Customers’ Acceptance on E-Banking: Study on Government’s Bank in Jakarta

Oly Usman 1, Ina Primiana Syinar 2, Umi Kaltum 3, Eri Febriani 4
Department of Economic and Administration, Faculty of Economics, Universitas Negeri Jakarta, Indonesia
Email Address: oyusman@uni.ac.id
Departemen Of Manajemen And Business, Faculty Of Economy and Business, Universitas Padjadjaran, Indonesia
Email Address: ina.primiana@fe.unpad.ac.id
Departemen Of Manajemen And Business, Faculty Of Economy and Business, Universitas Padjadjaran, Indonesia
Email Address: umi.kaltum@fe.unpad.ac.id
Departemen Of Manajemen And Business, Faculty Of Economy and Business, Universitas Padjadjaran, Indonesia
Email Address: eric.febriani@fe.unpad.ac.id

Abstract:

In banking industry, Electronic banking (e-banking) are developed to satisfy customers with various banking transactions in a fast, easy, and flexible ways. This study aimed to measure the acceptance of e-banking by customers of Government Bank in Jakarta. The study employed explanatory research with total sample of 835 respondents to scrutinize the respondents’ views based on five variables; performance expectancy, effort expectancy, social influence, facilitating conditions and security. Data Analysis were using Structural Equation Modelling Partial Least Square (SEM-PLS). The result of the convergent validity test showed that all indicators that measure each latent variable earned a factor load value of greater than 0.7 and P-Value <0.05. It can be assumed that all indicators or attributes are valid and able to reflect latent variables. The reliability test results showed that all composite reliability values were above the cut of 0.7 and cronbach alpha values of each construct has values above the cut of 0.6. Model of structural equation with behavioral intention as dependent variable indicated R-Square value of 76.5% and structural equation with variable use behavior as dependent variable indicated R-Square value of 74.8%. Result of t-test show that performance expectancy, effort expectancy, social influence, facilitating condition, and security have significant influence to behavioral intention and behavioral intention have significant influence to use behavior. Security has the greatest influence on behavioral intention variable, with coefficient of 0.256. The variables with the next biggest influence respectively are performance expectancy with coefficient of 0.229, social influence with coefficient of 0.152, facilitating condition with coefficient of 0.151 and effort expectancy with coefficient value of 0.145. This means that security and performance expectancy were the most influential factor on behavioral intention.

Keywords: E-banking, UTAUT, SEM PLS, security, behavioral intention, use behavior

1. INTRODUCTION

In response to the development in information and technology, banking industry has developed an application to ease services to its customers. With this, customers will eventually have various alternative for banking services. Unlike conventional banking, where customers come and do banking transaction on site, e-banking allows customers to access banking services without time and place bound. Today, e-banking services come with various platforms, with mobile banking or m-banking as the latest product. As the name suggests, mobile banking is part of e-banking which integrates mobile phone technology to access banking services.

With convenient access to banking services, m-banking should have been an option to customers to deal with banking transactions. The fact that customers are still in favor with traditional banking has illuminated a
fundamental question. To date, studies on m-banking acceptance have indicated that the failure of e-banking in nurturing customers' banking attitude is more on the behavioral. The behavior is a response or reaction of the individual against the stimulus or environment. Individual who is acting as a customer has the right to accept or refuse a product. A rejection or acceptance of a product is one form of customer behavior. The theory of customer behavior describes the process of customer actions which is affected by customer behavior to produce outputs. Howard and Shelth (1967) explained that the theory of customer behavior can be seen from the process, i.e. the input of marketing stimuli and its environment, which generate output in the form of the attitudes toward behavior (attitude), the intention (of interest), and purchase behavior (the behavior to purchase).

Research adopting the use of technology with UTAUT (Unified Theory of Acceptance and Use of Technology) has been an investigation by some scholars (Ali Abdallah, 2015; Aik Chuan Teo, 2014; Ali Tarhini, 2016; Evon Tan and Jasmine Leby Lau, 2015; Hakan Celik; 2015) and still many more. Ali Tarhini (2016), for example, employed UTAUT to scrutinize adoption of internet banking in Lebanon. The Research from Ali Tarhini added security variable, because security is the key aspect to financial security of the customers. Like Ali Tarhani (2016), Evon Tan and Jasmine Leby Lau (2015) also consider security in their investigation on adoption of mobile banking in the millennials. UTAUT was also used to explain the phenomena in online shopping (Hakan Celik, 2015).

