

A Model of Thai Consumers' Behavioral Intention: A Study of Generations X and Y

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Abstract: The purpose of this study is to develop and examine the relationships of factors affecting the behavioral intentions of Thai consumers to buy goods and services on mobile devices, such as smartphones and tablets in two generational cohorts, Generation X and Generation Y. Despite the increased adoption of smartphones and tablets to access internet and perform various activities, no empirical research in Thailand has been found to study consumer behavior on mobile marketing and shopping or any specific generations. Based on relevant past research, this research fills this gap by developing a structural model to investigate and test hypotheses developed for this study. The samples were Thai people who used to make online purchases on the internet in the past year. The research instruments used to collect primary data were self-reported questionnaires. The collected data will be tested for reliability and validity using confirmatory factor analysis (CFA) and the structural model will be confirmed by structural equation modeling (SEM).

Key words: Behavioral intention, Digital devices, Mobile marketing, Online shopping

1. Introduction

It is obvious that the internet is changing our lives in the way we work, shop, search for information, communicate, and meet people. In two decades, the internet has changed from a network for researchers and geeks to a day-to-day reality for billions of people [1]. More than three billion people are now connected to the internet [2] and majorities of internet users in most countries use the internet on a daily basis [3]. Internet connectivity and usage have grown exponentially in many countries, including Thailand. According to a survey report of Thailand's National Statistical Office [4], in 2016, of the 62.8 million of Thai population aged 6 years and over, there were 20.2 million of computer users or 32.2%, 29.8 million of internet users or 47.5% and 51.1 million of mobile phone users or 81.4%.

As smartphones have grown increasingly common in recent years, these devices have taken on a key role in the ways people access information and buy goods and services. Pew Research Center [5] reported that in 2015 nearly two-thirds (64%) of American people own a smartphone, and 19% of Americans rely to some extent on a smartphone for accessing online services and information. In addition, smartphone ownership is especially high among younger Americans (85% ages 18-29), as well as those with relatively high income (annual income of \$75,000 or more per year) and education levels (college graduates). As for Thailand, more people are using smartphones to do various activities online, such as accessing information about products and services, downloading music, apps, movies. However, no research has been found to study online shopping on digital devices in Thai consumers.

The purpose of the current study is to develop a structural model to examine the effects of factors affecting the behavioral intentions of Thai consumers to buy online on digital devices, such as smartphones, tablets. More specifically, it will examine the effects of perceived risk, perceived price, e-word of mouth, brand image, attitude, trust and perceived value on behavioral intentions.

This study is divided into five parts. The first part is an introduction, followed by the literature review on internet usage and online shopping, mobile marketing, generational theory, relevant research, and model development. The third part is the methodology, including the population and samples, measures, data collection, and statistical analysis. The fourth part is the findings and discussions. The final part is the conclusions of the study.

2. Literature Review

2.1. Internet usage and online shopping

The Internet is the global system of interconnected computer networks that use the Internet protocol suite (TCP/IP) to link devices worldwide. It is a network of networks that consists of private, public, academic, business, and government networks of local to global scope, linked by a broad array of electronic, wireless, and optical networking technologies. Internet use grew rapidly in the western countries from the mid-1990s and from the late 1990s in the developing countries. The term *Internet*, when used to refer to the specific global system of interconnected Internet Protocol (IP) networks, is a proper noun and is written with an initial capital letter. In common use and the media, it is often not capitalized, viz. *the internet* [6]. The internet, the web, and digital media have transformed marketing and business since the first website (<http://info.cern.ch>) was online in 1991. With over 3 billion people around the world using the web to find products, entertainment and friends, consumer behavior and the ways companies market their products and services to consumers and businesses have changed dramatically [7].

Globally, internet usage is still growing, but slowly in most developed countries. But in many developing and emerging countries, the internet usage is growing more quickly [5]. As pointed out by Sharma and Sheth [8], the Internet has created a fundamental shift in business and consumer behaviors similar to that of the Industrial Revolution. The advent of the Internet is analogous to the creations of printing press, railroads, automobiles and telephones. The growths in internet marketing activities are expected to continue because the availability of a ubiquitous information platform will help to improve marketing efficiencies and effectiveness [8]. A study of 32 emerging and developing countries conducted in 2014 by Pew Research Center [5] reveals that computer owners, young people ages 18 to 34, the well-educated, wealthy and those with English language ability were much more likely to access the internet. For example, in Thailand, 83% of young people ages 18-34 year old were online, compared with 27% of older Thai people (35+).

