

## The Effect of Satisfaction with E-banking Service on Customer Loyalty in Battambang Province, Cambodia

Leap Heng Pheap<sup>1\*</sup>, Chonnatcha Kungwansupaphan<sup>2</sup> and Ubonwan Suwannaput<sup>3</sup>

<sup>1\*,2,3</sup>Faculty of Social Science Management, Surindra Rajabhat University

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### Abstract

The study of e-banking service in Battambang province aimed: 1) to study the level of customer satisfaction with the e-banking service 2) to study the level of the customer loyalty to e-banking service 3) to determine the effect of customer satisfaction with e-banking service on customer loyalty. Six factors of satisfaction with e-banking service including accessibility, convenience, security, design, speed, and fee charge were proposed to investigate the effect of customer satisfaction with e-banking on customer loyalty. The rating scale questionnaires having the reliability value at 0.947 were used to collect the data from the sample, 400 bank customers in Battambang province. Customers, who experience in using the online financial services, was randomly selected to survey. The data was analyzed by using percentage, mean, standard deviation, and multiple regression. According to the data analysis, found that the overall customer satisfaction and loyalty to e-banking in Battambang province were at the high level. The result of study on the effect of satisfaction with e-banking service on customer loyalty found that only four determinants of e-banking service were statistically significant at 0.05 including fee charge, speed, design, and accessibility respectively, whereas convenience and security were not statistically significant.

**Keywords:** 1) Customer satisfaction 2) Customer loyalty 3) E-banking service 4) Cambodia

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<sup>1\*</sup> Master student, Department of Business Administration; E-mail: leapheng.phe@srru.ac.th

<sup>2</sup> Assistant Professor, Lecturer, Department of Business Administration

<sup>3</sup> Assistant Professor, Lecturer, Department of Business Administration



## Introduction

Electronic banking services (e-banking) allow customers to access the online financial services on mobile phone and ATM with an internet connection, and it is fast, secure, and convenient to manage cash from wherever customers are (Beers, 2019). The advancement of new technology provides a great benefit for the future development of banking service (Fonchamnyo, 2013). The competition and use of new technology significantly increased over the time, conventional banking services were developed in to the e-banking with new technology to increase the competitive advantages, cost reducing, database enlargement, and financial service improvement to fulfill customer demand and generate customer satisfaction (Balogun, Ajiboye and Dunsin, 2013).

In Cambodia, banking and finance institutions noticeably increased for over last few years and expanded its branches at everywhere including commercial banks, specialized banks, microfinance institutions (MFIs), and microfinance deposit taking institutions (MDIs) (National Bank of Cambodia, 2018). In this present, the competitive environment of banking and finance sector is very high, the online customers may be hard to attract and retain them for a long time since there are so many online financial service providers, so customers can easily switch the providers whenever they want if they are not satisfied (Kiragu, 2017). In general, when e-banking services are not updated enough, compared to the other competitors, the bank will face the problem of being threatened to lose the customers. The

study of customer satisfaction is very important to have a long term success, and customer satisfaction is a powerful driving force toward success (Liébana, et al., 2013). For financial institutions, it is very necessary to know the effective ways to attract new customers and retain the existed customers. According to Ling, et al. (2016), to meet the needs of the online customers for the e-banking services, all financial institutions need to focus on the quality of e-banking and how to improve its quality in order to keep a high level of satisfaction for customers (Al-Hawary and Hussien, 2016).

Since e-banking services are the important services to get more competitive advantages, all financial institutions need to have a proper implementation and the knowledge relating to service quality of e-banking. Therefore, identifying the significant determinants of satisfaction with e-banking service on customer loyalty is an important topic due to fast growth and high competition in this field. This research aims to study the effect of satisfaction with the e-banking service on customer loyalty in Battambang province, Cambodia.

## Literature Review

### 1. E-banking service

E-banking, also called as internet banking services that allow customers to access financial services via personal computers, mobile phone, and other electronic devices at any time from everywhere (Abdullah, et al., 2015). Dendup, Cooharojananone and Lipikorn (2013, p. 6) said that traditional banking services are developed into e-banking with the modern technology, which is widespread everywhere

to facilitate financial transactions in business over the world, and these e-banking services bring great benefits for both customers and banks. Banks shift toward e-banking through investment on technology in order to adopt e-banking service to gain the competitive advantages (Balogun, Ajiboye and Dunsin, 2013), reducing cost, service quality improvement, customer satisfaction which are able to attract more new customers and challenge with other competitors in the same sectors (Addai, et al., 2015).

