

An Exploratory Study of Behavior-Based Segmentation Typology of Facebook Users in Thailand

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Abstract

The purpose of this research is to demonstrate the importance behaviors as well as demographics in developing an effective consumer behavior segmentation strategy of Facebook users in Thailand. The questionnaire which comprised a twenty nine items intended user-behaviors scale. The data was collected from 503 potential respondents with valid responses received. There were 173 males respondents (34.4%) and 330 females (65.6%). The majority of the respondents were 21 years old (n=142, 28.2%). Data were initially analysed by factor analysis to develop the type of user-behaviors solution. The results indicated five distinct types of Facebook user-behaviors: Update and share, Shopping and learning, Prefer uncomplicated, Sociable, and Fast distribution. The relationship between behavior types and demographic variables was investigated through ANOVA. The results revealed that gender had no impact for all types. As for age, there was significant difference for “shopping and learning” type. The author interpreted to mean that younger people using Facebook for more shopping and learning than the other age group. These five distinct types were validated by examining their individual behavior type regarding frequency of access to Facebook and network size, there were significant differences for all of the types. The author interpreted that frequency of log in Facebook, and a large number of network size can drive Facebook usage. The empirical findings of this research indicated that 29.8% of Thai teenagers visit Facebook 2-3 times per day and 21.5% visit to Facebook more than 16 times per day. The result also indicated that the majority of the young (54.5%) have more than 181 friends on Facebook.

Keywords: social media, behavior, teenage, user, motivation, driven

1. Introduction

Facebook have become widespread to the extent that a large group of the population uses them both connect with others and as a primary source of news and information. Facebook is a stage where people interact with each other, create their own content, and share information, ideas, experiences. Furthermore, friends and followers can add comments, criticisms, and arguments as they consider that appropriate. Teenagers realize themselves with the new trends, ecumenical cultures, new research and current affairs which sharpen their skills and enhance their knowledge. Facebook usage has made them socially incorporated and converted them into inclusive citizen. They created their own blogs, share their ideas on explicit topics. They are in fact the product of internet age which is being brought up with the high speed of internet. Some of them use Facebook just for sending message, chat, discussion and some use it for recreation. Nowadays, electronic gadgets such as smart phones, tablets and notebooks are not expensive and accessible by the general public. With the 3G service introduced in Thailand in mid-2013 the number of internet users is still increasing consistently. Statistical information about Facebook in Thailand from www.zocialrank.com showed that Thailand has 26 million subscribers and ranking the third in ASEAN. The majority of Facebook users as people age 13 – 34 years (www.checkFacebook.com). Over the 12 year period from 2001 to 2013, there was an increase of internet hour usage per week by 76.3% where 9% of the users use as high as 105 hours/week and the top three popular social network channels in Thailand are Facebook, Google+ and Line (ETDA., 2013). The current teenagers have grown up with internet. They have high rate access. The facility of Facebook has opened new channels of contact. Regardless of Facebook usage rapid growth and current popularity in Thailand, there is very little academic research on why Thai teenage prefer using Facebook. Besides, while it appears that a growing number of people in Thailand use social network sites and especially Facebook has become one of the most prominent and popular tool for social networking, there has been little research on how and why Thai teenage engage in Facebook.

Therefore the main aim of this research is to investigate the Facebook usage behaviors of Thai teenage, and also to examine for which attribute of Facebook was the most important that influence Thai teenage for using Facebook in Thailand and understanding the demographic and usage variables interaction affected toward all that attributes.

2. Literature Review

Table 1. Facebook user-behavior

Item	Behavior Statement
1	I use FB to be updated on the events of my previous school and former classmates
2	I use FB to join groups to communicate about common interests.
3	I use FB to share information and resource with friends.
4	I use FB to communicate with colleague for working.
5	I follow photos, videos, events, etc.
6	I use FB to locate friends I haven't been in touch with for a while.
7	I use FB for following friend movement.
8	I use FB to work as a team with the other members of the group I joined.
9	I use FB for create group to share information with others that have the same interests.
10	I communicate and share information with people around me via FB.
11	FB allows me to have more control over my relationship.
12	I use FB for shopping support.
13	I use FB for accumulate knowledge.
14	I use FB for meeting new friends.
15	I use FB for get interesting information via FB friends
16	I procrastinate via FB
17	FB makes it easier to establish and maintain personal relationships.
18	I use FB as a resource to increase work performance.
19	I use FB for relieve boredom.
20	FB is easily self-learning.
21	FB is easy components using.
22	FB is easily apply for a member.
23	The communication between me and FB is clearly and easily understood.
24	I am more interested in FB because of friends.
25	I use FB because my friends recommended.
26	I use FB mostly to fit in since many people I know use it.
27	I use FB because many people I know expect me to use it.
28	FB allows me to communicate with more people in a short time period.
29	FB allows me to share more in a short time period.

