The Impact of Technology Marketing and Technology Self-Efficacy on using Intention Mobile Banking of Consumer: The Empirical Study in Commercial Bank Area

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Abstract
The purpose of this study examined the impact of factors on intention using behavior mobile banking of consumer’s commercial bank in metropolitans of Thailand. Also, the factors impacting to intention behavior of study included technology marketing, technology self-efficacy and technology acceptance. The questionnaire was tool to collected information from consumer’s commercial bank and selected by judgment sampling method. Moreover, the multiple regression analysis was a statistical to test hypothesis for this study. The result found that technology marketing and technology self-efficacy had positively impact on technology acceptance. Moreover, technology acceptance had direct impact on intention behavior mobile banking. Finally, this study fulfill technology acceptance concept, the internal factor (self-efficacy) and external (technology marketing) factor of customer was important motivated to acceptance technology and influence on intention behavior of customers.

Key Words: Technology Marketing, Self-efficacy, Mobile Banking, Technology Acceptance, Using Intention
1. Introduction

Recently, the growth technology has significantly altered to strategies of businesses of respond customer. Communication technology has been growing as a new way for business to retain customer and offer new service and product (Tan and Teo, 2000). The technology development can manage large amounts of information that are transferred and stored via electronic applications (Leymann et al., 2011) and increased usage worldwide of the internet has resulted technology providing immediate access to resources and better scalability of technology services (Marston et al., 2011). Several industries take benefit of communication technology to created strategies for competitive advantage more than others business in the market.

According, the growth of communication technology in Thailand, it showed that customer increase to need communications through mobile phone, which it had efficiency and convenience for communications information between the people in society. As well as social communication plays a major role on the daily lives of consumers. Which the mobile devices has the best effectiveness is smartphone, it important for communication of consumer’s and very popularity in Thailand. Based on the information of smartphone user around the world, the information reported to smartphone users in Thailand in 2017 have about the 113.1 million numbers (South East Asia and Oceania Report, Ericsson Company, 2016). Therefore, the use of mobile technology is so easy and convenience for them. The rate of used mobile phone of young consumers had higher continually.

The growth technology make industry becomes increasingly competitive, each industry attempt to proprietary services and products to serve existing customer needs and attract new customers. One of industry attempt to take benefit of technology adoption to created new service through online, it is the best channel to provide to customers (Wasutida, 2017) and adopted internet banking systems in an attempt to reduce costs adopted internet banking systems in an attempt to improving customer service, improving customer satisfaction, increase bank’s market share (Xue, Hitt and Chen, 2011; Khalfan et al., 2006; Almogbil, 2005), promote bank to provide better banking services (Iu-cheung and Ming-tu, 2004) and more importantly improve bank’s competitive positions (Khalfan et al., 2006; Almogbil, 2005). The several researches, the bank attempt to building opportunity from technology, especially the mobile banking. But the mobile phone users registered in Thailand, yet only 20 percent of bank customer use mobile banking services (Boonsiritomachai and Pitchayadejanant, 2017). This shows a low uptake of mobile banking service despite high mobile phone use. The information indicate that still a large group of customer’s bank in Thailand remained financial transection through physical branches, because uncertainty and security concerns (Little and Melantiou, 2006). Moreover, the main barrier to using mobile banking is mostly Thai people preference.
for cash payment more than transaction through electronic banking. Therefore, the bank should understand reasons to consumer acceptance and intention behavior to use mobile banking as a effectiveness channel for them-self to transection (Huang et al., 2005), building customer’s technology acceptance on mobile banking both perceived use fullness and perceived ease of use (Lee, 2008) and enhancing young consumer perceive technology self-efficacy to use mobile application about banking service.

The purpose of this study to examine the causal relationship among technology marketing, self-efficacy, technology acceptance and behavioral intention using mobile banking of young customer’s commercial bank and key research question how does technology marketing, technology self-efficacy have impact on technology acceptance and internet banking young customer’s intention of commercial bank. The study aims to fulfill in the technology acceptance literature and testing model of drives and outcomes of technology acceptance. Through a literature review on technology acceptance theory is found to be the theoretical foundation to understand the antecedent factors to customer intention using behavior technology.

This structure of this research is as follows. First, the literature on technology acceptance is reviewed with technology acceptance theory selected as being the most suitable for this research. The conceptual framework is developed based on improving understanding of individual’s acceptance towards intention using behavior technology. Second, Hypotheses are derived from the conceptual framework to focus on the causal relationship among technology marketing, self-efficacy, technology acceptance and behavioral intention using mobile banking of customer’s commercial bank. Third, the methodology in this research included population, sampling, collecting data and analyzing. Forth, the result of study showed about the causal relationship between variables. Finally, this section presented to practical managerial implications and suggestions for further research.