As for Thailand, in 2016, a national survey of the National Statistical Office shows that the total number of Thai population aged 6 years and over was 62,804,826 million. Of all this number, the number of computer users was 20,218,612 million (32.2%) and the number of internet users was 29,835,410 million (47.5%). Of the 29.8 million people that use the internet, only 2,359,098 people or 8% used to buy goods or services on the internet. However, this survey just reported descriptive statistics of numbers and percentages, and does not study any relationships between variables and causal analysis and the survey is published and circulated in Thailand only. An exploratory review of relevant studies found that there are only four research studies that examined the behavior of Thai people on internet-related topics [9], [10], [11], [12].

2.2 Mobile marketing

In 2016, the Mobile Marketing Association has defined *mobile marketing* as 'a set of practices that enables organizations to communicate and engage with their audience in an interactive and relevant manner through any mobile device or network' [13]. Over the past two decades, mobile marketing has shifted from being a broad advertising term to referring to a more specific type of marketing. Today it is regarded as a communication media in the marketing promotion mix. The growth in smartphone adoption and mobile tablets is a major driver in the growth of mobile advertising budgets. In 2016, the International Telecommunication Union (ITU) estimated that seven billion people (95% of the global population) live in an area that is covered by a mobile-cellular network. In developing countries, the number of mobile-broadband subscriptions continues to grow at double digit rates, reaching a penetration rate of almost 41% [14].

The explosive growth and diffusion of mobile phones throughout the world have dramatically changed marketing in general, and mobile marketing in particular. In addition, smartphone usage has globally increased every year. Marketers must understand how consumers are using their smartphones and how they access the Internet every day. The internet and smartphone usage in most developed countries have almost peaked, however, consumers in developing and emerging economies are still learning and adapting their lives to new technologies. Mobile internet adoption is increasing at a rate that is eight times that of the equivalent of personal computers (PC) 10 years ago [14].

While mobile shopping, which is one form of mobile marketing, is still relatively a small percentage of total sales in most countries, it is growing much more than traditional in-store retail shopping in shopping malls and supermarkets. For example, eMarketer [15] reported that while total sales are growing slowly in the US, the outlook for digital commerce, including mobile, is very much different. That is, as total sales continue to increase

slowly in the US, digital commerce sales are growing more quickly. US mobile sales will increase to 7.3% (\$414.47 billion) of total retail sales (\$5.66 trillion) in 2021, an increase from 3.1% (\$157.14 billion) of total retail sales (\$5.015 trillion) in 2017. Moreover, of 269.57 million people in the US ages 14 and older, 54.7% of that group bought something with mobile devices on the internet and by 2021 the US mobile buyer population will reach 174.33 million or 62.3% of the population ages 14 and older.

In Thailand, a survey by the National Statistical Office [4] in 2016 found that there were 2,359,098 persons who bought items on the internet. Women were the majority (66%) who made the online purchases. Most of the purchases were spent on apparel and jewelry items. More details of Thai consumers' online buying are shown in Table 1.

Table 1. Online shopping by Thai consumers

Unit: Thai Bath

| Age group/ Gender | Total (Persons) | Apparel/ Jewelry | Food/Drinks/ Health products | e-Tickets |
|----------------------|------------------------|---------------------|---------------------------------|----------------|
| Total | 2,359,098 | 1,399,968 | 553,463 | 283,875 |
| 6-14 | 2,359,098 | 10,384 | 984 | 905 |
| 15-24 | 2,359,098 | 466,120 | 141,955 | 33,374 |
| 25-34 | 2,359,098 | 515,036 | 199,817 | 84,654 |
| 35-49 | 2,359,098 | 342,759 | 165,262 | 114,092 |
| 50+ | 2,359,098 | 65,667 | 45,444 | 50,850 |
| Male | 809,188 (34%) | 252,874 | 116,841 | 123,279 |
| Female | 1,549,910 (66%) | 1,147,094 | 436,622 | 160,596 |