More recently there has been an increasing research interested in behavior and impact of Facebook. The purpose of using the social network was examined by many previous researches. People used the social network for their benefits, which were the reasons that motivate them to activate the websites. Usage of social network was a form of benefit found in many previous studies. Gross & Acquisti (2005) found that teenagers visit websites for meeting others and explored identity formation. Many academics research on Facebook has focused on identity awarding and privacy concerns. When considering the information Facebook users offer about themselves, the

fairly open character of the information, and the be deficient in privacy controls enact by the users, Gross & Acquisti argued that user may be put themselves at danger both offline and online. Understanding Facebook users attracts researchers from multiple perspectives such as Hewitt & Forte (2006), Mazer, Murphy, & Simonds (2007) observed student perception of coach presence and self-disclosure, Golder, Wilkinson, & Huberman (2007) studied about temporal patterns of use. Lampe, Ellison, & Steinfield (2007) studied the relationship between side view structure and friendship expression. Facebook is a proper means to keep contact with friends, nevertheless, huge amount of time is wasted at the same time. It might be dangerous when personal information is being shared. For younger users, Facebook is used as conversation and house-communication channel to update the information. Usage of social network was a form of educational tools found in many previous studies (Kabilan, Ahmad, & Abidin, 2010; Lockyer & Paterson, 2008; Mazman & Usuel, 2010; Roblyer et al., 2010). Accordingly, research on Facebook usage by college students has significantly increased during the last year. A large number of studies concluded that undergraduates generally consider Facebook as a social tool that can ultimately help them transition into college life (Greenhow, Robelia, & Hughes, 2009; Madge et al., 2009; Selwyn, 2009). Furthermore, many researchers have been conducted to examine patterns of college students' use of Facebook. These focused on a variety of academic interests including Facebook usage profile (Dba & Karl, 2008) and also time spent of Facebook (Ellison, Steinfield, & Lampe, 2007; Pempek, Yevdokiya, & Calvert, 2009; Vasalou, Joinson, & Courvoisier, 2010), purpose of Facebook usage (Cheung, Chiu, & Lee, 2010; Lewis & West, 2009; Roblyer, Mcdaniel, Webb, Herman, & Witty, 2010; Vasalou, Joinson, & Courvoisier, 2010), effects of Facebook use on learning performance (Sanchez-Franco, Villarejo-Ramos, & Martin-Velicia, 2011), effects of Facebook use on college adjustment (DeAndrea, Ellison, LaRose, Steinfield, & Fiore, 2012) and also self-esteem, social and emotional adjustment (Kalpidou, Dan Costin, & Morris, 2011) effects of Facebook use on sociability and social capital (Ellison, Steinfield, & Lampe, 2007; Keenan & Shiri, 2009). Akyıldız and Argan, 2012 found that purpose of Facebook usage related to social and daily activities rather than educational purpose. They explained that having fun, contacting friends and following news on Facebook come to the fore as Facebook usage purposes. From the literature review synthesis in qualitative method, there were twenty nine purposes outstanding why people use Facebook from the list were selected and used for the questionnaires in the next stage. Table 1 presents the most purpose of using facebook from documentary. Then, list of purpose were used for the questionnaire which comprised a twenty nine items intended behavior scale.

3. Methodology

3.1 Research Design

The qualitative and quantitative methods were used for the study. Qualitative method helped to identify possible using Facebook behaviors among users. The results from the literature review synthesis in qualitative method then were used for the questionnaire design for the next stage. The purpose of this research is to demonstrate the importance of user-behavior based on prior literature, the research model framework as Figure 1. as well as examine the interaction affect of demographic and usage variables toward all those user-behaviors.