## **2. Customer satisfaction**

Customer satisfaction, known as customer's appraisal of the products and services that refers to how much that product and service could satisfy as well as customer expectation (Alan, et al., 2012). In the world of every kind of business, the word "customer", considered as the heartbeat that sustains the business to be profitable, and the ability to satisfy the customer's expectation and needs can lead the business to have a big success and be able to challenge with the competitors (Chi and Gursoy, 2009). As Pizam, Shapoval and Ellis (2016, p. 1) said, customer satisfaction is a necessity for business survival. All companies must maintain customer satisfaction as excellent as the companies are possible to do in business performance in order to retain and attract more customers. As Mollah (2014) said, customer satisfaction is an important thing to drive the business toward success. Customers come back to use or recommend the products and services of the company to the other due to satisfaction. Based on previous research, there are six determinants of e-banking service

influencing on satisfaction.

### **2.1 Accessibility**

Accessibility, known as the process to obtain information from online service based on many factors such as content format, user's devices, software, internet connection, and environment condition (Ahmad and Al-Zu'bi, 2011). Web accessibility is in relation with the content, the way to enable users with disabilities to access the website, for instance, in order to make users with disabilities access to information or services online, web developers use a text as pictures in the content of the website through screen reader (Sani, et al., 2018). According to Fonchamnyo (2013), e-banking services are created to provide the online financial services which allow customers to use the available service from everywhere around the world (Al-Hawary and Hussien, 2016).

### **2.2. Convenience**

Convenience is the use of a system without difficulty or mental effort for users (Raida and Néji, 2013). As Al-Hawary and Hussien (2016, p. 54) explained, the most important factor, which has a positive influence on the use of e-banking, is the convenience of using the online services. When the system of online banking service could run as well, customers keep using that online services next time. If the online services look complexity for its functions that make customer hard to understand how to use it, customers will return to traditional services (Salhie, Abu-Doleh and Hijazi, 2011). convenience is the degree to which e-banking services are user-friendly for customers. When customers easily search and



navigate to any functions on ATM or mobile application, customers are satisfied (Ma and Zhao, 2012).

### 2.3 Security

Security, known as the degree to which customers believe their banking accounts are protected or safe from hack, unauthorized access to personal user's data (Dolatbadi and Pool, 2013). As Fonchamnyo (2013) explained, perceived security is customer's perception of personal information protection level against unauthorized intrusion, the situation that someone attempts to access user's information without official permission. Aslam, et al. (2011, p. 48) said that security of the e-banking with good functional performance, which the detail of customer's transactions is securely kept as financial records, could make customers satisfied. Security issue is widely considered as the most significant barrier for e-banking adoption.

### 2.4 Design

As Ganguly, et al. (2010) mentioned, the design has an effect on the use of the online service. As Ahmad and Al-Zu'bi (2011) explained, designing an aesthetical program for online financial service refers to the way to make an attractive program that looks interested and enjoyable, and it is considered as a goal of e-banking service design. Four important things should be set in the content preparation including knowledge elicitation, information organization and structure, information retrieval, and information presentation. Beside designing the content, one important thing should do is to ask users with different ages to trial those online services

in order to get feedback before the new services are used in public. Moreover, Ling, et al. (2016) demonstrated that the basic requirements of design what should focus on including screen layout, and clear graphic with vibrant colors. As Ma and Zhao (2012) explained, design is the significant possibility method of getting e-banking service toward success. The negative impression of e-banking service and customer dissatisfaction are the results of insufficiency of design.

### 2.5 Speed

Speed, known as the efficiency in terms that the customer's transactions are quickly complete (Hammoud, Bizri and El Baba, 2018). It is what customers are highly sensitive with the online services. Transaction speed refers to the response time, receiving much attention for e-banking services, is frequently talked as a factor of e-banking service influencing on customer satisfaction (Yoon, 2010). Ling, et al (2016) defined speed in the context of information technology as the time that e-banking system responses to the command of users, waiting for the transactions to be done or complete. Inefficient host server and high-resolution graphics could influence on the speed of the e-banking services. Ahmad and Al-Zu'bi (2011) indicated the issue of speed, for instance, a slow response after the command of the user through the e-banking services, and then the customer's transactions are delayed. This issue also makes the customers not sure whether their transactions are complete or not. When command of users and their transaction could be done in a short time, customers are satisfied with

the e-banking service. Therefore, it can be hypothesized that speed has a positive effect on customer satisfaction.

