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Identifying the effects of behavior of mobile banking applications on customers: Comparative study between baby boomers, generation X and generation Y

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ABSTRACT

As the world has gone globalized with new technologies, we are witnessing the technological revolution in almost every sector and banking sector is no exception. Today, technology plays a vital role in banking industry by providing the secure environment for customers' transactions. This comparative study aims to identify influential factors on Mobile Banking users by observing attitudes and concerns of Baby Boomers, Generation X and Y in Bangkok Parameter as well as exploring demographic factors, and factors affecting users' confidence using Mobile Banking to handle daily financial transactions. The computerized program was used to further analyze the data collected from 400 research participants. In this research, Descriptive Statistics Mean and Percentage as well as Correlation Analysis were employed.

The findings from questionnaire samples comprised 134 Baby Boomers, 133 Generation X and 133 Generation Y. The results revealed that majority of samples were females, graduated from Upper-secondary level and lower than Bachelor Degree, mostly earned less than 15,000 baht monthly income, married and preferred services at Kasikorn Bank. As for attitude towards the use of Mobile Banking, the comparative findings were as follows: 1) A comparison of attitudes towards confidence in using mobile banking services among the largest groups in each area found that Generation Y was the most confident group to use for convenience and speed, and able to use 24 hours a day. Transfers between accounts: Generation Y. Payment on goods, utilities: Generation Y. Payments for the cost of food / hotel costs: Generation Y. And using many functionalities on mobile: Generation Y. 2) A comparison of the most concerned factor in using Mobile Banking replacing the cash. The

strongest level of confidence (not worrying) was Generation Y. If bank may not be responsible for any damage that may occur: Generation Y. The criminals to use: Generation Y. The system and the service were not precise: Generation Y. The security of Login to system: Generation Y. 3) A comparison of the confidence in using financial services through the Bank's Mobile Banking showed that the Generation Y ranked the highest followed by Generation X and Generation B respectively. 4) The study showed that individual factors of generation Y, X and B had relationship towards confidence in the use of mobile banking services. There were two main factors that affected the attitude: Convenience and Speed, 24 hours availability and can be paid for Food / hotel expenses. There were 4 concerns about the use of the service: security in using their online accounts. The bank's liability when damage occurred. The data muggers. And the security of Login.

Keywords: *Mobile Banking, Generation B, Generation X และ Generation Y*

1. Introduction

Gen-Y or Millennials, who were born between 1980 and 1997, grew up in the midst of change and had different values from their grandparents and their parents. However, they took the advancement of technology and the Internet into the living. Children in this age are well educated and have a habit of expression. There is a high self-confidence, do not like being forced. They like to consume and update news through a variety of channels, independent thinking, dare to ask question and things which they are interested. They are very international. Look at the popular culture of foreign artists.

Gen-X or may be referred to as "Yuppie", which stands for Young Urban Professionals. A group of this generation was born during the year 1965-1979, or because they were born in the era when the world was rich. So live comfortably. Growing up with the development of video games, computers, hip hop music style and may watch the black and white TV. Nowadays people in the Gen-X are working people. They are 39 years olds, and the behavior of this group is very distinctive. They focus on work-life balance, have ideas and work in all know-how. They do everything alone as their own and have a wide open minded creativity

Gen-B or Baby Boomers refer to a group of people born between 1946-1964, the era of the end of World War II, the country had been heavily damaged. The remaining people in

each country must accelerate the restoration of the country back to strength. People in boomers are people who are 54 years old and older and they start to be old age. This group is a living person to work, respect rules, and have a high tolerance, dedicated to work and organization, hard workers. They try to think and do as yourself, as a boss, and be taught by the family to be economical, to spend it carefully, and be cautious.

Mobile Banking and Internet Banking are financial transactions through the Internet on your smartphone or PC computer. All financial transactions made through Mobile Banking are accurate and the same as transactions through ATMs and counters nationwide. Account balance inquiry. View transaction history. Watch the past services offered by the Bank such as: Money Transfer / Purchase Products and services. We can send SMS to transfer money to recipients and save the record free of charge (mobile ATM). Other transactions can be the extra functions which facilitate users from the different banks. When technology is involved in the development of various areas. The bank is not limited to traditional services. The bank has changed its functions according to technology. And the services of the bank in the future with the innovation on the mobile are more active.

2. Research Objectives

2.1 To compare attitudes and concerns regarding the use of mobile banking services among Generation Y, X and B in Bangkok.

