Acceptance and Decision to Use Virtual Bank by
Users in Bangkok

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Abstract:- This research was to examine the acceptance and decision to use virtual bank by users in Bangkok. The main objectives were to 1) study the data of personal behavior: gender, age, educational background, occupation and average income influencing intention to use financial virtual banking services of users in Bangkok; 2) to investigate technology acceptance of financial virtual banking services including perceived usefulness and perceived ease of use that influence intention to use financial virtual banking services of the users in Bangkok; 3) to determine decision making factor influencing intention to use financial virtual banking services of the users in Bangkok. The simple sampling group was 400. This study determined the differences, the primary data collected by the questionnaires. The data were analyzed to perform percentages, means, standard deviations, T-test, F-test, and analysis of variance.

The results found that (1) the personal data of sample group influences decision making acceptance in financial virtual banking services related to the personal factor that has shown differently in gender, age, family’s socio-economic status, educational background, occupation, average monthly income influencing the significance towards technology acceptance to use financial virtual banking services of users in Bangkok. The results of analysis suggests that the commercial banks are able to plan and manage the customer groups of financial banking services were found useful; (2) the results of analysis show that technology acceptance to use financial virtual banking services of users. They mostly use the financial virtual banking services at the highest level with the mean scores of 4.36. Moreover, technology acceptance in two factors are about perceived usefulness and perceived ease of use, mostly shows the highest mean scores of 4.41, and 4.32 respectively; (3) the results of analysis show that decision making influencing intention to use financial virtual banking services, the overall is high at the mean of 3.94 (S.D. = 0.822). Meanwhile the level of decision making to use the service, shows the highest scores of 4.03 (S.D. = 0.768). There are little differences respectively; that is, need decision process, evaluation of alternatives, post purchase behavior and information research.

Keywords:- Virtual Bank, Perceive Usefulness, Perceive Ease Use, Decision Making.

I. INTRODUCTION

Nowadays, a new technology has been used in the consumers’ daily lives in responding to make transaction getting more convenient, faster, easily use, and utilization to the banks’ consumers considered as being common. In particular, financial transactions of commercial banks are enhancing in diversified models along with financial services through mobile banking and internet banking covering deposit, withdrawals, paying the bills, and transfers in carrying out by banking services through the system of financial technology. By spread of sending information to the users about the utilization and technology acceptance, the essence of this technology is to reduce time and expenses rather than having to make transaction at the commercial bank branches. This reveals that the current role of banking and the importance of commercial bank branches change (Krishana Samonborvornsuk, B.E. 2563). In the aspect of commercial banks need to keep their advantage of competition among group of banking providers, it points that the future of competing services focusing on response to the customers’ need who use banking service through diversity of financial innovations along with functioning technology development via the internet. This led to change in new products or financial models and innovations continually developed transaction in order to support their services and create the difference to attract the customers, increasingly pay more attention in financial transaction than traditional transaction and that is also an increase in options to the customers (Thanapin Attarit, B.E. 2563). The financial services developed and rapidly changed during the last five years, and one part of this could involve developing the world- financial innovation to respond to the world of social network in which has allowed communication to exchange information through the online platforms to increase convenience and speed for the customers. Besides, other has been further catalyzed by the pandemic crisis; the people adapted themselves to have access to the Information System that tends to increase in the usage and enable to utilize from information provided through the Internet in the Digital Age. So, it points to the adoption of financial services of commercial bank in the future tend significantly, additionally, hereby focusing on new innovative products and services with embracing various options about modern technologies and technological acceptance by the users.
The Bank of Thailand (BOT) is a public institution to have a duty with a mandate to foster and maintain stable and sustainable financial system. Meanwhile, the BOT has established Financial Landscape policy and prescribed the way into the digital financial service to open the opportunity into the finance sector in order to effective use of technology and existing information by developing new models for the financial innovative services. Because of this way can respond to the customers’ need thoroughly and offering a new option that is available to the users to meet modern commercial bank under arranging appropriately in the current situation of the world. The Bank of Thailand has designated financial innovative models - the Virtual bank as well its expectation as being a new option of the commercial banks so it must focus on technological skills providing financial services. Among various chain data in computing can be used to develop and increase effective financial services through the digital channels. Hereby, providing responsive customer services thoroughly with matching individuals’ need in the current world and the future, thus a new model of finance rely on the digital information from internal finance and external finance to help to expand increasingly in a wide a variety of database, for example, receiving money, payment, online order, electricity bill, water bill, etc. Those are brought into the in depth data analytic and can be processed with modern technology which results in quicker and more effective with standard security and trust in operating the system which is guaranteed by legal principles and rules of commercial banks. In addition, the BOT has considered and control the use of new technology resulting in the virtual bank can increase their services and financial products for the users when compared to the traditional banks. This also results in accessing the financial services thoroughly and increases the number of bank users. It also expects that the virtual bank has provided flexibility, stability, security, and providing continuously services in the financial transaction. Moreover, it is able to develop system or connection within the data and utilizing from the services through platforms of social networks. As well as it can reduce operating cost, the number of branches, employee demand, and expenses of banking operation. This has meant that the virtual bank has had into low cost and reduced services of banks including bank fees, the customers can thus use banking services may be cheaper. Furthermore, the competitiveness of virtual banks impact on other banks adjusting their operation in competition, providing direct benefits to the customers and finally be good for the economic system (The Bank of Thailand, B.E. 2566). The Bank of Thailand has planned to open the virtual bank in B.E. 2569 and defines that the Virtual banks shall be public companies limited, allowed the virtual banking business in manner as a commercial banks, they need to run the business and serve the customers principally through digital channels according to financial landscape policy of Thailand. They have been allowed by the BOT to run the business engaging in range of new commercial banking business, utilizing from technology and information to develop financial innovative services that be consistent with the users’ need.