Source: Adapted from National Statistical Office [4]

Some marketing scholars have claimed that many consumer behaviors that describe offline buying behavior also apply to online marketing [7], [14]. For example, the consumer behavior models apply to all online buying decisions. That is, consumers experience all or many of the buying process steps: need identification, information search, alternative evaluation, purchase and post-purchase activities. Consumers also go through a hierarchy of effects model – from first becoming aware of the product or brand, then developing an attitude as positive or negative, and ending with some behavior, such as registering online or buying the product.

2.3 Generation theory

German sociologist Karl Mannheim is credited with establishing *generational theory*, which seeks to explain how attitudes and values are shaped in both individuals and groups [16]. Mannheim thought that that the generation a person belongs to determines, to some extent, his or her thoughts, feelings, and behaviours. A generation is defined as a group that shares birth years and significant life events at critical developmental stages. Youth is the key period in which social generations are formed. The major events experienced during the time of formation are what shape the outlook on the world shown by that generation. Another term for Mannheim's generation is *age cohort*. He also suggested that a generational worldview could be shaped when people of a similar age (primarily adolescence) and geographical location experience socio-political events together [16].

Marketing segmentation is the process of grouping individuals or businesses along similar characteristics that pertain to the use, consumption, or benefits of a product or service. The result of market segmentation is groups of customers called market segments. A market segment can be of any size from one person to millions of people, an important point because the mobile marketing technologies allow companies to target marketing mixes to specific individuals. Market targeting is the process of selecting the market segments that are most attractive to the company. Age has been used in marketing as a segmentation tool to target specific customer groups [14]. Generational cohorts refer to a group of people who experience similar life events due to growing up within a specific period of time [17]. A particular cohort is associated with certain values and priorities which may continue throughout the group's lifetimes. In addition, a generational cohort is also a consumer segment that uses an individual's coming of age as a proxy to reveal his or her value priorities developed through life experiences during their formative years [18].

However, a formal definition and exact age range of each generation has not been broadly accepted. Authors writing about generational cohorts apply their own criteria for age ranges of each generation. For example, Howe and Strauss [19] define that Generation Y or Millennials are born between 1982 to 2005, while Tapscott [20] defines this generation as those born between 1977 to 1997. Therefore, there are variations of the generational cohort groups. More detailed examples are given in Table 2.

Table 2. Examples of generational cohorts

| Sources/Generations | Silent Gen | Baby Boomers | Gen X | Gen Y |
|-------------------------------|-------------|--------------|-----------|-----------|
| Howe & Strauss (2007) | 1925-1942 | 1943-1960 | 1961-1981 | 1982-2005 |
| Tapscott (2009) | Before 1946 | 1946-1964 | 1965-1976 | 1977-1997 |
| Pew Internet Research (2010) | 1937-1945 | 1946-1964 | 1965-1976 | 1977-1992 |
| Clow & Bacck (2014) | Before 1952 | 1952-1964 | 1965-1977 | 1978-2002 |
| Belch & Belch (2015) | Before 1946 | 1946-1964 | 1976-1965 | 1994-1977 |
| Espinoxa & Ukleja (2016) | Before 1946 | 1946-1964 | 1965-1979 | 1980-2000 |
| Van den Bergh & Behrer (2016) | 1928-1945 | 1946-1964 | 1965-1979 | 1980-1996 |

Based on the generational cohorts in developed countries, Thai population can be categorized into four generations according to their birth years for the purpose of comparative analysis with the results of the current study. This research adapts the generational age differences based on the work of Van den Bergh & Behrer [21] because their research studies covered 6,994 respondents in seven European countries, Belgium, the Netherlands, France, Germany, Spain, Sweden and the United Kingdom. The population forecasts between 2010 to 2040 developed by Thailand's National Economic and Social Development Board [22] are calculated into the birth years of each generation. The numbers derived for each generation are demonstrated in Table 3. As shown in Table 3, Generation X and Y are those ages 37-51 years old and 20-36 years old.

