Acceptance of Internet Banking among Consumers in Kota Damansara, Selangor, Malaysia

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Abstract
The main objective of the study is to identify and analyse on the factors affecting adoption of Internet banking by bank consumers. The factors being analysed in this study are security, subjective norms, perceived relative advantage, and perceived ease of use. The study was conducted to achieve the objectives which have been set in this research. The research findings indicate that there is a relationship between subjective norms and perceived relative advantage towards the adoption of Internet banking. Meanwhile, security and perceived ease of use shows not significant towards the adoption of Internet banking.

Keywords: internet banking, security, subjective norms, relative advantage, ease of use

1. Introduction
The number of Malaysian Internet users has increased significantly in recent years. Based on Table 1, it is reported by the internet world stats that internet users in Malaysia has increased from approximately 3.7 million users in the year 2000 to approximately 17 million users in 2012 (Internet World Stats, 2012).

Table 1. Internet usage stats in Malaysia

<table>
<thead>
<tr>
<th>Year</th>
<th>Users</th>
<th>Population</th>
<th>% Penetration</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>3,700,000</td>
<td>24,645,600</td>
<td>15.0 %</td>
</tr>
<tr>
<td>2005</td>
<td>10,040,000</td>
<td>26,500,699</td>
<td>37.9 %</td>
</tr>
<tr>
<td>2006</td>
<td>11,016,000</td>
<td>28,294,120</td>
<td>38.9 %</td>
</tr>
<tr>
<td>2007</td>
<td>13,528,200</td>
<td>28,294,120</td>
<td>47.8 %</td>
</tr>
<tr>
<td>2008</td>
<td>15,868,000</td>
<td>25,274,133</td>
<td>62.8 %</td>
</tr>
<tr>
<td>2012</td>
<td>17,723,000</td>
<td>29,179,952</td>
<td>60.7 %</td>
</tr>
</tbody>
</table>


In 2015, Malaysia has approximately 19 million internet banking subscribers (Chuan, 2015). The number of banks that offer internet banking features in Malaysia is 31. Meanwhile, there are 13 banks only that offer services of mobile banking in Malaysia (Bank Negara Malaysia, 2015).

However, the traditional style retail banking remains its high demand and it is still the method used the most to conduct banking tasks in many countries. Many individuals are still reluctant to shift their traditional transactional activities towards internet banking. Malaysia remains a high number of users of cash and cheques despite the improvement achieved in the internet banking services and electronic payment infrastructure. The usage of cheques in Malaysia per capita has a reading of 6.9 compared to 0.2 in advanced countries (Bank Negara Malaysia, 2015).

Suganthi and Balachandran (2001) have conducted a study and found that out of the total respondents in their research, 20 percent of the respondents had already adopted internet banking services. In fact that internet banking was only started around 6 months in Malaysia that time, the result of the study seem to display a positive performance of internet banking in Malaysia. However, there were a study by Ramayah, Jantan, Nasser, Koay and Razli (2003) has showed the negative performance of internet banking in Malaysia. Ramayah et al (2003) have conducted a research to analyse the receptiveness of internet banking in Malaysia.
Research Objectives
1) To find the relationship between perceived relative advantage and the adoption of Internet banking.
2) To find the relationship between security and the adoption of Internet banking.
3) To find the relationship between perceived ease of use and the adoption of Internet banking.
4) To find the relationship between subjective norms and the adoption of Internet banking.

2. Literature Review

2.1 Internet Banking
There are various different explanations and definitions for the term Internet banking. This is due to the fact that many different authors have different perspectives on what internet banking functions is and the pros and cons of internet banking. Internet banking is recognized also by several other terms such as electronic banking, e-banking and online banking. Yiu, Grant and Dagar (2007) defined internet banking as the process of delivering banking services to customers in a specific internet platform. Daniel (1999) explains that in a basic view and perspective, internet banking can be described as the process of webpage establishment by banks to provide information about their banking products and services. The financial and banking industry has been transformed in terms of the core of their products and services and the packaging, delivery and consumption method (Sathye, 1999).

2.2 Perceived Relative Advantage
According to researcher, the relative advantage generated from an innovation has a positive relationship with the rate of adoption (Gherib, 2015). The customers require certain reasons such as the gaining of relative advantage in order for customers to use the new technology innovation (Azad, Abbaszadeh, Rikhtegar, & Asgari, 2013). Through the utilization of internet banking, it enables customers to gain access of their banking accounts without being affected by the time and geographical factor. Customers will be able to conduct transactions and check on their banking accounts anytime and anywhere. Internet banking also provides customers with greater ability to manage their banking accounts and finances as it became easier for customers to have access to their bank accounts. Thus, in the perspective of individuals, if internet banking provides advantages, individuals will be influenced towards adopting the innovation (Nasri & Charfeddine, 2012).