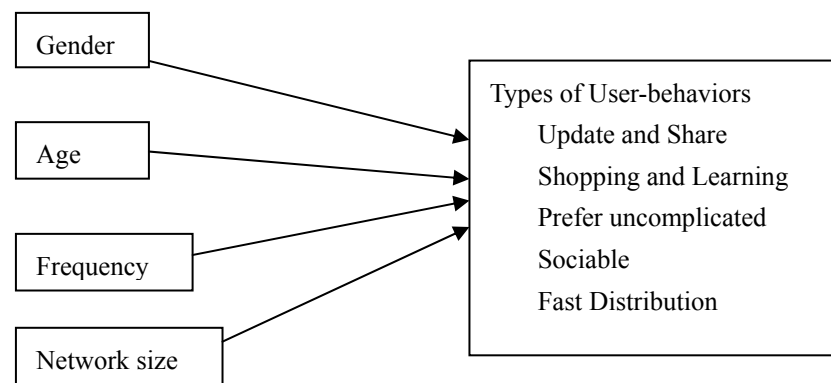


Figure 1. Research framework

This study examined with two primary research questions. The following questions were studied:

1. How many typologies of Facebook user-behaviors in Thailand?
2. Do demographic and usage activities (frequency, and network size) affect toward all those types of behaviors?

The following hypotheses were framed: The types of Facebook usage varies in terms of gender, age, frequency, and network size. There are a significant difference by gender, age, frequency, and network size for these types of behaviors. Of course, it is important to realize that correlation does not indicate cause and effect.

3.2 Participants and Sampling Procedures

Respondents of this study are Thai people age 13 – 22 years who have Facebook using experience. The survey was collected from young people who working and studying in Bangkok. A total of 503 questionnaires were distributed. There were 173 males respondents (34.4%) and 330 females (65.6%). The majority of the respondents were 21 years old (n=142, 28.2%). Table 2. summarized the demographic data and Facebook usage descriptive variables of respondents.

Table 2. Respondents' demographics and Facebook usage (N= 503)

Item	Frequency	Percent	
Gender	male	173	34.4
	female	330	65.6
Age	13	4	.8
	14	9	1.8
	15	13	2.6
	16	13	2.6
	17	12	2.4
	18	34	6.8
	19	54	10.7
	20	99	19.7
	21	142	28.2
	22	123	24.5
Frequency of visits on Facebook	1-2 times a week	19	3.8
	3-5 times a week	50	9.9
	once a day	43	8.5
	2-5 times a day	150	29.8
	6-10 times a day	71	14.1
	11-15 times a day	62	12.3
	more than 16 times a day	108	21.5
Network size (Number of friends)	1-30 friends	11	2.2
	31-60 friends	25	5.0
	61-90 friends	78	15.5
	91-120 friends	41	8.2
	121-150 friends	18	3.6
	151-180 friends	56	11.1
	more than 181 friends	274	54.5
Total	503	100.0	

3.3 Scale Measurement

The questionnaire consisted of two sections. The first part involved basic demographic and background data on the respondents. The second part comprised a twenty nine items intended Facebook user-behavior scale. All items were measured by using a 7-point Likert scale with anchors from "Strongly disagree" to "Strongly agree."

Cronbach's alpha for testing reliability and consistency of the measurements was 0.94 for all items, suggesting that the measurements for the survey were reliable. All indicators conform to the standard. It appears that the questionnaire has fairly standard convergent validity. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for this analysis was 0.935 which is above the minimum required value of 0.6 (Malhotra, 2005). The Bartlett's test of Sphericity significance value is .000 which is less than 0.05 (required condition), indicated that there was non-zero correlations. Thus, the measurements met the requirement for the factor analysis.

4. Data Analysis and Findings

Factor analysis (using principal component and varimax rotation analysis) was used to identify the important user-behavior. Data was collected from a sample of 503 respondents who rated their agreement/disagreement with the 29 stated variables in the questionnaire was subject to Factor analysis. Out of the 29 items used in the analysis, one was dropped as it had a small extraction value. The component with eigenvalue greater than 1 and a loading of 0.5 and above were then rotated using varimax rotation with Kaiser normalization. Factor analysis with varimax rotation was tested. The cut-off point .40 was used to detect the items for each factor (Hair et al., 1998). A total 29 items from the factor analysis resulted in five user-behavior groupings with the eigenvalue more than 1 and explained 63.368% of total variance (Table 3). The first behavior explained 19.808% of entire variance, the second behavior contributed 15.254% of the total variance, the third behavior contributed 11.359% of the total variance, the fourth behavior contributed 8.972% of the total variance, and the fifth behavior contributed 7.795% of the total variance.