Table 3. Thai people's generational cohorts

Unit: 1000

| Age groups (Generations) | 2010 | | 2020 | | 2030 | |
|-------------------------------------|-------------------|------------|-------------------|------------|-------------------|------------|
| | Person | % | Person | % | Person | % |
| Generation Z 1-19years old | 17,241,000 | 27 | 15,289,000 | 23 | 13,488,000 | 20 |
| Generation Y 20-36years old | 14,129,000 | 22 | 13,323,000 | 20 | 12,239,000 | 19 |
| Generation X 37-51years old | 15,975,000 | 25 | 14,640,000 | 22 | 13,007,000 | 20 |
| Baby Boomers 52-70years old | 12,666,000 | 20 | 17,380,000 | 26 | 18,964,000 | 29 |
| Silent Generation 71-88years old | 3,778,000 | 6 | 5,366,000 | 9 | 8,319,000 | 12 |
| Total | 63,789,000 | 100 | 65,997,000 | 100 | 66,174,000 | 100 |

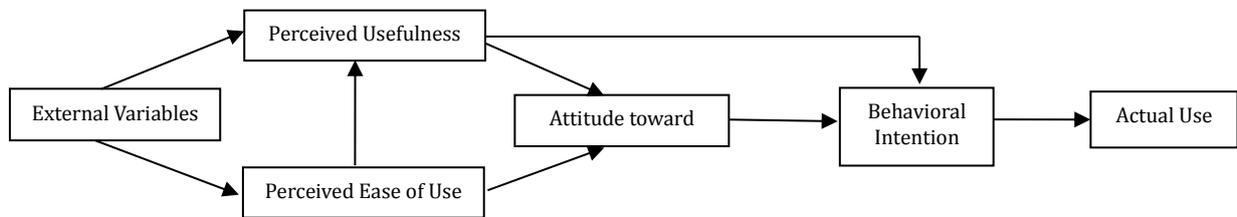
Source: Adapted from National Economic and Social Development Board [22]

2.4 Relevant research

An extensive review on studies about online shopping indicate that there are seven relevant constructs that are found to directly or indirectly influence behavioral intentions. These constructs include perceived risk, perceived price, e-word of mouth, brand image, attitude toward online shopping, online trust, and perceived value.

After the internet has been used by people around the world, researchers in marketing and management information systems have attempted to analyze technology usage and adoption of computer applications, online services and self-service technologies, such as online banking, online shopping. Several models have been proposed and tested. One of the most accepted model of technology adoption is the technology adoption model (TAM) proposed by Davis [23]. TAM and its subsequent versions are the most commonly used models for research on behavioral intentions. The original TAM is shown in Fig.1.

Fig. 1. Technology acceptance model



Behavioral intention (BI) is defined as a person's intention to perform various behaviors. Behavioral intentions are motivational factors that capture how much a person is willing to dedicate to perform a behavior [24]. The construct was originally developed in the theory of planned behavior (TPB) and the theory of reasoned action (TRA) and has been used in subsequent research models related to technology acceptance. Based on the literature, this study defines "BI to buy online on digital devices" as the degree of conscious effort that a consumer will exert in order to make online purchases [25], [26], [27].

Perceived risk is defined as the nature and amount of uncertainty or consequences experienced by the consumer in considering to buy goods or services [28], [29]. Uncertainty is subjective and comes from identifying buying goals and matching these goals with product or brand offering. Consumers search for information to deal with uncertainty and improve the consequences of a purchase decision that is perceived to be risky [30].

Perceived price is the price of products or services which consumers perceive to be when they are evaluating a online purchase [31]. Before consumers decide to buy some products on the internet, they prefer to search for price comparisons of different brands and models. People shop online because they perceive that online products would be cheaper than products sold in traditional stores. A price comparison site assembles prices across a number of retailers, which allow consumers to choose the lowest-price retailer [32].

e-word of mouth (e-WOM) is defined as any positive or negative statement made by potential, actual, or former customers about a product or company which is made available to multitude of people and institutes via the internet [33]. It is a form of communication that is generally acknowledged to play a considerable role in influencing and forming consumer attitudes and behavioral intentions. Research has shown that WOM communication is more influential than communication through other sources such as editorial recommendations or advertisements.

