# Empirical Study on the Relationships of Internet Banking Quality, Customer Value, and Customer Satisfaction

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*The purpose of this conducted study was to test the direct and indirect effects of internet banking quality and customer value to customer satisfaction. This study uses descriptive analysis and multiple regression analysis to examine these relationships. The study is based on a survey conducted with respondents who use internet banking in their day-to-day activities, and all questionnaire items are deemed valid and reliable. For data analysis, the descriptive analysis for the indicators, dimensions, and variables proved to be in a good category. Research findings and implications of the regression analysis show that internet banking quality and customer value had a greater direct impact on customer satisfaction, rather the partial relationships of these variables to satisfaction. In the partial relationships, customer value has a higher influence on customer satisfaction, than internet banking quality. As a research recommendation, banks should provide a more humanistic internet banking service for better consumer satisfaction. A major research limitation of the study is that it does not measure service quality of internet banking, and only focuses on customers of internet banking use of one single bank. The originality of this research relies on the insights of internet banking quality leading to customer satisfaction and increasing the value of a bank to its main target markets.*

*Keywords: internet banking, service quality, customer value, customer satisfaction, regression, primary research*

*JEL Classification: M31*

## 1. Introduction

Improving the quality of offered services is gaining a lot of attention from companies. This is because the service quality can be used as a tool to achieve competitive advantage. Developments of science and technology affect banking activities, especially in terms of electronic data processing and telecommunications. Facing such competition, banks should be keen to seek other alternative services to provide to its customers. Services provided to customers will reflect the success of the bank. The Internet has become a trend for consumers as well as companies in selling and purchasing (Hsu, 2006). The trend of technological

developments leads to the realization of unification throughout the distribution channel, and the Internet is a valuable alternative in the procurement of all banking products in one technology. Moreover, it is a major factor for increased sales and customer satisfaction (Hsu, 2006). Customer satisfaction can be measured in terms of the quality and value of customers' internet banking (Hsu, 2006). Satisfaction will appear if the quality and value that customers can be maintained by the bank. Therefore, an increase in customer satisfaction in the use of internet banking needs to be done and measured by the bank to retain the level of customer satisfaction.

This research aims to determine indicators such as internet banking quality, customer value, customer satisfaction, and analyze the influence of internet banking quality and customer value on customer satisfaction.

## 2. Literature Review

Over the last two decades, research on service quality has evolved, providing differing views on the definition of quality. In the field of marketing and economics, quality is seen as the dependent variable on product attributes. In the area of operational management, quality is defined in two dimensions, namely compliance with the use and reliability. In the services sector, the definition of quality is assessed thoroughly. Although there are some criticisms of the models SERVPERF SERVQUAL model, but the model SERVQUAL is still widely used by academics and practitioners. A more comprehensive understanding of quality is concerned with eight attributes, namely: performance, features, conformance, reliability, durability, serviceability, aesthetics, and customer perceived quality.

Traditionally service quality can be observed and measured by comparing the expectations of customers with the perceptions of the service. Service quality is considered as the ability to accurately fulfill a service, the willingness to help consumers, the level of knowledge and friendliness of employees, personal attention to consumers, the presence of physical facilities/equipment, and the overall appearance of the employees. Other combinations of previous research by combining between expectations and perceptions, as well as finding the inability to accommodate SERVQUAL reliability and validity. It is asserted that the original concept was created to assess the service quality of traditional business services to observe the interaction between customers and employees and cannot be used in view of service quality in virtual form. In general, the quality of service earlier created only to see the interaction in the provision of services (Cox and Dale, 2001). They assume that the personal interaction in the overall process of the product / service is irrelevant in the interaction on the internet service.