2.2 To study the individual factors of generations and the relationship affecting the confidence in the use of mobile banking services.

3. Purposes of the study

3.1 To identify attitudes and concerns regarding the use of mobile banking services among Generation Y, X and B in Bangkok.

3.2 To identify the individual factors of generations and the relationship affecting the confidence in the use of mobile banking services among Generation Y, X and B in Bangkok.

3.3 To establish information to improve financial services via Mobile Banking of commercial banks in Thailand that have different relationship of confidence among different group of generations.

4. Research Methodology

This type of research. Quantitative research

4.1 Population and sample

The population is the customers of banks.

The sample was a group of customers who used banking services in Bangkok area. The researcher did not know the true number of the population. Therefore, the researcher used the method of calculating the sample size using the W.G. Cochran formula. The researcher defined the proportion of the population by 50%. The sample size was not less than 385. The sample size was 400 samples.

4.2 Sampling method

The number and exact list of the population can not be determined.

Researchers have chosen to use non-probability sampling. The researcher used a quota sampling technique from the customers of Generation Y, X and B groups, divided into three groups. The sample size was 133 samples. The total number of questionnaires was 400 samples, which was higher than the minimum sample size calculated from W.G. Cochran formula. The information was collected from questionnaire from the Bank of Thailand during December 2017 to January 2018.

5. Data Collection

The tool used to collect data was Questionnaire for the mobile banking customer. It has been developed to cover the objectives of the research. The details are as follows:

Part 1 : Demographics and Behavioral Sciences. It is a closed-ended form.

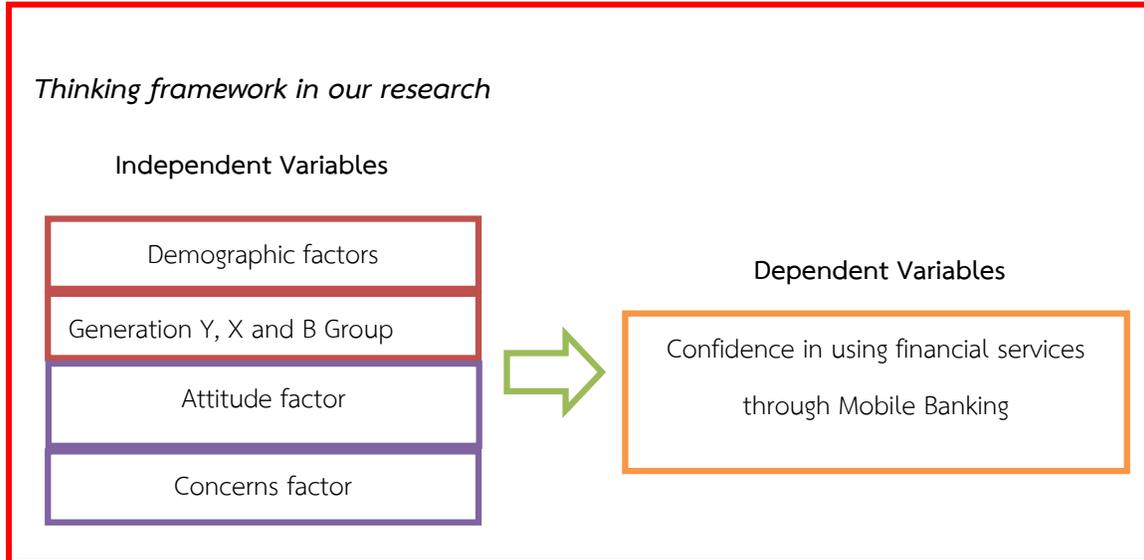
Part 2 : Attitude Scale for Mobile Banking: Attitude Scale

Part 3 : Facts about using Mobile Banking instead of cash. Question style is Attitude Scale.

Part 4 : Information about the confidence in using financial services via the Bank's Mobile Banking. The question is Attitude Scale.

6. Data Analysis

Data were analyzed using statistical program application. The statistics used to analyze data from the questionnaire were frequency, percentage, mean, standard deviation, minimum, maximum, and correlation, using statistics regression analysis.



