The Effect of Service Quality to Customer Satisfaction by Using Internet Banking Service in Jambi

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Abstract. *Internet banking service has become an important part of the current banking products. It could be said almost all bank, which is operating in Indonesia, have to equip their products by providing internet-banking services for its customers. Despite the fact that the investment to build the internet banking service has been carried out by almost all banks in Indonesia, but in fact the use of internet banking adoption is still not significant. Banking in Indonesia still filled with questions about Internet banking services such as what exactly is a yearning of each customer. Because it is highly important for banking in Indonesia to fully understand the quality of the services, which they had provided. A good understanding of the customer's perception when using internet banking services will certainly be a strong foundation for bank in Indonesia to be able in provide an appropriate internet services, effective and efficient for customers. If the customer hope has been fulfilled, that customers will be satisfied and will ultimately loyal to the internet banking service. This study examines the elements that will affect the quality of the internet banking service for customers. A survey conducted by inviting 115 respondents. Data were analyzed using SEM method utilizing Smart PLS software. This study found that the "Banking Services Product Quality", "Online Customer Services Quality" "Online Information Services Quality" and "Overall Internet Banking Services Quality", an effect on customer satisfaction in using internet banking services.*

Keywords: Services quality, internet banking, structural of equation model, customer satisfaction

1. Introduction

Currently, the development of Information Technology (IT) has brought many changes to the way of people conduct their activities in daily life. IT has been actively involved in education, entertainment, government and banking. In the bank, IT is now became a main vein of almost all of their business activities. From many applications of information technology that is popular today, there is one that called as Internet Banking *(Martins et al., 2014)*. Internet banking services have able to be implementing in conventional banking services by involving internet technology. Internet banking has grown and may give customers many benefits and convenience for bank customers due to the fact that ease of transaction, time flexibility and a place in the transaction (Chatzoglou *et al.*, 2014).

In addition, the use of internet banking is also support government programs in promoting the activities of non-cash society movement. Currently the central and local governments were promoting non-cash movement for the community. The purpose of this movement is to reduce the use of physical money and encourage the increased use of non-cash money in daily activities / daily business transactions(Nofianda, 2015).

Although the use of internet banking services provide many benefits for bank and customers, but in reality the adoption of the use of banking services in general is still relatively small (Maharsi and Fenny, 2007). Internet banking services are generally more concentrated on people in big cities (Jenkins, 2007) such as Jakarta, Surabaya, Medan and

others, while the potential of existing bank customers throughout Indonesia is very large. An effort to increase the adoption of Internet banking services utilization is vital to encourage economic growth. Because of that, the study that conducted to understand the conditions of use of Internet banking services in rural area will be a great helpful to make us more understand in user adoption behavior (Sadiq Sohail and Shaikh, 2008).

To answer the phenomenon that exists, the researchers has motivated to conduct a study that aims to understand the conditions of use of the internet banking service in the develop city. This study will be conducted in the city of Jambi aims to understand the quality of internet banking services, futhuremore we would to understand what exactly the expectations of bank customers in the city of Jambi. To understand the concept of services, we refer to previous research; in this research, we argue that the quality of service will be the main pillar of a service process.

Excellence services quality will lead to create the customer satisfaction and when customers are satisfied, the customer will be loyal to the services offered by the banks. Some researcher in past has identified the dimension that related with services quality that should be consider when we develop or examine an excellence services quality (George and Kumar, 2014; Ho and Lin, 2010; Jun and Cai, 2001; Sadiq Sohail and Shaikh, 2008; Zavareh et al., 2012). They propose some item for services quality dimension such as Website attributes, Reliability, Responsiveness, Fulfillment, Efficiency, and Privacy and Security, Customer services quality, information quality, bank product quality, and overall services quality.

In this study, we are encouraged investigating what factors related and affect the quality of service. Then the quality of the service will analyzed to the impact on the level of customer satisfaction in the use of internet banking services in Jambi. By understanding the factors that affect customer satisfaction, then the bank practitioners and governments could develop the map describes the problem

of adoption in internet banking service as well and then expected to formulate appropriate steps in developing mechanisms and policies. The results of this study expected to be a guide for businesses and governments to develop appropriate strategies to promote and increase the use of the Internet Banking service.

This paper compiled with the following structure; the next part of this paper will discuss the development of a hypothesis that will outline the concept, theory and previous studies relevant to this topic. Then it will discuss and hypothesis models developed for this study. After that, it will presented to the methodology adopted in resolving the problem of the study, followed by a discussion of the results of research and followed by a discussion of research results. This paper will close with the conclusion.

2. Theory and Hypothesis Development

2.1. Quality of Internet-based Services

Academics and practitioners agree that the quality of service is a key element in the successful implementation of a service (Broderick and Vachirapornpuk, 2002; George and Kumar, 2014; Gibson, 2003; Kaura et al., 2014; Lin et al., 2012; Parasuraman et al., 1988). Both services are in traditional or Internet-based services (Parasuraman et al., 2005). In previous studies with regard to Internet-based services is a fact which ensures that provide quality services to web-based services into a right strategy is very important for the success of a service (Zeithaml et al., 2002). But of course to be able to present the superior quality of service which is not easy to be realized, an important process that should be built by an organization is a process for consumers (Emerson et al., 2013). Each managerial level in companies should be considerate to understand the behavior of consumers who use their services. How does the perception of consumers and how consumers evaluate services becomes an important input in the process to build a superior quality of service (Emerson et al., 2013).