2. Literature Review

The theoretical framework in this study has been developed from Technology Acceptance Model (TAM) concept in technology areas. TAM is designed to accurately explain information systems or information technology adoption within various organization, cultural settings, technology contexts, and different expertise levels. TAM model was designed based on the reasoned action, which Davis (1989,1993) defined as “the degree to which a person believes that using a specific system would be free of mental and physical efforts” and “the degree to which a person believes that using a specific system would enhance they job performance” respectively. Several studies have successfully utilized and replicated TAM to predict user acceptance of technology and determine user attitude toward a specific technology, while attitude and perceived usefulness significantly affect behavioral intention to use the technology. Also, the TAM framework has been particularly useful in exploring user acceptance of
technology and services bank. It is likely to be applicable to examining the adoption of technology such as internet banking, online banking and mobile banking. Therefore, the current study employs the TAM-based approach and examines the causal relations among external and external environments, acceptance technology and intention behavior mobile banking.

2.1 The Concept of Mobile Banking

The rapid diffusion of the technology has radically changed the delivery channels used. Several businesses can take profit from the evolution of new technology and adapt to the emerging ways of interacting with customers (Martins, Olkiveira, and Popovic, 2014), generated opportunities for business as a new way communication efficiency, retain customers and offer them new services. In the banking industry, the mobile is the new transformation from traditional banking to electronic banking. The most effective transaction methods because it possesses many advantages, access accounts from any location and any time (Munoz-Leiva, et al., 2017) which offline banking channels can’t offer and reduce cost (Lee, 2009), created customer satisfaction, respond to customer need and build customer relationship (Martins, Olkiveira, and Popovic, 2014) by faster transaction speed, lower handling fees and reduce cost (Kalakota and Whinston, 1997). Therefore, mobile banking is appropriate to support their needs, as it provides convenience in executing banking transactions for young consumer. In this study, defined mobile banking as a bank services does on mobile phone. It focused on offering information, product and service of potential benefits of bank to young consumer, and easy more accessibility and friendly use of technology.

2.2 Using Intention Mobile Banking

In this study was derived from the concept of consumers’ behavior, namely the study on how people made decisions to use available resources (time, money, effort) to buy consumer goods (Sheppard, et al., 1988). Empirically, the previous studies on the adoption behavior of online services resulted in various formulations. One study that could be made was adopting and combining the theoretical concept of consumers’ behaviors with the Technology Acceptance Model (TAM) in the context of online banking. This study use behavior intention as the dependent variable. It is therefore theoretically reasonable to behavior intention as a dependent variable to examine the acceptance of internet banking (Davis, 1989). Therefore, the studying online banking intention is importance issues of development commercial bank service.

2.3 Technology Marketing

The currently, the marketing implementation of businesses focused on respondent consumer need. They are attempt to encourage the consumer buying or using services behavior. In this study base on e-commerce literature it examines people’s behavior and the interaction between personal factors and technology (Lauk-kanen, 2007). Several studies base on social cognitive theory applied in the m-commerce area as a formwork that incorporates both internal
and external environmental factors. External factors play an important role in stimulating individual’s behavior. Marketing implementation is one of the important determinants of an individual’s behavior as an external environmental factor (Kaufman, 1991), which can include advertising, promotional activities, and word of mouth. Individuals are meeting to a variety of marketing campaigns about technology, which can influence the adoption process. Marketing implementations about product usage and service innovation influenced on individual’s behavior (Sheth et al., 1999). Also, effective marketing technology through social media, marketing digital campaigns, and mobile application influenced on consumer behavior (Jayaram et al., 2015). The marketing implemented depend on the technology innovation (Khan and Ghani, 2004). In addition, technology changes have resulted in consumer being forced to adapt to new innovations through marketing campaigns, marketing activity about their potential benefits (Meuter et al., 2003). The marketing innovations have been through social networks as companies have tried to encourage consumer to use their products by sharing their experience about the technology innovation (Snowden et al., 2006). The more information from social group resource is made available by marketing channels to consumers, they are likely to adopt the innovation more quickly (Mizerski, 1982). Therefore, the effectiveness of a marketing campaign is determined by an consumer’s exposure to various technologies that form part of their external environment (Sheth et al., 1999). The previous study explained the positively relationship between technology marketing to behavioral intention (Ratten, 2013), encourage and determinant of consumer’s behavior both purchasing and using (Kaufman, 1991). Moreover, the technology marketing has impact on the rate of technological innovation adoption.