Noting the background above, the researcher has realized the importance of acceptance and decision to use the virtual banking services regarding as new financial innovative services in the Digital Age, be advisable to use it in the current situation and future. Now the virtual banking operations are submitting to the BOT for application open, and mandating the step of applications for virtual banking licenses in a manner similar to commercial banks focusing on using technology. This study aims to examine the problems of acceptance and decision to use the virtual banking services by the users from perceive usefulness, perceive ease use, and decision making to use the virtual banking services by the users in Bangkok.

- **Research Objective**
  - Study the data of personal behavior: gender, age, educational background, occupation and average income influencing intention to use financial virtual banking services of users in Bangkok;
  - To investigate technology acceptance of financial virtual banking services including perceived usefulness and perceived ease of use that influence intention to use financial virtual banking services of the users in Bangkok;
  - To determine decision making factor influencing intention to use financial virtual banking services of the users in Bangkok. To identify effective strategy to improve the efficiency of high-tech SMEs in Henan Province.

- **Research Framework**
  - The researcher developed and adjusted technology acceptance model in the type of appropriateness in accordance with financial innovative banking services of commercial banks that is “Virtual Bank”. Here is the conceptual framework operated in this research.
II. LITERATURE REVIEW

Conceptual Basis and Technology Acceptance

Davis (1988, cited in Vanida Kreakaew, 2019) Davis proposed the research about basis of humans’ (users’) acceptance information systems or technologies, he explained that the specific model about the capability of systems or technologies is the stimulus resulting in the motivation to the users responding to use the organism’s (users’) information technology then the result reveals that the humans (users) and their intention to use the information technology in actual usage.

Unified Theory of Acceptance and Use of Technology

Venkatesh, Morris, Davis & Davis (2003, cited in Ranchida Kiatkanok and Jesada Wongsaensuk, 2021) explained that the behavior theory of new technology adoption of humans regarding to expectation of the acceptance in the future, developed by the concept of reasonable action, Theory of Diffusion of Innovation, Motivation Theory, and Theory of Planned Behavior. In the ways that is conducting to study human’s behavior perceives motivation and intention to use the technology as well as important factors affecting adoption such as the belief of the human towards the system or technology to increase effectiveness and likelihood of utilization in task. In addition, the factor of human’s belief towards using the technology because of ease of use, convenience in performing job tasks. There is also the belief of the person may be referred to other variables such as gender, age, job experience, and intention to use the technology.