As forms of traditional services on internet-based services into the primary role of the quality of services that play a role in ensuring the success of a service (Parasuraman and Grewal, 2000). Previous research related to internet-based services has identified that the quality of service has become the most vital element and have a significant role in the successful utilization of internet-based services, especially with regard to e-banking (aladwani, 2009 aladwani (2001), Yousafzai et al (2003), Munusami (2012), Mattila et al 2003). Services quality has also indicated as the most effective elements in creating a competitive position for the company and can improve performance and profitability. Of course, issues relating to the quality of service are also an important topic in the study of internet banking services. Research relating to the e-banking service also identifies the relevant findings and this is in line with research that also discussed the "quality services" in E-Banking. Research conducted by Santaouis et al 2009 in Greece found that the element "service quality" is a central element in e-banking services and proved to have a very strong influence on the level of customer satisfaction. Currently many people in developing strategies to successfully developing E-Banking services have referred the research results.

2.2. Internet-based Service Quality Dimensions

In order to understand related with the dimensions of quality of service, especially Internet-based. It is important for us to understand what elements could potentially become part of the Internet-based service quality. We reviewed the literature on the articles that are relevant and the results are as follows. Studies that focused on dimensions of quality of service have performed by many researchers. This topic has attracted the attention of many researchers, as evidenced by the many published articles related to this topic (using google scholar and the keyword "service quality in e-banking" then found as many as 6,930 items are relevant). A researcher who regarded as a pioneer in the study of service quality is Parasuman. This researcher has produced many articles as the

reference for researchers in the field of service quality. Parasuman (1928) defined as the difference in the perception of service quality expectations of consumers with regard to the services provided by the reality of the actual performance of the service. Parasuman also propose the elements, which according to him is part of service quality. He divides elements of service quality into five parts (Parasuman et al 1998). The five elements are: (1) Tangibles, related to the physical facilities, equipment, (2) Reliability, which related to the ability to carry out an accurate service; (3) Responsiveness, with regard to the service provider's commitment to providing services that help customers. (4) Assurance, associated with the knowledge and friendliness of employees and their ability to build trust and confidence of customers; and (5) Empathy, which relates to the provision of care and specific attention to the customer;

At the time of the fifth dimension is proposed, services referenced are the service that is traditional (Parasuraman *et al.*, 1988). By developing Information Technology and a greater involvement of information technology in support of the implementation of a service, then Parasuraman returned enhance quality elements of service that has been proposed to be ten elements relating to the quality of electronic services, namely: (reliability; responsiveness; competence; access; courtesy; communication; credibility; security; understanding the customer; and tangibles). These elements are the result of focus groups between electronic service providers and customers who use their services. Parasuraman then categorize the tenth dimension into five dimensions of electronic service quality (Parasuraman *et al.*, 2005). This proposed dimension widely referred to above and developed by other researchers who study the elements of quality of service. Besides Parasuraman, many other researchers are also conducting studies related to elements within the dimensions of service quality. We do a review of paper that examines the topic. The results of our review can found in Table 2.1 below:

Table 2.1.
Research on Quality of Service of Internet Banking

| | Dimensions of Quality of Service | |
Researcher	The proposed	Research methods
(Zavareh *et al.*, 2012)	efficient and reliable services, fulfilment, security/trust, site aesthetics, responsiveness/contact, and ease of use	Research using a survey of 392 users of Internet banking
(Ladhari, 2010)	'reliability/fulfilment', 'responsiveness', 'web design', 'ease of use/ usability', 'privacy/security', and 'information quality/benefit	This research distributes questionnaires in a survey.
(Jun and Cai, 2001)	Customer services quality, information quality, bank product quality, overall services quality	Critical Inciden Technique
(Sadiq Sohail and Shaikh, 2008)	Privacy/security; information content and availability; web site design or graphic style; ease of use; and reliability/ fulfilment.	This research distributing questionnaires in a survey conducted in saudi arabia.
(George and Kumar, 2014)	Website attributes, Reliability, Responsiveness, Fulfillment, Efficiency, and Privacy and Security.	This research is empirical survey method in which data were collected from 406 respondents from the region of kerala
(Ho and Lin, 2010)	Customer service, web design, assurance, preferential treatment, and information provision.	Empirical research with survey method

In 2001 Jun and Cai proposed categorization of the elements of quality of service that has been developed by previous researchers. This categorization is done by grouping these elements into three groups (Jun and Cai, 2001). In its proposal in June and Choi successfully identified 17 items that are essential elements of what the customer perception of the quality of internet banking services. Then in June and Chai (2001) classifies the seventeenth these items in three categories of service quality components, namely: Component quality customer services, banking Components product quality services, quality systems and components online. Categorizing elements into three components of quality of service is an effort to ease the practitioners and academics better identify elements specific quality of service contribute to the improvement of service quality. Below is a description of the elements that have been grouped (Table 2.2)

Table 2.2.
Internet Banking Service Quality Components

Component Quality of Service	Definition	References
Customer services quality	Reliability, Responsiviness, Compotences, Coursey, Courtsey, Credibility, Access, Communication, Understanding the customer, Collaboration, Continues Improvement	Jun and Chai (2001)
Banking product services quality	Product Variety/ Product Feature Product Range	Jun and Chai (2001)
Online system quality	Content, accuracy, ease of use, timelines, security, Aesthetic	Jun and Chai (2001)

In 2009 Rod and colleagues from new zeland, conduct a test to the concept of grouping elements of the quality of e-banking services from Jun and Chai (2001). The research conducted by taking the context of the user customer in electronic banking services in New Zeland. The results of this study revelas that all three components of quality customer services, banking services product quality, online system and quality can significantly affect the overall quality of internet banking service by a bank in New Zeland.and then continued by Rod et al (2009).

