

Factors Influencing Individual Belief on The Adoption of Electronic Banking

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Abstract

The development of technology gives influence to the banking service, then it prompts to the emergence of the electronic banking which synergizes the traditional banking (offline services) and something more fresh (online services) so the transaction can be easily run through the real-time online services. The purpose of this research is to examine factors influencing individual belief to the adoption of electronic banking based on independent service, and supported by 100 students to be the samples of the research. The research conducts maximum like-hood with structural model test as the analysis technique. The result generates, the behavioral which confirms the synergy between belief, attitude, and intention are theoretically proved. However, a number of limitations contained in this research enable any further research about internet banking.

Keywords: e-banking, adoption, intention, belief

1. Introduction

Industrialization on the banking sector which is supported by the rapid growth of technology now provides convenience to the customers. Moreover, the phenomenon of *online environment* and *e-service* which are being the part of *e-lifestyle*, influence the service based on *self-service technologies*, so the customers become more self-sufficient in the banking world. Despite the demands of the application *self-service technologies* is very rapid; the process of adoption is not easy considering the aspects of risk and benefit. Therefore, it is very important to stimulate individual's belief in accepting the adoption of *self-service technologies*, because it will reduce the risk, and more importantly, build customer loyalty.

Some researches which are related to the development of individual's belief on electronic banking as a behavioral research have been conducted through various approaches. This fact indicates the diversity of research models, then it results controversial and impossible conclusion, and the previous research contains some limitedness especially in defining situational condition. The limitedness then triggers the next research, in this case is this research, to highlight the phenomenon of the observation setting exclusively, so it will be the uniqueness of this research.

Among the various studies about the adoption of e-banking, the main issue is how to build continuity, or long-term adoption which is sparking the intention to utilize e-banking for non-adopters group and also generate loyalty of the e-banking adopters (Puschel, et al, 2010; Wessels and Drennan, 2010). This condition furthermore triggers lack of knowledge related to electronic banking adoption. The lack information to be accessed by customers leads the lack of knowledge about e-banking (Laukkanen & Kiviniemi, 2010). Therefore, the elaboration to the information of the importance of accepting e-banking adoption is presumably very required for the customers. The lack of knowledge can be reduced through education process, which is basically the part of commitment to develop the long-term adoption.

In appropriate to individual belief, the long-term adoption is also influenced by the core brand (Wu and Lo, 2009). Therefore, the establishment of e-banking adoption becomes an interesting gap research. This research seeks to explain refer to the observation settings, the case of e-banking adoption Solo, which is focused on the establishment of stimulant model to increase individual belief in accepting the adoption of technology based on self-service technologies respecting the e-banking. According to Wang and Pho (2009), trust is a multidimensional construct, and individual belief is a predictor

of his/ her attitude. In addition, the individual belief is also constructed by acknowledgement process and experiences thus every individual have belief which is different from the others (Anderson, 2009).

2. Literary Review

2.1 E-banking: Behavioral Research

The variety research of research models to be applied on the adoption of e-banking indicates that the theme is interesting to be examined, both in the terms of behavioral and marketing in the e-service era which is based on the internet. The researches on adoption of e-banking as the behavioral research have been conducted widely through many kinds of approaches, and it raises a gap research. As the result, it emerges opportunities to develop research model which is suitable to the observation setting, and it will become the uniqueness of this research especially when it's correlated to stimulant model on individual belief to accept the e-banking based on self-service technologies.

Since the research on the adoption of e-banking is considerably varied, Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB), and Technology Acceptance Model (TAM) will become the standard model in this behavioral research. The TAM model integrates two related aspects related to individual belief in making decision, perceived usefulness and perceived ease of use. This model describes the adoption of e-banking properly despite it's not quite reflects the multivariety aspects which influences the intentions and environments (Wessels and Drennan, 2010).

In reference to the TAM criticism, Curran and Meuter (2005) develop technology model based on self-service technologies, add two antecedent of beliefs; need for interaction and risk. Research adopting SSTs is presumably has tendency to enrich the variables related to the observation setting, and exploration to examine the factors influencing individual in accepting the adoption process (ibid, 2005).