- **Decision Making Theory**
  Kolter (2003: 158, cited in Krishana Samonborvornsuk, B.E. 2563) pointed that decision refers to the alternative to do things through the process of internal decision making—motivation, attitude, perceiving and attitude of person decision making through the processed stages of decision making, there are five stages prior to using the services or consuming products. Those are included:

  - Need decision process - perceiving about internal personal need resulting in receiving stimulus or self-personal need – hungriness, sex, physiological needs and desires which is psychological needs. Sometimes, when the person receives stimulus which he/she has set at a level then he/she learns how to manage the stimulus from his/her past experience then this way he/she knows how to respond to the stimulus.
  
  - Information Research - the humans receive a much more stimuli as it happens, he cannot respond immediately resulting in the intention to search the information in order to get the ways to responding to the need from the stimulus such as personal sources, commercial sources, public sources, experiential sources, and experimental sources.
  
  - Evaluation of Alternatives - the humans receive some information then evaluating all the alternatives and ranking. As making a choice, the consumer may consider the product attributes according to feeling of a consumer evaluated by weighting importance of products, and belief in consumer’s attitude, etc.
  
  - Purchase Decision - when the humans evaluated all alternatives, the consumers or buyers will make decision on the best choice. Making a purchase decision after the consumers had evaluated all the alternatives and resulting in intention to purchase and then making purchase decision.
  
  - Post Purchase Behavior – when the humans chose the service or bought the products, they had more experience about feeling of satisfactory or unsatisfactory depending on measure in term of differences between expecting and receiving the products or services and the buyers already received the product. Making decision process by decision-makers, decided on the alternatives with appropriateness in a purchase situation and time.

- **Technology Acceptance Model**
  Davis (1989) developed the theory acceptance model to explain the behavior acceptance of person towards technology system or new information technology. This led to understand the technologies and decision-making acceptance towards new technologies in order to use in daily life. The theory of technology acceptance is popular and brought in the current research. This theory mentioned above, shows that the behavioral intention to use depending on the users’ perception into two characteristics: 1) Perceived usefulness refers to the perceived level of person related to information system to provide usefulness that influences intention to use the information technology; 2) perceived ease of use has defined as the level of users’ belief with the expectation about ease without complexity in the information system, are not skilled and not capable to learn it accesses perceiving in ease in use and influencing intention to use information system (cited in Suthiporn Binaree and Warinrampai Rungruangjit, B.E. 2560).

Pramote Luenam (2554: 1-9; Singha Chaweesuk and Sunantha Wongaturapat, B.E. 2555) proposed technology acceptance model to explain the behavior of users in the information technology which drawn from the concept of the theory of reasoned action, proposed by Fishbein and Ajzen combining with the conceptual basis of technology acceptance model then applied into the conceptual framework of the technology acceptance model to be effective predictable the behavior of technology usage. This model can be explained the internal variables affecting perceived usefulness and ease of use technologies influencing consumer’s attitude for a job and final behavior intention. Moreover, the technology users perceive usefulness of the system regarding to behavioral intention to use without attitude to use (cited in Trirong Duanbunga and Laddawan Yomjinda, B.E. 2564).
Theory of Attitude and Using Technology

The attitude relates to feeling of person responding to society, personality, and activities. The users will be performing on their appropriateness; proceeding and determining personal tend to show responsive behavior towards different things, and appearing as feeling about objects, environments, and situations. Wanida Kruekaew (B.E. 2562 (2019), Roger (1978) and Damir (2021) states that the attitude of consumers which was brought in studying the technology acceptance model included with the diffusion of innovation theory relating to personal factor and attitude factor. The result analysis shows that the factor of perceived ease of use influencing perceived usefulness and attitude of technology use, and also perceived usefulness that influences attitude of technology use, and finally, good attitude influencing technology intention to use (cited in Nanthicha Poonpanic, B.E. 2565, Kolter (2003 [B.E. 2546]: 158; cited in Krishana Samonborvornsuk, B.E. 2563) points that the processed stages of consumer’s decision making were found that consumers’ decision making through five processed stages include:

- Need decision process refers to perceiving about internal personal need resulting in receiving stimulus or self-personal need including hungreiness, sex, physiological needs and desires that is psychological need. Sometimes, when the person receives stimulus which he/she has set at a level then he/she learns how to manage the stimulus from his/her past experience then this way he/she knows how to respond to the stimulus.
- Information Research refers to the person receives a much more stimuli as it happens, he cannot respond immediately resulting in the intention to search the information in order to get the ways to responding to the final need from the stimulus from different sources including:
  - Personal Sources
  - Commercial Sources
  - Public Sources
  - Experiential Sources
  - Experimental Sources
- Evaluation of Alternatives refers to the person receives some information then evaluating all the alternatives and ranking. As making a choice, the consumer may consider the product attributes according to feeling of a consumer evaluated by weighting importance of products, and belief in consumer’s attitude, etc.
- Purchase Decision refers to the person evaluated all alternatives; the consumers or buyers will make decision on the best choice. Making a purchase decision after the consumers had evaluated all the alternatives and resulting in intention to purchase and then making purchase decision.
- Post Purchase Behavior refers to the person chose the service or bought the products; they had more experience about feeling of satisfactory or unsatisfactory depending on measure in term of differences between expecting and receiving the products or services and the buyers already received the product. Making decision process by decision-makers, decided on the alternatives with appropriateness in a purchase situation and time.

Related Researches

Krishana Samonborvornsuk (2563) points out in his study relating to technology decision making in duration of perceived usefulness and perceived ease of use, found that decision making acceptance in the usage of financial services through banking applications in the length of time in Bangkok. The questionnaires for bank customers are collected and measured by correlation and multiple linear regression analysis among categorized into many-to-many relationship, found that decision making acceptance to use financial services through banking applications on their mobile phone in the length of time, affecting user acceptance – intention to use factor has always been of interest through banking applications with decision making styles – post purchase behavioral factor. The recommendations were suggest providing financial banking service through application on mobile phones.
Wanida Kruekaew (2562) states in her research relating to technology acceptance model, found that technology acceptance by electronic financial transaction of the import and export enterprises in Bangkok. The questionnaires were used in collecting data distributed to the import and export enterprises. The total is 380, measured by the frequency, percentage, means and standard deviations, multiple linear regression analysis, and Pearson’s correlation coefficient. This study found that the import and export enterprises has perceived the usefulness and the ease of use in electronic financial transaction provided by the Customs without the effect of attitude or belief in usages consistent of technology acceptance model based on the study done by Davis (1989).

According to Suthiporn Binaree and Warinrampai Rungruangjit (2560), points out in their study that technology acceptance and trust influence intention to use Bualuang mBanking application by the users in Thailand. The objectives of this research examine the differences of the person’s intention to use banking application services, and also investigate the factor of technology acceptance. From this study, the technology acceptance model is designed for the research. Found that the users’ gender, age, educational background, income, and occupation. It can identify different aspects of intention to use services, which are not significantly different, perceived usefulness, perceived ease to use, and trust. Those influence intention to use technology services- Bualuang mBanking application. Other factors for this model are trust to be found the highest, as well as perceived usefulness, perceived ease to use have been found to be influential in intention to use.

III. RESEARCH METHODOLOGY

This research adopted the qualitative method and simple random sampling was used to select 400. The researcher developed the conceptual framework of unified theory of acceptance and used of technology based on the technology acceptance model and theory of decision including searching the related researches in technology acceptance of the user financial services to adjust the advisable models consistent of this research focusing on technology acceptance and decision making of financial virtual banking services.

