FINANCIAL INNOVATION ADOPTION IN AGING SOCIETY

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Abstract - Financial technology plays important role in the present. Many countries move forwards to be aging society especially Thailand. The objective of this study was to investigate the characteristics of financial adoption in aging society. The qualitative approach was employed for this study. The ten key informants were purposive selection on the criteria of having and not having experience in using internet mobile banking application and age in elder ranged. An in-depth interview by 45 to 60 minutes with tape recording was hold. Content analysis was used to analyze and interpret data from interview. In findings, the elders concern with perceived usefulness, image, job relevance, perceived ease of use, perceived channel, and safety of use.

Keywords - Financial Innovation Adoption, Aging Society, Elder, Thailand

I. INTRODUCTION

Many countries around the world are moving to aging society. According to the United nation (UN) defines elder as a person who aged more than 60 years. The main reasons why there are many elders are linked with less new born and advanced health care. The proportion of elder is therefore higher than younger within western countries namely the North America (Population Reference Bureau, 2012). Also with Asia such as Japan, South Korea, China, Singapore, Thailand and other Asian countries are facing aging society. By the data of the Ministry of Social Development and Human Security, it found that the new born and children ages are decreased. For Thailand, the second ranking country found moving to aging society completely afterwards Singapore. World Population Aging argued that after 2009, in Thailand, children and elders are more than working aged person, then later, elders are higher than other age group in 2017. Above reason stated, decreasing of size of family and rate of death are caused aging society.

The processes of new born, death, and migration cause changing demography structure. Decreasing rate of new born and having longer living generate aging society (Prasartkul & Varattanawong, 2011). It means that the people whom aged between 60 and 64 years are higher. By the survey of the Nation Statistical Office Thailand, it found that having higher single, less children, and less at home working. The elders are living lonely at home. Many elders found obstacles in daily life activities such as eating, bathing, dressing and transportation. Also with denying travelling or contacting with other people are caused by unhealthy of elders. It is therefore many innovation serving elders are created and developed.

Innovation indicates to process of a new thing, continue improvement of an innovative to reach and adapt or even new developed process to provide benefit, ideas, operation, create products or services (Evan, 1966; Drucker, 1993; Freeman & Soete, 1997). Having not only innovative products or services to serve daily life activities of elders, healthy improvement products, health therapy are employed. These are found in SCG Innovation Exposition (2015). It has consideration in building house to serve elders such as automatically lighting, holders, smart floor, and soften wall. These innovative products are beginning to provide more security and healthy for elders.

Financial innovation is an alternatively choice for serving elders. It is new technology in finance created for providing comfortable doing transaction such as ATM which sued for deposit and withdraw. Internet banking is other innovative driving forwards to financial technology or Fintech. Nuritlamont (2016) mentions that in the present, financial adoption in commercial bank and online financial banking generates many services in internet banking applications. They serve customers to operate financial transaction themselves. Self-queuing and waiting line are cut off. It is therefore having more convenience and time and cost saving also. However, the financial adoption having generated in elders is the main question to find the solution. So that, the objective of this study is to investigate the characteristics of financial adoption in aging society. The both reasons of ignorance and acceptance are employed.

II. LITERATURE REVIEWS

Theory of Innovation Diffusion

Technology in human society has to progress through interaction between innovator and users for many times, then the technology adoption is reached (Rogers, 1995). The five groups of people who concern with this process combine of inventor, early adopter, early and late majority, and laggard. Inventor is the pioneer who creates by using knowledge concern and keeps closing to technology development. Second, early adopter is the person who prefers to try new thing, seen to be rich and living in high social class. Third, early majority is the person who makes the decision of design in order to provide easy uses and generate more benefits. Forth, some technology is not up-to-date but it is still necessary, the late majority is concerned. Lastly, the group of laggard, they are waiting to observe former innovative users and use it even it is not updated or less advanced.

Social adoption processes will be implemented through channels of communication of people within a society. When innovators create something, social adoption will be continuously reached and communicated until it is accepted.

Technology Acceptance Model (TAM)

The model of Technology Acceptance Model was created by Davis (1985). This model describes the relationship of external variables, perceive, attitude, and behavior to use a new technology.

