

Factor Driving Consumer Intention in Online Shopping

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Abstract—The objectives of this research paper was to study the influencing factors that contributed the willingness of consumers to purchase products online included quality of website, perceived ease of use, perceived usefulness, trust on online purchases, attitude towards online shopping and intentions to online purchases. The research was conducted in both quantitative and qualitative methods, by utilizing both questionnaire and in-depth interview. A questionnaire was used to collect data from 350 consumers who had online shopping experiences in Bangkok, Thailand. Statistics utilized in this research included descriptive statistics and path analysis.

The findings revealed that the factors concerning with quality of website, perceived ease of use and perceived usefulness played an influence on trust in online shopping. Trust also played an influence on attitude towards online purchase, whereas trust and attitude towards online purchase manipulated the intention of online purchase.

Keywords—E-commerce, intention, online shopping, Technology acceptance model.

I. INTRODUCTION

THE growth of the Internet in the recent years has been truly perceived as an extraordinary event. Internet has become the essential role of business operation paradigm related to the development of platform for trading, distributing and selling products through electronic commerce system. The development of the commercial trade through the Internet has surprisingly changed the retail vista in the world economy. As a result, the expansion of the trend of online shopping due to its convenience, many companies and organizations are looking at it as an opportunity to compete with rivals in worldwide.

Thailand's e-commerce market has been growing steadily over the past few years. This was supported by the Department of Business Development, Thailand suggested that the number of registered online shops has increased steadily since there were many contributory factors for entering the electronic commerce, such as the number of Internet users has increased, consumer access to the Internet more convenient and have higher speed [1].

However, online shopping was different from traditional shopping behaviors as it was characterized with anonymity, uncertainty and lack of control and potential opportunism [2]. Since, it showed that factors such as vendor trust, acceptance of consumers and consumer attitudes were important factors which influenced the intention of customers to purchase products online [3]. Many previous researches have

established that trust was an important factor to facilitate online transactions and also had a significant influence on attitude towards online purchase. The study has also provided evidences that online trust was built through the consumer acceptance of information technology and it was specified the casual relationship between system design features, perceived usefulness, perceived ease of use, attitude toward using and intention behavior [4]. These factors were found to result in future e-commerce success in terms of financial benefit. Moreover, trust and attitude of customer were the factors that indicated willingness of customers to continue and even establish their relationship with the organization more firmly [5].

In essence, website is information technology which is hosted on a computer system and run on the applications which retrieves and delivers the web pages in response to requests from the website users [6], [7]. As such, online purchasing behavior and intention can be explained by the Technology Acceptance Model (TAM). Numerous empirical tests have indicated that TAM is the robust model of technology acceptance behaviors that has been recognized in a variety of information technology and used to examine the structural relationships of acceptable technology factors that influences trust and attitude on online purchases and intentions to purchase products in e-commerce system [8], [9]. While many empirical tests have demonstrated that TAM was used to examine the typical human interaction of technology that build online trust and attitude and also examine structural relationships of the acceptable technology that influence trust.

The findings of this paper will help to understand the influences of factors that contribute to many facets of e-commerce success. The purposes of this research paper was to investigating the factors that influenced the intention of consumers to purchase products online such as quality of website, perceived ease of use, perceived usefulness, trust in online shopping, attitude towards online shopping and intentions to shop online. The research also studied the relationship among the potential factors that facilitate the intention of customers to purchase products in online which were based on concepts and theories such as Technological Acceptance Model and the theory of reasoned action.

A. Technology Acceptance Model

In 1989, Davis [4] presented the technology acceptance model to explain the intent of the behavior of the user with the ability to use innovative technology. The technology acceptance model was based on principles adopted from Fishbein and Ajzen's attitude paradigm from psychology, which specified how to measure the behavior relevant components of beliefs and attitudes and specified how external stimuli were causally linked to beliefs, attitudes and behavior [10]. TAM was also based on the theory of reasoned action

(TRA), a psychological theory that attempted to explain the behavior and involves two primary predictors - perceived ease of use and perceived usefulness and the dependent variable behavioral intention, which TRA assumed to be closely linked to actual behavior.

The goal of TAM was to provide an explanation of the determinants of computer acceptance that in general was capable of explaining user behavior across a broad range of end-user computing technologies. The major determinants were defined as perceived usefulness and perceived ease of use. Perceived usefulness was the level that people believe using a particular system would enhance his or her performance, and perceived ease of use was the level that people believe using a particular system would be free of effort [4]. Although, TAM has used these two factors as variables influencing technology adoption. However, these two factors could be linked to the satisfaction of the users because consumers in the market of electronic commerce were either as a purchase goods and services on online as well as the use of information technology.