Table 3. Results of the extraction of common factors

Facebook user-behaviors	Factor loading	Communalities	Eigen-values	Cronbach alpha	Percent of Variance	Mean	Std.
Pattern 1 : Update and share			5.744	.9214	19.808	5.21	1.07
1. I use FB to be updated on the events of my previous school and former classmates.	.742	0.641					
2. I use FB to join groups to communicate about common interests.	.735	0.685					
3. I use FB to share information and resource with friends.	.713	0.675					
4. I use FB to communicate with colleague for working.	.700	0.592					
5. I follow photos, videos, events, etc.	.662	0.651					
6. I use FB to locate friends I haven't been in touch with for a while.	.645	0.575					
7. I use FB for following friend movement.	.638	0.633					
8. I use FB to work as a team with the other members of the group I joined.	.610	0.577					
9. I use FB for create group to share information with others that have the same interests.	.568	0.567					
10. I communicate and share information with people around me via FB.	.455	0.579					
Pattern 2 : Shopping and learning			4.424	.8843	15.254	4.69	1.15
1. FB allows me to have more control over my relationship.	.739	0.694					
2. I use FB for shopping support.	.727	0.703					
3. I use FB for accumulate knowledge.	.715	0.587					
4. I use FB for meeting new friends.	.664	0.612					
5. I use FB for get interesting information via FB	.630	0.655					

friends							
6. I procrastinate via FB	.625	0.514					
7. FB makes it easier to establish and maintain personal relationships.	.608	0.674					
8. I use FB as a resource to increase work performance.	.555	0.665					
9. I use FB for relieve boredom.	.431	0.549					
Pattern 3 : Prefer uncomplicated			3.346	.8569	11.539	5.24	1.12
1. FB is easily self-learning.	.811	0.759					
2. FB is easy components using.	.775	0.755					
3. FB is easily apply for a member.	.673	0.640					
4. The communication between me and FB is clearly and easily understood.	.651	0.637					
Pattern 4 : Sociable			2.602	.6603	8.972	5.00	1.30
1. I am more interested in FB because of friends.	.684	0.671					
2. I use FB because my friends recommended.	.671	0.579					
3. I use FB mostly to fit in since many people I know use it.	.586	0.577					
4. I use FB because many people I know expect me to use it.	.520	0.321					
Pattern 5 : Fast distribution			2.261	.8778	7.795	5.09	1.23
1. FB allows me to communicate with more people in a short time period.	.851	0.787					
2. FB allows me to share more in a short time period.	.841	0.823					

4.1 Interpretation and Naming the User-Behaviors

The names of the user-behaviors were labeled after considering the items for each component. The five distinct groups of user-behaviors were named as update and share, shopping and learning, prefer prefer uncomplicated, sociable, and fast distribution. The first behavior, update and share, consisted of 10 items with eigenvalue 5.744, which accounted for 19.808% of variance. The second behavior, shopping and learning, was loaded with 9 items with eigenvalue 4.424, which accounted for 15.254% of total variance. The third behavior, prefer uncomplicated, consisted of 4 items with eigenvalue 3.346 (11.539% of variance). The fourth attribute, sociable included 4 items with eigenvalue 2.602 (8.972% of total variance). The fifth behavior, fast distribution included 2 items with eigenvalue 2.261 (7.795 % of variance). Considering the eigenvalue, the results indicated that update and share is the most important behavior of Thai teenage users. Table 3 (Appendix) summarized all the results.

4.2 MANOVA Result

MANOVA was performed whether the demographic (gender, age) and Facebook usage variables (frequency of visits on Facebook, network size) interaction affected toward all the behaviors. The results showed statistical significance for all the tests, Pillai's Trace (.025, Sig.= .719), Wilks' Lambda (.975, Sig.= .719), Hotelling's Trace (.025, Sig.= .720), and Roy's Largest Root (.020, Sig.= .336) with the p-value more than .05. The findings suggested that in general gender, age, frequency of visits on Facebook, and network size was judged to be nonsignificant at the .05 alpha level. There were no interaction affected toward social relations, recreation and hold relationship, ease of use, sociable, and fast distribution.