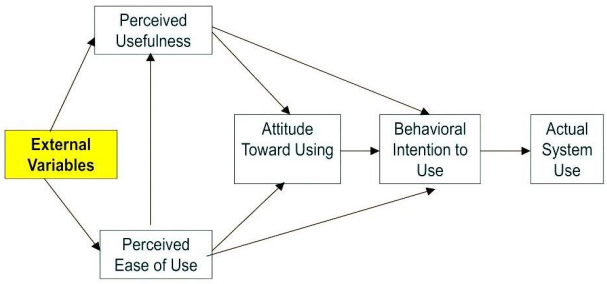


Figure I Technology Acceptance Model (TAM) (Davis, 1985)

From model stated in Figure I, there are external factors affected to perceived usefulness and perceived ease of use. Later, they link to attitude towards using, behavioral intention to use and actual system use. Additionally, Figure II indicates to more understanding in technology acceptance as called Technology Acceptance II (TAM II).

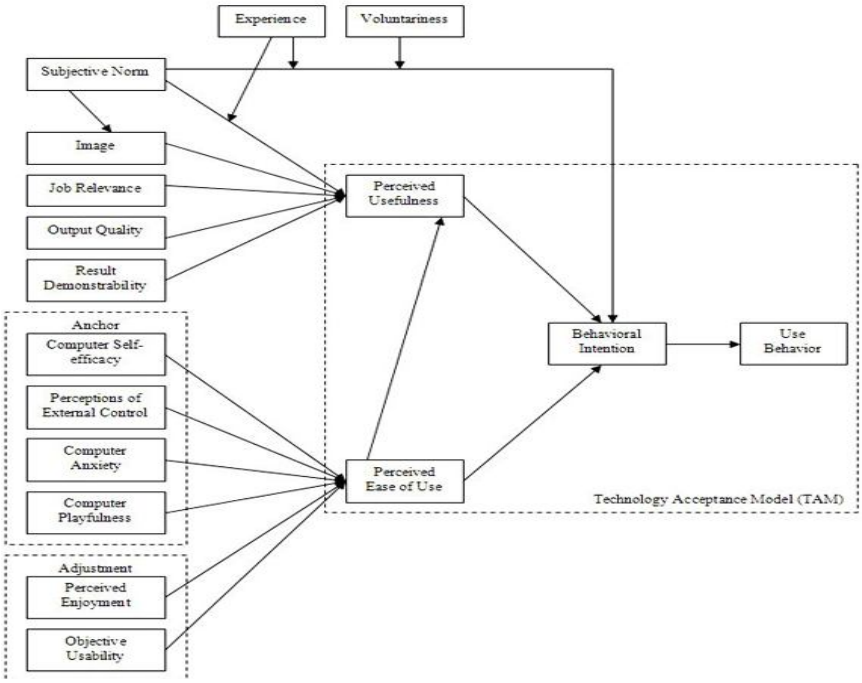


Figure II Technology Acceptance II (TAM II) (Davis, 1985)

According to Leunam (2011) and Venkatesh & Davis (2000), by TAM II, the factors and definitions of each variable are explained in Table I.

Table I Factors and Definition of Variables in TAM II in term of Perceived Usefulness

Factors	Definitions / Sources
Subjective Norm	Level of individuals to reach or understanding surrounding people, and to make decision to use or not use a system (Fishbein & Ajzen, 1975)
Image	Level of individuals to reach in a view or status within a society (Moore & Benbasat, 1991)
Job Relevance	Level of individuals to merge within their job or responsibility to provide higher job performance (Venkatesh & Davis, 2000)
Result Demonstrability	Level of individuals to reach the outcomes, touch, observe and communicate (Moore & Benbasat, 1991)
Output Quality	Level of individuals to meet their goal or objective (Venkatesh & Davis, 2000)
Perceived Ease of Use	Level of individuals to reach to use without difficulty (Davis, 1989)

Moreover, the factors and definition of variables in TAM II in term of Perceived Ease of Use are proposed in Table II (Leunam, 2011; Chutter, 2009).

Table II Factors and Definition of Variables in TAM II in term of Perceived Ease of Use

Factors	Definitions / Sources
Computer Self-Efficacy	Level of individuals to use effectively by themselves (Compeau & Higgins, 1995)
Perception of External Control	Level of individuals to serve and allocate with sufficient resources (Venkatesh, Morris, Davis & Davis, 2003)
Computer Anxiety	Level of individuals to generate problematic feeling or moody in use (Venkatesh, 2000)
Computer Playfulness	Level of individuals to reach happiness in use and interact (Webster & Martocchio, 1992)
Perceived Enjoyment	Level of individuals to reach joyfulness (Venkatesh, 2000)
Objective Usability	Level of individuals to compare system and ability to use for reaching performance (Venkatesh, 2000)

In summary, for the present study, the factors were used in the following definition for investigation through research question and objective.