Likewise, consumers respond to marketing about technology services is relatively new to most consumers. Mostly consumers in bank area concerned to protect private and security of mobile banking. Therefore the more marketing campaigns will influence a consumer’s satisfaction with the technology. Consumers who learn about the potential benefits and usages mobile phone are as likely to be increasingly satisfied. For this research focuses on technology marketing is external environmental consist 3 dimensions were advertising, promotion activities, and word of mouth. It is very important role to encourage consumer’s behavior to technology acceptance. Therefore, the hypotheses are as follows:

H1: More Technology marketing focused on consumer will positively impact on technology acceptance.

H1a: More advertising focused on consumer will positively impact on technology acceptance.

H1b: More promotion activities focused on consumer will positively impact on technology acceptance.

H1c: More word of mouth focused on young consumer will positively impact on
technology acceptance.

2.4 Technology Self-efficacy

The social cognitive theory explained to self-efficacy as a belief of a person being capable of achieving certain goals is important to determining different behaviors (Bandura, 1989), and belief that one has the ability to perform a specific behavior (Compeau and Higgins, 1995). Several studies applied in the commerce area as a formwork that incorporates internal factors of consumer. Internal factors play an important role in stimulating individual’s behavior. The consumer perceives more self-efficacy are likely to use information technology (Luarn and Lin, 2005) For this study, self-efficacy is defined as the judgment of one’s ability, knowledge, or skills to use m-banking services of young consumers. Also, the consumer’s expertise may have a higher intention to use a system than consumer lower expertise. Several studies supported the influence of self-efficacy on perceived ease of use and the intention to use mobile services (Luarn and Lin, 2005; Wang et al., 2006). Moreover, self-efficacy directly influences on banking adoption (Yu, 2014) and indirectly influence (Luarn and Lin, 2005)

Perceive Self-efficacy of consumer is a part of acceptance of a technological system. The consumer’s belief system incorporates how they evaluate new products and service, which helps determine their behavior. The consumers have different beliefs about the benefit and usages of technology this is likely to influence their adoption rate of innovations. For this research focuses on technology self-efficacy is internal environmental consist 3 dimensions were ability, knowledge and skill. It is very important role to encourage consumer’s behavior to technology acceptance. Therefore, the hypotheses are as follows:

H2: More perceived Technology self-efficacy will positively impact on technology acceptance.

H2a: More perceived Technology ability will positively impact on technology acceptance.

H2b: More perceived Technology knowledge will positively impact on technology acceptance.

H2c: More perceived Technology skill will positively impact on technology acceptance.

2.5 Technology Acceptance

The adoption of consumers are the acceptance and continued use of a particular product, service or idea (Safeena, et al., 2011). The consumers go through process of knowledge, persuasion, decision and confirmation before they are ready to adopt a product or service (Rogers and Shoemaker, 1971). Thus, adoption innovation begins when the consumers become perceive to value of product or service. According to Davis (1989), the acceptance of technology can be predicted by using the Technology Acceptance Model (TAM). It is demonstrates the relationship among belief, attitude and action purpose. Technology acceptance was derived from Technology Acceptance Model (TAM) was a popular and extensively used model in studies on information technology adoption process. TAM is valid
in predicting an individual’s acceptance of new technologies (Plauffe, Hulland and Vandenbosch, 2001; Legnis, Inghamb and Collerettec, 2003), several research reported a strong and significant causal relationship between technology acceptance and behavior intention (Venkatesh and Morris, 2000; Mathieson, 1991). For this research focused on technology acceptance of young consumer. It is very important role to encourage consumer’s behavioral intention using mobile banking. Therefore, the hypothesis is as follow:

H3: Consumer more technology acceptance will positively impact on intention using behavior mobile banking.

2.6 Conceptual Framework

The relationship model, there are independent and dependent variables. The technology marketing and technology self-efficacy are key determinant of using intention behavior mobile banking. They are hypothesized to have positive impact relationship between technology marketing, technology self-efficacy, technology acceptance and using intention behavior as shown in Figure 1.

3. Methodology

This research focused to impact of technology marketing, technology self-efficacy, technology acceptance and using intention behavior mobile banking for young consumer. The data set for study was collected survey consumers were selected as the respondents in Pra nakon Sri Ayutthaya province. A questionnaire used as a primary data collection tool. The researcher collected the data from consumer through judgment sampling. In this case, the best people to provide the information required for the study. 285 respondents collected data by associate researchers and questionnaire as a primary data collection tool. Each item was measure on a five-point likert scale, ranging from “strongly disagree” (1) and “strongly agree”(5). For reliability of the measurements was evaluated by Cronbach Alpha coefficient. In the scales reliability, Cronbach alpha coefficients are greater than 0.70 all construct (Nunnally and
Berstein, 1994). In this study hypotheses testing analyzed by multiple regression analysis from statistical package computer program.