H1: There is a positive relationship between perceived relative advantage and the adoption of Internet banking.

2.3 Security
According to Daniel (1999), the adoption and acceptance of new innovation by consumers is also affected by the perceived security factor. The perceived security factor is the main factor that slows down the adoption process on internet banking in various countries (Hojjati, Monavvarian, & Roozbahani, 2015). This is due to the fact that consumers are concern on the reliability of the financial institutions in providing consistent security of financial transactions conducted over the internet. This is due to the situation in which customers have fear in exposing their financial activities to risks. The violation of security in internet banking can cause critical problems including disturbance of information access and also the failure of operating system (Ameme, 2015). The perceived security factor plays a vital role in building trust of consumers on internet banking (Popoola & Arshad, 2015). This is due to the existing risks that are needed to be faced by consumers in conducting financial transactions online.

H2: There is a positive relationship between security and the adoption of Internet banking.

2.4 Perceived Ease of Use
Perceived ease of use is defined by Davis as perception and view of consumers on the level of complexity and easiness in using a system or an innovation towards individuals expecting minimum or zero effort to use a specific innovation or system (Davis, 1989). Ease of use is identified as an essential variable that affects the customers’ rate of adoption of new innovation (Dover, 1988). There are some services in the internet banking that are difficult and complex to be used. According to this context, there is an online research conducted by Cyber Dialogue, identified that up to three million individuals from the United States have stopped using online banking method due to the complicated and less ease of use of the internet banking (“The Ultimate Guide to Business and Technology of Online Banking”, 2013). A study in the United Kingdom stated that how easy to use a new innovation is one of the main variables that affect the customer’s adoption on internet banking (Daniel, 1999). It is logical to state that the easier to use of an innovation, the higher the rate of adoption. It is suggested that it is important that the internet is not complicated to be used in order to encourage more internet banking adoption (Nasri & Charfeddine, 2012).
The understanding of consumers on an innovation or system is an important component in determining the adoption of the innovation by consumers. The easier to use and understood the system is, the higher the probability of adoption by consumers (Alwan & Al-Zu’bi, 2015). This leads to the result stating that the perceived easiness to use is positively related to the consumers’ adoption of internet banking (Rawashdeh, 2015). It is explained that the ease of use of the nature of an innovation will directly affect the acceptance of the innovation (Fang, Chan, Brzezinski, & Xu, 2005). Additionally, simple, easy and user-friendly innovations such as the clarity of command and steps, simple content and visible graphical layouts significantly enhance the ease of use of the innovation and contribute in encouraging the adoption (Fo & Ak, 2015). Numerous researches proofed that the perceived ease of use of an innovation directly influences the acceptance and adoption towards internet banking. Jahangir & Parvez (2012) findings indicates that the perceived ease of use is one of the most vital factor that boost the usage of information technologies and affect the internet banking adoption.

The perception of the customers on the ease of use of the innovation is important in determining the acceptance of the system by the customers (Mann & Sahni, 2012). Besides that, the intention of customers in using a system will be influenced by its perceived ease of use as well (Teoh, Chong, Lin, & Chua, 2013). Previous studies have also identified that there is a positive relationship between perceived ease of use and the adoption of internet banking. Amin (2007) stated that there is a positive causality between the perceived ease of use and the innovation and system adoption. A system that requires lesser effort to be operated will be more likely to be accepted and adopted by customers (Gefen & Straub, 2000). In another research, Lee, Fiore, and Kim (2006) also stated that the perceived ease of use has a positive impact on the initial willingness and acceptance of consumers in adopting an innovation. It is stated that the perceived ease of use has a positive relationship with the adoption of internet banking. Hence, it can be concluded that the perceived ease of use significantly affected the adoption on internet banking (Lau, 2002).

H3: There is a positive relationship between perceived ease of use and the adoption of Internet banking.