2.3. Research Model and Hypotheses
Referring to the results of the past study by Parasuraman (1988), June and Chai (2001), and Rod et al (2009) we developed a model-related research. This model develop based on the concept of grouping elements of service quality in e banking proposed by Jun and Chai (2000). In the research results by June and Chai (2001), they divide the three-dimensional quality of service on customer services quality, information quality and product quality Bank. The concept to break down dimensions of quality in internet banking services into three main components, give us a chance to integrated component which will have the most impact on the overall online banking services and evaluate how it will impact overall customer satisfaction.

To illustrate the relationship between the three dimensions of service quality in internet banking then we try to visualize a research model. The research model will define the relationship between the components of the internet banking service quality dimensions. The following shows the relationship between variables in this study (figure 2.1). For this study, the relationships between components or so-called variable will tested and analyzed the effect between one variable with another variable.
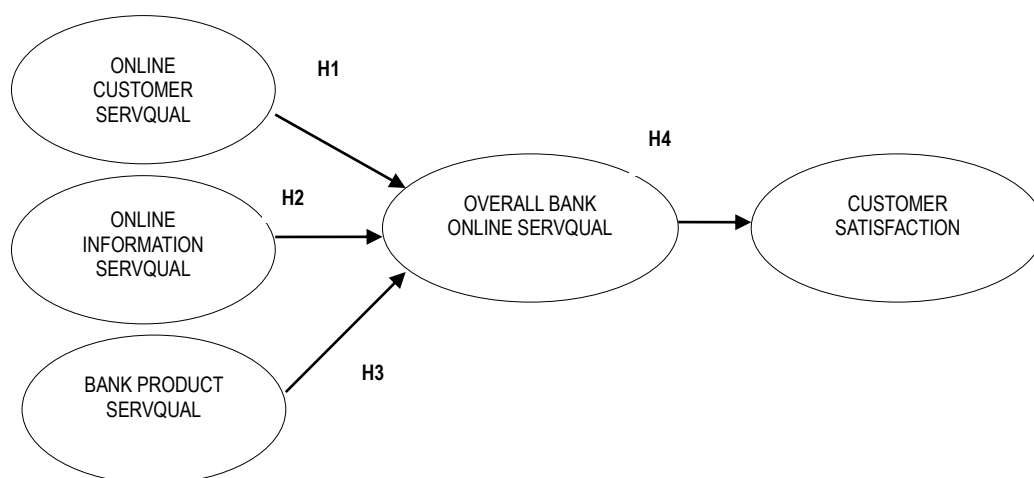

Figure 2.1. Conceptual Model

Relationships between variables will translate into hypotheses. There are four hypotheses developed for this study. The first hypotheses describe relationship between the variables "online customer services quality" with the variable "Overall online service quality". The second relationship present between the variables "online information quality" to variable "overall online bank services quality". The third relationship between the variables "Bank Product Service Quality" to variable "overall bank online service quality"; and lastly the relationship between the variables "overall online bank services quality" to variable "customer satisfaction". The explanation of the relationship between variables is as follows:

2.3.1. Online Customer Services Quality

Customer service is an activity that is essential for a company, a study conducted by Bernet (2001) showed that almost 70% of online purchases were canceled by customers because they do not get good customer service at the beginning of the purchase process (Bernett and Jaramillo, 2001). Another interesting fact is almost 50% of sales of goods online services do not have the facility of customer services so that customers cannot know where they have to ask for help if problematic in online transactions (Motti, 2000). The quality of online services for the customer defined as the difference between the expectations of the customer to the service, by the actual performance of the services provided by the provider after customer put through an evaluation of the service. Researchers have previously conduct studies and found that the positive effect of consumer services on the overall quality of banking services (Rod *et al.*, 2009). In this study, we hypothesized that:

H1: "Online Customer ServQual" has positive influence to "Overall Internet Banking ServQual"

2.3.2. Online Information Services Quality

Good information is the information that the content can be accounted for, easy to access, the latest and maintained the level of safety (Jun and Cai, 2001). If an Internet-based service, providing information to the characteristics of the information submitted that are of good quality. The quality of the information submitted on the Internet banking site in this study considered as one of the elements that will affect the quality of internet banking services and affects customer's satisfaction using internet banking. This is relevant to the results of previous studies that have indicated that the quality of information affects the quality of internet banking services (Ho and Lin, 2010; Liang and Pei-Ching, 2015; Rod *et al.*, 2009). In this study, we proposed that:

H2:"Online Information ServQual" has positive impact to "Overall Internet Banking ServQual"

2.3.3. Bank Product Services Quality

The needs of customers in the banking sector will fulfilled if such customers get benefit from the products offered by banks that provide services. The availability of diversified products and also it has the features to suit the needs of customers is the main reason a product will be popular with customers (Sayani, 2015). At any electronic based service diversity and product features become important elements are the key to the success of a product (Shaik, 2014). Past research indicates that the quality of banking products will affect the overall quality of banking services (Jun and Cai, 2001; Rod *et al.*, 2009). In the context of this study, we argue that:

H3: "Bank Product ServQual" has positive impact to "Overall Internet Banking ServQual"

2.3.4. Overal Bank Online Services Quality

It is the hope of all the banks that the customer will be loyal to the services they offer (Sayani, 2015). To be loyal customers of course have to be satisfied with the quality of services that they provided (Sadiq Sohail and Shaikh, 2008). Be a challenge for banking institutions, which provide electronic services, in order to provide the best service to our customers. It has become a general understanding that the quality of service will affect customer satisfaction (Kaura *et al.*, 2014; Liang and Pei-Ching, 2015; Rod *et al.*, 2009; Sayani, 2015; Shaik, 2014). In the context of this study we argue that:

H4: "Overall Internet Banking ServQual" has positive impact to "Customer Satisfaction"

3. Research Methodology

3.1. Sample

The data collection conducted online by using the application of the Survey Monkey. Fifteen questions submitted in this questionnaire. The questionnaire then distributed to the respondents through online shopping community of Jambi that found on facebook. The reason why

questionnaire distributed to the online shopping community Jambi city, mainly because of the assumption that online shopping community is a community that plays an active role avail the facility of online payment services for their shopping activities.

Total of 115 respondents gave responses into the online questionnaire and 75 responses declared invalid. The respondents who participated in the survey consisted of

72% male .and female 28%, of which 18% aged less than 20 years and 67% at age 21-55 years; 25% aged over 56 years. If the views of the respondents' education from bank customers then, as many as 87% of respondents, education diploma or equivalent and 13% of them educated S1, S2 or S3. While looking at the jobs then 20% are self-employed, 76% are private and 4% are civil servants.

Table 3.1.
Profil Responden

Demographic characteristics	Number of respondents	Percentage
Gender		
Male	54	72%
Female	21	28%
Age		
20 years and under	14	18%
21-55 years old	50	67%
55 years and over	11	25%
Level of education		
High School or equivalent	0	0%
Diploma or equivalent	65	87%
S1, S2 or S3	10	13%
Profession		
Entrepreneur	15	20%
Private	57	76%
PNS, POLRI, TNI	3	4%

3.2. Research Instruments
This study developed an instrument based on the model of research that has made. To measure each construct in this research model is developed measuring instrument, which ireflected in each indicator on each construct to exist.

Table 3.2.
Variables in Research

Variable	Definition	Source
Online Customer Services Quality	Positive perceptions of bank customers on the quality of a bank's internet banking service	(Rod *et al.*, 2009)
Information Services Quality	The positive perception of customers relating to the quality of information presented in the online bank's website	(Rod *et al.*, 2009)
Bank Product Service Quality	Perception of bank customers relating to the diversity of services and service features that are available in a bank's internet banking	(Rod *et al.*, 2009)
Overall Internet Banking Services Quality	Positive customer perceptions of the overall quality of a bank's internet banking service	(Rod *et al.*, 2009)
Customer Satisfaction	The level of customer satisfaction of internet banking services of a bank	(Rod *et al.*, 2009)

Table 3.3.
Variables and Indicators

Variable	Indicator	Source
Online Customer Services Quality	CS1: ABC Bank Internet Banking sites provide information that is useful to me CS2: When I have problems in using internet banking, ABC bank can provide the right solution for me CS3: I feel safe conduct online transactions through internet banking Bank ABC	(Rod et al., 2009)
Information Services	IS1: My online transaction always accurate IS2: The information on my account well documented and clear IS3: Information on Internet Banking PT ABC website is always up to date	(Rod et al., 2009)
Bank Product Services	BP1: ABC Bank Internet Banking provides online services that I need BP2: All the facilities I needed an online service available in the Internet Banking menu ABC BP3: ABC Bank Internet Banking Facilities diverse online services	(Rod et al., 2009)
Overall	OL1: Overall the internet banking service of Bank ABC effectively OL2: Internet banking ABC bank providing online services in vain OL3: Overall the internet banking service of Bank ABC highly qualified	(Rod et al., 2009)
Customer Satisfaction	CS1: I was satisfied with the bank's internet banking service, ABC. CS2: ABC bank's internet banking service has met my expectations CS3: Internet banking services provided by Bank ABC is fun	

3.3. Data Analisis

This study uses Structural Equation Model (SEM) to validate the research model. SEM used in this study because of its ability to test a casual relationship between the construct that has a number of indicators. In the SEM, there are two steps to analyze the data, the first to perform tests on the measurement model and then perform tests on structural models. To ensure that constructs and items meet the criteria better then conducted tests of validity and reliability in measurement models. Then conducted the validation of structural models to test hypotheses which developed in the research model.