Early research on the internet banking service quality conducted by Gounaris and Dimitriadis (2003). General category of quality internet services is divided into the quality of customer service, the quality of online services, and service quality of banking products. Chien-Ta (2010) conducted a study by using the concept of SERVQUAL to do research on Internet services and share the quality of service in 5 dimensions of access, Internet reliability, trust, attention, and credibility. Bauer et al. (2005) conducted advanced research and found common services in the internet world can be divided into primary services, additional services (supplements), and service solutions. Internet technology at the quality in the two attributes, namely Internet information quality (IQ) and internet system quality (SQ) and the two attributes are complementary (McKinney et.al, 2002). High IQ filter consumer perceptions about the characteristics of Internet content to the accuracy, integration, reliability, relevance, and usefulness (Saeed et al., 2003). SQ filters Internet user's perception of the effectiveness of the system. Other studies look at the attribute information system consists of navigation, layout interface, download speed, digital security, and added value (Liao and Shi, 2009).

Research approached on the Internet conducted by Hsu (2006) explains that in measuring Internet IQ, he used five items of measurement: information provided on the Internet is accurate, information provided is reliable, information provided is easy to read, information provided is easily understood, and information provided is very useful. It is interesting to see the internet as well as to help in creating an experience included in the factor of additional services (Broderick and Vachirapornpuk, 2002).

Customer value is the source of all values within the organization and creating a strong customer value is the main purpose of the company in market competition, seen from the customer's point of view as a thorough assessment of the utility of consumer products based on the perception of what is given and received. Briefly, value is like a quality accepted by the market compared with the price of the product. Flint, Woodruff, and Gardial (2002) explain in detail the value of the customer in evaluating customers' preferences and product attributes, performance attributes, and the consequences that arise when consuming the product. Customer value as a ratio between the benefits received and the sacrifices made. The definition of sacrifice will cover all expenses incurred by consumers today who enjoy the products/services offered.

On the other side, customer value shows only what is acceptable to the consumer. Khalifa (2004) specifically conducted research on customer value, supporting the literature on this subject. Kothari and Lackner (2006) see elements of customer value consisting of products, access, experience, and cost.

Customer value also consists of: quality (quality compared with other alternatives), value based on cost (utility resulting from consumer attention to fees), and the result (the value that compares the results with the business end of a sacrificed). Ho et al. (2008) explain that customers value the internet measured by nine items grouped in quality, value the basis of costs, and the result. Khalifa (2004) explains that the customer will eventually affect the level of consumer satisfaction.

Customer satisfaction research conducted by Mohajerani (2012) inspire other researchers to enhance customer satisfaction knowledge. Pollack (2008) is developing literature by incorporating emotional factors in analyzing customer satisfaction. Satisfaction emerged from the experience during the purchasing process consisting of several stages: needs discovery stage, income information stage, alternative evaluation stage, purchase decision stage, and behavior after purchase stage. All definitions exhibit a debate about whether customer satisfaction is a process or the result (Yi, 2004). Of all the contradictions that exist in specialty literature, the more definitions see customer satisfaction as a response to the evaluation process. There are two main concepts that build customer satisfaction as the definitions of specific and cumulative transactions (Andreassen, 2000). Research on customer satisfaction in the world of the Internet also has a lot to do with the topic's development. Spreng et.al (2009) explains that overall customer satisfaction is based on affective statements that show emotion to the overall experience in internet services. Szymanski and Hise (2000) found that aspects related to product information and perception about the internet are important in assessing customer satisfaction in the digital world. McKinney et al. (2002) concluded that customer satisfaction in the world of internet has two sources of satisfaction, namely the quality of the information and satisfaction with the ability of the Internet in providing information systems. Hsu (2006) stated that transactions conducted via the Internet also showed that customer satisfaction on the quality of information and the system's ability are very important in improving service transactions over the Internet.

## 3. Research Premises

Hsu (2006) has developed research on the influence of the two variables, internet quality and customer value on customer satisfaction. Hsu (2006) concluded that the quality of the internet and customer value collectively influence customer satisfaction. This study will explore whether the quality of the internet can add value to the customer who then can increase his or her satisfaction, indirectly or directly.
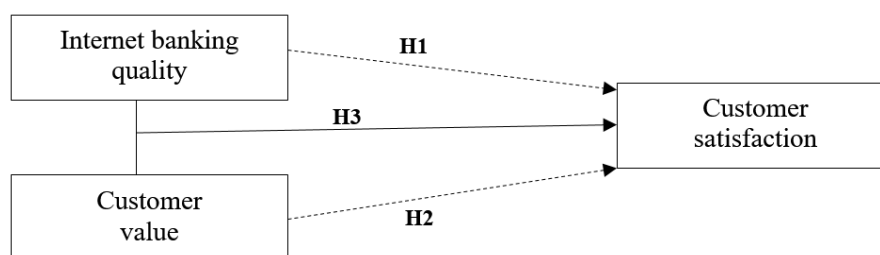