Another approach on the individual behavior to the adoption of e-banking is Innovations Diffusion Theory (IDT). The IDT concept clarifies that the technology is influenced by: relative advantage, compatibility, complexity, observability, and trialability. Beside the IDT model, User's informational-Based Readiness (UIBR) developed by Rogers (1995) is also relevant. The UIBR concept reduces informations to increase individual awareness and acknowledgement, then the individual itself has intention to adopt new technology. Therefore, the UIBR model is relevant to the behavioral research related to the adoption of technology in order to improve individual belief, especially for the non-adopters through two activities; information seeking and information processing.

Last but not least is Elaboration Likelihood Model (ELM) which is developed by Petty and Caciopo (1980). The basic of ELM is information process to develop the decision making. The information process consist of attention, elaboration, and behavior because every stage needs an accurate process and complex variables (ibid, 1980). Therefore, the ELM approach becomes an important aspect for the behavioral research, this research is no exception.

2.2 E-banking: Adoption and Previous Research

The development of the internet directly influence to the self-service technologies, including the adoption of e-banking which now become standard service, and the banking sector is supposed to provide this facility to improve the service quality as the part of self-service technologies (Kaleem and Ahmad, 2008). Consequently, various kind of e-banking research with various studies basically enriches concepts and research theory about the adoption of e-banking.

The research done by Aryo, et al. (2010) clarifies that in Nigeria the adoption of e-banking is growing rapidly, which proves that perceived usefulness, perceived ease of use, belief, and organization reputation have influence to the use of e-banking. Keonig-Lewis, et.al. (2010) conducted a research in Germany, by using SEM analysis model and TAM approach to conclude that adoption intention of the mobile banking is influenced by perceived usefulness, risk, and compatibility, while there is no influence from perceived costs, perceived ease of use, credibility and belief. The two research chaperones to a conclusion that the utilization of same approach for different observation settings generates different results. It means that generalization of research result and its replication is quite important.

Chu and Ngai's research (2010) related to internet banking service in England results the tendency of teen group (collegers) to respond positive on internet banking service, rather than non-teenagers group, or above 30 years old respondents. The result indicates that teenagers group is able to be a potential market for the internet banking service supported by teenagers behavioral. Laukkanen and Kiviniemi (2010) test the influence of information to the adoption constraints which consist of five aspects: usage, value, risk, tradition, and image are not influenced by tradition barrier, while the other four aspects have influence. This research uses SEM analysis, applied to the adoption of e-banking in Finlandia.

Puschel, et.al. (2010) made a research is strengthening the previous research that the intention of e-banking adoption is affected by attitude, subjective norm, and perceived behavioral control. The model for that research is Decomposed Theory of Planned Behavior and it's strengthen the argument that research on the adoption of e-banking can be studied through many various kind of approach. Wessels and Drennan (2010) examine a study case in Australia, result that individual behavior gives positive impact to the intention of mobile phone banking adoption, while the intention itself is affected by perceived usefulness, perceived risk, compatibility, and cost.

Saputro's research (2010) resumes that banking technologies trigger an ambiguity: make the customers need still personal interaction, but in other hands the adoption of technologies can't be avoided because it increases the quality services. Therefore, banking sector must educate the customers about the latest banking adoption of technologies through advertising or any other structured visualization so the customers are understand the banking technologies. It proves that traditional/ offline service is strongly attached to the modern (online) one, then the adoption of e-banking has complementer character.

E-banking adoption research tends to evolve, referring to a number of previous researches. Saputro's research results (2011) shows that the perception of risk affects the positive attitude of the individual, and the individual positive attitude affects the adoption of e-banking intention and loyalty. This is situationally reference that the adoption of technology can not be separated from the risk, wether human error or technical error. Therefore, education becomes one of the important aspects that must be performed by banks to minimize the risks. In addition, Saputro's research (2010b) shows the diversity of e-banking adoption studies indicate that there is a gap could be developed to explain the success of e-banking adoption.

