

## **Muslim Consumers' Perception on Internet Banking Services**

**Marhana M. Anuar**

Department of Management and Marketing  
Faculty of Management and Economics  
Universiti Malaysia Terengganu  
Malaysia

**Fadzli Adam**

Department of Nationhood and Civilization Studies  
Faculty of Social Development  
Universiti Malaysia Terengganu  
Malaysia

**Zakaria Mohamad**

Department of Psychology and Counseling  
Faculty of Social Development  
Universiti Malaysia Terengganu  
Malaysia

### **Abstract**

This study aims to analyze the Muslim consumers' adopters' category pertaining to adoption process, banking activities and perceptions on the Internet banking attributes. It also examines whether the demographic factors, products characteristics and categories of adopters influence the usage of Internet banking in the context of Rogers (1983) diffusion of innovations model. Using convenience sampling, a sample of 100 Malay respondents was interviewed in the period of two weeks in Kuala Terengganu. Many researches have been conducted on Internet banking but studies that focuses on Muslims consumers' adoption of Internet banking remains scarce. The data were then analyzed by looking for adopters' category, banking activities and Muslims consumers' perception on the service attributes. The results revealed that the majority of Muslim consumers have not used Internet banking. However, the future of Internet banking is promising as many of the Muslim consumers fall in the early adopters and early majority. In addition, the majority of the respondents also indicated that they intent to use Internet banking service in the future. These findings would have significant implications for Internet banking providers.

**Key word:** Internet banking, perceptions, adoption and Muslim consumers

### **Introduction**

The emergence of the Internet has changed the business landscape. The Internet is an extremely important new technology in this era. One particularly important application of the Internet is in the area of banks and financial institutions, (i.e., financial transaction that could actually be done via the Internet). The advent of Internet banking offers considerable opportunities and benefits for both banks and consumers. Banks can expand their client base and rationalize their business. Meanwhile, the Internet banking can also increase consumer convenience, since many banking transactions such as transferring funds and paying bills can be conducted on line.

Internet banking as defines by Bank Negara is "banking products and services offered by banking institutions on the Internet through access devices, including personal computers and other intelligent devices". Bank Negara highlights in its guidelines that an institutions presence on the Internet may be divided into three categories – informational site, communicative site and transactional site. In Malaysia, the Internet in the banking industry was first used mainly as an informational medium; without using physical presence, banks and financial institutions use this channel to market and sell a diverse array of the banking products and services. Consequently, with the development of technologies more banks using the Internet both as a transactional and an informational medium. Nowadays, most of the banks in Malaysia are using the Internet as a new distribution channel for their banking activities.

In line with the global banking landscape, most of Malaysian banks have offered the Internet banking service in order to stay competitive. Although it is evident that most of Malaysian banks offer Internet banking service and the Internet banking service is gaining popularity and acceptance all over Malaysia, the widespread adoption of this new service among Muslims consumers' remains unknown. Some research have been conducted on Internet banking in Malaysia, however, study that focuses on Muslims consumers remain scarce. This study is therefore carried out in order to explore Muslims consumers' adopters' category, highlights the consumers banking preferences and activities and perceptions of the Internet banking attributes.

### ***Literature review***

Numerous studies have been undertaken on the adoption of Internet banking service (e.g., Mohd. Suki, 2010; Ndubisi & Sinti, 2006; T. Ramayah et al., 2003). Several theories have also been developed relating to consumers' behavior which affect the rate of adoption and degree of acceptance of any new innovation such as the Internet banking. According to Rogers and Shoemaker (1971), consumers go through several stages in knowledge conviction and decision confirmation before they eventually adopt a new idea, product or service. Rogers's points out that the process of diffusion is considered to pass through knowledge, persuasion, decision, implementation and confirmation of the innovation in sequence. In this regard, the mass media and other communication channel play important role in all of the stages. In the early stage mass media is very important. An interpersonal channel is perceived as more vital in the stage of persuasion and adoption. In diffusion process, new ideas, products and service is communicated through interpersonal network. Information and knowledge about innovation are shared among people in the social system. For new business or industrial products, the role of change agents is important as they may directly affect the diffusion of products. Whereby, for consumers' goods, opinion leaders play crucial role, as they are normally the first to obtain information about innovation and then pass the information on to the rest of people in the community.