*Figure 1*. *Research framework*
*Source: Hsu (2006)*

Hypotheses:
$H_1$: There is no positive relationship between internet banking quality and customer satisfaction.
$H_2$: There is no positive relationship between customer value and bank's customer satisfaction.
$H_3$: There is positive relationship between internet banking quality and customer value to bank's customer satisfaction.

## 4. Research Methodology

This hypothesis testing research aims to explain the nature of causal relationships, or define the difference between groups or the freedom of two or more factors in a situation. According to the research environment, this research is a field study conducted on actual environmental conditions. According to the

dimension of time, this study is a cross-sectional study, data were collected only at one point in time, to answer the research questions.

To obtain the data needed to conduct this research, there were conducted surveys of the respondents using a questionnaire distributed to customers. In this questionnaire contained various statements relating to the results of the customer experience in the use of internet banking.

As a study using an individual analysis unit, the data collected from each individual and the response of each person is treated as an individual data source. The data used is primary data obtained by distributing questionnaires.

Descriptive analysis and simple regression analysis, regression analysis, and multiple linear regression analysis were used to test the influence of one dependent variable with two or more independent variables.

This study was carried out to the population, represented by the sample. The population in this study is represented by customers with savings accounts who already benefit of the internet banking facility, i.e. 3192 internet using bank saving customers. Samples were taken to customers who already have internet banking using the Slovin formula but only 160 respondents' questionnaires qualify for the study. Collecting data in this study using a survey by means of questionnaires. The questionnaire is a technique of data collection achieved by giving a set of questions or a written statement to the respondents to answer. The questionnaire study from researchers attached a covering letter containing the request willingness of respondents to fill out the questionnaire and information about the purpose of filling out the questionnaire. The first part of the questionnaire contains questions about individual's identity. The identity of respondents were expressed by gender, age, education, past, and timeframe as a customer.

The second part contains questions about the variables that affect the level of satisfaction of the use of internet banking. The questions were grouped according the variables tested. All variables in this study were measured by Likert scale with scales from 1 (strongly disagree) to 5 (strongly agree)

The validity of the test determined how precisely a measuring instrument capable of performing its function. Measuring techniques that were used in testing the validity of a questionnaire is the value of correlation results between a score's statement items with the total score of all questions. The test the validity also compared the value of r of the Pearson score with the predetermined minimum of 0.300.

Accordingly, the table below indicates that all the questions or statements have a correlation coefficient > 0.300, hence all the items the questions can be declared valid. All questions can be used and can be trusted to collect the necessary data. The values of these factors can be seen in the following table:

*Tabel 1.* Validity test

| Internet Banking | | | Customer value | | |
|---|---|---|---|---|---|
| Indicator | Corrected Item Total Correlation | Outcome | Indicator | Corrected Item Total Correlation | Outcome |
| X1 | ,578 | Valid | X11 | ,510 | Valid |
| X2 | ,519 | Valid | X12 | ,630 | Valid |
| X3 | ,549 | Valid | X13 | ,561 | Valid |
| X4 | ,783 | Valid | X14 | ,706 | Valid |
| X5 | ,549 | Valid | X15 | ,563 | Valid |
| X6 | ,783 | Valid | X16 | ,437 | Valid |
| X7 | ,667 | Valid | X17 | ,710 | Valid |
| X8 | ,533 | Valid | X18 | ,630 | Valid |
| X9 | ,565 | Valid | X19 | ,472 | Valid |
| X10 | ,783 | Valid | | | |

Source: Output data

The reliability of a measurement shows the consistency of measurement. High reliability displays that indicators have a high consistency in measuring the variables. Research instruments are reliable if the alpha coefficients calculated for each variable are higher than 0.300. Then, the reliability test for each variable is explained in the following paragraphs.

