

A STUDY OF FACTORS AFFECTING SOCIAL NETWORK USED IN THAILAND

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ABSTRACT

Social Network Service (SNS) is popular in Thailand now [25]. Many people have at least one account with Facebook, Twitter or others. People use social network for many reasons such as finding old friends, advertisement. This means that social network is used for both personal and business purposes. Even many people in Thailand use social network services, some of them still don't use any social network services provided. It is interesting to study the factors that affect the use of social network in Thailand, since the characteristics of Thai people are difference from other countries. Technology Acceptance Model is used to examine the effect of characteristics of Thai people on actual use of social networks. The characteristics of Thai people are considered based on Maslow's hierarchical Theory of Motivation in 3 concepts which are belongingness and love needs, esteem needs and self-actualization needs. Some researchers found that encouragement has been an effect on good performance. It supports to be a good support of real usage of social network, so it is worth to consider the effect of encouragement on actual usage of social network services. The questionnaires were sent out to collect data from residence of Bangkok and vicinity. As the result, all three needs have effect on perceived ease of use, perceived usefulness and perceived encouragement. Both perceived ease of use and perceived encouragement have effect on perceived usefulness. Finally, perceived ease of use, perceived usefulness, and perceived encouragement have effect on actual usage.

Keywords: Social network service, Technology Acceptance Model (TAM), Social identity, Altruism, Perceived Encouragement

INTRODUCTION

At present, the number of internet users in Thailand is increasing. In the past, Internet was available only for scholars and researchers, but now it has been widely used. Increasing internet usage creates groups of users, who have common interests and want to exchange information about their interesting topics. Social Network is now used widely to support this internet requirement. ComScore announced that many people have decided to register as a member of some social networks significantly [13]. However, there might be other reasons besides connecting people who have the same interest together. It is interest to study the factors that have effect on using social network services.

The Technology Acceptance Model (TAM) has been used in this study. This model considers relationships among task,

human, and actual use in term of perceived ease of use and perceived usefulness. These two variables have effect on user's usage [14]. Perceived usefulness is a belief that the target information technology or information systems will help the user in performing his or her task. Perceived ease of use is a belief that it would be easy to acquire the knowledge for using the information technology or information systems [2] [39]. Also in TAM, these are some factors affecting the level of perceived ease of use and perceived usefulness. Many studies found that human characteristics and social factors have influence on these two constructs [28] [31] [35] [36]. This paper has focused on human characteristics affecting on social network service used. Three dimensions, which are social identity, altruism and telepresence have been considered. Moreover, in TAM, some external variables can be moderator of perceived construct [15]. Perceived encouragement has been considered as this moderator. To do any activities, people require a level of encouragement which might be happen based on human behavior and background. The research framework of this study is in Figure 1.

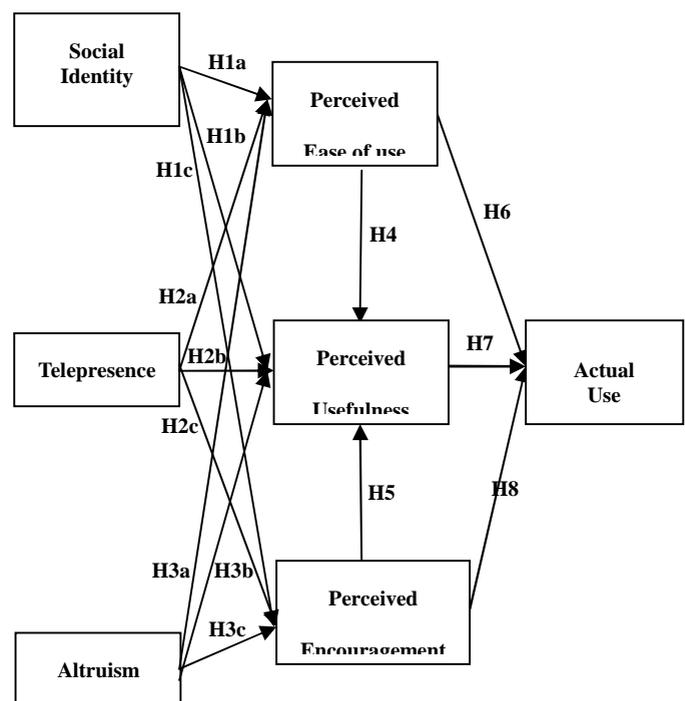


Figure 1: Proposed Research Framework

As stated in Kwon and Wen (2010), a social network is

defined as a set of social entities that include people and organizations that are connected by a set off socially meaningful relationships and who interact with each other in sharing the value. It adds more relationship services, which are more complex and in different types, than social network services in the past provide [18] [23] [27]. Social network services now mainly are based on web-based services. It allows people to connect for sharing information, building and exploring the relationships [26]. Maslow's theory stated 5 human needs. The use of social network services can be fulfilled some of these basic needs. Some example are to maintain contact with friends and family [8] [22] to meet new people [8], to blog and to share content and media [38] or to create virtual groups with others, who have similar interests [28] found that interpersonal relationship has been an important factor for explaining the usage of social network services. These examples are located in the level 3 of Maslow's needs, stated love and belonging.

