimates across generations. To compare structural paths across groups, unstandardized parameters should be used since standardized estimates were adjusted for in-group variances (Singh, 1995). In so doing, the following findings emerged:

Perceived risks have the largest negative impact on trust among baby boomers (γ_{11} = -0.827), followed by Generation Z (γ_{11} = -0.785), Generation Y (γ_{11} = -0.674), and Generation X (γ_{11} = -0.560). Hedonic motivations have no impact on trust across groups since all parameter estimates are not significant (p > 0.10). Utilitarian motivations have the largest positive impact on trust among Generation Z (γ_{13} = 0.469), followed by Generation X (γ_{13} = 0.384), Generation Y (γ_{13} = 0.279), then baby boomers (γ_{13} = 0.103). Trust has the largest positive impact on continuance intention among baby boomers (β_{23} = 0.314), followed by Generation Z (β_{23} = 0.106), but no effect among Generation X and Y (p > 0.10). Hedonic motivations have the highest positive impact on continuance intention among baby boomers (γ_{22} = 0.404, followed by Generation Z (γ_{22} = 0.220), and Generation Y (γ_{22} = 0.166), but not among Generation X. Utilitarian motivations have the largest positive impact on continuance intention among Generation Y (γ_{23} = 1.056), followed by Generation Z (γ_{23} = 1.029), and Generation X (γ_{23} = 0.874) and baby boomers (γ_{23} = 0.525).

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Table 4 Standardized and Unstandardized Coefficients (with Standard Errors) of Multiple-Group Analyses

Paths	Total (n = 851)		Baby Boomer (n = 103)		Generation X (n = 160)		Generation Y (n = 261)		Generation Z (n = 160)	
	Stan-dardized	Unstan-dardized	Stan-dardized	Unstan-dardized	Stan-dardized	Unstan-dardized	Stan-dardized	Unstan-dardized	Stan-dardized	Unstan-dardized
H1: Perceived risks → Trust (γ_{11})	-0.543***	-0.723 (0.060)	-0.609***	-0.827 (0.176)	-0.506***	-0.560 (0.104)	-0.498***	-0.674 (0.114)	-0.553***	-0.785 (0.116)
H2: Hedonic motivations → Trust (γ_{12})	0.085†	0.319 (0.054)	0.192	0.162 (0.124)	-0.014	-0.020 (0.147)	0.060	0.070 (0.104)	0.051	0.057 (0.083)
H3: Utilitarian motivations → Trust (γ_{13})	0.208***	0.319 (0.075)	0.085	0.103 (0.182)	0.313**	0.384 (0.104)	0.176*	0.279 (0.140)	0.260***	0.469 (0.144)
H4: Trust → Continuance Intention (β_{23})	0.118***	0.135 (0.033)	0.237**	0.314 (0.108)	0.095	0.119 (0.086)	0.076	0.083 (0.058)	0.097*	0.106 (0.050)
H5: Hedonic motivations → Continuance Intention (γ_{22})	0.186***	0.242 (0.048)	0.361**	0.404 (0.130)	0.145	0.229 (0.142)	0.129*	0.166 (0.084)	0.180**	0.220 (0.070)
H6: Utilitarian motivations → Continuance Intention (γ_{23})	0.538***	0.948 (0.071)	0.328**	0.525 (0.185)	0.571***	0.874 (0.151)	0.614***	1.056 (0.129)	0.522***	1.029 (0.130)

Note: † if $p < 0.10$, * if $p < 0.05$; ** if $p < 0.01$; *** if $p < 0.001$. (two tailed)