### **2.6 Fee charge**

Fee charge refers to the amount of money that customers have to pay for products and services to acquire the ownership or exchange. In the context of business, fee charge is observed that it has a close relationship with the quality. When the customers get the products and services as they expected, compared to fee charges or price, customers will be satisfied and reuse that product and service (Rahman, Khan and Haque, 2012). The e-banking with high quality at a lower price can enhance customer satisfaction, considered as a competitive advantage. E-banking services successfully cut down the operating costs that can help the bank offer customers the e-banking service at the lower price or free of charges for some transactions (Ahmad and Al-Zu'bi, 2011). Moreover, as stated by Awara and Anyadighibe (2014), fee charge is a major factor of the change to the other services with better fee charge, so increasing fee charge of banking services may have a negative effect on customers (Clemes, Gan and Zhang, 2010).

### **3. Customer loyalty**

Customer loyalty is a commitment that customers stick with a product, services, brand in a way that does not change to the others in the future. It is the relationship between customer and company that customers intently maintain a long relationship. In general, loyalty behavior of customers is showed by their future intention, repurchase

products and services (Flint, Blocker and Boutin Jr, 2011). Likewise, loyalty refers to a deeply held commitment that customers decide to repurchase in the future through buying a repetitive brand of the products and service even though marketing effort of the other companies and situational influences, the condition that can influence on the customer buying behavior, which they actually buy the products and services of the company (Ahmad and Al-Zu'bi, 2011). The relationship between customer satisfaction and loyalty, loyalty is affected by many factors. Customer satisfaction is the most important factor, which influences on customer loyalty in the most situation. In addition, to build customer loyalty, it's necessary for provider to focus on quality improvement and customer satisfaction. Treating customer as well as showing company caring, for instance, give thank you card and remember what the customers like by finding the way to make customers happy (Kumaradeepan and Pathmini, 2015).

### **4. The relationship between customer satisfaction and loyalty**

There are many concepts that explain the relationship between customer satisfaction and loyalty. As Al-Msallam (2015) explained, satisfaction with the product and service is the starting point toward loyalty that can generate the long term revenue (Dehghan, et al., 2014) for financial institutions (Shahin, Abandi and Javadi, 2011). In addition, the increase in customer satisfaction at a certain level could lead the financial institution to have an increase in the level of loyalty. Therefore, the change in the level of loyalty depends on

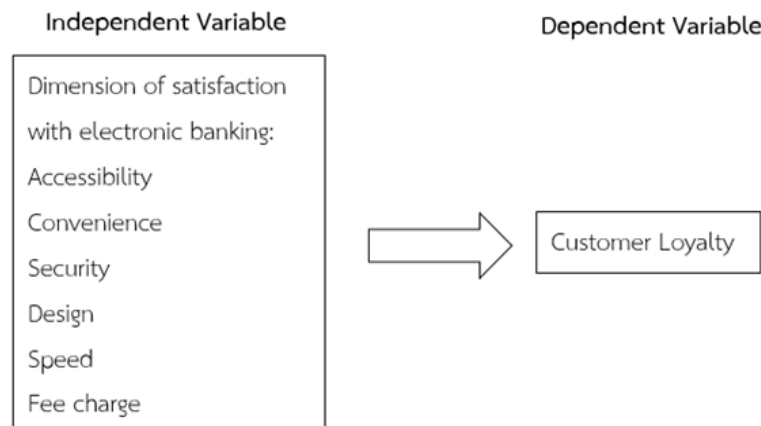


the level of satisfaction what all financial institutions need to pay attention to since the positive word of mouth is from the satisfied customers who generally engage the other people to purchase (Picón, Castro and Roldán, 2014). Customer satisfaction and customer loyalty are two different things that cannot substitute for each other (Jahanshahi, et al., 2011). To obtain loyal customers, it very necessary to focus on satisfaction as the basic requirement of customer loyalty. All Satisfied customers can become loyal customers due to the positive experience in using the product and service. On the other hand, the influence of the dissatisfaction with the product and service is a halt of purchase and those dissatisfied customers won't recommend their

members of family and friends to purchase the product and service next time. Because of the dissatisfaction with the product and service, some dissatisfied customers also make a complaint directly to that financial institutions, tell their experience of dissatisfaction to the other providers, and post it in the media channels. Customer satisfaction is essential to enhance and develop customer loyalty (Abu-Alhaija, Hussein and Allan, 2019).