The superiority of UTAUT and technology adoption in government banks had triggered me to scrutinize this topic, particularly the acceptance of m-banking to satisfy customers' banking necessities. This study also extended its investigation to security variable which was hypothesized to be closely correlate with behavioral intention.

2. Literature Review

UTAUT Theory

Unified Theory of Acceptance and Use of Technology (UTAUT) was developed by V. Ventaksh M. G. (2003). UTAUT is the development of TRA theory (Theory of Reasoned Action), TAM (Technology Acceptance Model), MM (Motivation Model), TPB (Theory of Planned Behavior), C-TAM-TPB (Combination of TAM and TPB), MPCU (Model of PC Utilization), IDT (Innovation Diffusion Theory), and SCT (Social Cognitive Theory). The adaptation of multi-dimensional theories to UTAUT has made UTAUT superior and been adopted by many scholars in internet banking investigation. This research aimed to scrutinize the adoption of technology in national banksby using UTAUT and linked to customer contexts with pre-determined variables such as performance expectancy, effort expectancy, social influence, and facilitating conditions.

SEMPLS

The Partial Least Square (PLS) method was developed by Wold (1980), with applications in the Econometrics. This method was developed later intensively by Tenenhaus (2005) and Chin (2010) on the structural equation model. The method that was developed by Tenenhaus and Chin was later known as SEM-PLS. SEM-PLS is soft modelling, in which, this method is not too tight against the fulfilment of assumptions like SEM method does. This method is an applicable method, especially for application in field research. The difficulty to meet rigorous assumptions modeling in field research, such as the adequacy of samples, error distribution, should follow normal multivariate distribution and the heterogeneous one (Monecke &amp; Leisch, 2012).

3. Research Methodology

Population and Sampel

The population sample of this research is the whole users of electronic banking of government
bank in Jakarta. Sampling was conducted using convenience sampling technique. Convenience sampling is one of the sampling techniques which allows researcher to get data from some people in the population who are willing to provide information needed (Sekaran, U. & Bougie, R., 2010). The total sample in this study was 835 respondents. Data was collected through survey to all respondents.

**Variable and Indicators**

Variable is defined as anything that can discriminate or bring variation in value. The value can be different in various times to object or to the same people or at the same time to different objects (Sekaran, U. & Bougie, R., 2010). Variable on this research is consisting of 5 independent variables and 2 dependent variables. Independent variables are performance expectancy, effort expectancy, social influence, facilitating conditions and security. Dependent variables include behavioral intention and use behavior.

Performance expectancy is the levels of individual trust that the use of the system will increase advantage in his job. This variable is measured by 5 indicators. Effort expectancy is the level of ease in the utilization of the system. This variable is measured by 4 indicators. Social influence is the individual's perception of the person who is important to him convincing that he must use the system. This variable is measured by 4 indicators. Facilitating conditions is the level of individual trust that organizations and existing technical infrastructure encourage the use of the system. This variable is measured by 3 indicators. Security is the level of security in using the system. This variable is measured by 4 indicators. Behavioral intention is the level of desire to continue using the system. This variable is measured by 4 indicators. Use behavior is the behavior of system usage. This variable is measured by 4 indicators.

**Model Construction**

![Model Construction Diagram](image)

Figure 1. Model Construction

Information:
- PE: performance expectancy
- EE: effort expectancy
- SI: social influence
- FC: facilitating conditions
- S: security
- BI: behavioral intention
- UB: use behavior

**Research Hypothesis**

H1: Performance expectancy does not significantly influence the behavior of intention of government bank customers.
H2: Effort expectancy does not significantly influence the behavior of intention of government bank customers.
H3: Social Influence has no significant effect on the behavior of intention of government bank customers.
H4: Facilitating does not significantly influence the behavior of intention of government bank customers.
H5: Security does not significantly influence the behavior of intention of government bank customers.
H6: Behavioral Intention has no significant effect on the Use Behavior of government bank customers.
4. Analysis Data

Outer Model

Outer model is used to test the validity and reliability of the instrument. The indicator or attribute is concluded valid (capable of reflecting latent variables) if it has a loading factor value greater than 0.7 (Hair et al., 2014). Reliability test is done by looking at the value of composite reliability and value of cronbach alpha. The construct is said to be reliable if it has a composite reliability value greater than 0.7, and also a Cronbach alpha value greater than 0.6 (Hair et al., 2014).