Population

The population of this research was the users of financial commercial banking services in Bangkok.

Sample Size

This study adopted the convenience sample and used non-probability sample due to uncertain number of the population whereas the requirements were 400. The data collected for this study was subjected to be analyzed using Cochran (W.G. Cochran) with the level of stability was at 95% and ratio and regression estimated at 5%. The questionnaires were collected between December – January B.E. 2567.

Research Tools

Based on the questionnaires were collected and developed the conceptual basis of technology acceptance of the humans that can be explained specific models of capability of modern technology or information technology including with theory of technology acceptance resulting in understanding running for the stimulus functioning technology, and also create the motivation to the humans or the users’ perceived usefulness and perceived ease of use with behavioral intention to use. The processes of stages draw from theory of decision making resulting in the intention to use technology or financial innovative banking services which are modern. According to the objectives of this research, technology acceptance and decision making to use financial virtual banking services regarding to the new financial innovative banking services focusing on modern technology adoption based on digital information technology of the future world.

The questionnaires was used as the major instrument for data collection, and chosen as closed –ended question divided into 2 parts:

- Part one: Personal information
- Part two: Related the questions about technology acceptance of digital virtual banking services consistent of perceived usefulness, perceived ease of use influencing financial virtual banking service, and decision making to use financial virtual banking service. The obtainable questionnaires divided into rating scale 5 levels.

Part three: the questions related to decision making influencing financial virtual banking service and decision making to use financial virtual banking service. The obtainable questionnaires divided into rating scale 5 levels.

Method of Data Collection

The questionnaires were used as the major instrument for collection as Likert Scale divided into 5 levels. The degree stated with 1) Most strongly disagrees 2) strongly disagree; 3) Neither agree nor disagree; 4) Agree; and 5) strongly Agree. The data were assessed by the specialist with the value consistency (ICO) and assessed the stability with coefficient by Cronbach’s Alpha. The stability of coefficient was at 0.864 shown that the questionnaires can be brought in this research.

Statistics Used in Research and Data Analysis

This study was subjected to descriptive statistical analysis and inferential statistic to analyze the data of sample group; for example, the respondents answer the questionnaires based on descriptive statistic such as gender, age, educational background, occupation and average of monthly income have shown as percentages and frequency, mean, and standard deviation whereas inferential statistic to analyze the statistic to find out the differences and coefficient to test the variables of perceived usefulness from financial banking services and variables of perceived ease of use in financial virtual banking service with Pearson correlation was used to test the hypotheses and analyze with multiple regression to test the capability with prediction of independent variables.
IV. RESULTS

The results of data of the questionnaires divided into 3 parts:

- Part one: Personal information of the respondents such as gender, age, educational background, occupation and average of monthly income.
- Part two: Acceptance of digital virtual banking services consistent of perceived usefulness, perceived ease of use financial virtual banking service.
- Part three: Decision making influencing intention to use financial virtual banking service
- Part four: The intention to use financial virtual banking service
- Part five: The data was used to test the hypotheses.

- Part one: The Results of the Personal Information
To analyze the personal information of the respondents, the total was 400, divided into gender, age, educational background, occupation and average of monthly income.

Gender was found that the mostly subjects were 222 females (55.5%) and 178 males (45.5%) respectively.

Age was found that the mostly respondents were aged 21-30, and 31-40 (51%), lower aged 20 (41.5%), there were 15 subjects, aged 41-50 (3.8%), there were 12 subjects, and over aged 51 (0.7%), there were 3 subjects.

Status was found that there were 214 respondents were married (53.5%), 172 respondents were single (43.0%), and others were 14 (3.5%).

Educational background was found that the mostly respondents, graduated bachelor’s degree was at 221 (55.2%), lower bachelor’s degree was at 144 (36%), and Master and doctorate was at 35 (8.8%).