Rogers (1967), also known as founder of humanistic approach in counseling, further notes that acceptance of change is something really difficult for human being to deal with. Change, however, can be accepted only if positive reaction from interaction with others is received. In Islamic perspective, change is acceptable by any individual in the case that he has the will and desire to do change in his life. It is understandably a very difficult paradigm shift to do so, but Islam perceives that this is the most appropriate effort and may be the only way for human being in successfully accepting change. Once change is accepted, human being is easily composed of forgetfulness, which makes him forget and manage to adapt new things (Abdullah, 2011).

In addition, awareness is also important in the adoption process. Consumers' awareness of an innovation is important in order for the consumers to adopt the innovation. In Malaysia, in order to create awareness among banks customers, most of the banks that launch Internet banking service initially started with providing informational web-sites.

Studies on Internet banking adoption analyses the evolution of e-banking, (Balachandher et al., 2000) and factors influencing Internet banking adoption (Sohail & Shanmugam, 2002; Suganthi et al., 2001). Studies by Balachander et al. (2000) studies analyzed the evolution of e-banking in Malaysia; they highlights the development of e-banking since the introduction of ATM machine in 1980's up until the implementation of Internet banking service in middle of 2000. They found that most consumers still prefer ATM and human tellers compared to Internet banking. During the early stage of Internet banking the study revealed that human tellers and ATM machine are still important with regards to their banking needs even though the majority of the respondents have Internet access at home.

Studies on factors influencing Internet banking adoption demonstrated that factors such as psychological and behavioral factors such as trust, costs, reluctance to change and preference for human interface influenced the adoption of Internet banking (Suganthi et al., 2001). Study conducted by Sohail and Shanmugam (2002) revealed demographic factor in particular income level is found to be a significant factor that affect the adoption of Internet banking. In addition, they also found that other factors such as accessibility, reluctance to change and awareness of Internet banking significantly influenced the usage of this service. Other studies found that perceived ease of use and perceived usefulness also significantly influence intention to use Internet banking (T. Ramayah et al., 2003). With regards to product attributes influence on Internet banking adoption, past studies have found that compatibility, complexity and trialability (Ndubisi & Sinti, 2006).

In addition, Mohd Suki (2010) found that compatibility significantly influences Internet banking adoption but trialability has the weakest influence on Internet banking adoption.

## **Research Framework**

This study used the model of Diffusion of Innovations (Rogers 1983). The diffusion of innovation model allows researchers to investigate how new innovations spread among group of people. Based on this model, it is postulated that product characteristics plays an important role in the diffusion process. Five attributes in the products characteristics namely; relative advantage, compatibility, complexity, trialability and observability can be used to predict and explain the diffusion of an innovation. The main concern of this innovation diffusion research is how innovations are adopted and why innovations are adopted at different rates. Rogers (1995) highlights that there are four main elements that influence a new product diffusion – the innovation characteristics, time, communication, and social systems.

## **Characteristics of Innovations**

### **Product/Service Attributes**

#### **Relative advantage**

Relative advantage is a degree to which an innovation is subjectively perceived as superior to existing substitute. It can be measured in terms of economic, social prestige, satisfaction and convenience. Normally, potential adopters want to see an advantage of the innovation before adopting it. The greater the perceived relative advantage of an innovation, the more rapid its rate of adoption is likely to be. According to Tornatzky and Klein (1982) relative advantage is an important factor in determining the adoption of an innovation. Rogers (1983) suggested that perceived relative advantage is positively related to the adoption of an innovation. Internet banking enables consumers to perform their banking activities via the Internet. Internet banking allows consumers to do their banking activities at their convenient time and at the comfort of their homes. The Internet banking offer relative advantage compared to the use of ATM machine and human teller.

#### **Compatibility**

Compatibility is the degree to which an innovation is perceived as being consistent with the existing values and product knowledge, past experiences, and current needs of potential adopters. Tornatzky and Klein's (1982) in their meta-analysis of innovation found that when an innovation is compatible with the individual's job responsibilities and value system, the innovation will be more likely to be adopted. Therefore, an innovation that is incompatible with the values and norms of a social system will not be adopted as quickly as an innovation that is compatible with existing values and norms. To be adopted quickly, the innovation should be compatible with consumers' values and beliefs. With regards to Internet banking, Internet banking can be perceived as a banking channel that is compatible with the profile of the modern day consumer, who is familiar with the Internet and is always busy. Hence, Internet banking is compatible with today's consumers.

