

# **INTERNET BANKING ADOPTION IN ASIAN COUNTRIES A META ANALYTIC REVIEW**

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## **Abstract**

*The purpose of this study was to find the factors that most influence the adoption of internet banking in Asia region. The method used in this study is meta-analysis, consisting of 12 articles that related to internet banking adoption in Asian region. The increasing technological development at present, especially internet usage, making bank services change from traditional banking to digital banking. The growth of Internet banking give consumers a fast and easy method to undergo many banking transactions anytime and anywhere, thereby increasing the efficiency and competitiveness of the banking industry. The result of this study has identified several important factors underlying the decision to adopt internet banking. The result of Meta-analysis studies show the security, trust, and ease of use as the most influence independent variable in adoption internet banking in Asia region.*

*Keyword: Internet banking, e-banking dimensions, customer adoption, technology acceptance model, meta-analytical review*

## **INTRODUCTION**

The increasing technological advances nowadays, especially those related to internet usage influence the bank companies towards their interaction with customers, (Parasuraman and Zinkhan, 2002). Internet banking is one of the media used by bank to provide information

services to customers through sophisticated technology (Safeena, 2010). Internet in the banking industry is used to develop services to consumers. This is because Internet is an innovation for service users that can be used easily. Internet banking is one of the many results of the development of bank services using the Internet. Internet banking gives consumers a quick and easy method to undergo many banking transactions anytime and anywhere from home to office. This is because it is 24 hours a day and 7 days a week provided services from internet banking. Consumers can save time for travel and queue up in queues to pay bills or access other banking services.

According to Mc Kinsy (2011), the development of Internet banking in developing countries has recently increased. Perumal and Vignese (2004) stated that in Malaysia, the bank that pioneered internet banking services was maybank, the growth of internet banking usage in Malaysia in 2000 continued to increase with the increasing number of banks providing internet services to their customers.

Aditiasari (2016) stated that banking transactions using electronic banking (e-banking) in Indonesia in frequency and volume continue to increase. according to BCA (Bank Central Asia) cited in 2016, the number of transactions has reached 363.9 million or increase of 51.12% from the previous year. While the transaction value reached Rp 337.6 billion or grew 45.01%. High growth is also shown from internet banking transaction data. The number of transactions increased 47.26% to 797.3 million transactions in June 2016. In terms of value of transactions using internet banking grew 28.76% from Rp 2.57 trillion in June 2014 to Rp 3.31 trillion in June 2016. With the increasing use of internet banking in asia, the purpose of this research is to find out factors that most influence internet banking adoption, besides that it aims to compare several literatures that have the same theoretical approach, so this meta-analysis research can provide direction for future research in the field of internet banking.

## **LITERATURE REVIEW**

### **Internet banking**

Internet banking is a facility offered by banks to customers in the form of one form of electronic banking (e-banking) through internet media. With internet banking, customers can transact anywhere and anytime with internet media. According to Daniel and Sathye (1999) internet banking can also be called electronic banking, where internet banking can be defined as a means of product and service performed by banks through technology in the form of electronic communication channels. This means that internet banking customers can conduct transaction activities through technology that has been provided by banks wherever and whenever without

having to come to the bank directly, thus providing efficiency to customers in conducting bank transactions through their accounts.

Internet banking is the latest channel in e-banking that allows customers to make transactions via the internet by using gadgets owned by customers, either through computers or cellphones. This feature has advantages where the results / proof of transactions on the menu and information are displayed in full on the computer or mobile screen.