7. Result and Discussion

Part 1 Demographic factors

Table 1 Number and Percentage of Demographics using Mobile Banking Services of Generation Y, X, and B. Subjects in Bangkok Metropolitan Area

Demographic information	Number	Percent
1. Gender		
Male	152	38.0
Female	248	62.0
Total	400	100
2. Status		
single	153	38.3
Married	192	48.00
Widow / Divorced	55	13.8
Total	400	100

Demographic information		Number	Percent
3. Age			
Gen Y	20-25 years	120	30.0
	26-31 years	8	2.0
	32-37 years	6	1.5
Gen X	38-43 years	61	15.3
	44-49 years	54	13.5
	50-52 years	18	4.5
Gen B	53-58 years	56	14.0
	59-63 years	55	13.8
	64-71 years	22	5.5
Total		400	100
4. Education			
	Undergrad Degree	206	51.5
	Bachelor degree	167	41.8
	Postgraduate	27	6.8
Total		400	100
5. Occupation			
	Business Owners	49	12.3
	Pensioner	22	5.5
	Private employee	75	18.8
	Housekeeper	33	8.3
	freelance	70	17.5
	Do not work	151	37.8
Total		400	100
6. Average income per month			
	Less than 15,000 Baht	181	45.3
	000,15 – 000,25 Baht	131	32.8
	000,25 – 000,35 Baht	45	.113
	000,35 – 000,45 Baht	20	5.0
	More than 45,000 Baht	21	5.3
	Missing	2	0.5
Total		400	100
Using Services Behavior information		Number	Percentage

7 . Using the Bank's Mobile Banking service

Never use Mobile Banking	150	37.5
Kasikornthai Bank	157	39.3
SCB	54	13.5
Bangkok Bank	12	3.0
Krungsri Bank	2	0.5
Krung Thai	17	4.3
Other banks	8	2.0
Total	400	100

8. Number of times using Mobile Banking per month

never use Mobile Banking	150	37.5
Less than 3 times	26	6.5
3-5 times	90	22.5
more than 5 times	134	33.5
Total	400	100

Table 1: Demographic and Behavioral Interpretation of Mobile Banking. Subjects are Generation Y, X and B in Bangkok Metropolitan area using distribution number and percentage number of 400 persons classified by variables as follows

1. Gender: users of Mobile Banking of Generation Y, X and B group in Bangkok. Most of them were female. 248 persons in sample were 62.0 percent and 152 were male. Percentage of male was 38.0.

2. The marital status of the mobile banking services users of the Generation Y, X and B group in Bangkok. Most of them had a married couple (number 192), accounted for 48.0 percent, followed by a single status number of 153 persons, representing percentage of 38.30. Divorced/Widowed were 55 people accounted for percentage of 13.8, respectively.

3. Age group of people using the Mobile Banking services of the Generation Y, X and B group in Bangkok metropolitan area were mostly aged 20-25 years, 120 persons with the percentage of 30.00. Then followed by 38-43 years old, there were 61 persons with percentage of 15.3. Next was the age of 53-58 years with 56 persons, percentage of 14.0. Age of 59-63 years, consisted of 55 people, with percentage of 13.8. 44-49 years with number of 54 people with percentage of 13.5. Age 64-71, with 22 persons, with percentage of 5.5. Age

50-52, with 18 persons, accounted for 4.5 percent. Age 26-31 with 8 persons, percentage of 2.0 and the last group was 32-37 years old, with 6 people, with percentage of 1.5.

4. Education. The sample of Mobile Banking of Generation Y, X and B in Bangkok. 206 students had undergraduate degree, representing the percentage of 51.5, followed by 167 persons who had the Bachelor's degree with the percentage 41.8 and 27 graduates with percentage 6.8 respectively.

5. Career. The sample of Mobile Banking of Generation Y, X and B in Bangkok. Most of them were not professionals, 151 people with the percentage of 37.8. Secondly, 75 private employees accounted for Percentage of 18.8. Next, 70 independent occupations accounted for 17.5 percent. Next, 49 business owners accounted for Percentage of 12.3. Next, the number of housekeepers was 33, representing percentage of 8.3. And finally 22 pensioners with the percentage of 5.5, respectively.

6. Income of mobile banking services users of Generation Y, X and B people in Bangkok.

Most of them earned less than 15,000 baht. The number of 181 people accounted for the percentage of 45.3. Secondly, 131 people with an income of 15,000-25,000 baht which accounted for the percentage of 32.8. Next, 45 people with an income of 25,000 - 35,000 baht, which accounted for the percentage of 11.3. Next the number of 21 people with an income of more than 45,000 baht accounted for 5.3 percent and finally, the number of 20 people with an income of 35,000-45,000 Baht accounted for 5.0 percent.