#### **Complexity**

Complexity is defined as the degree to which an innovation is perceived as complex/difficult to understand or to use (Cheung, Chang & Lai, 2000). Innovation that is simpler to understand and also easy to use would incline to be adopted more rapidly than innovations that requires adopters to learn new skills and understanding. Past studies found that complexity has negative influence on innovation (Cooper & Zmud, 1990; Cheung et al., 2000; Lederer et al., 2000). Hence, the more complex an innovation is, the slower will be its diffusion. However, the modern day consumers will find using Internet banking as easy to use because they tend to be educated and has sufficient understanding of computer and Internet (Mohd Suki, 2010).

#### **Trialability**

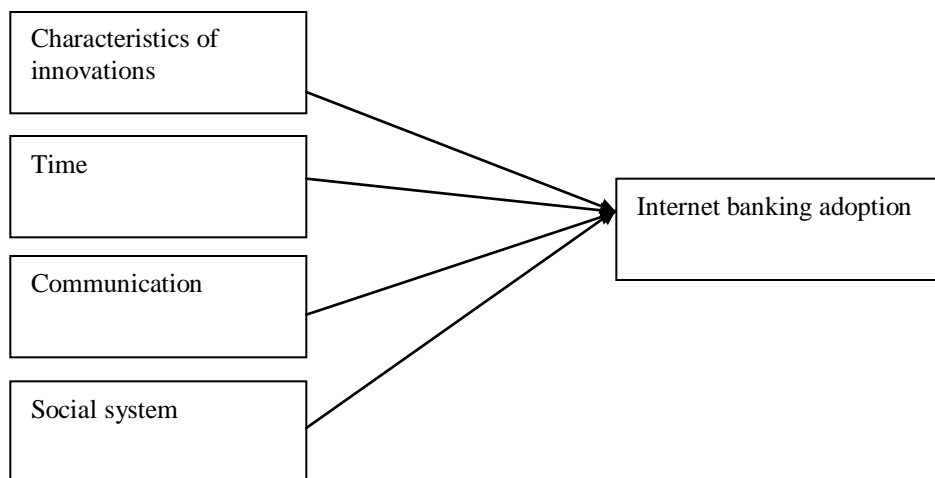
Triability is a degree to which an innovation may be tried out on a limited time basis. Rogers (1983) suggested that potential adopters of an innovation when allowed to experiment with the innovation would feel more comfortable with the innovation and hence would be more likely to adopt it. The opportunity given to consumers to experiment an innovation would reduce their uncertainty of the innovation before adopting it. According to Tan and Teo (2000) chances to try an innovation will minimize consumers' unknown fears. In the context of Internet banking, a more rapid diffusion of Internet banking is expected because the risk and trial of Internet banking service can be considered as relatively low.

## Observability

Observability is the degree of which others may observe an innovation. The more visible an innovation is the more likely people would adopt it. In the context of Internet banking it is not easy to observe people using the Internet. According to Tan and Teo (2000) performing Internet banking is very difficult to observe and is also unacceptable. Hence, observability is excluded from the research framework of this study.

## Elements of Diffusion

- i. **Time** - According to Rogers, the rate of adoption is highly related to perceived relative advantage, compatibility, trialability, and observability, and is negatively related to perceived complexity of the innovation.
- ii. **Communication** - According to Rogers (1995), mass medium like radio, newspaper, television, internet, etc., is believed a more effective way to generate awareness of the innovation; whereas, interpersonal communication is considered more effective in influencing an individual's decision to adopt.
- iii. **Social system** - According to Rogers (1995), adopters can be classified into various categories. In addition to that he also states that adopters from the same category share similar socioeconomic status, personality values, and communication behavior. The five categories of adopters as suggested by Rogers are; Innovators, Early Adopters, early majority, late Majority, and Laggards.
- iv. **Innovation Decision Process** - This theory states that diffusion is a process that occurs over time and can be seen as having five distinct stages. The stages in the process are knowledge, persuasion, decision, implementation and confirmation. According to Rogers' (1995), potential adopters of an innovation must learn about the innovation (knowledge), be persuaded as to merits of the innovation (persuasion), decided to adopt (decision), put the innovation in place (implementation), and reaffirm the decision to adopt the innovation (confirmation).