TAM has now become a model widely used in information technology because of its understandability and simplicity [11]. However, it was a relationship that is not complete as TAM would not be swept away in all cases and still had a variety of effects predicted in various studies with different types of user and system [12]. Several studies have applied TAM and trust in their models. However, when trust was integrated into TAM, trust in TAM was trusting belief, reflecting the online consumer wanted the online sellers to be willing and able to act matching the consumers' interests, to be honest in transactions and to be capable of delivering the offered goods as promised [7]. This study has also studied variables in psychology in the theory of reasoned action that represents the perceptions, trust, attitudes and intention of Internet users, which helped to explain the behavior of the consumer in online system for buying goods and services.

B. Online Shopping and Technology Acceptance Model

Numerous empirical tests have indicated that TAM was a robust model of technology acceptance behaviors in a variety of information systems. A website was, in essence, an information technology that TAM has been considered as a framework to investigate how users developed attitudes towards technology and when they decided to utilize it [13].

An external stimuli influence a person's attitude toward a behavior indirectly by influencing beliefs about the consequences of performing the behavior. According to customer online shopping, the web design quality features was external stimuli that should influence beliefs about using a system. Since attitude should provide causality from system design features through perception to beliefs and attitude and finally to intention behavior.

The major determinant of attitude toward the use of technology in TAM model was the perceived ease of use and perceived usefulness. Perceived ease of use (PEOU) was defined as the concentration of physical and mental efforts that user expected to receive by considering the use of technology

such as the degree of particular technological system would be free from effort, ease of learning and skilful at using information technology system to interfaces with e-commerce vendors sites. Perceived usefulness (PU) was another major determinant of attitude toward use in the TAM model. PU was defined as the degree to which the user believed that the technology would enhance the performance of the activities to purchase [4].

A website was both an information technology and the channel through which customers interacted with e-commerce vendor. Technology based and trust based by individuals should worked together to influence the decision to participate in the e-commerce vendor. Therefore trust was an important factor to facilitate online transactions because the web interface was not limited to the consumer to decide whether the seller was trustworthy, while typically interact face to face. Trust, in a social psychological sense, was the belief that other people would reacted in predictable ways. In the context of online shopping, trust beliefs included the online consumers' beliefs and expectancies about trust related characteristics of the online seller. In addition, trust reduced the need of consumers to monitor the actions of a supplier and check all the details that made online transactions easier [7].

Other studies have also found that the perception of ease of use was positively influenced on the attitude of the consumers in using the Internet to buy products. Consumers who have a positive attitude towards online shopping experience were found to perceive online retailers as being useful as online retailers were able to enhance their shopping productivity, efficiency, effectiveness and ability [14]. Likewise, the ability to improve shopping performance, shopping productivity and achieving the goal of shopping were concluded as valid determinants to make consumers' shopping activities successful [15].

This study extended TAM model in order to focus on the relationships between trust, attitude, intention and TAM concepts with a comprehensive survey of online customers who had online shopping experiences in Bangkok, Thailand. The empirical results indicated that the web design quality features, the perception of ease of use and the perception of usefulness in e-commerce system have significant impacts on trust toward online shopping. Trust also had a significant influence on the attitude towards online purchase, whereas trust and attitude towards online purchase also have influenced on the intention of customers in online purchase. Accordingly, the conceptual framework of this research was shown as Fig. 1.

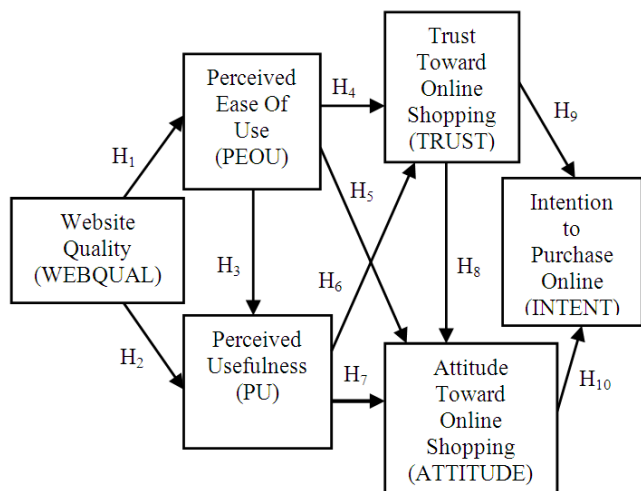


Fig. 1 The Conceptual Framework of Research

C. Hypotheses

Several previous studies suggested that PEOU and PU of websites with customers have positively effected on trust of online shopping and also believed that trust could reduce the need for consumers to understand, monitor and control , and facilitate transactions, and make it effortless [2]. Some research indicated that customer trust influenced customer attitude [7], [16]. Based to the TAM, we believed trust affected attitude directly and trust also affected intention indirectly through attitude. Many empirical research has shown that trust increased customer intention to purchase a product from a company as well as intention to return to that company [13], [15]. As a consequence, the following hypotheses were proposed:

- H1. Quality of website positively affects PU toward using the online shopping.
- H2. Quality of website positively affects PEOU toward using the online shopping.
- H3. PEOU positively affects PU toward using the online shopping.
- H4. PEOU positively affects trust toward online shopping.
- H5. PEOU positively affects attitude toward online shopping.
- H6. PU positively affects trust toward online shopping.
- H7. PU positively affects attitude toward online shopping.
- H8. Trust toward online shopping positively affects attitude toward online shopping.
- H9. Trust toward online shopping positively affects attitude toward online shopping.
- H10. Attitude toward online shopping positively affects intention to purchase online.

II. RESEARCH METHODOLOGY

The research was conducted in both quantitative and qualitative methods, by utilizing both questionnaire and in-depth interview. In terms of quantitative method, the content validity of the research was tested with Item-Objective Congruence (IOC) and was tested for its reliability by using Cronbach's Alpha. The data was collected by using

questionnaires for 350 respondents who had online shopping experiences in Bangkok, Thailand. In terms of qualitative method, an in-depth interview, a dialogue with experts in the field of e-commerce, and content analysis were used.

III. RESULTS

The findings of variable condition analysis could be summarized as follows:

A. Respondent Demographics

The summary of respondents socio-demographics profile of the 350 returned questionnaires revealed that the majority of them were female (52.86%), age was between 21-40 years (44.57%), most of them were married (48.86%), the level of education was undergraduate (51.71%), the majority worked with a private company and had income between 30,001-50,000 baht per month (36.29%). The behavioral data of online purchase of respondents were found that the majority used website to shop (72.86%), the cost of purchase per times was 1,001-3,000 baht (39.43%), frequency of online purchases is 1-3 months at a time (44.57%), and reasons why consumers purchase online was able to seek information convenience and speed (24.44%).

B. Reliability Testing and Descriptive Analysis

Internal consistency was measured by applying the Cronbach's alpha test to the individual scales. As, all of the items had an alpha above the standard guideline of 0.70. Therefore the scales can be used for analysis with acceptable reliability. The overall measures were reported in Table I. The results have shown that Cronbach's alpha for each factor was found reliable. These six factors were: website quality, perceived ease of use, perceived usefulness, trust toward online shopping, attitude toward online shopping, and intention to shop online with the value 0.881, 0.889, 0.868, 0.859, 0.907 and 0.816 respectively.

TABLE I
 SUMMARY OF DESCRIPTIVE ANALYSIS AND CRONBACH'S ALPHA TEST

Variables	Number of Items	Mean	S.D.	Cronbach's Alpha
Website Quality	8	3.740	0.541	0.881
Perceived Ease of Use	5	3.777	0.602	0.889
Perceived Usefulness	5	3.889	0.564	0.868
Trust Toward Online Shopping	5	3.786	0.612	0.859
Attitude Toward Online Shopping	5	3.49	0.694	0.907
Intention to Purchase Online	5	3.647	0.516	0.816

By using descriptive analysis, the results of the study to investigate the factors that influenced the intention of consumers to purchase products online by using 5 levels of Likert scale revealed that the majority of respondents rated perceived usefulness variable as the highest important, followed by trust toward online shopping, perceived ease of use, website quality, intention to shop online, and attitude toward online shopping with the averages of 3.889, 3.786, 3.777, 3.740, 3.647 and 3.49 respectively. The mean and

standard deviation of the variables were demonstrated in Table I.

C. Hypotheses Results

Path analysis was conducted to test the relationship between the whole set of predictors and dependent variable. After assessing the reliability and validity of measurement model, we tested the hypothesis and overall fit of the path model by using the maximum likelihood (ML) technique to estimate the parameters. The path coefficients and overall model fit indices of research model were drawn as Fig. 2.