Lovelock and Ure (2008) through heir research asserts the prospect of e-banking, as e-banking is convincingly growing in the Asia - Pacific, particularly related to adaptation becomes a morefriendly end user on the application of banking technologies. Classification of countries that become a pioneer in the utilization of e-banking are: Japan and Korea, while the rapidly developing countries category are: Hong Kong, Singapore and Taiwan, and then the category of developing countries are China, India, the Philippines and Indonesia. This confirms that in Indonesia, the research focus is referring to the adoption intention, not the intention of being loyal to the e-banking services.

3. Research Methodology

3.1 Research Location

The study is conducted in Solo, Indonesia and the observation setting is expected to provide uniqueness for this research, consider the demographic aspects of Indonesia, which tends to heterogeneous characteristic, and it influences the cultural differences, including the attitude and behavior of individuals on the adoption of e-banking. Referring to data from the Ministry of Communications and Information Technology, Internet users in Indonesia reached 45 million people in 2010, and the target of Internet users in 2015 is 120 million people. From that number, mobile Internet user is amounted to 80 percent of the overall Internet users, and compared to the proportion of population in Solo in 2010, which reached 503.421 populations, the percentage of Internet users in Solo is relatively high and it becomes a very potential market for the adoption of e- banking.

3.2 Hypotesis, Models dan Variables

Technology adoption, including the adoption of e-banking is inseparable from security threats and privacy especially related to human error factors and the technical errors (Pikkarainen et al., 2004). Therefore, the security and privacy are also become important factors that support the individuals belief who receives technology adoption, including the adoption of e-banking. It is based on the argument regarding on the synergy of four aspects: first; situations and beliefs, second; beliefs and sources of influence, third; beliefs and implications, and the fourth; source of influence and implications (Anderson, 2009). This synergy indicates that the perception of security and privacy are the factors that influence an individual's belief. Therefore, the hypothesis in this study is:

H₁ = *perceived security* positively influencing *belief*

H₂ = *perceived privacy* positively influencing *belief*

Behavioral research in the study of adoption of e-banking is inseparable from the two important factors; perceived usefulness and perceived ease of use. In fact, the perceptions are the principal component of the TAM concept (Davis, 1993). The consistency of percieved usefulness among the variety of behavioral research on technology adoption is reinforced by the review of 29 researches during the period 1992-2003, which asserts that the 26 research results

support the perceived usefulness variable significance (Jeyaraj, et al., 2006). In addition, perceived usefulness also has influence on the adoption in a variety of research based on the online banking (Chau and Ngai, 2010; Koenig-Lewis, et al., 2010; Seneler, et al., 2010; Riquelme and Rios, 2010; Wessels and Drennan 2010; Celik, 2008; Gounaris and Koritos, 2008; Jaruwachirathanakul and Fink 2005; Pikkarrainen et al., 2004).

Factors which also influence on the adoption of e-banking is the perceived ease of use (Chau and Ngai, 2010; Chong et al., 2010; Koenig-Lewis, et al., 2010; Puschel, et al., 2010; Riquelme and Rios, 2010; Seneler et al., 2010; Wessels and Drennan, 2010; Gounaris and Koritos, 2008; Celik, 2008; Jaruwachirathanakul and Fink, 2005). Empirical reviews insist although TAM was introduced in 1989, it remains one of the models that are relevant to the case of the adoption of the technology, including the e-banking study (Chong, et al., 2010; Pikkarrainen, et al., 2004). Therefore, the generated hypothesis is:

H₃ = *perceived usefulness* positively influencing *belief*

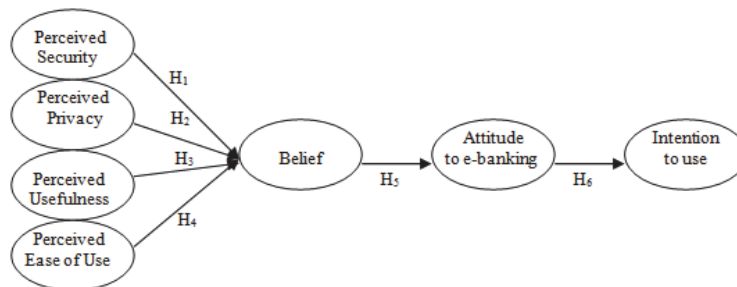
H₄ = *perceived ease of use* positively influencing *belief*