2.5 Subjective Norms

Subjective norms can be defined as the view of an individual that has close relationship with the individual thinking whether should or should not the individual carry out the behavior in question (Fishbein & Ajzen, 1975). Social norm is identified as the external influence and point of view. In certain researches, subjective norm is also known as social norm (Yi, Jackson, Park, & Probst, 2006). There are various researches and studies that have identified that social norms played a vital role in affecting the adoption of internet banking. The results of the study conducted by Fo and Ak (2015) in Nigeria has indicated that the subjective norms factor is positively affecting the adoption of Internet banking by customers.

Subjective norm functions as an important role in encouraging adoption of various innovations and systems. For example, subjective norm has been one of the factor contributing in various new technology such as mobile payment (Yan, Nor, Abushanad, & Sutanonpaib, 2009). Besides that, subjective norm is also one of the variables contributing in the adoption of e-tax payment (Ramayah, Yusoff, Jamaludin, & Ibrahim, 2009). Subjective norm has a positive relationship with the customers’ intention to maintain the using of retail banking services (Ravi, Carr, & Sagar, 2007). The words of mouth, opinions and advices from peers, family and friends will influence an individual’s decision in adopting a new innovation (Riquelmi, & Rios, 2010).

In a Malaysian point of view, there is a research stating that the social norm factor is the main influencer towards the adoption of mobile banking (Kleijnen, Wetzels, & Ruyter, 2004). The subjective norms are stated to be more efficient and powerful towards new and potential adopters (Nasir, Wu, Yago, & Li, 2015). This is due to the fact that new and potential adopters and users are lack of self-experience. Hence, potential users tend to rely on others’ advices and information before adopting an innovation. The groups that are possible in influencing an individual’s adoption on specific product or services include the individual’s family, friends and peers (Tan, & Teo, 2000).

There is a significant relationship between the influence from family, friends and peers and the subjective norm (Agarwal, Rastogi, & Mehrotra, 2009). Puschel and Mazzon (2010) stated that there is a positive relationship between the social norm factor and the adoption of an innovation. Similarly, it is stated by Schepers and Wetzels (2007) that the subjective norms have significant positive relationship with the consumers’ adoption.

H4: There is a positive relationship between subjective norms and the adoption of Internet banking.

3. Findings

The Pearson Correlation Coefficient employed to indicate the relationship between adoption and independent variables. The result was presented in Table 2.
Table 2. The Pearson correlation coefficient for adoption

<table>
<thead>
<tr>
<th></th>
<th>Adoption Pearson Correlation</th>
<th>Subjective Norms</th>
<th>Relative Advantage</th>
<th>Perceived Ease Of Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adoption</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.057</td>
<td>.716*</td>
<td>.653**</td>
<td>.130</td>
</tr>
<tr>
<td>N</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>Security</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>1</td>
<td>.052</td>
<td>.127</td>
<td>.101</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.534</td>
<td>.000</td>
<td>.000</td>
<td>.159</td>
</tr>
<tr>
<td>N</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>Subjective Norms</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>1</td>
<td>.725**</td>
<td>.198*</td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.571</td>
<td>.166</td>
<td>.272</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Relative Advantage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>1</td>
<td>1</td>
<td>.169</td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
<td>.065</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>120</td>
<td>120</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Ease Of Use</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>120</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 2 shows the results of correlation between the dependent variable and independent variables which are used to examine the hypothesis in this research. The Internet Banking adoption indicates a moderate correlation with security. Meanwhile, it shows very low correlation with the subjective norms and relative advantage and indicates a low correlation with the perceived ease of use. Security shows a moderate correlation with adoption and subjective norms. Meanwhile, security indicates a low correlation with relative advantage and perceived ease of use.

Subjective norm shows very low correlation with adoption and relative advantage. Meanwhile it indicates a moderate correlation with security and shows a low correlation with perceived ease of use. Relative advantage shows a very low correlation with adoption and also subjective norms. Meanwhile it indicates a low correlation with security and perceived ease of use. Perceived ease of use indicates a low correlation with all variables which are adoption, security, subjective norms and also relative advantage.

Table 3. Hypothesis results for multiple regression analysis

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Standardized Coefficient</th>
<th>Significant Value</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security</td>
<td>-.004</td>
<td>.953</td>
<td></td>
</tr>
<tr>
<td>Subjective Norms</td>
<td>.514</td>
<td>.000</td>
<td>.551</td>
</tr>
<tr>
<td>Relative Advantage</td>
<td>.285</td>
<td>.002</td>
<td></td>
</tr>
<tr>
<td>Perceived Ease Of Use</td>
<td>-.020</td>
<td>.756</td>
<td></td>
</tr>
</tbody>
</table>

As shown in Table 3, the value of ‘R square’ is .551. This represents that 55% of the total variance in the dependent variable (Internet banking adoption) is described by the total independent variables (security, subjective norms, relative advantage and perceived ease of use). Therefore, the remaining 45% might be accounted by other variables excluded from this research. The composition of the force among independent variables (security, social norms, relative advantage, and perceived ease of use) that contributes to the dependent variable (Internet banking adoption) are subjective norms (B=.514), relative advantage (B=.285), security (B=−.004), perceived ease of use (B=−.020).