HYPOTHESES

These are many researchers defined social identity [21] [33] [37]. They can be concluded that social identity means the individual's position in a certain social group. Researchers found that social identity has had an influence on self-esteem establishment [7] [9] [17]. It means that human have to maintain and improve their self-image [16]. Also, Terry et al., 1997 found that social identity has had a significant impact on attitude. Song and Kim, 2006 stated that social identity has had an effect on usage of technology or systems in virtual community services. To maintain social identity, people have to create and maintain relationships with each other. Communication is needed to manage relationships. Social network as one of collaborative systems has a potential useful tool to maintain social identity. This draws an idea that social identity would have an effect on perceived usefulness [12]. To make social network services to collaborate with group members, perceived ease of use should be affected by social identity, same as perceived encouragement [30]. For these reasons, the following hypotheses are created.

H1a. Social identity will have an effect on perceived ease of use of a social network service.

H1b. Social identity will have an effect on perceived usefulness of a social network service.

H1c. Social identity will have an effect on perceived encouragement of a social network service.

Rachlin, 2002 mentioned that altruism is one of factors explaining human characteristic. Altruism is the willingness of helping others or doing good with or without return expectation [5]. Considering contents in social network, some of them are related to altruism. It leads to the assumptions that altruism relates to perceived ease of use, perceived usefulness and perceived encouragement [6]. In addition, the higher altruism is, the higher level of responsibility is [10]. It reflects the level 4 of Maslow's hierarchy of needs, stated esteem.

H2a. Altruism will have an effect on perceived ease of use of a social network service.

H2b. Altruism will have an effect on perceived usefulness of a social network service.

H2c. Altruism will have an effect on perceived encouragement of a social network service.

There are many researchers explained about telepresence [20] [24] [32]. They defined telepresence as a sort of feeling that a user is present in a virtual environment. To have telepresence, user interface has a significant influence [29]. Social network services have several functions, which use virtual reality to meet user requirements [29]. Information is more accessible when presented in the virtual environment than when it was presented in physical environment [19] [23]. For these evidences, it could be assume that telepresence has an effect on perceived ease of use, perceived usefulness, and also perceived encouragement. The following hypotheses are developed.

H3a. Telepresence will have an effect on perceived ease of use of a social network service.

H3b. Telepresence will have an effect on perceived usefulness of a social network service.

H3c. Telepresence will have an effect on perceived encouragement of a social network service.

To complete TAM model, the following hypotheses are also developed.

H4. Perceived ease of use will have an effect on perceived usefulness of a social network service.

H6. Perceived ease of use will have an effect on actual use of a social network service.

H7. Perceived usefulness will have an effect on actual use of a social network service.

Perceived encouragement was introduced in Compo's experiment, stated in Compos et al., 1929. He found that performance can be increased by encouragement, especially verbal encouragement. Many researchers also studied about this relationship and found significant evidence [5] [11]. It is interesting to consider the effect of perceived encouragement on perceived usefulness and actual use, so the hypotheses are developed.

H5. Perceived encouragement will have an effect on perceived usefulness of a social network service.

H8. Perceived encouragement will have an effect on actual use of a social network service.

RESEARCH METHODS

Data collection

A questionnaire was developed for collecting the data. The population sample was residents in Bangkok and vicinity, who used social network services. The convenience sampling

technique was used to collect the data. 400 questionnaires were received and only 384 questionnaires are usable.

The sample consisted of 46.61% male and 53.39% female participants ranging in age from fifteen to mid-fifties. The majority were in age of 20-29, 15-19 and 30-39 (35.94%, 26.82% and 20.05% respectively). Moreover, most of the respondents had heavily used social network service measured by hours used per week. 35.68% respondents have use more than 20 hours per week and 14.32% have use 16-20 hours per week. Hence, the sample seems to be a good representative of population for analyzing the factors affecting the actual use of social network services.