Table 5 Multi-Group Model Comparison

Model	χ^2 value	*df*	$\Delta\chi^2$	Δdf	*p*-value
1) Full sample	**479.113**	**137**			
2) Comparison among consumers across four generations					
a. Unconstrained model [a]	1094.654	548			
Structural parameters constrained ($\mathbf{\Gamma}, \mathbf{B}_{\text{Baby boomer}} = \mathbf{\Gamma}, \mathbf{B}_{\text{Gen X}} = \mathbf{\Gamma}, \mathbf{B}_{\text{Gen Y}} = \mathbf{\Gamma}, \mathbf{B}_{\text{Gen Z}}$)					
b. All structural parameters constrained γ_{11}, γ_{12}, γ_{13}, β_{23}, γ_{22}, γ_{23}	1152.173	608	57.520	60	0.567
c. Structural parameters partially constrained for γ_{11}	1140.416	587	45.762	39	0.212
d. Structural parameters partially constrained for γ_{12}	1139.337	587	44.683	39	0.245
e. Structural parameters partially constrained for γ_{13}	1139.976	587	45.322	39	0.225
f. Structural parameters partially constrained for β_{23}	1137.698	578	43.044	30	0.058
g. Structural parameters partially constrained for γ_{22}	1135.687	578	41.033	30	0.086
h. Structural parameters partially constrained for γ_{23}	1135.994	578	41.340	30	0.081
3) Comparison among between Baby Boomers and Gen X					
a. Unconstrained model [a]	472.098	274			
Structural parameters constrained ($\mathbf{\Gamma}, \mathbf{B}_{\text{Baby boomer}} = \mathbf{\Gamma}, \mathbf{B}_{\text{Gen X}}$)					
b. All structural parameters constrained γ_{11}, γ_{12}, γ_{13}, β_{23}, γ_{22}, γ_{23}	494.233	294	22.135	20	0.333
c. Structural parameters partially constrained for γ_{11}	487.633	287	15.535	13	0.275
d. Structural parameters partially constrained for γ_{12}	487.461	287	15.363	13	0.285
e. Structural parameters partially constrained for γ_{13}	487.299	287	15.201	13	0.295
f. Structural parameters partially constrained for β_{23}	488.059	287	15.961	13	0.251
g. Structural parameters partially constrained for γ_{22}	487.099	287	15.001	13	0.307
h. Structural parameters partially constrained for γ_{23}	487.402	287	15.305	13	0.289
4) Comparison among consumers between Baby Boomers and Gen Y					
a. Unconstrained model [a]	541.906	274			
Structural parameters constrained ($\mathbf{\Gamma}, \mathbf{B}_{\text{Baby boomer}} = \mathbf{\Gamma}, \mathbf{B}_{\text{Gen Y}}$)					
b. All structural parameters constrained γ_{11}, γ_{12}, γ_{13}, β_{23}, γ_{22}, γ_{23}	560.837	294	18.931	20	0.526
c. Structural parameters partially constrained for γ_{11}	553.670	287	11.764	13	0.547
d. Structural parameters partially constrained for γ_{12}	553.310	287	11.404	13	0.577
e. Structural parameters partially constrained for γ_{13}	553.236	287	11.330	13	0.583
f. Structural parameters partially constrained for β_{23}	556.535	287	14.629	13	0.526
g. Structural parameters partially constrained for γ_{22}	554.754	287	12.848	13	0.429
h. Structural parameters partially constrained for γ_{23}	555.155	287	13.249	13	0.331

Table 5 Multi-Group Model Comparison (Cont.)

Model	χ^2 value	*df*	$\Delta\chi^2$	Δdf	*p*-value
5) Comparison among consumers between Baby Boomers and Gen Z					
a. Unconstrained model [a]	512.216	274			
Structural parameters constrained ($\mathbf{\Gamma}, \mathbf{B}_{\text{Baby boomer}} = \mathbf{\Gamma}, \mathbf{B}_{\text{Gen Z}}$)					
b. All structural parameters constrained γ_{11}, γ_{12}, γ_{13}, β_{23}, γ_{22}, γ_{23}	533.780	294	21.564	20	0.365
c. Structural parameters partially constrained for γ_{11}	526.444	287	14.228	13	0.358
d. Structural parameters partially constrained for γ_{12}	526.966	287	14.750	13	0.323
e. Structural parameters partially constrained for γ_{13}	527.665	287	15.449	13	0.280
f. Structural parameters partially constrained for β_{23}	529.591	287	17.375	13	0.183
g. Structural parameters partially constrained for γ_{22}	527.936	287	15.720	13	0.265
h. Structural parameters partially constrained for γ_{23}	527.868	287	15.652	13	0.268
6) Comparison among consumers between Gen X and Gen Y					
a. Unconstrained model [a]	582.376	274			
Structural parameters constrained ($\mathbf{\Gamma}, \mathbf{B}_{\text{Gen X}} = \mathbf{\Gamma}, \mathbf{B}_{\text{Gen Y}}$)					
b. All structural parameters constrained γ_{11}, γ_{12}, γ_{13}, β_{23}, γ_{22}, γ_{23}	598.126	294	15.750	20	0.732
c. Structural parameters partially constrained for γ_{11}	596.700	287	14.324	13	0.351
d. Structural parameters partially constrained for γ_{12}	596.783	287	14.406	13	0.346
e. Structural parameters partially constrained for γ_{13}	586.912	287	14.535	13	0.337
f. Structural parameters partially constrained for β_{23}	596.650	287	14.274	13	0.355
g. Structural parameters partially constrained for γ_{22}	596.561	287	14.184	13	0.361
h. Structural parameters partially constrained for γ_{23}	596.643	287	14.266	13	0.355
7) Comparison among consumers between Gen X and Gen Z					
a. Unconstrained model [a]	552.508	274			
Structural parameters constrained ($\mathbf{\Gamma}, \mathbf{B}_{\text{Gen X}} = \mathbf{\Gamma}, \mathbf{B}_{\text{Gen Z}}$)					
b. All structural parameters constrained γ_{11}, γ_{12}, γ_{13}, β_{23}, γ_{22}, γ_{23}	576.442	294	23.934	20	0.245
c. Structural parameters partially constrained for γ_{11}	574.236	287	21.728	13	0.060
d. Structural parameters partially constrained for γ_{12}	572.837	287	20.329	13	0.087
e. Structural parameters partially constrained for γ_{13}	572.669	287	20.161	13	0.091
f. Structural parameters partially constrained for β_{23}	572.704	287	20.196	13	0.090
g. Structural parameters partially constrained for γ_{22}	572.646	287	20.139	13	0.092
h. Structural parameters partially constrained for γ_{23}	572.652	287	20.145	13	0.092