The significant value for each variable will show whether the variable contribute statistically towards the similarity. If the significant value is lower than .05, hence, the hypothesis will be accepted. As shown in Table 4, H2 and H3 are accepted, meanwhile H1 and H4 are rejected.
Table 4. Hypothesis testing results

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: There is a positive relationship between security and the adoption of Internet banking.</td>
<td>Rejected</td>
</tr>
<tr>
<td>H2: There is a positive relationship between subjective norms and the adoption of Internet banking.</td>
<td>Accepted</td>
</tr>
<tr>
<td>H3: There is a positive relationship between relative advantage and the adoption of Internet banking.</td>
<td>Accepted</td>
</tr>
<tr>
<td>H4: There is a positive relationship between perceived ease of use and the adoption of Internet banking.</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

4. Discussion and Conclusion

4.1 Relationship between Perceived Relative Advantage and the Adoption of Internet Banking

One of the objectives of the research is to find the relationship between the perceived relative advantage and the adoption of Internet banking. The hypothesis of this research has stated that there is a positive relationship between perceived relative advantage and the adoption of Internet banking. This hypothesis is supported by various authors in their research studies. Sathye (1999) has stated in their journal that perceived relative advantage is a vital factor that has a positive relationship with the adoption of Internet banking. Besides that, Jaruwachirathanakul and Fink (2005) have also stated in their study that there is a positive relationship between the perceived relative advantage and the adoption of Internet banking. In another study by Moore and Benbasat (1991), the study also indicates that perceived relative advantage on technological innovation affect the adoption rates on the innovation positively. In fact, the hypothesis stating that there is a positive relationship between perceived relative advantage and the adoption of Internet banking has been accepted in this research study.

4.2 Relationship between Security and the Adoption of Internet Banking

Another objective of this research is to find the relationship between security and the adoption of Internet banking. The hypothesis of this research stated that there is a positive relationship between the security and the adoption of Internet banking. This hypothesis is supported by various researchers in their studies. According to Hojjati, Monvvarian, and Roozbahani (2015), the researchers have stated that there is a direct relationship between security and the adoption of Internet banking. Besides that, a study conducted in Poland by Polasik and Wisniewski (2009) stated that there is a positive relationship between security and the adoption of Internet banking. Cunningham (2003) also concluded that there is a positive relationship between security and the adoption of Internet banking. However, the hypothesis stating that there is a positive relationship between security and the adoption of Internet banking has been rejected in this research.

4.3 Relationship between Perceived Ease of Use and the Adoption of Internet Banking

The objective of this research is also to find the relationship between the perceived ease of use and the adoption of Internet banking. The hypothesis of this research stated that there is a positive relationship between perceived ease of use and the adoption of Internet banking. Some researchers have supported this hypothesis in their own research studies. Nasri and Charfeddine (2012) have stated in their research that, there is a positive relationship between perceived ease of use and the adoption of Internet banking. Meanwhile, Rawashdeh (2015) also stated that perceived ease of use is positively related to the adoption on internet banking. Besides that, Mann and Sahni (2012) stated that the perceived ease of use is positively affecting the adoption of Internet banking. However, this hypothesis is rejected in this research.

4.4 Relationship between Subjective Norms and the Adoption of Internet Banking

Another objective of this research is to find the relationship between subjective norms and the adoption of Internet banking. There are various researches and studies that have identified that social norms played a vital role as one of the variables affecting the adoption of internet banking. The results of the study conducted by Fo and Ak (2015) in Nigeria has indicated that there is a positive relationship between the subjective norms factor and the internet banking adoption by customers. Puscel and Mazzon (2010) stated that there is a positive relationship between the subjective norm factor and the adoption of Internet banking. Similarly, it is stated by Schepers and Wetzel (2007) that the subjective norms have significant positive relationship with the consumers’ adoption. The hypothesis stating that there is a positive relationship between subjective norms and the adoption of Internet banking is accepted in this research.
References


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