4.3 ANOVA Result

To test the hypotheses, ANOVA was run to assessed demographics (gender, age) and usage activities (frequency, and network size) differentiate the Facebook user-behaviors as shown in Table 4. For gender, the result showed that there were no significant differences for the behaviors. The gender variable had no impact for all the

behaviors. As for age, there was significant difference only “shopping and learning”. This interpreted to mean that younger people age 13-17 years group received mean values >5 points, were assessed using FB for more shopping and learning than the other group, age 18-22 years received mean values <4.8 points for this result as shown in Table 5. As for both frequency and network size, there were significant differences for all of those types of behaviors. Table 6 to Table 15 showed comparison of all behaviors on frequency and network size.

Table 4. Differentiations of user-behaviors according to demographics and usage

User-behaviors	Gender		Age		Frequency		Network Size	
	F	Sig.	F	Sig.	F	Sig.	F	Sig.
1. Update and share	.053	.818	.383	.943	10.678	.000**	13.198	.000**
2. Shopping and learning	2.470	.117	2.614	.006**	7.342	.000**	4.627	.000**
3. Prefer uncomplicated	.047	.828	.260	.985	8.114	.000**	10.049	.000**
4. Sociable	.045	.832	1.102	.360	5.042	.000**	5.081	.000**
5. Fast distribution	.850	.357	1.742	.077	4.378	.000**	14.101	.000**

*Significant at $p < .05$ ** Significant at $p < 0.01$

Table 5. Comparison of shopping and learning according to age

User-behavior	Age	N	Mean	Std. Deviation
Shopping and learning	13	4	5.4472	1.04031
	14	9	5.0704	1.18651
	15	13	5.2239	.89841
	16	13	5.6615	.87896
	17	12	5.2296	1.02970
	18	34	4.7124	1.26251
	19	54	4.8728	1.08504
	20	99	4.5780	1.14338
	21	142	4.5419	1.18931
	22	123	4.5904	1.11140
	Total	503	4.6875	1.15428

Note: measurement scale with anchors from 1=Strongly disagree to 7=Strongly agree

Table 6. Comparison of update and share according to frequency

User-behavior	Frequency	N	Mean	Std. Deviation
Update and share	1-2 times a week	19	4.6684	1.18980
	3-5 times a week	50	4.4920	1.26537
	once a day	43	5.3930	1.03127
	2-5 times a day	150	5.0027	1.02962
	6-10 times a day	71	5.4592	.88165
	11-15 times a day	62	5.7677	.65356
	more than 16 times a day	108	5.3713	1.06736
	Total	503	5.2105	1.06994

Table 7. Comparison of shopping and learning according to frequency

User-behavior	Frequency	N	Mean	Std. Deviation
Shopping and Learning	1-2 times a week	19	4.1953	1.11458
	3-5 times a week	50	4.2229	1.14704
	once a day	43	4.7243	1.39368
	2-5 times a day	150	4.4167	1.10449
	6-10 times a day	71	4.7886	1.03279
	11-15 times a day	62	5.2403	.92897
	more than 16 times a day	108	4.9670	1.13071
	Total	503	4.6875	1.15428

Table 8. Comparison of prefer uncomplicated according to frequency

User-behavior	Frequency	N	Mean	Std. Deviation
Prefer uncomplicated	1-2 times a week	19	4.3026	1.29791
	3-5 times a week	50	4.7600	1.16820
	once a day	43	5.4244	1.08498
	2-5 times a day	150	5.0100	1.18005
	6-10 times a day	71	5.5634	.89014
	11-15 times a day	62	5.5363	.97389
	more than 16 times a day	108	5.4792	1.01284
	Total	503	5.2376	1.12369

Table 9. Comparison of sociable according to frequency

User-behavior	Frequency	N	Mean	Std. Deviation
Sociable	1-2 times a week	19	4.5263	1.16933
	3-5 times a week	50	4.4550	1.29726
	once a day	43	4.9826	1.34673
	2-5 times a day	150	4.8117	1.52961
	6-10 times a day	71	5.1831	1.04877
	11-15 times a day	62	5.5323	.89681
	more than 16 times a day	108	5.2106	1.17666
	Total	503	5.0070	1.30523

Table 10. Comparison of fast distribution according to frequency

User-behavior	Frequency	N	Mean	Std. Deviation
Fast distribution	1-2 times a week	19	4.6842	1.21576
	3-5 times a week	50	4.4100	1.08651
	once a day	43	5.1047	1.36084
	2-5 times a day	150	5.0267	1.17551
	6-10 times a day	71	5.4155	1.01061
	11-15 times a day	62	5.2097	1.12187
	more than 16 times a day	108	5.2639	1.40503
	Total	503	5.0875	1.23539