**Figure 1: Research Framework**

## Methodology

This study employed the method of personal interview for data collection using a close-ended questionnaire as the research instrument. Respondents of this exploratory study consisted of customers of several banks in Terengganu. A total of 100 Muslims' respondents were selected and interviewed for a period of two weeks. The data collection is done in the period of one week. The questionnaire is divided into three sections. Section A is designed to solicit information regarding banking activities and category of adopters. Section B consisted of questions on perception of the Internet banking based on the products characteristics (Internet banking) attributes.

In this section, respondents were asked to indicate the degree to which they agreed with each statements on a 5 point Likert-scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Section C is on demographic factors which seek to obtain responses based on factors such as gender, town, and education level. The data solicited were then analyzed for some statistical relationship using SPSS.

## Findings and Discussion

Table 1 shows the demographic profiles of respondents. The respondents consist of female (61%) and male (39%). Most of the respondents is between the ages of 20-29 (42%), followed by the age of 40-49 (32%), 24% of the respondents is between the age of 20-39 and only 2% of the respondents is between the ages of 50-59. With regard to educational background all of the respondents have at least SPM, 25% are diploma holders and the other 20% hold a degree. The respondents are mainly students (28%) followed by professionals (15%), academicians (6%) and 5% are self-employed. Most of the respondents (44%) earned income around RM1000-RM1999, 21% earned less than RM1000, 19% have no fixed income, 9% have income between RM2000-RM2999, 4% have income of over RM4000.

### Adopters Profile

Referring to Table 2, majority of the respondents were in the early adopters category (52%), followed by early majority (45%), late majority (2%) and innovators (1%). For the adoption of an innovation, adopters profile plays an important role. During this first stage of product life normally the first three categories of adopters would be more incline to adopt any new idea, product or service. In contrast with the other two categories of adopters (late majority and laggard) they tend to adopt new service only when the service is in the maturity or decline stage. In view of the fact that the majority of the adopters are in the early adopter and early majority categories, the future of the Internet banking service shows strong potential in the Malaysian market. The tendency of Internet banking service to be adopted in the future is high since people in these two categories tend to adopt early in the new product's life cycle. Different from people in late majority and laggards' categories they would normally rely more on group norms and values, therefore extending the adoption process.

**Table 1: Profile of Respondents**

<b>Gender</b>	<b>Percentage</b>
Male	39.%
Female	61%
<b>Age</b>	12%
<20	42%
20-29	12%
30-39	32%
40-49	2%
50-5	
<b>Education</b>	55%
SPM	25%
Diploma	20%
Degree	
<b>Profession</b>	
Student	28%
Professional	15%
Academician	6%
Self-Employed	5%
Others	46%
<b>Income per month</b>	19%
No income	21%
<1000	44%
1000-1999	9%
2000-2999	3%
3000-3999	2%
4000-4999	2%
>5000	

**Table 2. Adopters Profile**

<b>Category of adopters</b>	<b>Frequency</b>	<b>Percentage</b>
Innovators	1	1
Early adopters	52	52
Early majority	45	45
Late majority	2	2
Laggards	0	0

### **Banking activities**

Table 3 demonstrates banking activities performed by the respondents. The results showed that 48% of respondents do visit their bank branches frequently. In addition, majority of respondents (61%) used the ATM machines on regular basis. The result of the survey also showed that ATM is the most preferred bank medium among Muslims consumers, followed by teller and Internet banking. Most Muslims still prefer to use ATM and human-interface compared to the Internet banking service. The results showed that some consumers still find it convenient to visit their bank branches regularly to perform their banking needs such as paying bills, depositing money and loan repayments. In terms of banks preference, most of the respondents have bank accounts with Bank Simpanan Malaysia (BSN), Maybank and CIMB Bank. These three banks are the most preferred banks among the respondents. The results also showed that only a few respondents have banks' account with Arab Malaysian Bank and Hong Leong Bank; these are the least preferred banks.

With regards to Internet banking usage, 32% of the respondents indicated that they have used Internet banking service while the majority (68%) has not used the Internet banking service. Hence, some promotional strategy would need to be conducted in order to create awareness and interest among potential consumers to use Internet banking in the near future. Most of the respondents that used the Internet banking service use this service to pay bills, check balance inquiry and credit transfer. The results showed that strong factors that influence the respondents' decision to use Internet banking are one self and promotions by banks. Other important factors that also influence the decision to use Internet banking are recommendation from friends and colleagues.