Behavioral research including adoption of e-banking refers to the synergy of beliefs, attitude, and intentions. This is supported by Anderson's argument (2009) that the individual belief is relevant to sources of influence and its implications. It means that the implication of individual belief affects the individual attitudes and intentions of adoption. In addition, the theoretical relationship of belief in individual attitude is the core concept of the TPB (Ajzen, 1991), whereas the relationship attitudes toward intention is a core factor of the various e-banking adoption research (Chau and Ngai, 2010; Puschel, et al., 2010; Seneler, et al., 2010; Teo and Lee, 2010; Wessels and Drennan, 2010). Therefore, the hypothesis is:

H₅ = *belief* positively influencing *attitude to e-banking*

H₆ = *attitude to e-banking* positively influencing *intention to use*

Leads to the mapping review of some empirical research; reference model of this study is the emergence of variables related to individual attitudes that determine the intentions of adoption of e-banking. The variables are perceived security, perceived privacy, perceived usefulness, and perceived ease of use. These four perceptions are presumably affecting individual's belief that influences the attitude which affects the intention of the adoption of e-banking. Description of the model which is established from some empirical studies is:



Picture 1. Research Model

3.3 Data Collections and Questionnaires Instruments

Questionnaire instrument is adopted from some empirical researches on adoption of e-banking which become the reference for modeling the stimulus of individual belief to accept the adoption of technology (Corbitt et al, 2003; Flavian, et al, 2005; Al-Somali, et.al. 2008 ; Zolait, et al, 2009; and Chong, et al, 2010). The primary data research is the customers who asked questions about the individual's beliefs related to adoption of e-banking. The research involves 100 respondents, in line with the Maximum Likelihood method in procedural SEM analysis tools. Selection of respondents in a way is non-random purposive sampling.

3.4 Techniques and Analysis Tools

The hypothesis test in this research is Structural Equation Model (SEM). According to Hair et al (1988), the critical number of hypothesis test samples using SEM is very important, especially to meet the criteria of goodness of fit model. According to the version of Byrne (2001), SEM is able to explain well, simultaneously to the structural and factorial relationship model. This kind of analysis is used because the variables studied in this research are latent (perceptual).

3.5 Identification of Respondents

Respondents of this research are economics and business students in Muhammadiyah University of Surakarta. The consideration in making them to become respondents is that their characteristics are qualified to represent the figure out of technology an the internet. The 100 respondents live in Solo, and most of them are male respondents with sallary less than Rp 2 million each months. In addition, most of do transaction with banking sector more than 5 times every month. It indicates that respondents transaction with banking service is relatively intensive, so they can represent characteristic of banking customers.

3.6 Measurement on the Variables

Referring to the previous studies, the variables in this research are measured through 5 Likert scale. There are seven variables adopted in this research, and each of them consists of five indicators (see Tab.1 Variables and Indicators).

Table 1. Variables and Indicators

| VARIABLES | VAR | INTERVAL | INDICATORS |
|-----------------------|-----|----------------|-------------------------------------|
| Attitude to e-banking | A | 5 Likert Scale | A ₁ – A ₅ |
| Belief | B | 5 Likert Scale | B ₁ – B ₅ |
| Percieved Security | PS | 5 Likert Scale | PS ₁ – PS ₅ |
| Perceived Privacy | PP | 5 Likert Scale | PP ₁ – PP ₅ |
| Perceived Usefulness | PU | 5 Likert Scale | PU ₁ – PU ₅ |
| Perceived Easy of Use | PE | 5 Likert Scale | PE ₁ – PE ₅ |
| Intention to Use | ITU | 5 Likert Scale | ITU ₁ – ITU ₅ |

Exp: 5 intervals of Likert scales are 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree

3.7 Validity and Reliability

Validity and Reliability of this research are tested by using loading limit 0,5 through trial and error. The analysis results 5 indicators generated from the variables; PS₄, PS₅, A₅, ITU₁ and ITU₅. The reliability test shows that all the variables in this research are scored up to 0,6 or highly reliable according to Nunnaly's recomendation (1978).

