

Adoption of Technology Affecting Purchasing Decision Through Social Media of Thai Elderly People

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ABSTRACT

Abstract—This study aimed to study adoption of technology that affected purchasing decision through social media of Thai elderly people. This research uses a quantitative research approach. The sample group was 385 elderly people who used the social media for purchasing decision by using multi-stage sampling. The data was collected by questionnaires and data analysis used descriptive statistics and multiple regression analysis. The research results were found that the influence of adoption of innovation in the aspect of comparative advantage, compatibility, complexity, and observability affected purchasing decision through social media of Thai elderly people with statistically significant at $F=54.451$, and were able to explain the variance in the adoption of innovation affecting purchasing decision through social media of Thai elderly people 50.69%. The highest multiple regression coefficient was comparative advantage ($\beta = 0.372$), followed by complexity ($\beta = 0.256$), compatibility ($\beta = 0.178$), and observability ($\beta = 0.145$), respectively.

Keywords— Adoption of Innovations, Elderly people, Purchase decision, Social media,

INTRODUCTION

At present, the use of information technology, especially mobile technology is spreading all over the world which is the most popular technology. Everyone can access online media via mobile phone as well as the elderly group. In Thailand elderly people aged 60 years and over who owns a smartphone is likely to continue growing in the number of elderly people using smartphones. As a result of the rapid growth of the smartphone market today, mobile technology has been introduced. This technology can be used in marketing developments such as mobile messaging, collecting health statistics and giving advice as well as communication with vendors, etc. Although the use of mobile technology brings many benefits in marketing and sales. But for the elderly, there are still many problems with the use of online media compared to those of adolescents due to their unfamiliarity with the use. As well as they are lack of understanding of how to use technology maximum efficiency including resistance to change or anxiety when using technology, etc., It results in problems arising from the technology acceptance of the elderly who use technology from online media.

Thailand is considered an aging society according to the definition of the United Nations, which means that Thailand has an elderly population of more than 10% of the country's population. Thailand will step into a complete aged society in 2035, where the elderly population will account for more than 30% of total population. In addition, according to the 2018 data from the National Statistical Office's survey of the elderly in Thailand, it was found that 36.3% of Thai elderly people are employed, or 3.78 million elderly workers (Department of Elderly affairs, 2019). In addition, the results of the survey of the use of ICT in the household in 2018 by the National Statistical Office (2021), stated that the elderly used the Internet as high as 10 percent of the entire elderly population. Especially early elderly people aged 60-69 years have higher internet usage than other seniors, accounted for 14.8% and older males use the Internet more than female elderly. Internet use behavior of the elderly in Thailand found that most of them use the Internet on smart phone, accounting for 59 percent. The top activities that use the Internet among the elderly are using social media such as LINE, Facebook, Twitter, and Instagram.

In addition, the increasing number of elderly consumers causing marketers to focus on marketing to the elderly because it is a large consumer group have purchasing power and have potential to consume products. In addition, they are consumers who have a good attitude towards buying and spending goods for themselves and their close ones. This group of consumers, if they are working, are saving money to live happily in the end and able to travel as they wish and are ready to buy products according to their needs. However, this generation is the ones who know the value of money, diligent in work endeavors to build a position for the family. Most of them

marry at an early age and have children early and have a career as a civil servant because it is believed that it is a profession with honor and dignity (Tulanon, 2019).

From the aforementioned principles Therefore, the researcher is interested in studying the adoption of technology that affects the decision to shop online among the elderly in Bangkok. This research information will be useful to e-commerce business. The information can be used to develop the system and formulate marketing strategies to distribute products to the elderly consumers appropriately.

LITERATURE & THEORY

Diffusion of Innovation Theory

Diffusion of Innovation Theory, developed by E.M. Rogers (1983), is one of the oldest social science theories. It originated in communication to explain how, over time, an idea or product gains momentum and diffuses through a specific population or social system. The end result of this diffusion is that people, as part of a social system, adopt a new idea, behavior, or product. Adoption means that a person does something differently than what they had previously such as purchase or use a new product, and acquire and perform a new behavior. The key to adoption is that the person must perceive the idea, behavior, or product as new or innovative. It is through this that diffusion is possible. Roger (1995) proposed the innovation diffusion theory to explain the product purchasing and adoption process. According to this theory, the production adoption process is divided into five stages, knowing the product, being persuaded of a need to buy the product, deciding to purchase the product, using the product, and accepting or regretting the decision to purchase the product (Li & Luximon, 2018).