7. The sample banks using the mobile banking services of the Generation Y, X and B group in Bangkok. Most of them used the KBank service with the number of 157 people, which was the Percentage of 39.3. Subsequently, Siam Commercial Bank with the number of 54 people represented the percentage of 13.5. Next, Krung Thai Bank with the number of 17 people representing percentage of 4.3. Next, the Bangkok Bank with the number of 12 people accounted for 12 percent. Next, the other 8 banks accounted for 8 percent. The Krungsri Bank with the number of 2 people, accounting for the percentage of 0.5, respectively.

8. Number of times using Mobile Banking per month for Generation Y, X and B in Bangkok. The number of 134 Mobile Banking users used more than 5 times which accounted for 33.5 percent. Secondly, the number of people was 90 with the percentage of 22.5. And

the last group with 26 people used less than 3 times, accounted for 6.5 percent, respectively.

Part 2: Comparison of Attitude towards Mobile Banking

Interpretation of Mobile Banking usage data on each aspect of Mobile Banking usage by using the criteria for analysis and interpretation of data as follows:

The average of 4.21 - 5.00 means the confidence in the highest level of service quality.

An average of 3.41 - 4.20 indicates a high level of confidence in service quality.

An average of 2.61 - 3.40 means that the confidence in the level of service quality is moderate.

Average of 1.81 - 2.60 means less confidence in service quality.

The mean of 1.00 - 1.80 means the confidence in the lowest level of service quality.

Table 2 Average and Standard Deviation Attitudes of Mobile Banking Users of Generation Y, X and B in Bangkok

Attitude to Mobile Banking	Generation Y			Generation X			Generation B		
	Average Mean	Standard Deviation	Level	Average Mean	Standard Deviation	Level	Average Mean	Standard Deviation	Level
1. Convenience and speed are available 24 hours.	4.32	1.174	The Most	2.70	2.164	Moderate	1.12	1.891	Lowest
2. Transfer between accounts	4.07	1.264	High	2.62	2.080	Moderate	1.11	1.865	Lowest
3. Payment of goods and utility	3.87	1.314	High	2.52	1.991	Low	1.05	1.733	Lowest
4. Payment (Food / hotel)	.325	1.329	Moderate	2.38	1.995	Low	0.92	1.615	Lowest
5. Multi-functions to use.	.363	1.193	High	2.47	2.025	Low	1.10	1.862	Lowest

Note: This research uses 5-point scale, with scores of 1 = lowest score and 5 = highest score.

Table 2 Analysis and interpretation of data on attitude comparison in mobile banking behavior of Generation Y, X and B population in Bangkok The confidence in the level of service quality of the bank.

1. In terms of convenience and speed for 24 hours, Generation Y was believed to be the most mobile banking operator with average score of 4.32, followed by Generation X with average mean of 2.70

2. For the transfer of money between accounts, Generation Y had the highest confidence in using Mobile Banking, with average mean of 4.07, followed by Generation X with average mean of 2.62.

3. Payment for goods. Utilities. It was found that Generation Y had the highest confidence in using Mobile Banking. Average mean was 3.87, followed by Generation X with average mean of 2.52.

4. Payments. The cost of food / hotel expenses were found to be the highest in Mobile Banking Group, with average mean of 3.25, followed by Generation X with average mean of 2.38

5. In terms of functionality, Generation Y had the highest confidence in Mobile Banking, with 3.63 average mean, followed by Generation X with average mean of 2.47.

Part 3 Comparison of Concerns Factor for using Mobile Banking, to replace Cash

Interpretation of Mobile Banking data on each aspect of mobile banking concerns was based on the criteria used to analyze and interpret the data are as follows:

Average Mean 4.21 - 5.00 means the confidence in the highest level of service quality.

Average Mean 3.41 - 4.20 indicates a high level of confidence in service quality.

Average Mean 2.61 - 3.40 means the confidence in the moderate level of service quality.

Average Mean 1.81 - 2.60 means less confidence in service quality.

Average Mean 1.00 - 1.80 means less confidence in the quality of service.

Table 3 Average Mean and Standard Deviation. The most concerned factors in using Mobile Banking of Generation Y, X and B in Bangkok.

Factors which users concern about using Mobile Banking	Generation Y			Generation X			Generation B		
	Average Mean	Standard Deviation	Level	Average Mean	Standard Deviation	Level	Average Mean	Standard Deviation	Level
1. Security in your account	.381	1.147	Most	2.31	1.872	Low	1.09	1.823	Lowest
2. Bank may not be responsible for any damages	3.34	1.337	Moderate	2.35	1.935	Low	1.07	1.793	Lowest
3. Scammers use your account	2.64	1.437	Moderate	2.33	1.957	Low	1.18	1.946	Lowest
4. The system and service is not accurate.	2.60	1.361	Low	2.19	1.859	Low	1.13	1.901	Lowest
5. safety of Login in the system	3.80	1.279	High	2.38	1.980	Low	1.18	1.957	Lowest

Note: This research used 5-point scale, with score 1 = lowest score and 5 = highest score.