Occupation was found that the mostly respondents were the employees of private companies and government officers/enterprises, the total was 190 (47.5%), employees at the enterprises were at 124 (31%) respectively. Private business/ownership were 42 (10.5%), and students/undergraduates were at 38 (9.5%), and others were at 6 (1.5%)

Average monthly income was found that the mostly respondents' income were between 15,001-50,000 baht, therefore between 15,001-30,000 baht there were 145 respondents (36.2%), 30,001-50,000 baht, there were 136 (34.0%), lower 15,000 baht, there were 49 (12.3%), 50,001-80,000 baht, there were 47 (11.8%), and over 80,001, there were 23 (5.7%).


Table 1 Analysis Table of Acceptance Virtual Bank

<table>
<thead>
<tr>
<th>Technology Acceptance</th>
<th>Mean</th>
<th>SD</th>
<th>Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Usefulness</td>
<td>4.41</td>
<td>.885</td>
<td>Very strongly</td>
</tr>
<tr>
<td>Perceive Ease of Use</td>
<td>4.32</td>
<td>.879</td>
<td>Very strongly</td>
</tr>
<tr>
<td>Overall</td>
<td>4.36</td>
<td>.894</td>
<td>Very strongly</td>
</tr>
</tbody>
</table>

Table 1 reveals that the results of mean, and standard deviation of the respondents’ concept about technology acceptance of digital virtual banking services

The results of analysis reveal that technology acceptance of digital virtual banking services consistent of two aspects such as perceived usefulness, the average was highest (4.4) and perceived ease of use digital virtual banking services, the average was high (4.32), and technology acceptance, overall average was at 4.36

- Part 3 Decision Making to Use Digital Virtual Banking Services

Decision making to use digital virtual banking services composed of perceived need to use the services, information research, evaluation of alternatives, decide to use the service and post purchase behavior.

Table 2 Table of Decision analysis results

<table>
<thead>
<tr>
<th>Decision Making</th>
<th>Mean</th>
<th>SD</th>
<th>Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need decision process</td>
<td>4.01</td>
<td>.791</td>
<td>high</td>
</tr>
<tr>
<td>Information Research</td>
<td>3.87</td>
<td>.821</td>
<td>high</td>
</tr>
<tr>
<td>Evaluation of Alternatives</td>
<td>3.92</td>
<td>.835</td>
<td>high</td>
</tr>
<tr>
<td>Decide to Use the service</td>
<td>4.03</td>
<td>.768</td>
<td>high</td>
</tr>
<tr>
<td>Post Purchase Behavior</td>
<td>3.89</td>
<td>.811</td>
<td>high</td>
</tr>
<tr>
<td>Overall</td>
<td>3.94</td>
<td>.822</td>
<td>high</td>
</tr>
</tbody>
</table>

Table 2 Mean, and mean, and standard deviation of decision making to use digital virtual banking services.

The results shows that the level of decision making to use digital virtual banking services done by the respondents in Bangkok, the overall average was at 3.94, and overall of standard deviation was at 0.822, shown the average was high. The decide making to use service, an average was the highest (S.D. = 0.768). Followed with need decision process, evaluation of alternatives, post purchase behavior, and information research.

V. DISCUSSION

The attempt of the research “Acceptance and Decision to use Virtual Bank by Users in Bangkok” has been drawn from the concept of technology acceptance model developed as technology acceptance of financial innovative virtual banking services of new commercial banks regarding to financial innovation that will likely open in Thailand in the near future. Focusing on the banks of technological skills with information technology and be usefulness in ease. Beyond this, being able to use human behavior with reason lead a fundamental concept of technology acceptance model attracting in the theory of reasoned action functioning on theory of decision making, the results reveal that the level of technology acceptance towards financial virtual banking service, an average acceptance was the highest. Additionally, perceived usefulness, and perceived ease of use consisting with the concept and theory of technology acceptance model done by Davis (1989). He believes that technology acceptance from intention to use and decision making to receive technology of the user’s information technology in daily life depending on perceived by users into 2 aspects such
as perceived usefulness and perceived ease to use financial virtual banking service.

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