4. Results and Discussion

For this research descriptive analysis the total 285 respondents, majority of majority of respondents were female, student in graduate of university, income between 10,000 – 15,000 Bath per mouth and used service of Kasikorn bank. Also, they have a purpose to used smartphone for search information, communication and online shopping, respectively.

Table 1: Shows the Correlation Coefficient of the Relationship among Technology Marketing, Technology Self-Efficacy, Technology Acceptance and Intention using Behavior Mobile Banking

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>4.03</td>
<td>4.31</td>
<td>4.14</td>
<td>4.00</td>
<td>4.16</td>
<td>4.15</td>
<td>4.27</td>
<td>4.18</td>
</tr>
<tr>
<td>SD.</td>
<td>0.30</td>
<td>0.47</td>
<td>0.45</td>
<td>0.40</td>
<td>0.59</td>
<td>0.40</td>
<td>0.35</td>
<td>0.34</td>
</tr>
<tr>
<td>1. Advertising</td>
<td>1.00</td>
<td></td>
<td>0.21***</td>
<td>0.20**</td>
<td>0.55**</td>
<td>0.36***</td>
<td>0.12**</td>
<td>0.24***</td>
</tr>
<tr>
<td>2. Promotion Activities</td>
<td></td>
<td>1.00</td>
<td>0.52***</td>
<td>0.42**</td>
<td>0.13***</td>
<td>0.50**</td>
<td>0.56***</td>
<td>0.61**</td>
</tr>
<tr>
<td>3. Word of mouth</td>
<td></td>
<td></td>
<td>1.00</td>
<td>0.43**</td>
<td>0.33***</td>
<td>0.61**</td>
<td>0.60***</td>
<td>0.64**</td>
</tr>
<tr>
<td>4. Ability</td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
<td>0.56***</td>
<td>0.30**</td>
<td>0.35***</td>
<td>0.40**</td>
</tr>
<tr>
<td>5. Knowledge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
<td>0.30**</td>
<td>0.40***</td>
<td>0.45**</td>
</tr>
<tr>
<td>6. Skill</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
<td>0.48***</td>
<td>0.76**</td>
</tr>
<tr>
<td>7. Technology acceptance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
<td>0.76**</td>
</tr>
<tr>
<td>8. Using intention</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
</tr>
</tbody>
</table>

The result showed that correlation coefficient of the relationship among technology marketing, technology self-efficacy, technology acceptance and intention using behavior mobile banking of young consumer. Moreover, table 1 shows the path analysis results that indicated the causal relationship among technology marketing, technology self-efficacy, technology acceptance and intention using behavior mobile banking for consumer. The results show that direct and indirect effect significant positive relation to intention using behavior mobile banking.
Table 1: Coefficients of Multiple Regression Analysis of Technology Marketing and Technology Acceptance

<table>
<thead>
<tr>
<th>Technology Marketing</th>
<th>Technology acceptance</th>
<th>t</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.52</td>
<td>6.46</td>
<td>0.00</td>
</tr>
<tr>
<td>1. Advertising</td>
<td>0.09</td>
<td>1.80</td>
<td>0.07</td>
</tr>
<tr>
<td>2. Promotion Activities</td>
<td>0.24</td>
<td>6.40</td>
<td>0.00***</td>
</tr>
<tr>
<td>3. Word of mouth</td>
<td>0.32</td>
<td>7.94</td>
<td>0.00***</td>
</tr>
</tbody>
</table>

R = 0.67  R² = 0.45  Adjusted R² = 0.44

The results showed that technology marketing consist promotion activities and work of mouth have effect significant positive to technology acceptance (β = 0.24, p ≤ 0.01; β = 0.32, p ≤ 0.01), but Advertising have not effect significant positive to technology acceptance (β = 0.09, p ≥ 0.05). Therefore, hypothesis 1.2 and 1.3 are supported, but hypothesis 1.1 is not supported.

This result according to pervious study found that the technology marketing effect to technology acceptance and effect on behavioral using intention (Sheth et al.1999; Ratten, 2013; Kaufman, 1999). Several empirical studies confirmed that a higher level of technology marketing leaded to higher level of technology acceptance and intention using behavior mobile banking. Therefore, the mobile banking provider concerns to creating technology marketing for response to young consumer and lead to behavioral using mobile banking.