Table 3 Analysis and interpretation of the comparison of the most concerned factors in using Mobile Banking in cash generation of Generation Y, X and B people in Bangkok.

The confidence in the level of service quality of the bank.

1. On account security, Generation Y had confidence in mobile banking, with average mean of 3.81, followed by Generation X with average mean of 2.31.

2. Generation Y had the most confidence in mobile banking, with average mean of 3.34, followed by Generation X with average mean of 2.35.

3. For example, Generation Y had confidence in mobile banking, with average mean of 2.64, followed by Generation X with average mean of 2.33.

4. Generation Y had the most confidence in mobile banking, with average mean of 2.60, followed by Generation X with average mean of 2.19.

5. Security As for Login Generation, Generation Y had the most confidence in mobile banking, with average mean of 3.80, followed by Generation X with Average Mean of 2.38.

Part 4 Comparison of Confidence in using the Bank's Mobile Banking service

Table 4 Average Mean and Standard Deviation of Confidence in Using Mobile Banking Services of Generation Y, X and B in Bangkok Metropolitan Area.

Confidence in using Mobile Banking	Generation Y			Generation X			Generation B		
	Average Mean	Standard deviation	Level	Average Mean	Standard deviation	Level	Average Mean	Standard deviation	Level
Confidence in the use of financial services via mobile banking of the most frequently used banks.	4.13	1.116	high	2.53	2.010	low	1.05	1.804	lowest

Note: This research uses 5-point scale, with score 1 = lowest score and 5 = highest score

Table 4 Analysis and interpretation of the comparison of financial data using Mobile Banking by Generation Y, X and B in Bangkok towards the confidence in the level of service quality of the bank.

The most frequent use of banking services by mobile banking was found by Generation Y, with the mean of 4.13, followed by Generation X with 2.53.

Part 5 Individual Factors Affecting the Relationships of the Confidence Using Mobile Banking.

Table 5 shows relationships of individual factors among generations affecting the confidence in using mobile banking services.

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	167.040 ^a	10	0.000
Likelihood Ratio	189.046	10	0.000
Linear-by-Linear Association	143.955	1	0.000
N of Valid Cases	400		

a. 6 cells (33.3%) have expected count less than 5. The minimum expected count is .67.

From Table 5, shows the value of relation of individual factors affecting the confidence of using mobile banking services among Generations. It is found that:

The individual factors of Generation Y, X and B related to the confidence of using financial services via mobile banking, which Assumption Sig. = 0.000 < significant at 0.05.

8. Conclusion

The participants in this study comprised 134 Generation Y. and 133 Generation X. The research found the majority of Generation Y participants were female more than male. The marital status of the participants were married and the second most were single. Most of the participants were during the age of 20-25 and followed by 38-43. The education level of participants were primarily below bachelor's degree while bachelor's degree graduates were found as secondary. The most popular careers were private employee and freelancer respectively. The monthly income of the participants were chiefly below 15,000 baht, however the participants that earned during the range of 15,000-25,000 were commonly found. Kasikornthai Bank was the most chosen mobile banking service provider, followed by Siam Commercial Bank. The amount of use per month was frequently more than 5 times, and 3-5 times a month respectively.

Comparisons in the use of mobile banking services 1) a comparison of attitude towards the confidence in utilizing mobile banking among generations, the results showed that Generation Y had the most confidence to use the service due to its portability,

availability and speed. Generation Y had the highest confidence to use the service to transfer money between accounts. In terms of payment for goods and utilities, Generation Y was found to have the highest confidence. Generation Y had the most confidence to use the service for expenses (food/hotel). The use of mobile banking in terms of variety of functionality, Generation Y was found to have the highest confidence. 2) A comparison of concerned factors in the use of mobile banking service in place of cash found generation Y had the highest confidence (least concerned) in account security, risk of none possible loss/damage assurance, data mugging, system malfunctioning and login security. 3) A comparison of confidence in the use of mobile banking via service providers found that generation Y had the highest confidence, and generation X and B respectively. 4) The study showed that individual factors of generation Y, X and B had relationship towards confidence in the use of mobile banking services.

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