The results showed that the majority (68%) did not used Internet banking; the reasons being include no interest in using Internet banking (N=35), did not have opportunity to use the service (N=35) and unsure of Internet banking security (N=26). Although, the majority of the respondents have still not used the Internet banking service, the majority (58%) indicated that they have intention to use it in the future and only 10% of the respondents did not have intention to use it. The remaining 32% were unsure about whether they want to use Internet banking or not in the near future. The underlying reasons could be because of they are not sure about the security of such service. The results showed that some of the respondents still questioned the security of this service. Banks need to communicate to consumers about advance security features that have been put to ensure that all the online transactions are secure. This can reduce the feeling of fear experience by some consumers.

**Table 3. Banking activities (N=100)**

	Often	Seldom		Yes	No
Frequency of bank visits	48	52	Have used IBS	32	68
Frequency of using ATM	61	39			
Bank medium	N		Intention to use IBS in future		
ATM	100		Yes	58	
Teller	98		Not sure	32	
Internet	32		No	10	
Banks Accounts	N		Purpose of use	N	
Maybank	48		Paying bills	27	
CIMB	30		Balance inquiry	29	
Affinbank	12		Loan payment	4	
ArabMalaysian	2		Credit transfer	21	
Hong Leong	4		Credit card payment	6	
Bank Islam	18		Others	32	
BSN	57				
Others	26		Decision to use influence by	N	
			Own-self	55	
Reason of not using IBS	N		Friend	23	
Not interested	10		Colleague	21	
Does not have opportunity to use	35		Family	11	
Does not sure of its security	26		Banks	39	
			Advertisement/promotion	36	

### Perceptions towards Internet banking Attributes

Table 4 demonstrates respondents' perceptions of Internet banking attributes in terms of its compatibility, relative advantage, complexity and trialability. The results indicate that relative advantage is the most influencing factor for Internet banking adoption, followed by compatibility and complexity. The respondents perceive Internet banking has some relative advantages over conventional banking. Past studies have found that relative advantage have significant and positive influence on the adoption of an innovation (Holak & Lahmann, 1990; Tornatzky & Klein, 1982). The respondents indicated that they are not sure of the compatibility of Internet banking with themselves. One possible reason for this could be due to the majority has not used the Internet banking services and therefore they could not perceive Internet banking is compatible with their lifestyles. Furthermore, the majority of the respondents still prefer to use ATM and human teller as compared with Internet banking. Past studies demonstrated that compatibility positively influences adoption of an innovation (Cooper & Zmud, 1990; Tornatzky & Klein, 1982). The respondents who feel that using Internet banking is compatible with their values about living and working are more likely to adopt the Internet banking service.

With regards to complexity, the respondents perceive Internet banking as neither complex nor complex. According to past study, the more complex innovations are to use, the greater the skill and effort needed to adopt them, the less likely that they will be adopted (Cooper and Zmud, 1990). The results implied that Internet banking is not really difficult to use, furthermore Internet banking has been long in the market and many features of the Internet banking have been improved so that are more easier to use than before. In addition, many of the respondents (43%) consist of students and professionals and are therefore familiar with the Internet. Rogers (1983) points out those potential adopters who are able to experiment with an innovation will be able to give meaning to it and feel more comfortable and therefore are more likely to adopt the new delivery channel.

The results showed that many of the respondents disagreed that trialability is an important aspect in the adoption of Internet banking. The majority of the respondents have not used this service thus make it difficult for them to have perception on the trialability of the Internet banking. The results of Mohd Suki (2011) studies also found that trialability has the weakest influence on the adoption of Internet banking service. The results of this study implied that the degree to which this service can be experimented is not that important to the respondents.

The underlying reason could be due to the fact that opening Internet banking account is absolutely easy and with no any charge. Therefore, whoever interested to try Internet banking can open his or her Internet banking account.

**Table 4. Perceptions toward Internet bank service attributes**

<b>Product characteristics</b>	<b>Mean</b>	<b>Std. Deviation</b>
Complexity	2.6	1.6
Relative advantage	3.3	2.7
Compatibility	2.9	2.5
Trialability	1.5	1.8

\* Based on scale 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree

### **Conclusion**

This paper examines Muslims consumers adopter's category, banking activities and perceptions of Internet banking attributes. The study showed that the majority of the Muslims consumers still find human tellers and ATM very important with regard to their banking activities. However, the future of Internet banking among Muslims consumers in Terengganu is promising because majority of the consumers are in the early adopters and early majority categories. According to Rogers (1995) people in these categories would be more incline to adopt an innovation.