Brand image refers to the consumers' use of a particular brand to reflect their symbolic meaning of consumption and identity in self-expression. Brand image that is familiar to consumers can help them make buying decisions when they see familiar brands on the web site. They are likely to purchase a product of familiar brand on the internet than one with an unknown brand name [34]. Brand image consists of the attributes and benefits associated with a brand that make the brand distinctive, thereby distinguishing a firm' brand from competitors [35]. Attributes are those descriptive features that characterize a brand and benefits are the personal value consumers attach to the brand attributes [36].

Attitude toward online shopping is considered to be a mediating variable before behavioral intentions and actual behavior. Consumers make judgments about new situations, products, or services based on related past attitudes and experiences [37], [38]. Most research on technology has focused on the antecedent of technology adoption, the rate at which technology is adopted, and the actual technology adoption. For example, Davis [23] found that attitude is an antecedent to intentions to adopt computer technologies. However, as Ajzen [24] pointed out, to measure the effects of attitude on behavioral intentions and actions, the items and scales of attitude must be specific to that particular intention and behavior.

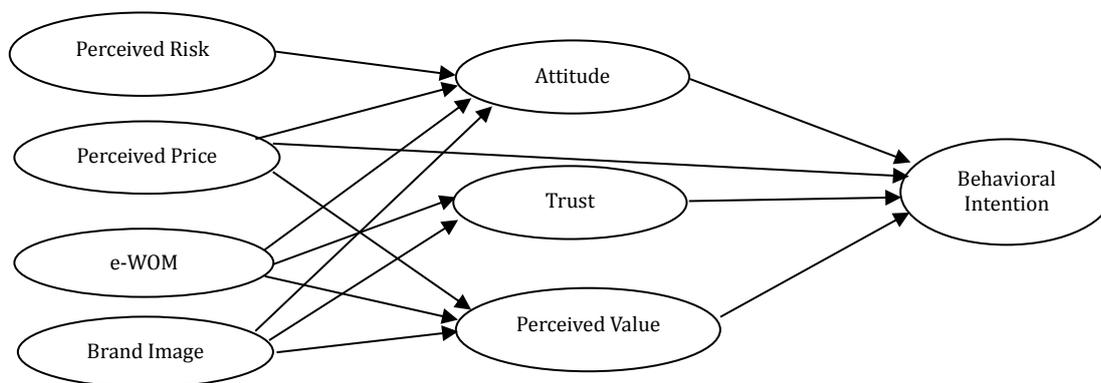
Online trust is deemed necessary when it is involved with online shopping due to the risky nature of shopping without seeing or touching physically the products. In case of online shopping, trust and risk play significant roles in making purchase decisions [39]. When it comes to online shopping where a consumer is in no physical contact with either the product or salesperson, trust is expected to play a pivotal role in affecting the consumer' purchase intentions [40]. Trust should be regarded as a dynamic concept, one which evolves and can grow or diminish over time [41]. In Thailand, one of the reasons that people do not buy online is the fear of deceit and not getting the products after the purchase [4].

Perceived value is the benefits the buyers get from purchasing the products. Shopping value needs to encompass an appreciation of the whole shopping experience [42]. The outcome of an online shopping may result in both utilitarian and hedonic values. Utilitarian value is defined as the value derived from accomplishing one's shopping goals, and hedonic value is defined as the value derived from the enjoyment of shopping for its own sake. When consumers perceive the web site to be easy to use, they are likely to find the products more easily, and the navigation will likely be more productive [43].

2.5 Model development

For this research, a structural model is developed to represent the relationships between constructs that have been found in extant research in mobile shopping. Based on past relevant studies, a structural model (Fig. 2) is developed to test the empirical data collected from self-administered questionnaires that asked about eight constructs. A construct is an unobserved variable that needs observed variables to measure it. The model of the current study is composed of four independent constructs, three mediating constructs, and one dependent construct. More specifically, the independent variables include perceived risk, perceived price, e-word of mouth and brand image. There are three moderating variables that are found to mediate the effects of the four constructs, e.g. attitude, trust and perceived value. The dependent variable of this study is behavioral intentions.