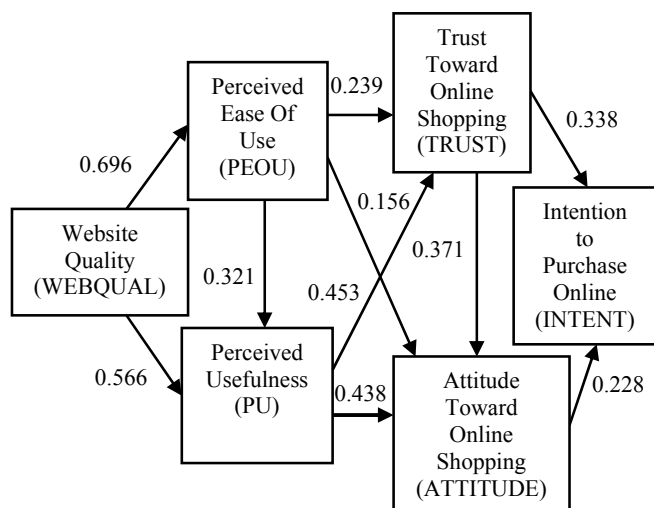


Fig. 2 The Results of Path Analysis

With the empirical results of path analysis testing by using t-value at 95% confidence level were revealed that the quality of website had a significant at the 0.001 significance influence on perceived ease of use and perceived usefulness which H₁ and H₂ were supportive. Based on TAM model pointed out two particular factors, perceived ease of use and perceived usefulness, to represent the antecedents of system usage in TAM. The results in the relationship of these two factors was indicated that perceived ease of use had a significant at the 0.001 significance influence on perceived usefulness which H₃ was supportive. To investigate the role of trust in the mechanism of online shopping, we hypothesized that trust was the consequence of perceived ease of use and perceived usefulness, and trust was also the antecedent of attitude and intention. The test results indicated that perceived ease of use and perceived usefulness had a significant at the 0.001 significance influence on trust in e-commerce which H₄, H₆, H₈ and H₉ were supportive. While attitude used in the TAM model in which in the adapted model referred to the mediating affective response between usefulness and ease of use beliefs and intentions to use a target system. The test results indicated that perceived ease of use and perceived usefulness had a significant at the 0.001 significance influence on attitude towards online purchase which H₅ and H₇ were supportive. Finally, attitude towards online purchase had a significant at the 0.05 significance influence on intention to shop online

which H₁₀ was supportive. The result of hypotheses testing was demonstrated in Table II.

TABLE II
 THE RESULT OF HYPOTHESES TESTING

Direction	β	t value	Result of Hypothesis
WEBQUAL → PEOU	0.696	18.105**	Support
WEBQUAL → PU	0.566	13.330**	Support
PEOU → PU	0.321	7.456**	Support
PEOU → TRUST	0.239	4.092**	Support
PEOU → ATTITUDE	0.156	3.740**	Support
PU → TRUST	0.453	7.741**	Support
PU → ATTITUDE	0.438	9.955**	Support
TRUST → ATTITUDE	0.371	9.979**	Support
TRUST → INTENT	0.338	5.059**	Support
ATTITUDE → INTENT	0.228	3.407*	Support

*Significant at $\alpha = 0.05$, **Significant at $\alpha = 0.01$

By considering the influence of variables with regression coefficients, it was found that the quality of website had a stronger effect on PEOU ($\beta=0.696$) than PU ($\beta=0.566$). PU had a stronger effect on trust ($\beta=0.453$) than PEOU had ($\beta=0.239$). While PU had a stronger effect on consumer attitude ($\beta=0.438$) than consumer trust had ($\beta=0.371$) and PEOU had ($\beta=0.156$). Trust had a stronger effect on consumer intention ($\beta=0.338$) than consumer attitude had ($\beta=0.228$).

IV. RECOMMENDATIONS

As the results, it signified that online shopping behaviors depend not only on the operational characteristics of online system and its perceived ease of use and perceived usefulness, but also the possible increase in the level of consumer trust on online system. Both trust and technology acceptance antecedents had strongly associated with attitudes toward products and services and also toward intention behaviors to purchase. Therefore, managers should take these into account in the planning of the e-commerce systems. The systems should be looked at system interface and characteristics of systems were affected trust on seller in order to increase attitudes and enhance shopping productivity.

ACKNOWLEDGMENTS

The author would like to thank Assoc. Prof. Dr. Luedech Girdwichai, the President of Suan Sunandha Rajabhat University, Bangkok, Thailand for financial support and would like to thank Asst. Prof. Dr. Prateep Wajeetongratana, the Dean of Faculty of Management Sciences for the full support in this research. The author is grateful for suggestions from all those who kindly provide consulting advices throughout the period of this research.

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