4. Result

This study using SEM (Structural Equation Model) in analyzing the data that obtained from the survey. SEM applied by using Smart PLS application V2. In conducting SEM, there are two major steps in analyzing the data using the concept of SEM, the first is by evaluating the "measurement model" and then followed by evaluating the "structural model"*(Chin, 2010).*

4.1. Evaluation of "Measurement Model"

Evaluation of "measurement model" is a major step that must do before the test

hipotheses done. This stage aims to ensure that the research instrument developed in this study met the criteria that have been determined in a quantitative study. In quantitative research, the validity and relaibilitas to a research instrument is an activity that must be done (Gefen and Straub, 2005).

4.2. Reliability Test

Reliability defined as the degree of reliable of an instrument, whether the instrument will give consistent results when given to respondents share. To test the reliability of the evaluation of the value of alpha compositing reability and Cronbachs any of the variables contained in the instrument of research conducted (Gefen and Straub, 2005). Cronbach alpha value is above 0.7 indicates a good level of reliability for a variable. In the table below, we can see that all the variables are at a value above 0.7. This shows that the level of reliability of variables in terms of the value of alpha is crobanh have met the criteria. Composite reliability was good value is if it is above 0.7. In the table below can found that all CR value of each variable is above 0.8 it illustrates that all variables have met the criteria and meet the elements of reliability.

Table 4.1.
Reliability Test

Variabel	Composite Reliability	Cronbachs Alpha	AVE
Banking Services Product Quality	0.8328	0.7507	0.6316
Customer Satisfaction	0.9189	0.8686	0.7911
Online Customer Sevices Quality	0.9024	0.8367	0.7554
Online Information Services Quality	0.8568	0.7515	0.6691
Overall Internet Banking Services Quality	0.9009	0.8343	0.7521

Another component that can be used as additional reference in assessing the reliability is the value of each variable AVE. AVE value above 0.5 is considered to have met the criteria baik.Dari the table above it can be concluded that the lowest value for each variable AVE is 0.63 which is owned by the variable "Banking Services Product Quality",

we can conclude that all variables have to meet the standards of reliability that has been agreed upon.

4.3. Validity Test

A research instruments can be good if it has validity that meet agreed the criteria (Straub *et al.*, 2004). So if the instrument is running

the study measuring function, it will provide results in accordance with the purpose for which such measurements. While the tests have low validity of data that is likely to produce less or may not correspond to objective measurement. In carrying out the validity of the test can be carried out an evaluation of the "construct validity"(Straub *et al.*, 2004). The measurement of "construct validity" is to evaluate the extent to which the test is intended to measure a theoretical construct. The evaluation was carried through, constructors tests was done through the analysis approach factor, consider how the relationship between the nature of the characteristics of the other variables in this case will do tests to be done with regards to "construct validity" is a test of "discriminant validity" and "convergent validity" (Waltz *et al.*, 2005).

(i)   Convergent validity
Factor analysis is very relevant for the validation of the contact because it can be used to identify and access the relative strength of the various characteristics of different psychological qualities. Factor analysis can also be used in designing tests to identify the factor or factors primer through a series of different tests. Thus, factor analysis can be used to simplify a test or more by reducing the number of categories into a number of factors or some features only sfiat (Gefen and Straub, 2005). We used two approaches to ensure that all constructs that exist on the instrument is valid, is by using the method of convergent validity and desciminant validity. Convergent Validity is One method used to achieve the "construct validity", it is to conduct a test correlation or convergence of the variables that exist with the indicator (Urbach and Ahlemann, 2010). The indicator variable has a value of loading factor (Table 4.2) is above 0.5 then an indicator is valid.

Table 4.2.
Loading Factors

	Banking Services Product Quality	Customer Satisfaction	Online Customer Sevices Quality	Online Information Services Quality	Overall Internet Banking Services Quality
BS1	0.8425				
BS2	0.9163				
BS3	0.5876				
CS1		0.8175			
CS2		0.9193			
CS3		0.9273			
OC1			0.8208		
OC2			0.9211		
OC3			0.8627		
OI1				0.8877	
OI2				0.8737	
OI3				0.6753	
OV1					0.8499
OV2					0.9149
OV3					0.8349z

(i)   Discriminant Validity

The test should not only demonstrate the validity of this convergence, but also have the discriminatory validity, which would indicate low or negatively correlation with variables that are theoretically different from her. Tables 4.3 and 4.4 show the correlation between the indicators with each variable and compared with an indicator those other indicators, so it seen that the correlation indicators are higher in value than the other indicators correlation with that variable.