### **E-Banking Dimensions**

According to Clarke (2009), e-banking has three dimensions, namely as follows:

- a) Trust (Trust), Trust is the main thing for customers in considering doing transactions in e-banking, whether they believe in the security that exists in banking transaction activities that use the internet network.
- b) Ease (Ease of use), Ease is a consideration for customers in conducting internet banking activities. Because when customers experience difficulties due to security factors and customer ignorance in the way of e-banking transactions tend to discourage them to transact through e-banking. On the other hand there are also several customers who took the initiative to try because they have already obtained information about how to transact e-banking.
- c) Information quality (Information quality), Information on what services are in e-banking must satisfy customer needs. This can help customers inside

### **Customer Adoption**

According to Sathye (1999) adoption is acceptance to continue use ideas, services, or products. In the adoption of internet banking it can be said how customers receive internet banking as Experience is a key determinant of consumer preferences and choices (Foxall, 2003). Adoption is the process of accepting something new (innovation) that offered and attempted by another party. With acceptance that means actually implementing or continuing to use services, products or ideas.

### **Theoretical Approaches**

In this study, from 12 article that related to internet banking adoption in Asian countries there are several theories that are most often used to examine the use of Internet. The Technology Acceptance Model (TAM) developed by Davis (1989) which is one model of behavior in the use of information technology in management information systems. TAM has a purpose to explain and how to predict user acceptance of an information system used. TAM provides a theoretical basis for knowing the factors that influence how technology is received in an organization. TAM

explains how the causal relationship between behavior and belief (the benefits of an information system and ease of use), goals, and the actual use of information system users. The Diffusion of Innovation Theory was developed by Rogers (1995) Diffusion according to Rogers in Mami (2011) is that the innovation process is communicated through certain channels over time to members of a social system. Diffusion is a special type of message communication related to new ideas. In addition, diffusion can also be considered as a type of social change, a process of change that occurs in the structure and function of the social system. This diffusion of innovation occurs in a social system in which there are social structures, individuals or groups of individuals, and certain norms. Theoretically the theory of innovation diffusion illustrates adoption patterns, explains the mechanism of innovation and helps predict whether diffusion will succeed. Then the Theory of Reasoned Action developed by Fishbein and Ajzen (1975), this theory uses the basic assumption that humans behave in a conscious manner and consider all available information. Of the three theories, almost all the studies listed in this meta-analysis follow one of these approaches or a combination of these approaches.

## RESEARCH METHOD

The method used in this study using meta-analysis. Borg (1983) in Adam (2016), stated meta-analysis is an analysis technique with the most recent development to assist researchers in determining the consistency or inconsistency of research in cross-assessment of the results of the study. According Merriyana (2006) a meta-analysis can be interpreted simply as an analysis of analysis. As a research, meta-analysis is a study of a number of results from several studies within the scope of similar problems. Meta-analysis is one way to make a summary of quantitative research results. The steps that must be taken in the meta-analysis include the following procedures:

- 1) Determine keywords to look for similar research. In this case determine the criteria for searching similar articles where the limitations are journals or research focusing on the influence of the adoption of internet banking in Asia region. Then determine the keywords to look for similar articles, the keywords used are Internet Banking combined with influences or factors adoption that influence, and enter the names of countries in Asia.
- 2) Collect similar research that has similarities with the adoption of internet banking, check the title and abstract of the research whether it is relevant to the research objectives. If it is relevant, we can proceed to the next step.
- 3) Explain and conclude data from similar articles. like variables that have influence or not.
- 4) Analysis and interpretation of the results of the analysis itself.

## ANALYSIS

### Similar Research Studies

In this meta-analysis research, the author is assisted by similar studies that have a relationship with the factors that influence the adoption of internet banking to be used as a reference for the authors in making this research. The data obtained are 12 articles related to internet banking adoption in Asian region.