The quality of internet banking is reliable for its ten instruments. Based on the results of the analysis, all the questions or statements (items 1-10) have an alpha coefficient of 0.910. The results concluded that alpha coefficients calculated for the variable 'internet banking quality' > 0.300. Thus, all the questions or statements to the variable internet banking quality can be used to collect and explain the necessary data.

The customer value is represented through nine instruments that were determined as reliable. Based on the results of the analysis, all the questions or statements (items 11-19) have an alpha coefficient of 0.863.

The results concluded that alpha coefficients calculated for the variable 'customer value'> 0.300. Thus, all the questions or statements to the variable customer value can be used to collect the necessary data.

The variable 'customer satisfaction' is represented by three instruments in question that are reliable. Based on the results of the analysis, all the questions or statements (items 1-3) have an alpha coefficient of 0.831. The results concluded that alpha coefficients calculated for the variable 'customer satisfaction'> 0.300. Thus, all the questions or statements to the variable customer satisfaction can be used to collect and explain the necessary data.

Based on the research model and hypotheses used, this study uses three variables, one dependent variable and two independent variables, namely: the dependent variable (Y) is the level of customer satisfaction, and the independent variables (X) are internet banking quality and customer value.

To find out how much the perception of the questionnaire's respondents can be categorized into the class interval formula = high score – low score / number class = (5x160) – (1x160)/5 = 128.

*Table 2. Descriptive scales*

| 1 | Very bad | 161 – 289 = 128 |
|---|----------|-----------------|
| 2 | Bad | 299 – 427 = 128 |
| 3 | Enough | 428 – 556 = 128 |
| 4 | Good | 557 – 685 = 128 |
| 5 | Very good | 686 – 814 = 128 |

Source: Statistical counting

The following tests were used for the analysis of this primary research:

- Classic assumption test: Multicollinearity test, Autocorrelation test, Heteroscedasiticity test, Normality test;

- Accuracy of the regression function: Coefficient of determination ($R^2$), Test simultaneous significance (F test), Individual significance test (t test).

## 5. Analysis and Results

### 5.1. Respondents' Profile

There are 101 respondents, from which 63.1% are men, 67.5% of the respondents are between 20 – 29 years old, 76 respondents have bachelor degree (47.5%), and 93 respondents are bank customers for more than 3 years.

### 5.2. Descriptive Analysis

Respondents commented on each item of the questionnaire as described below, in Table 3.

*Table 3. Descriptive scores*

| Statement | Score |
|-----------|-------|
| 1.   Internet banking is very accurate for the savings account | 694 |
| 2.   Internet banking is very believable for the savings account | 717 |
| 3.   Internet banking is very easy to read for the savings account | 686 |
| 4.   Internet banking is easy to understand for the savings account | 658 |
| 5.   Internet banking is very useful for customers with savings account | 694 |
| 6.   Internet banking is easy to operate | 683 |
| 7.   Internet banking does have links to other sites that are very helpful | 653 |
| 8.   Internet banking is very interactive | 616 |
| 9.   Internet banking is easy in the searching for text and graphics | 598 |
| 10.   Internet banking is very well-run | 696 |
| 11.   Assessment variables have good internet banking | 669 |
| 12.   Indeed, I believe in the quality of savings products in internet banking | 674 |
| 13.   Indeed, I believe in the value given by savings in internet banking | 651 |
| 14.   Savings products presented in internet banking have been very suited to my needs | 688 |
| 15.   Granted, I get the best savings products in accordance to the sacrifice which I provide via internet banking | 648 |
| 16.   I believe I am saving money when using internet banking | 684 |
| 17.   I am saving time when using internet banking | 700 |
| 18.   With internet banking, I greatly reduce the activities directly to the bank | 699 |

| | | |
|---|---|---|
| 19. | Internet banking is providing service facilities after transacting savings | 634 |
| 20. | I have no regrets after using internet banking | 692 |
| 21. | Customer Value Assessment of the variables is already well | 674 |
| 22. | I am satisfied after transacting savings using internet banking | 676 |
| 23. | I am content with the nice experience from last time I used internet banking | 633 |
| 24. | I am satisfied with the functionality and layout I see in internet banking | 660 |
| 25. | Assessment of the variables is already good in relation to customer satisfaction | 672 |