Table 4.3.
Cross Loading Factors

	Banking Services Product Quality	Customer Satisfaction	Online Customer Sevices Quality	Online Information Services Quality	Overall Internet Banking Services Quality
BS1	0.8425	0.222	0.2996	0.3008	0.338
BS2	0.9163	0.2942	0.4366	0.4293	0.5471
BS3	0.5876	0.135	0.0752	0.1312	0.1146
CS1	0.202	0.8175	0.3687	0.4502	0.325
CS2	0.2921	0.9193	0.3828	0.5732	0.3984
CS3	0.2818	0.9273	0.4619	0.6589	0.4868
OC1	0.375	0.4316	0.8208	0.7964	0.6447
OC2	0.3368	0.388	0.9211	0.5824	0.6285
OC3	0.3515	0.374	0.8627	0.5574	0.6176
OI1	0.3524	0.3737	0.5881	0.8877	0.7732
OI2	0.352	0.4407	0.7805	0.8737	0.6091
OI3	0.3106	0.9188	0.4576	0.6753	0.4633
OV1	0.4403	0.4385	0.5973	0.5614	0.8499
OV2	0.5319	0.4105	0.6669	0.6457	0.9149
OV3	0.3284	0.3576	0.623	0.795	0.8349

Table 4.4.
AVE

	Banking Product SerQual	Cust Satis	Online Cust Sev Qual	Onl Infor SerQual	Overall Int Banking ServQual
Banking Product Serv Qual					
Customer Satisfaction	0.2946				
Onl Cust ServQual	0.4086	0.459			
Onl Infor ServQual	0.4119	0.6419	0.7458		
Overall Int Banking ServQ	0.5	0.4628	0.7265	0.7728	

4.4 *"Structural Model" Test*

After evaluation of the "measurement model" is done, the next step is to evaluate the "structural model"(Urbach and Ahlemann, 2010). The evaluation process carried out to ensure the structural model of the relationship between variables that have defined in conceptual models, which has

developed in this study. In evaluating the "structural model", the activities to validate the model become a important part. There are several things that can be done to ensure that the model in the category of fit among others, by evaluating the value "coefecient determinantiont" (R2), and then evaluate the value "Path Coefecient" and then evaluate the value of "effect size"(Chin, 2010)

Table 4.5.
Research Variable

Independent Variabel	Dependent Variabel
Banking Services Product Quality	Overall Internet Banking Services Quality
Online Customer Sevices Quality	Customer Satisfaction
Online Information Services Quality	

Based on the results of the data analysis, the value of R2 (joint influence) of variable idependent "Banking Services Product Quality", "Online Customer Services Quality" and the independent variables "Online Information Services Quality" to dependent variable "Overal Internet Banking Services Quality" is 0675. While the value of

(i) Evaluation of Coefecient Determinantiont (R2)
R2 can interpret as a joint Effect that should be the total of the respective influence of the independent variable (exogenous) the dependent variable (endogenous) (See Table 4.5).

R2 four variables to variable "Customer Satisfaction" is 0.2142. This value categorized moderate, so it can concluded that the three independent variables and the dependent variable together to give effect to the moderate level of the dependent variable "Customer Satisfaction".

Table 4.6.
Model Fit Indicator

	R Square	Cronbachs Alpha	Communality	Redundancy
Banking Services Product Quality	0	0.7507	0.6316	0
Customer Satisfaction	0.2142	0.8686	0.7911	0.1648
Online Customer Sevices Quality	0	0.8367	0.7554	0
Online Information Services Quality	0	0.7515	0.6691	0
Overall Internet Banking Services Quality	0.675	0.8343	0.7521	0.1131

(i) Evaluation of Path Coefecient (Path Analysis)
Path coefficient / path weight in general are standardized regression coefficients. Some researchers claim that the value of a good path coefficient is above 0.1, if the value of the coefficient paths of these variables to

give effect to the model. From Figure 4.1 shows that the path coefecient value for each of the relationship between variables is above 0.1, so it can conclude that the value of the path coefecient for all the good relationship between variables categorized.
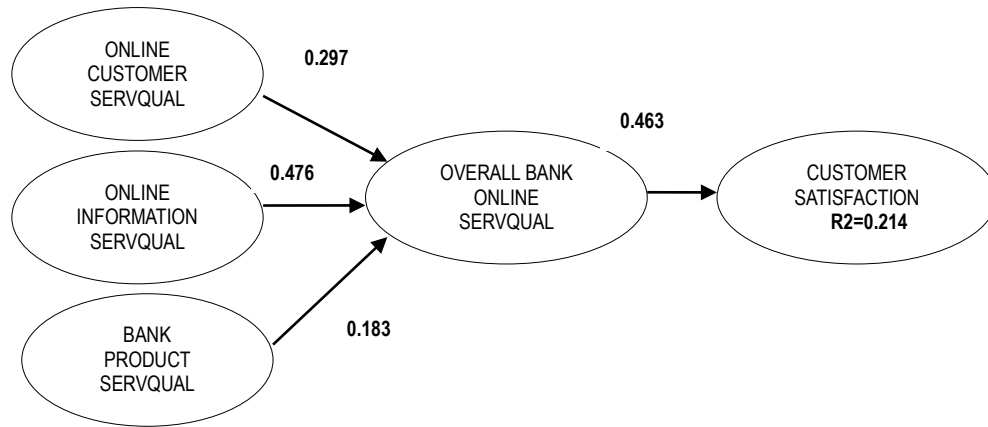
Figure 4.1. Validity Test Results Model