Fig. 2. Proposed research model



Based on the relevant past research and the conceptual framework in Fig. 2, the following hypotheses are proposed.

- H1a: Perceived risk directly affects attitude
- H1b: Perceived risk indirectly affects behavioral intention through attitude
- H2a: Perceived price directly affects attitude
- H2b: Perceived price directly affects perceived value
- H2c: Perceived price directly affects behavioral intention
- H3a: e-WOM directly affects attitude
- H3b: e-WOM directly affects trust
- H3c: e-WOM directly affects perceived value
- H4a: Brand image directly affects attitude
- H4b: Brand image directly affects trust
- H4c: Brand image directly affects perceived value
- H5: Attitude directly affects behavioral intention
- H6: Trust directly affects behavioral intention
- H7: Perceived value directly affects behavioral intention

3. Methodology

3.1 Population and samples

In order to test the proposed hypotheses, primary data are collected using questionnaires. The population and samples of this research were 2,359,098 Thai people who bought goods or services on the internet in 2016 [4]. A purposive sampling method is used to collect data from Thai people ages 20 and over who had bought some items on the internet in 2016.

3.2 Measures

The research instrument developed for this study was based on items from previous research and modified to the subject of online shopping on digital devices. The items in the questionnaire were developed using standard procedure for the development of a research instrument. Past empirical studies were reviewed that dealt with online shopping, mobile shopping, internet shopping behaviors. Based on the literature review, a questionnaire was developed and consisted of four parts. The first part of the questionnaire had questions on demographic details of the respondents including gender, age group, education level, occupations, and monthly income.

The second part asked seven items about the use of computers and mobile devices. The third part included eight items about shopping on the internet. The fourth and final parts are 34 seven-point Likert-scale questions about the respondents' behavior of buying on the internet on mobile devices. More specifically, there are four items about e-word of mouth, three items about perceived price, three items about perceived risk, three items about brand image, six items about attitude on online marketing, five items about trust, four items about perceived value, and five items about behavioral intentions to make online purchases on digital devices.

3.3 Data collection

Primary data for the study were collected through structured questionnaires. A team of four senior undergraduates were trained by the researcher to approach respondents in mall intercepts at seven shopping malls in Bangkok. The respondents were asked face to face to spare a few minutes to fill out the questionnaires. Participation in this study was voluntary and no gifts were offered to the respondents. At the time of writing this paper, 513 questionnaires were just collected and will be checked for correctness and completeness for further processing with the SPSS 21.0 and AMOS 21.0 programs.

3.4 Statistical analysis

Both descriptive and inferential statistics were deployed in this study. The descriptive statistics include numbers, percentages, means, standard deviations, skewness, and kurtosis, using SPSS 21.0. The inferential statistics used will be structural equation modelling (SEM) to for model testing which is the purpose of this study. The use of SEM is to test a theory by specifying a model that represents predictions of that theory among plausible constructs measured with appropriate observed variables. If such a model does not fit the data, this outcome is interesting because there is value in reporting models that challenge theories [44]. The hypothesized model can be tested statistically in a simultaneous analysis of the entire system of variables to determine the extent to which it is consistent with the data [45]. This study will employ AMOS 21.0 program to analyze and test the model.

4. Findings and Discussion

An extensive review of literature has found that there are eight constructs that can be used to study the behavior of online shopping. These seven constructs are found to directly or indirectly influence behavior intentions. These constructs include *perceived risk*, *perceived price*, *e-word of mouth*, *brand image*, *attitude toward online shopping*, *online trust*, and *perceived value*. More specifically, there are four independent variables: perceived risk, perceived price, e-word of mouth, brand image. The three mediating variables include attitude toward online shopping, online trust, and perceived value. The dependent variable of this study is behavioral intentions to purchase online on digital devices.

5. Conclusions

Despite the widespread adoption and use of the internet on digital devices, such as smartphones, tablets, the literature review shows that no empirical studies are found to investigate the behaviour of Thai consumers to buy goods or services online. This study is probably the first empirical research to develop and propose a model of Thai consumers' behavioural intention to buy online on mobile devices. After the collected data are processed, detailed analysis and further discussions will be conducted. The final model will be tested and examined whether it is consistent with the collected data.

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