Table 1. Similar research

No.	Title	Country	Author	Year	Variable
1	Factors That Influencing Adoption of Internet Banking in Malaysia	Malaysia	Mathavi Massilamany & Dineswary Nadarajan	2017	- Adoption of banking, - knowledge and - self efficacy, - trust, - security and - comfort
2	Factors Influencing Customers' Acceptance of Internet Banking Services in Sudan	Sudan	Adam Haroun Omer Khater, Dr. Babikir Alfaki Almansour, Dr. Mohammed Hamad Mahmoud	2016	- Internet Banking Awareness, - Accessibility, - Internet connection quality, dan - Internet Banking Cost
3	Determinants of Internet Banking Adoption among Customers of Commercial Banks: An Empirical Study in the Jordanian Banking Sector	Jordan	Hussein Ahmad Alwan1 & Abdelhalim Issa Al-Zu'bi	2016	- Ease of Use (PEOU), - Quality of Web Services (SQ), - Customer Trust (CT) - Customer Feedback (CFB)
4	Analysis Factors of Using Internet Banking in Indonesia	Indonesia	Esi Oktafian Fatimah & AMA Suyanto	2016	- Performance Expectancy, - Facilitating Conditions, - Social Influence, - Trust, and - Effort Expectancy
5	Perceived Risk and Behavioral Determinants of Using Internet Banking in Egypt	Egypt	Amani Hussein, and Mohamad Saad	2016	- Perceived usefulness, - Ease of perceived use, - Security risks, - Privacy risks, - Financial risk, - Awareness - Resistance to change - Computer self efficacy
6	Factors that Influence the Adoption of Online Banking Services in Hyderabad	Hyderabad	Maitlo GM, Kazi ZH, Khaskheley A and Faiz M Shaikh	2015	- Channel Convenience, - Information on online banking, - Perceived Risk, - Prior internet Knowledge, - Security Perception

No.	Title	Country	Author	Year	Variable
7	Factors that Influence Internet Banking Adoption among Post-Graduate Students	Malaysia	Mohd Sazili Shahibi, Sham Sul Kamal Wan Fakeh, Adnan Jamaludin, Norhayati Hussin, Zahari Mohd Amin, Mawar Murni Sarip	2014	- Trust, - Ease of use, - Usability and - Quality of service
8	Factors Effecting on Internet Banking Adoption: A Case Study	Sri Lanka	Yadharshny Sivapragasam and T.S.G. Peiris	2014	- Demographic, - Convenience, - Risk and - Security
9	Empirical Analysis of Internet Banking Adoption in Tunisia	Tunisia	Wadie Nasri	2014	- Perceived usefulness, - Perceived ease of use, - Awareness, - Social norm, - Security and - Privacy, and - Computer self efficacy
10	Investigating the Factors Influence Adoption of Internet Banking in Malaysia: Adopters Perspective	Malaysia	Yong Hoe Hong, Boon Heng Teh, Gowrie Vinayan, Chin Hooi Soh, Nasreen Khan & Tze San Ong	2013	- Security, - Complexity,- - Customer Experience, - Individual characteristics
11	Muslim Consumers' Perception on Internet Banking Services	Malaysia	Marhana M. Anuar, Fadzli Adam, dan Zakaria Mohamad	2012	- Complexity - Relative advantage - Compatibility - Trialability
12	Would Gender and Age Influence Internet Banking Adoption in Jordan?	Jordan	Hind Talafha, dan Emad Abu-Shanab	2015	- Education, - Gender, and - Age

Source: Authors' compilation

- 1) According to Massilamany & Nadarajan (2017) knowledge and self-efficacy and trust influence the adoption of internet banking in Malaysia.
- 2) According to Khater, Almansour, and Mahmoud (2016) show that customers prefer to use internet banking services because it has internet banking awareness and the quality of internet connection as appropriate.
- 3) According to Hussein Ahmad Alwan<sup>1</sup> & Abdelhalim Issa Al-Zu'bi (2016) all variables have a significant impact on the application of Internet banking while the best predictors for adoption are accounted for by the quality of the website followed by the customer's trust.

However, adoption rates are low and are tracked primarily by customers of higher education and high ability in using computer applications and Internet experience

4) Esi Oktafian Fatimah & AMA Suyanto (2016). There are three factors that influence the decision to use internet banking. The three factors are: Performance Expectancy, Trust and Social Influence

5) Amani Hussein, Mohamad Saad. (2016). The results revealed that perceived usefulness and perceived ease to use have a positive and significant role in shaping the user's intention to use IB.