### 5. Conceptual framework

In the conceptual framework of the research on the effect of satisfaction with electronic banking service on customer loyalty, there are six significant determinants of satisfaction with the electronic banking services as below:



### Methods

The study on the effect of satisfaction with e-banking service on customer loyalty was designed as a quantitative research as below:

#### 1. Population and sample

The population of this research is the customers using e-banking services of any banks in Battambang province. There are 13 commercial banks, 11 microfinance institutions, and 1 specialized bank. These financial

institutions are the financial intermediaries playing an important role to support the business activities in Battambang province (Council for the Development of Cambodia, 2012). Since the specific number of customers is unknown, the sample size needs to be calculated by using Cochran's formula. The sample size was 384, but the researcher collected the data from 400 customers in order to have the reliable information for data analysis.

## 2. Research instruments

After an intensive review of the literature, the concept and questionnaire of the previous research were adopted to develop and customize the questions for this research. The questionnaire was designed as a checking list of answer and rating scale answer (5-point Likert scale). The questionnaire was divided into four sections including demographic information, satisfaction with each determinant of e-banking service, customer loyalty, and suggestion and feedback for the future development of e-banking service. The questionnaires are brought to try out by collecting the data from 30 people, who are similar to the sample in order to find the reliability value ( $\alpha = 0.947$ ) by using the method of Cronbach's alpha coefficient.

## 3. Data collection

Collecting sample data are randomly selected from customers, who experience in using the financial services via electronic banking service of any commercial banks, are considered as a good representation of population. The online questionnaire was created by the researcher, and the QR code and link of the online questionnaire were sent to the bank customers for online survey. In the questionnaire, section 1, the respondents were asked about demographic information including gender, age, education level, occupation, and income range. Section 2 and 3, the respondents were asked to show the level of satisfaction and loyalty by using 5-point Likert-scale (1= very dissatisfied or strongly disagree to 5 = very satisfied or strongly agree). Section 4, the respondents were asked to give sugges-

tion and feedback for the future development of e-banking service.

## 4. Data analysis

Statistics including frequency and percentage were used to describe the general status of respondents (Boonprom, 2018), and descriptive statistics including mean (Siriratanawong, 2018) and standard deviation (Hongyont, 2019) were used to determine the level of customer satisfaction with e-banking service and customer loyalty. The study on the effect of satisfaction with e-banking service on customer loyalty was analyzed by multiple regression (Luangsudjaichun, 2016).

### 4.1 Interpretation

Mean values, obtained from customer perception of electronic banking services, were brought to compare with the criteria (Tippayapornkul, 2016) in order to measure the level of customer satisfaction as following:

Mean Score

4.21 – 5.00 = Very satisfied

3.41 – 4.20 = Satisfied

2.61 – 3.40 = Neutral

1.81 – 2.60 = Dissatisfied

1.00 - 1.80 = Very dissatisfied

The effect level of satisfaction with electronic banking service on customer loyalty was interpreted by the following criteria (Chaemchanchanok, 2011):

$R = 0.81 - 1.00$

mean very high level of effect

$R = 0.61 - 0.80$

mean high level of effect

$R = 0.41 - 0.60$

mean medium level of effect



$$R = 0.21 - 0.40$$

mean low level of effect

$$R = 0.01 - 0.20$$

mean very low level of effect

### 5. Hypothesis development

H<sub>1</sub>: Satisfaction with accessibility of the e-banking has a positive effect on customer loyalty

H<sub>2</sub>: Satisfaction with convenience of the e-banking has a positive effect on customer loyalty

H<sub>3</sub>: Satisfaction with security of the e-banking has a positive effect on customer loyalty

H<sub>4</sub>: Satisfaction with design of the e-banking has a positive effect on customer loyalty

H<sub>5</sub>: Satisfaction with speed of the e-banking has a positive effect on customer loyalty

H<sub>6</sub>: Satisfaction with speed of the e-banking has a positive effect on customer loyalty

### Results

In this research, the data was collected from 400 sets of questionnaire, and demographic information of the respondents divided into five types including gender, age, level of education, occupation, and income range was shown as frequency and percentage in the table below:

**Table No. 6** Show demographic information of all respondents as frequency and percentage by gender, age, level of education, occupation, and income range.