Table 5 Multi-Group Model Comparison (Cont.)

Model	χ^2 value	*df*	$\Delta\chi^2$	Δdf	*p*-value
8) Comparison among consumers between Gen Y and Gen Z					
a. Unconstrained model [a]	621.985	274			
Structural parameters constrained ($\mathbf{\Gamma}, \mathbf{B}_{\text{Gen Y}} = \mathbf{\Gamma}, \mathbf{B}_{\text{Gen Z}}$)					
b. All structural parameters constrained γ_{11}, γ_{12}, γ_{13}, β_{23}, γ_{22}, γ_{23}	637.231	294	15.245	20	0.762
c. Structural parameters partially constrained for γ_{11}	635.785	287	13.799	13	0.388
d. Structural parameters partially constrained for γ_{12}	635.088	287	13.103	13	0.440
e. Structural parameters partially constrained for γ_{13}	635.841	287	13.856	13	0.384
f. Structural parameters partially constrained for β_{23}	635.148	287	13.162	13	0.435
g. Structural parameters partially constrained for γ_{22}	635.184	287	13.199	13	0.433
h. Structural parameters partially constrained for γ_{23}	635.375	287	13.390	13	0.418

Notes: [a] This model is a baseline for model comparison. † if $p < 0.10$, * if $p < 0.05$; ** if $p < 0.01$; *** if $p < 0.001$. (two tailed)

Discussion and Conclusion

Overall, the hypotheses are supported, with H2 and H7 gaining marginal support. In general, to gain consumers' trust in Thailand, companies need to ensure lower level of perceived risks of e-commerce and emphasize utilitarian benefits more than hedonic experiences. The most important driver for continuance intention is the utilitarian motivations while both hedonic and trust have much lower impacts. Therefore, companies need to focus on the utilitarian benefits of e-commerce to ensure shopping continuity while maintaining trust and providing the hedonic experiences to Thai consumers.

Theoretical Contributions

This study extends shopping motivation research by elaborating on the three human mental constructs of cognition, emotion and conation, and comparing the drivers of e-commerce continuance intention across four consumer generations in an emerging economy such as Thailand. Consistent with these constructs which serve as foundations for the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), the Theory of Planned Behavior (TPB) (Ajzen, 1991), and the Technology Acceptance Model (TAM) (Davis, 1989; Davis et al., 1989), continuance intention is driven by trust and utilitarian and hedonic motivations. This study also contributes to international business, management, and marketing literature in terms of standardization versus customization of strategies and segmentation-based strategic formulation in an emerging economy context. Specifically, customizing marketing campaigns to attract consumers of different generations to engage and continue engaging in online shopping based on their underlying motivations is vital. As such, this study contributes to international marketing by highlighting differences across four consumer generations that might be beneficial for segmentation. Using Thailand as a research setting, a context-specific, rather than a theoretical generalization, can be further advanced. Since consumer behaviors are not universal, assuming that consumers across the same cohorts are similar globally could

lead to sub-optimal strategic decisions. Thus, this study extends strategic management and international business literature by proposing how multinational retailers can design strategies to capture demand in an emerging market such as Thailand. Moreover, this study also extends the application of the Theory of Planned Behavior and behavior motivation perspectives to understand behaviors of consumers stratified by generations.