Source: Research data

## 5.3. Classical Assumption Test Regression

Test assumptions about multicollinearity are intended to prove or test whether there is a linear relationship between the dependent variables to another independent variable. In multiple regression analysis, there will be two or more independent variables that are expected to affect the dependent variable. The existence of a linear relationship between independent variables will lead to difficulties in separating the influence of each independent variable on the dependent variable. A regression is said to be detected if VIF multicollinearity is higher than 1 or Tolerance lower than 1 on the Output Coefficient. Based on the results of data processing it appears that VIF = 1.446 and Tolerance = 0.691. Good Tolerance VIF or close to 1 so that the regression model is not detected multicollinearity. Durbin-Watson autocorrelation test is still below the threshold of 2.00 which is equal to 1.651.

*Table 4. Multicollinearity analysis*

**Coefficients[a]**

| Model | | Correlations | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|
| | | Zero-order | Partial | Part | Tolerance | VIF |
| 1 | Total_Bebas1 | ,718 | ,547 | ,348 | ,691 | 1,446 |
| | Total_Bebas2 | ,772 | ,645 | ,449 | ,691 | 1,446 |

a. Dependent Variable: Total_Terikat

### 5.3.1. Internet Banking Quality and Customer Satisfaction

The relationship between the variable of internet banking quality and customer satisfaction, obtained the R value of 0.718 indicating that internet banking quality and customer satisfaction relationship is relatively strong. Furthermore, the value of $R^2$ of 0.516, meaning 51.6% of the variable customer satisfaction can be explained by the variable 'quality of internet banking', while the remaining 48.4% is influenced by other causes.

The value of standard error of estimate obtained a score of 0.936 while the standard deviation of the dependent variable 'customer satisfaction' is 1.341. The value of the standard error of estimate is smaller than the standard deviation of the dependent variable of customer satisfaction, thus it is feasible to use regression models. In ANOVA, the obtained value of F is 168.136, p = 0.000. Therefore, a value of p lower than 0.05 shows that the regression can be used to predict customer satisfaction. Next, coefficients obtained from the results of the regression equation are as follows:

*Customer Satisfaction = -1.854 + 0.416 Internet banking quality + Error*

This means that in the absence of internet banking, the quality of customer satisfaction decreased by 1.854. If there is internet banking, the customer satisfaction accounts for 0.416.

*Table 5. H1: Relationship between Internet Banking Quality and Customer Satisfaction*

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | ,718[a] | ,516 | ,512 | ,936 |

a. Predictors: (Constant), Total_Bebas1

b. Dependent Variable: Total_Terikat

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 147,441 | 1 | 147,441 | 168,136 | ,000[a] |
| | Residual | 138,553 | 158 | ,877 | | |
| | Total | 285,994 | 159 | | | |

a. Predictors: (Constant), Total_Bebas1

b. Dependent Variable: Total_Terikat

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | -1,854 | ,587 | | -3,160 | ,002 |
| | Total_Bebas1 | ,416 | ,032 | ,718 | 12,967 | ,000 |

a. Dependent Variable: Total_Terikat

### 5.3.2. Customer Value and Customer Satisfaction

The relationship between the variables customer value and customer satisfaction obtained a R value of 0.772 which indicates that the relationship between customer value and customer satisfaction is strong. Furthermore, the value of $R^2$ amounted to 0.596, this means that 59.6% of the customer satisfaction variable can be explained by the customer value variable, while the remaining 40.4% reflects other influences.