III. METHODOLOGY

The qualitative approach was employed for this study. The ten elderly key informants were purposive selection on the criteria of having and not having experience in using internet mobile banking application. An in-depth interview by 45 to 60 minutes with tape recording was hold. Content analysis was used to analyze and interpret data from interview. Tape transcript interpretation with professionals, advisors, and data feeding back to key informants to verify their opinion were employed following triangulation method.

IV. FINDINGS

From the in-depth interview with both 5-having and 5-not having an experience in using internet mobile banking application of elders, it found that;

In term of perceived usefulness, the elders reached the benefits by using internet mobile banking application in side of effectiveness, timeless, and cost reduction.

"[…] no cost and time consume in driving to counter services."

"It makes me faster, and convenience to get a financial transaction even doing on a holiday. I can do it at my home effectively."

"Generally, I don't have much time to wait in the bank. I do it by using my mobile phone or personal

computer makes my fast and comfortable. … I don't wanna waste or lost my working time."

However, for whom not having an experience in using internet mobile banking application, they need helps and do not reach unnecessity for using technology.

"*[…]* payment through seven-eleven counter services is easy, there is someone help me to do it."

"I have to get pension regularly in a month so that it is not necessary to use internet banking for me."

For images, using internet mobile banking application makes an elder fashionable and up-to-dated person.

"I was looked modern when I use internet banking with my smart phone."

"Our business looks modern and advanced when our customers use internet banking. We and our customers feel proud of it."

In the notion of job relevance, using internet mobile banking application is appropriate for who run a business as an owner of business. It provides more comfortable for them.

"*[…]* no need to carry cash on hand and no exchange. It's good for us and customers."

"I can update my daily transaction through mobile application."

Under the umbrella of perceived ease of use, using internet mobile banking application provides ease of use for elders when having an experience once a time.

"*[…]* it's very easy to use application on my mobile. I just click app and scan barcode for payment."

"No need to remember password, jut scan my finger print."

"Even in the beginning is may be hard to use, later when I understand how to use, I feel like it isn't difficult to use."

"I thought it's too complicated for me. I don't think I can use it."

Furthermore, basic introduction from a person is encouraged an elder to use more internet mobile banking application. So, channel of perceive is a factor to stimulate elders to use.

"*[…]* I thought that it would make me difficult but after someone introduce me to use it, I can and it seems not difficult."

"Just some introduction from my cousin, I can use it simply."

Importantly, the safety use for elders is very important to consider. The protection of personal data and other financial stolen risk must be protected. Also, using internet mobile banking application makes safeties more than carrying cash.

"Using internet mobile banking application makes me safety for robbers or thieves."

"Some application has second safety check as OTP message. I'm confident to use it."

"*[…]* payment through application is safety for me and my customers."

SUMMARY AND DISCUSSION

For aging society, the elders concern with perceived usefulness, image, job relevance, perceived ease of use, perceived channel, and safety of use. The Figure III shows the conceptual framework summarized from this study. Venkatesh & Davis (2000) mention that job performance can improve by using financial technology. The objective or goal of each job can be reached through innovation (Venkatesh, 2000). Referenced people affected to encourage someone to use technology innovation (Fishbein & Ajzen, 1975). Images of an individual can be generated by new innovation or technology (Moore & Benbasat, 1991).

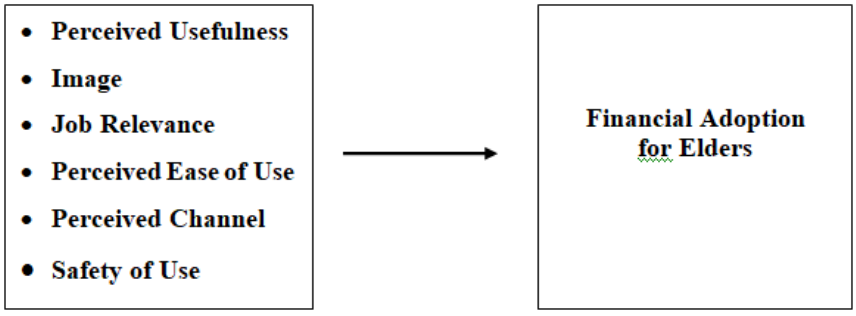


Figure III Conceptual Framework (Authors)

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