Demographic information	Frequency	Percentage
<b>Gender</b>		
Male	174	43.50%
Female	226	56.50%
<b>Age</b>		
Less than 25 years	208	52%
26-35 years	180	45%
36-45 years	11	2.80%
Above 45	1	0.30%
<b>Education level</b>		
Lower than high school	6	1.50%
Baccalaureate II (high school)	37	9.25%
Bachelor	328	82%
Master	27	6.75%
Above	2	0.50%



Demographic information	Frequency	Percentage
<b>Occupation</b>		
Student	103	25.75%
Private employee	190	47.50%
Government employee	66	16.50%
Business owner	31	7.75%
Unemployment	8	2%
Other	2	0.50%
<b>Income range</b>		
0\$	57	14.25%
\$1 - \$250	137	34.25%
\$251 - \$500	151	37.75%
\$501 - \$750	34	8.50%
\$751 - \$1000	9	2.25%
\$1001 and higher	12	3%

**Table No. 1** Mean ( $\bar{x}$ ) and standard deviation (S.D) of overall satisfaction with e-banking service in Battambang province.

Customer Satisfaction with	$\bar{x}$	S.D	Level
1. accessibility	3.92	0.59	Satisfied
2. Convenience	3.83	0.59	Satisfied
3. Security	3.88	0.63	Satisfied
4. Design	3.59	0.58	Satisfied
5. Speed	3.76	0.66	Satisfied
6. Fee charges	3.69	0.61	Satisfied
Total mean value	3.78	0.52	Satisfied

The result of the study on the level of overall customer satisfaction with e-banking service in Table No. 1 indicated that the overall customer satisfaction with e-banking in Battambang province was at the high level of satisfaction ( $\bar{x}$  = 3.78). The highest value of mean was accessibility ( $\bar{x}$  = 3.92), and this was followed by security ( $\bar{x}$  = 3.88), which was higher than the

four other determinants of e-banking including convenience ( $\bar{x}$  = 3.83), speed ( $\bar{x}$  = 3.76), fee charge ( $\bar{x}$  = 3.69), and design ( $\bar{x}$  = 3.59) respectively.



**Table No. 2** Mean ( $\bar{x}$ ) and standard deviation (S.D) of customer loyalty to e-banking service in Battambang province.

Customer loyalty	$\bar{x}$	S.D	Level
I will reuse the online financial services of the commercial bank, which I have always used next time.	3.74	0.70	Agree
I intentionally keep using the online financial services of the commercial bank, which I have always used.	3.58	0.79	Agree
I will recommend the best online financial service of the commercial bank, which I have always used to the others.	3.75	0.70	Agree
It is hard to change my trust in the financial services of the commercial bank, which I have always used to the other financial providers.	3.44	0.75	Agree
I will show the other how good the online financial services of the commercial, which I have always used and encourage them to use it.	3.62	0.76	Agree
Total mean value	3.62	0.57	Agree

As shown in Table No. 2, the result of the study on overall customer loyalty to e-banking service in Battambang province indicated that the overall customer loyalty was at the level of loyalty ( $\bar{x}=3.62$ ).

**Table No. 3** The overall effect of satisfaction with e-banking service on customer loyalty in Battambang province.

Customer satisfaction	$\beta$	SE <sub>b</sub>	t	P-value
Constant value	0.617	0.144	4.282	0.000
Accessibility	0.153	0.054	2.849	0.005*
Convenience	0.054	0.059	0.914	0.361
Security	0.042	0.056	0.752	0.453
Design	0.159	0.052	3.077	0.002*
Speed	0.191	0.050	3.812	0.000*
Fee charge	0.201	0.050	3.980	0.000*
R=0.740, R Square=0.547, Adjusted R Square=0.540, F=79.154, Sig=0.000				