4.5 Hypothesis Testing

After doing some tests to ensure that, the model developed qualifies to categorize as a fit model, then the next step is to test hipoteses previously developed. Hipoteses developed based on the results of the study of previous researchers who discussed the E-ServQual and relationship with internat banking services. Four hipoteses developed for describe the relationship among the five variables. The description of the relationship between variables is as shown in the Figure below:
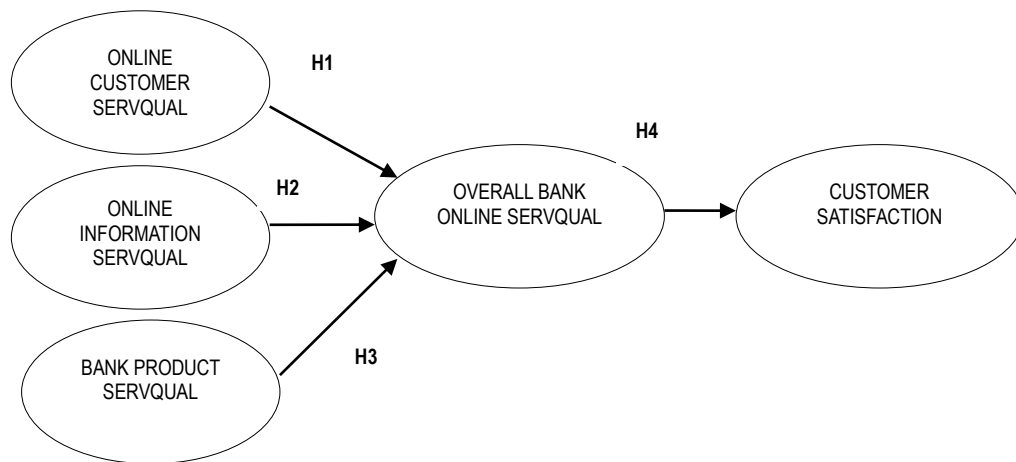

Figure 4.2. Structural Model

After a series of steps to test the hypothesis that, it can result as can found in Table, below:

Table 4.7
Hypothesis Test Results

Hipoteses	Path Coeffecient	T-statistic	P-Value	Hasil
H1	0.297	2.3785	0.0182	Supported
H2	0.476	3.6727	0.0003	Supported
H3	0.183	2.5078	0.0128	Supported
H4	0.463	4.7885	0.0001	Supported

DF= the number of respondents-the number of variables
DF=75-5   DF=70

In six hypotheses constructed in this study, the results were all four hypotheses supported.

5. Discussion

This study aims to investigate how the relationship between the qualities of a bank's electronic services with customer satisfaction derived when utilizing the service. A concept adopted from the service quality assessment (Parasuraman *et al.*, 2005) dan (Jun and Cai, 2001). The concept of quality of service-based electronics that defines the quality of banking services based electronics will be affected by three main components, namely "online customer services quality", "online information quality" and "Bank product services quality" of the concept was developed a research model and tested using research instrument distributed online in an online community on facebook.

The results suggest that the three components contribute significantly to the quality of electronic services to the bank in Edinburgh and quality of service found to significantly affect customer satisfaction. Both components of the "online customer services quality", "online information quality" and "Bank product quality services" in this study were found to have contributed to the overall service of electronic banking banking, these findings are consistent with results from (Rod *et al.*, 2009).

Other findings stating that affect service quality on customer satisfaction in using electronic banking services is relevant to the results of previous studies which stated that the quality of service significantly affect customer satisfaction in using electronic banking facilities (Broderick and Vachirapornpuk, 2002; George and Kumar, 2014; Kaura *et al.*, 2014; Liang and Pei-Ching, 2015; Rod *et al.*, 2009; Sadiq Sohail and Shaikh, 2008; Siddiqi, 2011; Singh *et al.*; Wu *et al.*, 2012; Zeithaml *et al.*, 1996; Zeithaml *et al.*, 2002). The results of this study reinforce the concept that the quality of service and customer satisfaction has a close relationship.

6. Conclusion

This research expected to contribute both theoretically and practically. In theory, this research expected to strengthen the theory and relevant research results with the results of this study, which found that the quality of Internet-based services could significantly affect the satisfaction of customers who use the service. While practically managerial results of this study can be used as input for both practitioners and the management of the organization, to be able to develop products banking services based on internet and to develop strategies and policies that are based on the results of the research is that the quality of banking services based internet affected by three components, namely the quality of products banking itself, the quality of information provided by internet service and quality of customer service provided. Future research could conduct in provide more understanding in services quality of internet banking. Some factors that could consider related with internet infrastructed and government policy in internet banking services.

References

Bernett, H., & Jaramillo, M. L. (2001). Assessing web-enabled call center technologies. *IT Professional, 3*(3), 24-30.

Broderick, A. J., & Vachirapornpuk, S. (2002). Service quality in internet banking: the importance of customer role. *Marketing Intelligence & Planning, 20*(6), 327-335.

Chatzoglou, P. D., Kamperidou, S. E., Vraimaki, E., Polychrou, E., Aggelidis, V. P., & Diamantidis, A. D. (2014). Factors affecting the adoption of internet banking in Greece. *International Journal of Applied Systemic Studies, 5*(4), 290-310.

Chin, W. W. (2010). How to write up and report pls analyses. In V. Esposito Vinzi, W. W. Chin, J. Henseler and H. Wang (Eds.), *Handbook of Partial Least Squares* (pp. 655-690): Springer Berlin Heidelberg.

Emerson, E., McGill, P., & Mansell, J. (2013). *Severe learning disabilities and challenging behaviours: Designing high quality services*: Springer.