The value of standard error of estimate obtained a score of 0.855 while the standard deviation of the dependent variable 'customer satisfaction' is 1.341. The value of the standard error of estimate is smaller than the standard deviation of the dependent variable of customer satisfaction, thus it is feasible to use regression models. In ANOVA, the obtained value of F is 233,411, p = 0.000. Therefore, a value of p lower than 0.05 shows that the regression can be used to predict customer satisfaction. Next, coefficients obtained from the results of the regression equation are as follows:

*Customer Satisfaction = -2.000 + 0.479 Customer Value + error*

This means that if there is no value for the customer value, then the customer satisfaction will be reduced by 2.000. Meanwhile, if there is customer value, then the customer satisfaction will be increased by 0.479.

*Table 6. H2: Relationship between Customer Value and Customer Satisfaction*

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | ,772[a] | ,596 | ,594 | ,855 |

a. Predictors: (Constant), Total_Bebas2

b. Dependent Variable: Total_Terikat

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 170,547 | 1 | 170,547 | 233,411 | ,000[a] |
| | Residual | 115,447 | 158 | ,731 | | |
| | Total | 285,994 | 159 | | | |

a. Predictors: (Constant), Total_Bebas2

b. Dependent Variable: Total_Terikat

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | -2,000 | ,508 | | -3,936 | ,000 |
| | Total_Bebas2 | ,479 | ,031 | ,772 | 15,278 | ,000 |

a. Dependent Variable: Total_Terikat

### 5.3.3. Internet Banking and Customer Value to Customer Satisfaction

Based on the results of the regression between variables 'internet banking quality' and 'customer value' on 'customer satisfaction', obtained the R value of 0.847 indicating that the influence of internet banking

quality and customer value on customer satisfaction is powerful because it is greater than 0.5. Furthermore, the value of $R^2$ amounted to 0.717 this means that 71.7% of the customer satisfaction variable can be explained by the internet banking quality and customer value variables, while the remaining 28.3% is influenced by other causes.

In ANOVA, the obtained value of F is 199.006, p = 0.000. Therefore, with a p < 0.05, the regression can be used to predict customer satisfaction, or, in other words, variables internet banking quality and customer value jointly influence customer satisfaction at the level of less than 95%. Next, coefficients obtained from the results of the regression equation are as follows:

*Customer Satisfaction = -4.080 + 0.242 Internet Banking Quality + 0.335 Customer Value + error*

This means that if there is no internet banking quality and customer value, the customer satisfaction will be reduced by 4.080. Meanwhile, customer satisfaction will increase if there is an increase of 0.242 in internet banking quality and 0.335 of perceived customer value.

*Table 7. H3: Relationship between Internet Banking and Customer Value to Customer Satisfaction*

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | ,847[a] | ,717 | ,714 | ,718 |

a. Predictors: (Constant), Total_Bebas2, Total_Bebas1

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 205,093 | 2 | 102,546 | 199,006 | ,000[a] |
| | Residual | 80,901 | 157 | ,515 | | |
| | Total | 285,994 | 159 | | | |

a. Predictors: (Constant), Total_Bebas2, Total_Bebas1

b. Dependent Variable: Total_Terikat

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | t | Sig. |
| 1 | (Constant) | -4,080 | ,497 | | -8,216 | ,000 |
| | Total_Bebas1 | ,242 | ,030 | ,418 | 8,188 | ,000 |
| | Total_Bebas2 | ,335 | ,032 | ,540 | 10,577 | ,000 |

a. Dependent Variable: Total_Terikat

## 6. Discussion and Conclusion

### 6.1. Hypotheses Discussion
### 6.1.1. Discussion of Hypothesis 1
From the data processing regression in table 5 above, the internet banking quality variable to customer satisfaction obtained $t_{count}$ 12.967. With degrees of freedom = N - 2 = 160-2 = 158, the value at the level of 95% (5% significance) is 1.655. So, $t_{count}$ 12.967 and $t_{table}$ 1.655, $t_{count} > t_{table}$, then $H_0$ is rejected and Ha is accepted. Besides the significant value of p (sig.) 0.000 this means p <0.05 and the internet banking quality variable has a significant influence on customer satisfaction. Based on the results of the significant p value, the results support the t test, accordingly Ho is rejected and Ha is accepted.