The result of the convergent validity test shows that all indicators that measure each latent variable has a factor loading value greater than 0.7 and P-Value <0.05 so that it can be concluded that all indicators or attributes are valid and able to reflect latent variables. The results of the validity test of each indicator that measures the latent variables, are presented in Table 1.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Loading Factor</th>
<th>t-value</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE</td>
<td>0.837</td>
<td>83.519</td>
<td>0.000</td>
</tr>
<tr>
<td>PEX1</td>
<td>0.855</td>
<td>92.760</td>
<td>0.000</td>
</tr>
<tr>
<td>PEX2</td>
<td>0.846</td>
<td>90.066</td>
<td>0.000</td>
</tr>
<tr>
<td>PEX3</td>
<td>0.845</td>
<td>90.066</td>
<td>0.000</td>
</tr>
<tr>
<td>PEX4</td>
<td>0.846</td>
<td>93.391</td>
<td>0.000</td>
</tr>
<tr>
<td>EE</td>
<td>0.826</td>
<td>96.359</td>
<td>0.000</td>
</tr>
<tr>
<td>EE1</td>
<td>0.850</td>
<td>73.163</td>
<td>0.000</td>
</tr>
<tr>
<td>EE2</td>
<td>0.877</td>
<td>111.042</td>
<td>0.000</td>
</tr>
<tr>
<td>SI</td>
<td>0.837</td>
<td>85.322</td>
<td>0.000</td>
</tr>
<tr>
<td>S1</td>
<td>0.854</td>
<td>88.423</td>
<td>0.000</td>
</tr>
<tr>
<td>S2</td>
<td>0.834</td>
<td>73.790</td>
<td>0.000</td>
</tr>
</tbody>
</table>

The reliability test is presented in Table 2. The reliability test results show that all composite reliability values are above the cut of 0.7. The highest value of composite reliability is owned by performance expectancy variable with value 0.926 and value of composite reliability is owned by facilitating condition variable with composite reliability value equal to 0.899. The Cronbach alpha value in Table 2 shows that all cronbach alpha values of each construct have values above the cut of 0.6. The highest value of cronbach alpha is owned by performance expectancy variable with cronbach alpha value of 0.901. The lowest value of cronbach alpha is owned by the Facilitating condition variable with cronbach alpha value of 0.832. Reliability test results show that all variables have composite reliability value and cronbach alpha value above cut of 0.7 and 0.6, so it can be concluded that the indicator or attribute used to measure each latent variable is reliable.

<table>
<thead>
<tr>
<th>Laten Variable</th>
<th>Composite reliability</th>
<th>Cronbach alpha</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE</td>
<td>0.926</td>
<td>0.901</td>
<td>Reliable</td>
</tr>
<tr>
<td>EE</td>
<td>0.917</td>
<td>0.879</td>
<td>Reliable</td>
</tr>
<tr>
<td>SI</td>
<td>0.918</td>
<td>0.866</td>
<td>Reliable</td>
</tr>
<tr>
<td>FC</td>
<td>0.899</td>
<td>0.832</td>
<td>Reliable</td>
</tr>
<tr>
<td>S</td>
<td>0.912</td>
<td>0.872</td>
<td>Reliable</td>
</tr>
<tr>
<td>BI</td>
<td>0.906</td>
<td>0.861</td>
<td>Reliable</td>
</tr>
<tr>
<td>USE</td>
<td>0.903</td>
<td>0.857</td>
<td>Reliable</td>
</tr>
</tbody>
</table>
Inner Model

Inner model is a model that describes the relationship between latent variables, both exogenous latent variables and endogenous latent variables. Inner model describes the causal relationships among these variables, as well as the influence of exogenous latent variables to endogenous latent variables which are reflected from the inner model. Influence on the inner model include direct influence (direct effect) and indirect influence (indirect effect).