3.8 SEM Assumptions

The results of normality assumption test wether univariate or multivariate shows that the research data are not distributed normally because of the critical ratio curtosis value, skewness and curtosis are above 2,58. This result give no influence further to the analysis, since this research uses primary data based on individual perceptions then it will be difficult to obtain the data which is distributed normally.

The outlier test shows thalre observations including outlier number 1, 18, and 49 because these three numbers are exceeding the value of Mahalanobis Distance, χ^2 (27; 0.001), amounted to 55,476. Although it provides outlier, but the third observations are not released so these samples can be used for the furhter analysis.

The goodness of fit model test results that the model of this research is moderate. The χ^2 Issue is sensitive to the addition of samples and variables. In addition, the maximum likelihood used in this research recomends 100-200 samples. Therefore, the χ^2 issue does not affect to the further analysis.

Table 2. Goodness of Fit model

| Criteria | Result | CUT OFF | Explanation |
|---------------------|---------|---------|-------------|
| χ^2 chi square | 821.067 | Kecil | |
| χ^2 sig.probly | 0.000 | ≥ 0,05 | |
| CMIN/DF | 2.058 | ≤ 2,00 | Moderate |
| GFI | 0.656 | ≥ 0,90 | Moderate |
| RMSEA | 0.103 | ≤ 0,80 | Fit |
| RMR | 0.114 | ≤ 0,80 | Fit |
| TLI | 0.722 | ≥ 0,90 | Moderate |
| CFI | 0.745 | ≥ 0,90 | Moderate |
| PNFI | 0.557 | ≥ 0,60 | Moderate |
| PCFI | 0.684 | 0 - 1 | Fit |

3.9 Hypotesis Test

This study submits 6 hypotheses and it results 3 rejected hypotheses; H₁ = *perceived security* positively influencing *belief*, H₂ = *perceived privacy* positively influencing *belief* dan juga H₃ = *perceived usefulness* positively influencing *belief*. On the contrary, the accepted hypotheses are H₄ = *perceived ease of use* positively influencing *belief*, H₅ = *belief* positively influencing *attitude to e-banking*, dan H₆ = *attitude to e-banking* positively influencing *intention to use*.

Table 3. Hypotheses

| VAR | ESTIMATES | S.E. | C.R. | P | Exp. | RESULTS |
|----------|-----------|------|-------|------|--------|-------------------------|
| B<---PS | .125 | .108 | 1.153 | .249 | TS | H ₁ rejected |
| B<---PP | .260 | .106 | 2.448 | .014 | TS | H ₂ rejected |
| B<---PU | .133 | .132 | 1.008 | .313 | TS | H ₃ rejected |
| B<---PE | .478 | .137 | 3.499 | *** | α = 1% | H ₄ accepted |
| A<---B | .270 | .082 | 3.288 | .001 | α = 1% | H ₅ accepted |
| ITU<---A | .481 | .199 | 2.421 | .015 | α = 5% | H ₆ accepted |

The analysis result shows that the identification of factors influencing individual intention to the adoption of e-banking is widely various. The diversity indicates the importance of comprehension on factors that supporting the adoption of e-banking application. In other hand, this study shows the importance of comprehension to the observation setting because there are some influence factors, and in other hand the results generalization must be considered, especially related to the comprehension to the observation setting and its relevance for the banking and customers.