Table 1: Sample statistics (Gender)

Sample	Gender	Numbers	Percentage
Gender	Male	179	46.61
	Female	205	53.39
	Total	384	100

Table 2: Sample statistics (Age)

Age	Numbers	Percentage
< 15	33	8.59
15-19	103	26.82
20-29	138	35.94
30-39	77	20.05
40-49	24	6.25
> 50	9	2.34
Total	384	100

Table 3: Sample statistics (Hours used per week)

Hours used per week	Numbers	Percentage
< 5	38	9.90
6-10	55	14.32
11-15	13	3.39
16 -20	141	36.72
> 20	137	35.68
Total	384	100

Questionnaire development

Measurements for perceived ease of use, perceived usefulness, and actual use were adapted to fit the social network services context from Thong et al., 2002. The measurement for social identity was adopted from Song and Sim, 2006. For altruism, the measurement was adopted from Bal-tal and Raviv, 1979. The measurement for telepresence was adapted from Kim and

Biocca, 2004. The questions for measuring perceived encouragement were adopted from Campos et al., 1929.

Table 4: Summarize of Model Constructs

Construct Name	Number of Indicators
Social Identity	3
Altruism	3
Telepresence	4
Perceived ease of use	3
Perceived usefulness	4
Perceived encouragement	4
Actual use	3

All items were measured using 5 Likert scale, where 1 was strongly disagreed and 5 was strongly agreed. The questionnaire was test for validity and reliability by researchers and experts in ICT area. The pilot test was also done before collecting the data. Cronbach's alpha for overall questionnaire is 0.86, which is acceptable [1]. The average scores from questions in the same item are calculated for representing the score of that item.

Table 5: Reliability Statistics

Cronbach's Alpha	Number of Indicators
0.86	24

DATA ANALYSIS

All data were coded in SPSS version 17 editor. The series of multiple linear models were developed.

Table 6: The multiple linear regression model with perceived ease of use as dependent variable.

Factor	Coefficient	Hypothesis supported
Constant	-5.299	
Altruism	2.153	H2a
Telepresence	2.147	H3a
Altruism x Telepresence	-0.515	

Table 6 shows the result of factors affecting on perceived ease of use at significant level $\alpha = 0.05$ with adjust $R^2 = 0.204$. The result means that both altruism and telepresence have an effect on perceived ease of used. People used social network to show their good willing to other people because it has user interface that is easy to use and response to use requirement. However, social identity has no effect on perceived ease of use.

Table 7: The multiple linear regression model with perceived usefulness as dependent variable

Factor	Coefficient	Hypothesis supported
Constant	-12.789	
Social Identity	1.027	H1b
Altruism	5.470	H2b

Telepresence	1.867	H3b
Telepresence x Altruism	-0.821	
Social Identity x Altruism	-0.630	
Social Identity x Telepresence	0.442	

Table 7 shows the result of factors affecting on perceived usefulness at significant level $\alpha=0.05$ with adjust $R^2 = 0.524$. The result means that all social identity, altruism, and telepresence have an effect on perceived usefulness. It shows that all of them are considered at the same time when people feel usefulness of social networks.

Table 8: The multiple linear regression model with perceived encouragement as dependent variable

Factor	Coefficient	Hypothesis supported
Constant	-3.851	
Altruism	1.713	H2c
Telepresence	1.668	H3c
Altruism x Telepresence	-0.395	

Table 8 shows the result of factors affecting on perceived encouragement at significant level $\alpha=0.05$ with adjust $R^2 = 0.289$. The result means that both altruism and telepresence have an effect on perceived encouragement. People use social network to show their care to other people because of its functions [26].

Table 9: The multiple linear regression model with perceived usefulness as dependent variable.

Factor	Coefficient	Hypothesis supported
Constant	-1.184	
Perceived ease of use	1.085	H4
Perceived encouragement	1.256	H5
Perceived ease of use x Perceived encouragement	-0.227	

Table 9 shows the result of factors affecting on perceived usefulness at significant level $\alpha=0.05$ with adjust $R^2 = 0.436$. The result means that to get perceived usefulness people has perceived ease of use and perceived encouragement together. People have to know that social network service is easy to use and he/she has others to encourage him/her for using social network.

Table 10: The multiple linear regression model with actual use as dependent variable

Factor	Coefficient	Hypothesis supported
Constant	2.863	

Perceived ease of use	-0.858	H6
Perceived usefulness	-0.850	H7
Perceived encouragement	-0.419	H8
Perceived ease of use x Perceived usefulness	0.441	
Perceived ease of use x Perceived encouragement	0.383	
Perceived ease usefulness x Perceived encouragement	0.360	
Perceived ease of use x Perceived usefulness x Perceived encouragement	0.154	

Table 10 shows the result of factors affecting on actual use at significant level $\alpha=0.05$ with adjust $R^2 = 0.308$. The result means that all perceived ease of use, perceived usefulness, and perceived encouragement have effect on actual use as TAM model stated.