Gefen, D., & Straub, D. (2005). A practical guide to factorial validity using PLS-Graph: Tutorial and annotated example. *Communications of the Association for Information Systems, 16*(1), 109.

George, A., & Kumar, G. G. (2014). Impact of service quality dimensions in internet banking on customer satisfaction. *Decision, 41*(1), 73-85.

Gibson, R. (2003). Online customer service. *The economic and social impacts of e-commerce*, 95.

Ho, C.-T. B., & Lin, W.-C. (2010). Measuring the service quality of internet banking: scale development and validation. *European Business Review, 22*(1), 5-24.

Jenkins, H. (2007). Adopting internet banking services in a small island state: assurance of bank service quality. *Managing Service Quality: An International Journal, 17*(5), 523-537.

Jun, M., & Cai, S. (2001). The key determinants of internet banking service quality: a content analysis. *International journal of bank marketing, 19*(7), 276-291.

Kaura, V., Prasad, C. S. D., & Sharma, S. (2014). Impact of service quality, service convenience and perceived price fairness on customer satisfaction in indian retail banking sector. *Management and Labour Studies, 39*(2): 127-139.

Ladhari, R. (2010). Developing e-service quality scales: A literature review. *Journal of Retailing and Consumer Services, 17*(6), 464-477.

Liang, C.-C., & Pei-Ching, W. (2015). Internet-banking customer analysis based on perceptions of service quality in Taiwan. *Total Quality Management & Business Excellence, 26*(5-6): 550-568.

Lin, C., Wu, J.-C., & Yen, D. C. (2012). Exploring barriers to knowledge flow at different knowledge management

maturity stages. *Information & Management, 49*(1), 10-23.

Maharsi, S., & Fenny, F. (2007). Analisa faktor-faktor yang mempengaruhi kepercayaan dan pengaruh kepercayaan terhadap loyalitas pengguna internet banking di surabaya. *Jurnal Akuntansi dan Keuangan, 8*(1), 35-51.

Martins, C., Oliveira, T., and Popovič, A. (2014). Understanding the Internet banking adoption: A unified theory of acceptance and use of technology and perceived risk application. *International Journal of Information Management, 34*(1), 1-13.

Nofianda, V. I. (2015). Pengaruh uang elektronik terhadap money multiplier di Indonesia. *Jurnal Ilmiah Mahasiswa FEB, 3*(2).

Parasuraman, A., & Grewal, D. (2000). The impact of technology on the quality-value-loyalty chain: a research agenda. *Journal of the academy of marketing science, 28*(1), 168-174.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). Servqual. *Journal of retailing, 64*(1), 12-40.

Parasuraman, A., Zeithaml, V. A., & Malhotra, A. (2005). ES-QUAL a multiple-item scale for assessing electronic service quality. *Journal of service research, 7*(3), 213-233.

Rod, M., Ashill, N. J., Shao, J., & Carruthers, J. (2009). An examination of the relationship between service quality dimensions, overall internet banking service quality and customer satisfaction: A New Zealand study. *Marketing Intelligence & Planning, 27*(1), 103-126.

Sadiq Sohail, M., & Shaikh, N. M. (2008). Internet banking and quality of service: Perspectives from a developing nation in the Middle East. *Online Information Review, 32*(1), 58-72.

Sayani, H. (2015). Customer satisfaction & loyalty in the United Arab Emirates banking industry. *International Journal of Bank Marketing, 33*(3), 351-375.

Shaik, S. (2014). A study on customer satisfaction towards e banking

services and products in commercial banks.

Siddiqi, K. O. (2011). Interrelations between service quality attributes, customer satisfaction and customer loyalty in the retail banking sector in Bangladesh. *International Journal of Business and Management, 6*(3), 12.

Singh, A., Verma, D., & Bharti, V. *An Examination of the Relationship between Service Quality Dimensions,* Overall Internet Banking Service Quality and Customer Satisfaction.

Straub, D., Gefen, D., & Boudreau, M.-C. (2004). Validation guidelines for IS positivist research. *Communications of the Association for Information Systems, 13*(24): 380-427.

Urbach, N., & Ahlemann, F. (2010). Structural equation modeling in information systems research using partial least squares. *Journal of Information Technology Theory and Application, 11*(2), 5-40.

Waltz, C., Strickland, O., Lenz, E., & Soeken, K. (2005). Validity of measures. *Measurement in nursing and health research. New York (NY): Springer Publishing Company.*

Wu, Y.-L., Tao, Y.-H., & Yang, P.-C. (2012). Learning from the past and present: measuring Internet banking service quality. *The Service Industries Journal, 32*(3), 477-497.

Zavareh, F. B., Ariff, M. S. M., Jusoh, A., Zakuan, N., Bahari, A. Z., & Ashourian, M. (2012). E-service quality dimensions and their effects on e-customer satisfaction in internet banking services. *Procedia-Social and Behavioral Sciences, 40*, 441-445.

Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *The Journal of Marketing*, 31-46.

Zeithaml, V. A., Parasuraman, A., & Malhotra, A. (2002). Service quality delivery through web sites: a critical review of extant knowledge. *Journal of The Academy of Marketing Science, 30*(4), 362-375.