The above results agree with the opinion of Pollack (2008) who explains that the quality of service is an influence for customer satisfaction and explained that one goal for delivering quality is to satisfy consumers. Through the quality of relationships between companies and consumers should be measured more closely. Under this hypothesis, internet banking quality affects customer satisfaction.

### 6.1.2. Discussion of Hypothesis 2
From the data processing regression of customer value on customer satisfaction, in table 6 above, a $t_{count}$ 15.278 was obtained. With degrees of freedom = N - 2 = 160-2 = 158, the value at the level of 95% (5% sig.) is 1.655. So, with $t_{count}$ 15.278 and $t_{table}$ 1.655, $t_{count} > t_{table}$, then Ho is rejected and Ha is accepted. Besides the significant value of p (sig.) 0.000 this means p <0.05 and the customer value variable has a significant

influence on customer satisfaction. Based on the results of the significant p value, the results support the t test, accordingly Ho is rejected and Ha is accepted.

The data above supports previous research that showed a positive relationship between customer value and customer satisfaction (Wang, 2004). These facts explain that the value of customers will affect the level of customer satisfaction with the services of the bank, in an online setting.

### 6.1.3. Discussion of Hypothesis 3

From the data processing regression, the variable internet banking quality to customer satisfaction, in table 7 above, a score of 8.188 was obtained. With degrees of freedom = N - 2 = 160-2 = 158, the value at the level of 95% (5% sig.) is 1.655. So, with $t_{count}$ 8.188 and $t_{table}$ 1.655, $t_{count} > t_{table}$, then Ho is rejected and Ha is accepted. Results of the regression data processing of customer value on customer satisfaction obtained a score of 10,577. With degrees of freedom = N - 2 = 160-2 = 158, the value at the level of 95% (5% sig.) is 1.655. So, $t_{count}$ 10,577 and $t_{table}$ 1,655, then Ho is rejected and Ha is accepted. Besides the significant value of p (sig.) 0,000 this means p <0.05 and the variables internet banking quality and customer value have a significant impact on customer satisfaction. Based on the results of the significant p value, the results support the t test, accordingly Ho is rejected and Ha is accepted.

The data above supports previous research that showed a positive influence of internet banking quality and customer value on customer satisfaction (Wang, 2004). These facts explain that internet banking quality and customer value will affect the level of customer satisfaction with the online services of the bank.
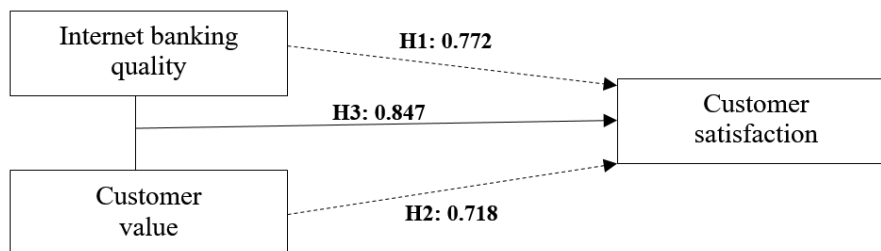


***Figure 2.*** *Summary of direct and indirect effects*

Based on the direct and indirect relationships, it can be concluded that customer value (0.772) and internet banking quality (0.718) had a smaller individual impact on customer satisfaction, than the joint effect of internet banking and customer value to customer satisfaction which exhibited a substantial contribution (0.847). These results are also supported by research conducted by Wong et al. (2008).

### 6.2. Conclusion

The descriptive analysis on internet banking quality showed a good score, supported in the statements information and given in the category shows it is very trustworthy. Respondents positioned the customer value in good rank supported in the statement that it helps shorten the transactions time. Respondents ranked customer satisfaction in a good score in a statement that transactions conducted in relevant frameworks. (Unyathanakorn and Rompho, 2014).