The analysis results that H₁ which state perceived security positively influencing belief is rejected. This result strenghtens some researches on adoption of e-banking that security becomes an important factor, particularlyly to reduct the risk and trust (Munoz-Leiva, et al., 2010; Wang and Pho, 2009; Zhao, et al., 2008). Related to this result, the cognitive comprehension supports that the reduction of risk and development of trust can be separated from belief of accepting the adoption. Therefore strong individual belief to support the acceptance of technology adoption, including to accept adoption of e-banking. This analysis has contradiction to some other empirical researches (Gilaninia, et al., 2011; Qureshi, et al., 2008; Pikkarrainen, et al., 2004; Howcroft, et al., 2002).

The analysis results that H₂ which state perceived privacy positively influencing belief is rejected. It strengthens the assumption that privacy guarantee is needed in every banking transaction both it offline and online transaction through e-banking transaction. Therefore, aspects of security and privacy are likely to become an important component of complementary in the adoption of e-banking (Dash, et al., 2012). That is, these results does not support the assumption (Gilaninia, et al., 2011) and contrary to the results of a number of empirical research (Qureshi, et al., 2008; Pikkarrainen, et al., 2004; Howcroft, et al., 2002). Threats to privacy aspects basically can not be separated from the phenomenon of human and technical errors.

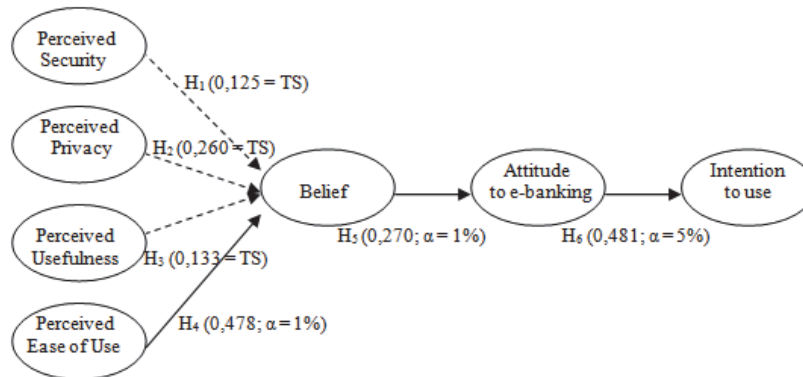
The analysis results that H₃ which state perceived usefulness positively influencing belief is rejected. It clarifies that the difference of user and non-user is proved. It means that users have tendency to trust on the importance of usefulness aspect in the adoption of e-banking, while the non-users are not. It supports Wessels and Drennan's analysis (2010), although it has contradiction to some researches (Gilaninia, et al., 2011; Chong, et al., 2010; Koenig-Lewis, et al., 2010; Riquelme and Rios, 2010; Seneler, et al., 2010; Qureshi, et al., 2008). This result suggests that although student respondents familiar with online transactions and the Internet, but they do not have a need for e-banking transactions so that the benefit is felt not affect the conviction for the moment.

Results of the analysis showed that the H₄ which states perceived ease of use has positively influencing belief is accepted. This result is contrary to the findings of H₃. In fact, the ease should be in line with usefulness aspects of the adoption of e-banking, both users and non-users. These results contradict the results of Koenig-Lewis, et al., (2010) and Wessels and Drennan, (2010), but in line with the results of a number of research (Gilaninia, et al., 2011; Chong, et al., 2010; Puschel, et al., 2010; Riquelme and Rios, 2010; Seneler, et al., 2010; Qureshi, et al., 2008). It also strengthens the theoretical concept of ease against conviction invidiu to receive an adoption of the technology.

Analysis shows, H₅ expressed belief is positively influencing attitude to e-banking is accepted. This result reinforces the concept of understanding the importance of synergy between the beliefs and attitude of individuals before receiving a technology adoption. Therefore, the stimulus to the beliefs and individual attitudes is crucial to support the adoption of technology, including e-banking. This result supports Alsajjan's research (2009). The result confirms the

theoretical concept and that belief will positively reinforce positive attitude of individuals so that they can positively influence the adoption of e-banking intentions, and vice versa. Therefore, identification of beliefs is a key success factor of adoption.