<table>
<thead>
<tr>
<th>Relation</th>
<th>Path Coefficient</th>
<th>T-Value</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE ---+ BI</td>
<td>0.229</td>
<td>4.560</td>
<td>0.000</td>
</tr>
<tr>
<td>EE ---+ BI</td>
<td>0.145</td>
<td>2.592</td>
<td>0.010</td>
</tr>
<tr>
<td>SI ---+ BI</td>
<td>0.152</td>
<td>3.069</td>
<td>0.002</td>
</tr>
<tr>
<td>FC ---+ BI</td>
<td>0.151</td>
<td>2.588</td>
<td>0.010</td>
</tr>
<tr>
<td>S   ---+ BI</td>
<td>0.256</td>
<td>4.323</td>
<td>0.000</td>
</tr>
<tr>
<td>BI   ---+ USE</td>
<td>0.865</td>
<td>96.929</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Table 3 shows that all hypotheses have been proven. Performance expectancy, effort expectancy, social influence, facilitating condition, and security have significant effect to behavioral intention and behavioral intention has significant effect on use behavior.

Security variables have the greatest influence on behavioral intention variable, with coefficient of 0.256. The variables with the next biggest influence respectively are performance expectancy with coefficient of 0.229, social influence with coefficient of 0.151, facilitating condition with coefficient of 0.151 and effort expectancy with coefficient value of 0.145. This means that security and performance expectancy be the most influential factor on behavioral intention.

Direct influence is also shared by use behavior, where behavioral intention gives direct influence to use behavior. The amount of influence behavioral intention on the use behavior is 0.865.

\[ BI = 0.229PE + 0.145EE + 0.152SI + 0.151FC + 0.256S + \varepsilon_1, \text{ R-Square } = 0.765 \]

\[ USE = 0.865PE + \varepsilon_2, \text{ R-Square } = 0.748 \]

Model of structural equation with behavioral intention as dependent variable is obtained R-Square value of 0.765 or 76.5%. This shows that the variable of performance expectancy, effort expectancy, social influence, facilitating condition, and security can explain as much as 76.5 from behavioral intention of electronic banking.

Model of structural equation with variable use behavior as dependent variable obtained R-Square value of 0.748 or 74.8%. This shows that 74.8% of the use behavior is explained by behavioral intention variables and the rest is explained by other variables outside the study.

For government bank customers in receiving e-banking technology security aspect becomes the most important variable. This happens because the security factor of their funds is of concern. These results are in line with research conducted by Ezeoha (2005, 2006), and V. Vankatesh (2012). Azeoha (2005) states that internet banking confidence (part of e-banking) is eroded due to high fraud and corruption in the country, so the sensitivity of information and security continues to be a major issue in the minds of banking customers. V. Venkantest (2012) also states that security affects the behavioral intention of a technology. Turban E (2015) states that the security of a transaction must have privacy, authenticy, integrity, and non-repudiations. Increasing security as well as reducing risk, was the perception of security which became the attention of customers. In this research, security is a differentiator from the theory of UTAUT by Ventakesh at 2003.
5. Conclusion

This study shed light on customers' acceptance of m-banking in government banks in Indonesia's context. The study has revealed that all variables contributed to a significant relationship to customers' acceptance on m-banking. The relationship of all variables are set out as follows: 1) Performance Expectancy significantly influences the Behavioral Intention of e-banking by government bank customers. Effort expectancy significantly affects the Behavioral Intention of e-banking by government bank customers, 2) Facilitating Condition significantly affects the Behavioral Intention of e-banking by government bank customers, 3) Social influence has a significant effect on the Behavioral Intention of e-banking by government bank customers, 4) Security significantly affects the Behavioral Intention of e-banking by government bank customers, 5) Security has the greatest consent to Behavioral Intention on e-banking compared to other variables. After all, the result of t test shows that Behavioral Intention has significant effect on Use Behavior adoption of e-banking technology of government bank.

REFERENCES