### 6.2.1. Suggestions Related to Internet Banking Quality

In this paper, it was explained and observed that internet banking quality had a positive effect on customer satisfaction. This idea is supported by the percentage of influence that has been presented above. Therefore, internet banking quality affects customer satisfaction. Internet banking quality is supported by information that savings data are accurate, reliable, easy to read, easy to understand, easy to search text and graphics, as well as useful and an important factor for customer satisfaction. Clients see that the data provided in internet banking is an important factor of quality. This fact explains that the client considers the data is a major factor and it is important for the assessment of quality. Bank customers know internet banking quality provides quality data. The fact was quality of data became important information for getting a high quality score. The item questionnaire about internet banking quality show that customer satisfaction is strongly influenced by the data saving account.

Other factors such as ease of operation, has a network to other sites, and interactive communications is a quality factor that is necessary for customers. Although the availability of data is considered the most important to customers but other factors such as ease of operations, has a network to other sites, and interactive communications also considered. Ease of use of internet banking so customers can quickly identify the

functions menu is one of the factors for internet banking quality. Internet banking capabilities in conducting interactive communications when customers access the Internet banking is also noteworthy in improving internet banking quality for customers.

The availability of data as well as other factors such as ease of operation, network to other sites, and interactive communications factors were necessary for adding value for customers. Bank can maintain and register the data in accordance with the criteria that are important to customers. If the availability of data is not maintained by the bank, then it could result in decreased customer satisfaction and customer value.

### 6.2.2. Suggestions Related to Customer Value

Customer value is also an important factor for increasing customer satisfaction. Flint, Woodruff, Gardial (2002) have seen the difference between the value of the customer and customer satisfaction as crucial given the close contact between the two concepts. In detail, customer value is the customers' preferences and evaluation of product attributes, performance attributes, and the consequences that arise when consuming the product. By the nature of customer preference, the bank could conduct periodic surveys to get customer evaluations of the savings products on internet banking. Customer value appears when customers have participated in consuming the internet banking service. When first-time customers feel the value of customer service, the customer will appear.

Values appear when customer savings products are offered by banks in accordance with the objectives of the customer. Banks should be able to provide internet banking quality in accordance to the customers' demands. This time the savings bank customers demand products as the best fit to sacrifice. The bank has to be able to create savings products according to customers' expectations. Internet banking savings products in accordance to customer objectives, with the sacrifice of customers, to provide efficiency, and can give a sense of satisfaction for customers.

### 6.2.3. Suggestions Related to Customer Satisfaction

Customer satisfaction is the result of the quality provided by the company. Customer satisfaction is the consumer response to the expectations with actual performance in the consumption process. Satisfaction appears after customers have tried the Internet banking service. It has been proven that customer satisfaction is influenced by internet banking quality and customer value. Good quality will grow the value of customers and ultimately create satisfaction. Satisfaction should continue to be measured to know its levels and fluctuations. The bank should focus on maintaining the performance of the internet banking service in terms of both products, and system reliability. Products that do not provide accurate data will give a sense of dissatisfaction for customers. Therefore, a savings product that is reliable as the data can be kept by the bank. Ease of internet banking operation also continues to be considered. Services that are too difficult to use can lead to customer dissatisfaction.

All the criteria of quality can be maintained by a bank if it is to provide satisfaction for the customer. The quality of the data represented by the savings are accurate, reliable, easy to read, easy to understand, easy to search text and graphics, as well as useful, and must be preserved and enhanced by the bank. Besides the benefits that can be provided by the savings products offered through internet banking, customer value should also be improved if it is to obtain the satisfaction of the customer. The efficiency factor from the perspective of the client can be produced if it will provide the satisfaction of customers. The bank should continue to conduct surveys to gain efficiencies from the client's perspective if it is to continue to improve customer satisfaction.

### 6.3. Research Limitation

This study does not measure service internet banking quality like other researchers, from the perspective of SERVQUAL, as this study only focuses on a particular bank's customers who use its internet banking services.

### 6.4. Future Research

The bank, and other financial institutions, will have better prospects if they continue to conduct customer satisfaction survey as frequently as possible to know and understand customer needs and wants. Thus, future research will focus on a longitudinal study to compare and contrast different customer satisfaction levels.

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