**Note:** \*level of statistical significance at 0.05

The data from the respondents was used to determine the effect of satisfaction with electronic banking service on customer loyalty by Multiple Regression for data analysis, and enter method was used for variable

selection. All independent variables are entered in the equation at the same time. Overall, as it can be seen from the table 3, the significance value is less than 0.05 (P-value < 0.05) that shows there was a statistically

significant correlation between the independent variable and dependent variable. Only four determinants of e-banking service were statistically significant at 0.05 including fee charge, speed, design, and accessibility, respectively, whereas convenience and security were not statistically significant at 0.05. The value of multiple correlations (R)=0.740 and the value of variance in the dependent variable (R Square) = 0.547 were obtained by entering the independent variables into the equation of estimated regression. This equation can explain the effect of satisfaction with e-banking service on customer loyalty at only 54.70%, and the 45.30% remains are affected by the other factors, which were not taken to consider in this research. The result of multiple regression test indicated the considerable F-value of 79.154

that means the proposed model was fit in explicating customer loyalty to e-banking service. Based on the result of the multiple regression test, the equation of multiple regression for this research was formed as below:

$$Y = 0.617 + 0.201X_{FC} + 0.191X_{SP} + 0.159X_D + 0.153X_A$$

It can be described that if satisfaction with accessibility, design, speed, and fee charge has a unit change, it will make a change of overall customer loyalty by 0.201, 0.191, 0.159, and 0.153 unit respectively.

### Test of Hypothesis

Based on the result of testing hypothesis, the effect of satisfaction with electronic banking on customer loyalty can be hypothesized as the following table:

**Table No. 1** Testing Hypothesis

Satisfaction with	Hypothesis	Result of testing
	1. Accessibility	Accept
	2. Convenience	Reject
	3. Security	Reject
	4. Design	Accept
	5. Speed	Accept
	6. Fee charge	Accept

### Conclusion and Discussion

Based on the finding and the main objective of research, the effect of satisfaction with e-banking on customer loyalty in Battambang province was discussed as following:

1. The result of the level of customer satisfaction and loyalty to e-banking service in Battambang province was discussed as below:

According to the result from data analy-

sis, the overall satisfaction with e-banking in Battambang was at high level ( $\bar{x}$  =3.78). It can be concluded that e-banking services are high quality, so customers are satisfied.

Customer satisfaction with accessibility of e-banking in Battambang province has a high value of mean ( $\bar{x}$  =3.92) showed that e-banking channels enable general customers to widely access the online financial services from every-



where and at any time (Al-Hawary and Hussien, 2016). This is consistent with research on internet banking services, found accessibility has a positive effect on customer satisfaction (Ibok and Ikoh, 2011). Since e-banking service points through ATM machines are easy to find, and the programs and setting for services on ATM and mobile banking application are easy to access all financial services and financial information for both young and elderly customers, customers are satisfied with the e-banking in Battambang province.

Customer satisfaction with convenience in using e-banking service in Battambang province has a high value of mean ( $\bar{x}=3.83$ ) indicated the e-banking services provide a convenience in the financial transaction for customers. The programs and mobile application for online financial services have easy navigation and many different languages for general customers to select, and its procedure is easy to understand (Raida and Néji, 2013). This is consistent with the research on customer satisfaction with e-banking services (Abdullah, et al., 2015), found the convenience in using e-banking service was an important factor to enhance customer satisfaction, so all financial institutions need to try to innovate online financial services as modern and uncomplicated in order to remain satisfaction. E-banking services provide a convenience of online purchase and save much time for customers as compared to conventional e-banking services. Therefore, customers are satisfied with the e-banking service in Battambang province.

Customer satisfaction with the speed

of e-banking service in Battambang province has a high value of mean ( $\bar{x}=3.76$ ) indicated that the e-banking services have a fast speed of data loading, and all financial transactions are quickly completed and effective by the online banking system (Hammoud, Bizri and El Baba, 2018). The process of connection to the e-banking services through mobile phone is fast, and the navigation on the programs for services works smoothly. Customer satisfaction with the security of e-banking service has a high value of mean ( $\bar{x}=3.88$ ) indicated that e-banking service in Battambang province has strong security using to protect user data. Since all of the financial transactions are accurately recorded and safely kept in the database of the online banking system for customers, and their banking accounts are safe from online fraud and hack, customers are satisfied with the e-banking service in Battambang province (Tabari and Pamsari, 2016), and this is consistent with research on the antecedents of customer satisfaction with e-banking service in China (Yoon, 2010), revealed that speed and security were the significant determinants of e-banking influencing on customer satisfaction.