Table 2: The Coefficients of Multiple Regression Analysis of Technology Self-Efficacy and Technology Acceptance

<table>
<thead>
<tr>
<th>Technology self-efficacy</th>
<th>Technology acceptance</th>
<th>t</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.79</td>
<td>8.22</td>
<td>0.00</td>
</tr>
<tr>
<td>1. Ability</td>
<td>0.05</td>
<td>0.96</td>
<td>0.33</td>
</tr>
<tr>
<td>2. Know</td>
<td>0.18</td>
<td>5.23</td>
<td>0.00***</td>
</tr>
<tr>
<td>3. Skill</td>
<td>0.36</td>
<td>8.25</td>
<td>0.00***</td>
</tr>
</tbody>
</table>

R = 0.58  R² = 0.34  Adjusted R² = 0.33

The results showed that technology marketing consist promotion activities and work of mouth have effect significant positive to technology acceptance (β = 0.18, p ≤ 0.01; β = 0.36, p ≤ 0.01), but Advertising have not effect significant positive to technology acceptance (β = 0.05, p ≥ 0.05). Therefore, hypothesis 2.2 and 2.3 are supported, but hypothesis 2.1 is not supported. According to pervious study indicated that technology self-efficacy direct effect on technology acceptance and intention using behavior mobile banking (Luarn and Lin, 2005; Wang et al., 2006; Yu, 2014; Luarn and Lin, 2005). Several researches confirmed that a higher level of technology self-efficacy enhanced to higher level of technology acceptance and
intention using behavior mobile banking.

Table 3: The Coefficients of Multiple Regression Analysis of Technology Acceptance Impact on Using Intention

<table>
<thead>
<tr>
<th>Technology acceptance</th>
<th>Using intention</th>
<th>Beta</th>
<th>t</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.13</td>
<td>0.17</td>
<td>6.46</td>
<td>0.00***</td>
</tr>
<tr>
<td>1. Technology acceptance</td>
<td>0.71</td>
<td>0.04</td>
<td>0.72</td>
<td>17.54</td>
</tr>
</tbody>
</table>

R = 0.72  R² = 0.52    Adjusted R² = 0.51

The technology acceptance has positive effect intention using behavior (β = 0.71, p ≤ 0.01), which supported H5. According to previous studies found that technology acceptance direct effect to mobile banking intention using behavior (Venkatesh and Morris, 2000; Mathieson, 1991). Therefore, the mobile banking provider concerns to perceived technology acceptance of young consumer and lead to behavioral using mobile banking.

The study according to pervious study found that the business encourages internal and external factors will be acceptance technology of consumer. Therefore, the bank concern on intention using behavior mobile banking through development technology to response consumer need and create technology acceptance for consumer.

5. Conclusions and Recommendations

This study attempts to gain an obviousness understanding causal relationship both direct and indirect effect of technology marketing and technology self-efficacy on intention using behavior mobile banking of consumer. The conceptual framework in the research applied principal theoretical technology acceptance of Davis (1989). This research is one of the first known investigations to directly and indirectly link the intention using behavior mobile banking of consumer. Overall, the results reveal that most hypotheses are accepted. It implies that this study can apply and encouraging intention using behavior mobile banking of consumers who have grown up with new technologies and being part of their everyday lives Moreover, consumers access to technology services and have technology experiences to use and fast adoption of technologies more than previous generations.

This study indicated that technology marketing as an external environment stronger influence both direct and indirect effect on intention use behavior mobile banking of young consumers. In practical managerial implications the commercial bank attempt to motivated consumer on service through marketing media and marketing activity for supported to accept technology, which generate to positive attitude on using mobile banking. This study created to understanding mobile banking service under growing technology in bank industry lead to increasingly difficult response to consumer and achieve to superior performance. The commercail bank must be understand the role of technology self-efficiency and technology
marketing as an internal and external environment on technology acceptance and utilize the factors which emphasize adaptation of consumer, which as an opportunity of bank respondent to both short-term and long-term strategy.

Moreover, this research attempts to gain an obviousness understanding the direct and indirect effect of consequence to applying principals theoretical frameworks to explain the relationships. This research investigated directly and indirectly link of technology marketing and self-efficiency to intention using behavior mobile banking in case of young consumer. Overall, the results reveal that hypotheses are accepted. It implies that this study can apply and encouraging development technology marketing and self-efficiency as a consequence variables. As technologies evolve it is important that the technology infrastructure of bank service by encouraging further research of emerging technologies related to mobile service. More research work is required on the emerging usage and adoption of mobile as a communication tool but also as an information gathering tool for people in the digitally connected marketplace.

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