6) Maitlo, Kazi, Khaskheley, and Shaikh (2015). Convenience Channel, Online Banking Information, Perceived Risk, Prior Internet Knowledge, Security Perceptions (Independent Variables) on Adoption of Online Banking Services

7) Mohd Sazili Shahibi, Sham Sul Kamal Wan Fakeh, Adnan Jamaludin, Norhayati Hussin, Zahari Mohd Amin, Mawar Murni Sarip (2014). Trust has supported the adoption of internet banking. The results show that trust will influence the adoption of internet banking among students. Without proper security and privacy protection, users will not use internet banking services.

8) Yadharshny Sivapragasam and T.S.G. Peiris (2014). The demographic variables gender, age, educational level and monthly income were identified as significant influential variables. An important finding of this study is that, among 'early adopters', convenience was a more important indicator of intentions to adopt IB.

9) Wadie Nasri (2014). The results show that intention to adopt Internet banking can be predicted by perceived usefulness and perceived ease of use. Perceived usefulness appeared to be an important predictor of intention to use Internet banking than perceived ease of use. Customers' perceived usefulness can be determined by perceived ease of use, awareness of services and its benefits and social influence, while their perceived ease of use can be affected by security and privacy, and self computer efficacy.

10) According to Hong, Tea, Vinayan, Soh, Khan & Ong (2013), Security, Complexity, Customer Experience, Individual Characteristics influence the adoption of internet banking

11) According to Marhana M. Anuar, Fadzli Adam, and Zakaria Mohamad (2012) the majority of Muslim consumers have never used internet banking and some still question the security of this service.

12) According to Talafha, and Shanab, there is no important role of the three demographic factors (gender, age and education) except for one factor (gender) and only for one construct of our research model (tangibles).

There are many variations of variables used from several studies. Table 2 gives the frequency of independent variables that appear in the studies used in this paper.

Table 2. Frequency of Occurrence

Independent variable	Frequency of Occurrence
Adoption of banking	1
Knowledge	2
Self efficacy	2
Trust	4
Security	6
Comfort	1
Internet Banking Awareness	2
Accessibility	1
Internet connection quality	1
Internet Banking Cost	1
Ease of Use	4
Quality of Services (SQ),	2
Customer Feedback (CFB)	1
Facilitating Conditions	1
Social Influence	2
Effort Expectancy	1
perceived usefulness	2
privacy risks	1
performance risk	1
Convenience	2
Information on online banking	1
Perceived Risk	1
Usability	1
Risk	1
Privacy	1
Complexity	1
Customer Experience	1
Individual Characteristic	1
Education	2
Gender	2
Age	2

## RESULTS AND DISCUSSION

The result of this study shows security, trust, and ease of use as independent variable that most influence internet banking adoption. In this study shows that most customers significantly pay attention to the level of security in using internet banking, with the level of security can prevent theft and misuse of data and can make customers feel safer when making transactions with internet banking.



In addition to security, consumers are also very concerned about the factor of trust and ease in conducting internet banking adoption. Basically the bank can perform banking activities because it has the principle of trust between banks and customers, so that every bank needs to continue to maintain its health while maintaining public trust in it. The willingness of the people to keep some of their money in the bank is solely based on the belief that the money will be recovered at the desired time or in accordance with the agreed and accompanied with the reward, not the exception in using internet banking. and easiness also greatly affect consumers in adopting internet banking, by having a system that is easy to use and understood by customers can increase the internet banking adoption rate. The systematic review of the literature in this field is intended to summarize what is already known and also to provide new ideas for future studies. For future research, researchers can add several new variables or use variables that are rarely used for different regions, to test which variables have a significantly positive impact on the adoption of internet banking in this study.

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