Customer satisfaction with design of e-banking service has a high value of mean ( $\bar{x}=3.59$ ) indicated that the e-banking services in Battambang province are attractive by its aesthetical design such as image, screen layout, clear graphic, color, and content preparation, positively influencing on customer satisfaction. This is also consistent with the study on the internet banking services influencing on customer satisfaction in Malacca (Ling, et al., 2016). Design of e-banking service

has a positive effect on customer satisfaction. Since the e-banking services look interested, it encourages customers to reuse the financial services through the e-banking channels such as mobile banking application or ATM. Mobile banking application and the programs on ATM machine with a nice design, having an uncomplicated function and a lot of useful financial information, are easy to navigate and make customers satisfied with e-banking services (Ma and Zhao, 2012).

Customer satisfaction with the fee charge of e-banking service in Battambang province has a high value of mean ( $\bar{x}=3.69$ ) indicated that the e-banking services have an acceptable fee charge. This is consistent with research on customer satisfaction with e-banking service by Ahmad and Al-Zu'bi (2011), found that fee charge has a positive effect on customer satisfaction with e-banking service. Also, the research by Susawat (2016), revealed that customer satisfaction with mobile banking service is affected by the perception of quality, and the perception of value. Since the online financial services were high quality at the current fee charge, and the use of e-banking service offers customers a discount price of products and services (Rahman, Khan and Haque, 2012), customers are satisfied with e-banking service. The service quality of the e-banking is very important because the e-banking service with high quality at an acceptable price can make customer satisfied, and it also considered as a competitive advantage for financial institution.

Customer loyalty to e-banking service in Battambang province has a high value of

mean ( $\bar{x}=3.62$ ) indicated that the effectiveness of all financial institutions providing e-banking services was high. It means that the e-banking services were able to fulfill customer demand as well as their expectation, so customers are satisfied (Hsieh, Yuan and Kuo, 2011). This is also consistent with the research by (Ahmad and Al-Zu'bi, 2011), found customer satisfaction with accessibility, convenience, security, privacy, content, design, speed, fees and charges has a positive effect on customer loyalty. In addition, since customer perception of quality was high based on their experience in using the e-banking services, customers intentionally keep using the e-banking service next time (Saleem, et al., 2015). It can be concluded that customer's perceived value of e-banking services in Battambang was also high. Customers think that the e-banking service are good value at the current fee charge, and the use of e-banking services gives them many benefits such as getting a discount price of product and service, time saving, etc (Demirgünescedil, 2015). Perceived value is the antecedent of customer satisfaction (Milfelner, Snoj and Korda, 2011). Customer loyalty has a close relationship with customer satisfaction. When customers are satisfied with the product and service, customer loyalty will immediately happen. Therefore, customers keep using e-banking service in Battambang province due to satisfaction.

2. The result of the study on the effect of satisfaction with e-banking service on customer loyalty in Battambang province was discussed as below:

According to the result from data anal-



ysis, the effect of satisfaction with e-banking service on customer loyalty in Battambang province indicated that four determinants of e-banking service were statistically significant at 0.05 including fee charge, speed, design, and accessibility. This is also consistent with research by (Ahmad and Al-Zu'bi, 2011), found the significant factors including design, accessibility, speed, and price, considered as the adoption factors of the e-banking, positively influencing on satisfaction, loyalty, WOM of Jordanian Commercial Bank customer. Research on the factors of e-banking services influencing on the loyalty of a commercial bank's customers in Jordan by (Al-Hawary and Hussien, 2016) showed that design has an effect on customer loyalty.

According to the data analysis, result indicated two determinants of e-banking including convenience, and security were not statistically significant at 0.05 ( $p\text{-value} > 0.05$ ). It means that satisfaction with convenience and security of e-banking has no effect on customer loyalty to e-banking service in Battambang province. It can be concluded that security system of all e-banking services in Battambang is always updated for software and mobile application in order to keep the security system strong. Based on the result of the study on the demographic information, the majority of e-banking users are young people having bachelor degree, so they find program and mobile application quite easy to use. Security and convenience are not what the customers use for service quality of e-banking comparison in Battambang. Therefore, security and convenience are not the reason for switching online

financial service providers in Battambang.