Analysis shows H_6 which states that attitude positively influencing intention to use e banking is accepted and the result supports a number of empirical research on the influence of attitude on the intention to adoption (Puschel, et al., 2010; Seneler, et.al., 2010; Wessels and Drennan, 2010; Flavian and Gurrea, 2009). This supports the theory Reasoned Action (TRA), the Theory of Planned Behaviour (TPB), and also the Technology Acceptance Model (TAM). This finding also reinforces the concepts and theories of behavioral research that individual positive attitude positively influencing intention to perform an action. Therefore, it supports the importance of the stimulus to the positive attitude of individuals towards adoption in various forms of technology, including e-banking (Celik, 2008).



Picture 1. Analysis Results

3.10 Analysis

The study on the adoption of e-banking can be directed through various models and concepts which are suitable to the observation settings. It indicates the diversity which provides opportunity to the creation of further analysis. It clarifies the role of users and non-users is important to figure out the stimulus on the individual belief and attitude in adopting e-banking. In addition, the banking sector need to examine the behavior change and the development of the technologies. It means that many kinds of usefulness and ease of use aspects are not surely give positive influence to the attitude and belief to accept technologies which supports the banking services. The facts are also reinforced by the realities that adoption of e-banking has complementary nature, not substitutional because in many countries the offline service is still developing, although the online one such as e-banking begins to get its demands. Therefore, in this study case, especially in the developing and developed countries, regarding to the applicable regulation, the adoption of e-banking is interesting to be observed.

This result shows that the identification of variables that affect the belief and positive attitudes of individuals becomes very important. This result implies indirectly the concept-theoretical cognitive that perception towards adoption of technology is influenced by various factors. As a result, stimulus on belief and positive attitude of individual become an important benchmark for the adoption of technology, including the adoption of e-banking.

This research confirms that the guarantee of security and privacy are factors that do not affect the individual's beliefs, although this result conflict with the concept and theory about the importance of building an individual's belief in the case of technology adoption. This finding provides some idea that individuals who belong to a group familiar with the internet and online connection apparently there who ignore security and privacy aspects. That is, education of the customers on aspects of security and privacy needs to be further enhanced by the banks because it related to customer funds and customer information data.

Basically, education of the customers not only can improve the security and privacy aspects of customers but also reduce the risks related to online banking services. This reality refers to the threat of risk, whether caused by human error or technical error. Therefore, continuous education is an important process that must be done by banks to grow attitudes and belief individual concerned adoption of e-banking. If this can be done then not only improve loyalty, but also affect the intentions of individuals in accepting e-banking adoption.

4. Conclusions

Adoption of e-banking is a process that is not only influenced by education, but also the synergy between the beliefs and attitudes of individuals to accept the adoption (Dash, et al., 2012; Come, et al., 2010; Chau and Ngai, 2010). Therefore, banks need to look at this as a model to establish adoption intentions and long-term loyalty. The underlying argument is that the banking sector is relatively homogeneous competitive so that the commitment of banks that influence the beliefs and attitudes of individuals is one reference to support the appeal of banking services, both traditional (offline) and modern (online).

Identification of this research shows individuals belief is an important factor to be known. That is, the results strengthen the argument about the theoretical cognitive concept. Therefore, identification of important factors that influence the individual's beliefs need to be mapped more carefully.

Colleger who responds the questionnaires that represents the group who are figured out and familiar to the internet and online transactions do not reflect the needs of the online banking transactions, although this group represents the characteristics that intend to accept the e-banking adoption. In addition, the setting of observation for e-banking case in Solo is also becoming evidence of differences in the characteristics of industrialized countries and developing countries. Therefore, these two factors become the limitations of this study.

Future research needs to examine the importance of the selection of respondents and the setting of observation, mainly associated with the study on the intention to adopt e-banking service. Therefore, the setting of observation on the intention of adoption need more scrutiny, especially associated to commitment to the educational process, not only related to aspects of loyalty, but also a commitment to attract customers intention to accept the the adoption of e-banking as a form of self-service-based banking services.

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