The majority of Muslims consumers have not used the Internet banking and some still questioned the security of this service. Therefore, extensive marketing strategy would help in enhancing awareness and adoption of Internet banking service. Due to the fact that some people still have not opportunity to use the service and unsure of the security of such service. Banks officers need to communicate to consumers about how the security features have been enhanced to ensure that consumers will feel secure using Internet banking. Word-of mouth and communication directly from the marketer to potential adopters aid the diffusion process. Messages directed toward early adopters should normally use different appeals than messages directed toward the early majority, the late majority, or the laggards. Theory suggests that product attributes helps the diffusion process; hence, Internet banking should provides banking need that are compatible with customers banking norms and lifestyle and develop system that are more user friendly and less complex. This can help in enhancing the adoption rate of Internet banking service.



**References**

- Abdullah, F. (2011). "Theology and Psychology of Submission: towards Understanding the Concept of Tawhid , Unity and Diversity". *Hikmah: Journal of Amin Research Culture and Cultural Centre* , 1:1, 46-65.
- Cheung, W., Chang, M. K., & Lai, V. S. (2000). "Prediction of Internet and World Wide Web Usage at Work: A Test of An Extended Triandis Model. *Decision Support System* , 30, 83-100.
- Cooper, R. G., & Zmud, R. W. (1990). "Information Technology Implementation Research: A Technological Diffusion Approach". *Management Science* , 36:2, 123-139.
- Holak, S. L., & Lehmann, D. R. (1990). "Purchase Intentions and Dimensions of Innovation: An Exploratory Model". *Journal of Product Innovation Management* , 7, 59-73.
- K.G., Balachandher, V. Santha., I. Norhazlin., & R, Prasad. (2000). "E-Banking in Malaysia: A Note on Evolution of Services and Consumer Reactions". *Journal of International Banking and Commerce* , 5:1.
- Lederer, A. L., Maupin, D. J., Sena, M. P., & Zhuang, Y. (2000). "The Technology Acceptance Model and the World Wide Web". *Decision Support System* , 29, 269-282.
- Malaysia, B. N. (2009). Retrieved 10 1, 2009, from Bank Negara Malaysia: <http://www.bnm.gov.my>
- Mohd Suki, N. (2010). "An Empirical Study of Factors Affecting The Internet Banking Adoption Among Malaysian Consumers". *Journal of Internet Banking and Commerce* , 15 :2, 1-11.
- Ndubisi, N. O., & Sinti, Q. (2006). "Consumer attitudes, system's characteristics and internet banking adoption in Malaysia". *Management Research News* , 29:1/2, 16-27.
- Ramayah, T., Jantan, M., Mohd Noor, M. N., & Koay, P. L. (2003). "Receptiveness of Internet Banking by Malaysian Consumers: The Case of Penang". *Asian Academy of Management Journal* , 8:2, 1-29.
- Rogers, C. R. (1967). "The Condition of Change from Client-centered View Point". In B. Berenson & R. Carkhuff (Eds). *Sources of Gain in Counselling and Psychoteraphy*. New York: Holt, Rinehart & Einston.
- Rogers, E. (1983). *Diffusions of Innovations* (3<sup>rd</sup> Ed.). New York: The Free Press.
- Rogers, E. M., & Shoemaker, F. (1971). *Communications in Innovation*. New York: Free Press.
- Rogers, E. (1995). *The Diffusions of Innovations* (4<sup>th</sup> Ed.). New York: The Free Press.
- Sohail, M. S., & Shanmugam, B. (2003). "E-Banking And Customer Preferences In Malaysia: An Empirical Investigation". *Information Sciences* , 207-217.
- Suganthi, R., Balanchandher, K. G., & Balachandran, V. (2001). "Internet Banking Patronage: An Empirical Investigation of Malaysia". *Journal of Internet Banking and Commerce* , 6: May.
- Tan, M., & Teo, T. (2000). "Factors infleuncing the adoption of Internet banking". *Journal of the Association for Information Systems* , 1:5, 1-14.
- Tornatzky, L. G., & Klein, K. J. (1982). "Innovation characteristics and innovation adoption implementation: A meta-analysis of findings". *IEEE Transactions on Engineering Management* , 29:1, 28-44.