Customers change online financial service providers in Battambang because of the dissatisfaction with accessibility, speed, design, and fee charge. Accessibility of e-banking service refers to the process that customers obtain financial service and information from e-banking service channels through ATM and mobile application based on many factors such as content format, user's devices, software, internet connection, and environment condition. In general, accessibility of e-banking is in the relation with the content on the program for online financial service. Screen reader was used on the program of e-banking service by software developer to make a convenience for general customers (Sani, et al., 2018). To fulfill the customer need for e-banking services with high satisfaction, e-banking services were designed to provide the online financial services which enable customers to use many kinds of online financial services, including foreign exchange rate, payment, cash transfer, cash withdrawal, checking account balance, and the other complementary services (Fonchamnyo, 2013), and customers can access these online financial services through mobile phone or ATM machine with internet connection at any time from everywhere in the world (Awara and Anyadighibe, 2014). One more, design of e-banking service is very important to attract the online customers (Ganguly, et al., 2010). A well-designed e-banking service is considered as a starting point to build confidence in the e-banking services for customers. Programs and mobile applications for banking services that are easy to navigate and have a lot of

useful information (Ma and Zhao, 2012), there will be many interested customers in using the e-banking service. Well-designed programs and mobile applications for banking services that content preparation and screen layout were designed as well with clear graphic and vibrant colors, so it can enhance customer satisfaction with the e-banking service (Ling, et al., 2016). Furthermore, speed of e-banking service refers to how fast the e-banking system responses to user, and term "speed" is what customers are highly sensitive for online service, and transaction speed, response time is what receive much attention for the effective transaction in online financial service (Yoon, 2010). The connection to e-banking is fast through mobile phone with an internet connection, and the transition of financial information is effective. Online financial transactions of customer can be done at a short time, customers are satisfied. In addition, the fee charge, the amount of money that customers have to pay for online financial transaction. In general, the fee charge has a close relationship with service quality. When customers get expected online financial services by comparing with fee charge, customers will be satisfied and continue to use it next time (Rahman, Khan and Haque, 2012). The e-banking service with high quality at a lower price, considered as a competitive advantage for the financial institutions. Therefore, satisfaction with accessibility, design, speed, and fee charge of e-banking services has an effect on customer loyalty. It is also coherent with the suggestion for the future development of e-banking in the last section of the questionnaires. It can be concluded that a problem

of being threatened to lose the customers results from insufficiency of the quality and fee charge. Online customers can easily switch the service provider since there are many financial institutions providing online financial services in Battambang province. If e-banking services of a financial institution are not reasonably priced, that financial institution will face a problem of losing customers. Also, e-banking services are not good value for its fee charge. A situation, customers evaluate that the benefit and quality of e-banking service are poor standards, so customers will change to the e-bank services with higher quality and better benefit in order to fulfill their need.

### **Recommendation**

All financial institutions should have plans for development of e-banking service focusing on each of significant determinants of the e-banking services including accessibility, design, speed, and fee charge in order to enhance customer satisfaction and loyalty. All financial institutions should have a schedule to periodically control the ATMs and cash. To make the e-banking service work regularly without interruption of service, program and mobile application for online financial service need to be updated on a regular basis. To expand the coverage of e-banking service more widely, all financial institutions should deploy more e-banking service points through ATMs at some possible locations where the demand for e-banking service is high. In order to attract more customers, program and mobile application for e-banking services should be designed as simple, easy, and understandable for all available



languages, and its screen layout and content should be prepared as clear and concise. To make financial transactions quickly complete in a short time, all financial institutions should develop programs and mobile application for online financial services with a quick process of data transition through an internet connection, and its navigation from one page to the next page could move smoothly and quickly. All financial institutions should focus on the cost of providing e-banking services and try to reduce the operating and administrative cost as possible. Providing the e-banking service with high quality at lower fee charge could enhance customer satisfaction and loyalty, and

it can also retain existing customers and attract new customers for the financial institution.

The future research should use this proposed model to measure the effect of satisfaction with e-banking service on customer loyalty in the other developing countries in order to compare the result. The selected independent variables in the proposed model of this research might not include all independent variables influencing on customer loyalty due to the limited time. Therefore, for future research on the effect of satisfaction with e-banking service on customer loyalty should include the other factors of e-banking adoption and satisfaction with e-banking services.

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