Managerial Implications

Given the low penetration of e-commerce, particularly in emerging economies, despite its long existence and potential benefits, this research shows how global and local retailers operating in an emerging economy such as Thailand can ensure continuance intention in e-commerce even post-COVID19. Companies should invest in developing the utilitarian benefits of e-commerce. However, these drivers seem to have various degrees of impact across generations. While baby boomers are most motivated by hedonic experiences of e-commerce, Generations X, Y and Z are most motivated by its utilitarian benefits. In fact, the only factor that drives Generation X to continue e-commerce activities is utilitarian motivations. Based on the CFA results of utilitarian motivations, in designing a platform for online shopping and promoting the use of B2C e-commerce thereafter, global and local retailers can downplay the necessity of e-commerce features, but emphasize usefulness, functionality, efficiency, and practicality features such as an integrative one-spot search-compare-track-return of merchandise; an easy, fast and cheap online navigating experience without redundant password inquiries, complicated identity verification, or technological jargon; and, a comprehensive and more convenient means of acquiring information, when targeting Thai consumers in general and Thai Generation X in particular.

Moreover, while trust is an important driver of continuance intention among baby boomers and Generation Z, it does not play any role in Generations X and Y. To ensure continuance intention, e-retailers should provide hedonic experiences primarily to baby boomers, followed by Generations Z and Y, respectively. Furthermore, the CFA results of hedonic motivations indicate that providing delightful, joyful, fun and exciting experiences should be emphasized more than the thrilling elements. Therefore, companies should develop and promote online shopping platforms that incorporate the fun and joyful navigating experiences such as using games, lucky draws, etc. primarily to entice baby boomers, followed by Generation Z, and Y, accordingly, but not for Generation X. For those targeting Generation X or Y, the primary focus should be on the e-commerce utility while the issue of trust is not their concern. This is unlike baby boomers and Generation Z in which trust is still influential. This could be attributed to their feeling of security due to their higher levels of perceived risks and lower levels of trust[*]. Hence, designing trustworthy

[*] The means of perceived risks for Baby Boomers, Generations X, Y, and Z are 5.55, 4.99, 4.84, and 5.03, respectively. No significant differences between Baby Boomers and Generation Y, and between Generations X and Y. The means of trust for Baby Boomers, Generations X, Y, and Z are 3.17, 3.63, 3.95, and 3.88, respectively. No difference between Generations Y and Z.

platforms that deliver products/services as promised is critical for firms targeting baby boomers and Generation Z, but not much for Generation X and Y.

Lastly, by incorporating the strategies recommended above, both local and international B2C e-commerce businesses targeting Thai consumers should be able to build and sustain their competitiveness and to maximize their return on investments from both online and omni channels over the long run.

Recommendations for Future Research

Although the findings show differences across generations, they are statistically insignificant. This might be attributable to the small sample size of each group. Moreover, this study only obtained data from Thai consumers with e-commerce experience without a particular focus on any specific product category, so the generalizability of findings can be limited. Future research may aim for acquiring multi-national consumer data with larger sample sizes, and controlling for different product categories to enhance generalizability and to examine two-way interactions of cultures and generations to provide theoretical advancements. Since this study only focuses on B2C e-commerce, future research may investigate the proposed relationships among different forms of online shopping such as m-commerce and/or within the context of B2B e-commerce. Furthermore, since this study integrated financial and performance risks into a single construct of perceived risks, future research may explore other perceived risk dimensions. Additionally, future research may explore the impact of other factors such as: 1) a fit between shopping motivations and perceived value; and, 2) a fit between consumers' expectation and perceived value of online shopping on continuance intention through the lens of expectation-confirmation theory. Such extensions to explore the moderated mediation effects of consumers' motivations, expectations, and perceived values would shed more light to the literature.

Finally, given that this study was designed to understand the underlying mental process of consumers, i.e. the latent (unobserved) constructs, via SEM based on the variances and covariances of observed indicators at the theoretical level, the results provide strong evidence for future applied research to explore specific tools that can drive continuance intention for online shopping. Specifically, future applied research can be designed to investigate how particular types of hedonic and utilitarian features/designs of e-commerce platforms and marketing campaigns/communications can attract different consumers across generations. Customizing e-commerce platforms and/or marketing tools to fit each segment can enhance continuance intention, which most likely results in actual usage that will ultimately enhance business competitiveness and sustainable performance.

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