The attribute factor of innovation is also a component of the diffusion of innovation, which depends on the recipient's perception of innovation. Accepting Innovations decides to accept innovations based on the recognition of innovation properties (Roger, 2003) as follows:

Comparative advantage refers to the idea that the innovation recipient thinks the innovation has advantages or can see the benefits more clearly than anything else at the time or something that is similar has a clear advantage over the original product. The perception that innovation is better and more useful than conventional practice will make it more likely to be accepted.

Compatibility means innovation is consistent with current practices and values. The recipient of innovation feels that innovation is aligned with values, trend, and user experience. If any innovation is consistent with the original idea, it will likely increase acceptance.

Complexity means innovation is not complicated and easy to implement. The recipient of innovation feels that innovation is understandable or how easily it can be used. If the innovations used are very complex, acceptance will be less. Especially, if the people who are implementing those innovations are more difficult, it creates resistance.

Trialability means that innovation can try it before accepting. Being able to experiment with some of the innovations until they are accepted increases the acceptance rate because it makes the recipient feel less at risk.

Observability means that innovation can observe the consequences were clear, it will increase the weight of acceptance. The result of innovation is easily visible or concrete will be accepted more easily than innovations that are abstract or just imaginary.

METHODS

The target population used in this research was the elderly people who used social media for online purchasing which has a total of 1,063,871 people as of December 31, 2020. The sample group used in this research consisted of 385 elderly people aged over 55 years who used online application to purchase and lived in Bangkok. The sampling method uses the principle of probability sampling by using the multi-stage sampling method.

The instrument used in this research was a questionnaire created in accordance with the operational definition which were the characteristics to be measured. The questionnaire was divided into 2 parts: Part 1 Demographic data including gender, age, status, education level, occupation and average monthly income, and Part 2 Opinions on acceptance of online application for purchasing decision. The opinions were rated using a five-point Likert scale where (1) Strongly disagree, (2) Disagree, (3) Neutral, (4) Agree and (5) Strongly agree. The researcher has tested the validity and reliability of the questionnaire in order to obtain accurate research results and achieve the

stated objectives with providing a pre-test of 40 sets. The confidence values of each question were between .803-.914 which pass the criteria that must be greater than .8 (Hair et al., 2010), therefore the questionnaires could be used to collect data.

For data analysis, the researcher used descriptive statistical analysis such as frequency, percentage, mean and standard deviation in order to distribute the properties of the studied variables. Inferential statistical analysis was used to test the hypothesis using statistics such as multiple regression analysis.

RESULTS

Descriptive Analysis

The sample consisted of 385 elderly people aged over 55 years who used social media application and lived in Bangkok. Mostly were female, ages were between the of 55–60 years, 45.14%, were married, 45.14%, had the highest level of education at the bachelor's level, 39.73%, and 81.89% were unemployed, as well as their average monthly income was between 10,001-20,000 baht, 28.38%.

The characteristics of adoption of innovation for purchasing decision through social media of Thai elderly people, the overall aspects were at a high level. If considering each aspect, the sample group agreed on the importance of accepting comparative advantage innovation the most, followed by observability, compatibility, complexity and trialability which all aspects were at high level. In addition, the adoption of innovation for purchasing decision through social media of Thai elderly people was at a high level. When considered individually, the sample group would likely to continue to use the social media for purchasing decision in the future at the highest level, followed by they would recommend the social media for online purchasing who are interested, and plan to use social media for online purchasing to keep in touch with close people. As well as if there was a training on the new knowledge of the social media for online purchasing, they were interested in participate regardless of the situation, respectively.

Hypothesis Testing

The results of the multiple regression analysis are shown in Table 1.

Table 1
Multiple regression analysis of the adoption of innovations affecting purchasing decision through social media of Thai elderly people

Adoption of innovation Attributes	b	β	t	p-value
Constant	3.125	-	37.165	.000**
Comparative advantage	.372	.369	5.243	.000**
Compatibility	.178	.181	2.631	.000**
Complexity	.256	.258	3.751	.000**
Trialability	.062	.061	1.084	.164
Observability	.145	.147	2.264	.036*
R = .645, R ² = .4160, S.E.=.184, F=42.635				

** Significant level at .01, * Significant level at .05

An analysis of the influence of the adoption of innovations affecting purchasing decision through social media of Thai elderly people, researcher used Multiple Regression Analysis to determine the influence of 5 independent variables on one dependent variable. The independent variables are namely: comparative advantage, compatibility, complexity, trialability and observability.