Table 11: Summarize of Hypothesis

Construct	Hypothesis
H1a. Social identity will have an effect on perceived ease of use of a social network service.	Rejected
H1b. Social identity will have an effect on perceived usefulness of a social network service.	Supported
H1c. Social identity will have an effect on perceived encouragement of a social network service.	Rejected
H2a. Altruism will have an effect on perceived ease of use of a social network service.	Supported
H2b. Altruism will have an effect on perceived usefulness of a social network service.	Supported
H2c. Altruism will have an effect on perceived encouragement of a social network service.	Supported
H3a. Telepresence will have an effect on perceived ease of use of a social network service.	Supported
H3b. Telepresence will have an effect on perceived usefulness of a social network service.	Supported
H3c. Telepresence will have an effect on perceived encouragement of a social network service.	Supported
H4. Perceived ease of use will have	Supported

an effect on perceived usefulness of a social network service.	
H5. Perceived encouragement will have an effect on perceived usefulness of a social network service.	Supported
H6. Perceived ease of use will have an effect on actual use of a social network service.	Supported
H7. Perceived usefulness will have an effect on actual use of a social network service.	Supported
H8. Perceived encouragement will have an effect on actual use of a social network service.	Supported

DISCUSSION

Considering the values of adjusted R^2 in all multiple linear regression models, there have to be other human characteristics that can affect perceived ease of use, perceived usefulness, and perceived encouragement. People may use social network service as one of presenting channel for presenting their products and services or for broadcasting information. This is the features to do advertising to perspective customers [34].

Moreover, the result shows that at present social network services support the third level of human needs. It is interesting to bring the second level of human needs, security, to study its affect on the use of social network services. This will guide the social network service developers to add more features about personal security requirement in social network services.

CONCLUSION

This empirical study found that all social identity, altruism, and telepresence have effect on social network services usage. This result from this study can be shown in the research framework as follow.

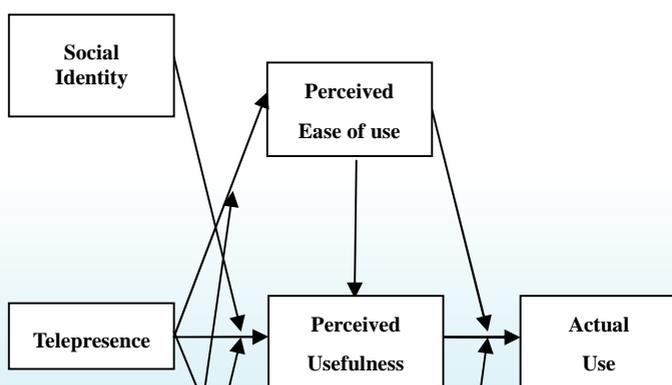


Figure 2: The results of the research model

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APPENDIX: QUESTION ITEMS USED IN THIS STUDY.

Perceived usefulness (PU)

- PU1: Using the SNS enables me acquire more information or meet more people
- PU2: Using the SNS would improve my efficiency in sharing information and connecting with others
- PU3: The SNS is a useful service for communication
- PU4: The SNS is a useful service for interaction of members

Perceived ease of use (PEoU)

- PEoU1: Learning to use the SNS is easy for me
- PEoU2: The process of using the SNS is clear and understandable
- PEoU3: I find the SNS easy to use

Perceived encouragement (PE)

- PE1: People whom I meet in the SNS tend to give me affirmative evaluation
- PE2: People whom I meet in the SNS tend to be satisfied with me
- PE3: People whom I meet in the SNS give me great encouragement
- PE4: People whom I meet in the SNS tend to be aware of my existence

Actual use (AU)

- AU1: I tend to use the SNS frequently
- AU2: I spend a lot of time on SNS
- AU3: I exerted myself to SNS

Social identity (SI)

- SI1: As a member of the community, my position is very important to me

SI2: As a member of the community, I am the type of person who likes to engage in my community

SI3: Activities in my community are the important part in my life

Altruism (ALT)

ALT1: I tend to encourage people who are in a real crisis or need

ALT2: I usually help them the solution when people ask me the solution

ALT3: I give congratulation when people tell me good news

Telepresence (TELE)

TELE1: When the SNS ends, I felt like I actually met other people

TELE2: I felt that the SNS creates a new world

TELE3: While engaged with the SNS, I felt I was in a different society

TELE4: While engaged with the SNS, the SNS world was more real or present to me compared to the "real world"

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