Table 11. Comparison of update and share according to network size

User-behavior	Network Size	N	Mean	Std. Deviation
Update and share	1-30 friends	11	4.4909	1.05495
	31-60 friends	25	4.4240	1.27419
	61-90 friends	78	4.4974	1.24159
	91-120 friends	41	5.4000	.90360
	121-150 friends	18	5.2722	1.06870
	151-180 friends	56	5.4500	.87698
	more than 181 friends	274	5.4328	.92262
	Total	503	5.2105	1.06994

Table 12. Comparison of shopping and learning according to network size

User-behavior	Network Size	N	Mean	Std. Deviation
Shopping and Learning	1-30 friends	11	4.1404	1.03953
	31-60 friends	25	4.2867	1.10048
	61-90 friends	78	4.4829	1.13522
	91-120 friends	41	5.3577	1.08326
	121-150 friends	18	4.9025	1.08360
	151-180 friends	56	4.9784	1.31304
	more than 181 friends	274	4.6305	1.10371
	Total	503	4.6875	1.15428

Table 13. Comparison of prefer uncomplicated according to network size

User-behavior	Network Size	N	Mean	Std. Deviation
Prefer uncomplicated	1-30 friends	11	5.0227	1.19087
	31-60 friends	25	4.2800	1.25690
	61-90 friends	78	4.6154	1.32820
	91-120 friends	41	5.3720	1.03851
	121-150 friends	18	5.2917	.85427
	151-180 friends	56	5.4018	.90664
	more than 181 friends	274	5.4535	1.00633
	Total	503	5.2376	1.12369

Table 14. Comparison of sociable according to network size

User-behavior	Network Size	N	Mean	Std. Deviation
Sociable	1-30 friends	11	4.7727	1.46822
	31-60 friends	25	4.4400	1.26919
	61-90 friends	78	4.5224	1.29509
	91-120 friends	41	5.6768	2.06779
	121-150 friends	18	5.2917	1.12867
	151-180 friends	56	5.2098	1.01329
	more than 181 friends	274	5.0456	1.15973
	1-30 friends	11	4.7727	1.46822

Table 15. Comparison of fast distribution according to network size

User-behavior	Network Size	N	Mean	Std. Deviation
Fast distribution	1-30 friends	11	4.5909	1.15798
	31-60 friends	25	4.0600	.98234
	61-90 friends	78	4.3526	1.04791
	91-120 friends	41	5.0366	1.00865
	121-150 friends	18	4.9167	1.00367
	151-180 friends	56	4.9286	.95550
	more than 181 friends	274	5.4617	1.24822
	Total	503	5.0875	1.23539

Note: measurement scale with anchors from 1=Strongly disagree to 7=Strongly agree

5. Discussion and Conclusion

Social networks sites are currently used by highly heterogeneous people with different ages, education levels, gender, social status, language and culture who participate and incorporate social networks into their daily lives (Mazman & Usluel, 2010). The empirical findings of this research indicate that 29.8% of Thai teenage visit Facebook 2-3 times in a day and 21.5% visit Facebook more than 16 times in a day. The result also indicate that the majority of the young (54.5%) have more than 181 friends on Facebook. As a result of factor analysis method, the Facebook user-behaviors was explained by five patterns: update and share, shopping and learning, prefer uncomplicated, sociable, and fast distribution. Considering the eigenvalue, the results indicate that update and share behavior is the most important among all of the behaviors (Cheung, Chiu, & Lee, 2010; Lewis & West, 2009; Roblyer, McDaniel, Webb, Herman, & Witty, 2010; Vasalou, Joinson, & Courvoisier, 2010). Next influential behavior were shopping and learning, prefer uncomplicated, sociable, and fast distribution, respectively. The results showed that the younger used Facebook not only social purposes but also for recreation as suggested by Akyildiz and Argan (2012) and Lampe, Ellison, & Steinfield (2007). MANOVA results showed that there were no interaction affected of demographic and usage variables toward all behaviors. ANOVA results revealed that gender variable had no impact for all behaviors. As for age variable, there was significant difference for "shopping and learning". Younger people were assessed using Facebook for more shopping and learning than the other groups. As for both frequency and network size, there were significant differences for all of the behaviors. It can be concluded that frequency of log in Facebook, and a large number of network size can drive Facebook usage in Thailand.

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