When considering the multiple regression coefficients in the standard score form, it was found that the predictors with the highest multiple regression coefficients were comparative advantage ($\beta = 0.372$), followed by complexity ($\beta = 0.256$), compatibility ($\beta = 0.178$), and observability ($\beta = 0.145$). The forecast equation which could be generated to predict the adoption of the social media for online purchasing among Thai elderly was as follows:

CONCLUSION AND FUTURE WORK

Conclusion and Discussion

The results reveal that level of innovation adoption factor that Thai elderly pay attention for online purchasing found that all aspects were at a high level. If considering each aspect, the first is to recognize innovation in comparative advantage as the most valuable, followed by the complexity, compatibility and observability. Recognizing innovation in comparative advantage in the highest order, it shows that the social media has more advantages or noticeable benefits than other types of social media that exists at the time. Elderly people are aware that using the social media application brings benefits to both a more convenient and faster for purchasing. This is consistent with the research of many researchers such as Intamusik (2017), Chaichuay (2017) and Champathong (2020) found that the social media application such as Line is suitable for their group and thought it is useful in conversation and exchange of information including using social media makes people modernize and fashionable. As well as social media encourages positive relationship-building behaviors with people inside and outside of the family without the constraints of time and space and social media is a great tool for solving loneliness and most people are satisfied with using the social media for purchasing (Tulanon, 2019).

The results of the analysis of the influence of all factors affecting the acceptance of the use of the social media among Thai elderly, it was found that the comparative advantage, complexity, compatibility and observability affected the acceptance of the social media application among Thai elderly was statistically significant which is consistent with the research hypothesis. The comparative advantage factor was the most influential, followed by complexity, compatibility and observable abilities, respectively. It can be explained by the diffusion theory of innovation and the theory of acceptance by the attributes of Rogers (1995). It shows that the comparative advantage affects the elderly who are the recipients of innovation and see that innovation is more beneficial than disadvantage. The benefits can be comparatively economic or social. The greater the benefit of innovation, the higher the rate of adoption of innovation (Roger, 1995).

The aspect of complexity affected the adoption of social media for online purchasing, which was consistent with the diffusion theory of innovation and the theory of acceptance with attributes of Rogers (1995). The complexity feature states how difficult it is for the recipient of innovation to feel that innovation is incomprehensible or difficult to implement, the acceptance will be less. The social media application has features which are not complicated such as having a clear function, easy-to-understand process, and easy-to-remember. Therefore, the complexity has resulted in the increasing adoption of social media application among the elderly (Vosner et al., 2015).

The results of the analysis revealed that the aspect of trialability did not affect the adoption of social media for online purchasing. It is inconsistent with the research hypothesis. The absence of testability factors did not affect the adoption of social media for online purchasing among elderly people. This may be due to limitations in learning and use of the elderly in terms of physical readiness. In addition, according to the theory of diffusion of innovation (Roger, 1983), the use of the elderly cannot belong to the Pioneer group, which is a front-line group that accepts and uses new innovations before others. The more innovation results can be seen, the more innovations are accepted. This may be due to the elderly's learning and use limitations on physical readiness, as well as trialability factors, consequently, the results of using the social media for online purchasing are not completed (Li & Luximon, 2018; Tulanon, 2019).

Recommendations and Future Work

Recommendations obtained from applying the research results, the research results were found that the comparative advantage and compatibility affects the acceptance of the social media for online purchasing among Thai elderly. Therefore, businesses that are involved in the development of social media applications should be developed the applications which are more aware of the needs and usage conditions of the elderly. In addition, functionality that is difficult to use should be improved to provide procedures and methods of use that are easier and in accordance with the ability to use among the elderly, such as fixing errors in case of misuse and application settings, etc. Moreover, relevant government agencies can use the research findings as a guideline to develop and encourage the elderly to use social media more correct such as developing learning materials about the using of each social media application for online purchasing for elderly people.

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