

Key Factors in the Decision to Continue Using Internet-banking: A Conceptual Approach

Tri Istining Wardani*, Endang Siti Astuti, Sunarti, and Mohammad Iqbal

tri.ist.wardani@student.ub.ac.id

Universitas Brawijaya, Indonesia

Abstract. Internet banking services have increased significantly worldwide, leading to greater competition and making it easy for consumers to switch between banks. Many studies are interested in the success of early adoption of internet banking, even though initial adoption is only a short-term success. The most important is continuance usage as long-term success, as it will determine the survival of the service provider bank. Therefore, it is important for banks to remain competitive to maintain consumer retention. This conceptual article aims to provide basic concepts that can be applied to investigate the internal and external factors that positively influence the consumer's experience, satisfaction, and decision to continue using i-banking. It also examined financial literacy's role in actual use and satisfaction when consumers decide to continue using internet banking. The theoretical background and models used to design conceptual research come from Social Psychology, Cognitive Psychology, the Theory of Reasoned Action, the Technology Acceptance Model, and the D&M Information System Success Model. Finally, it can be concluded that the conceptual framework developed to retain consumer behavior to continue using i-banking is Individual Factors and Quality Factors. Considering that i-banking combines the characteristics of information technology and financial products, its role is also taken into account in strengthening the decision to continue using i-banking.

Keywords: individual factors, quality factors, i-banking, satisfaction, financial literacy, continuance-usage

1 Introduction

The rapid development of technology, especially the Internet, has disrupted every aspect of human life and fundamentally changed the financial industry globally [1]. So far, the Indonesian banking industry has responded well by transforming and optimizing the use of technology by providing various digital banking products and services such as internet banking (i-banking), a digital banking service using an internet connection. The Financial Services Authority in Indonesia, *Otoritas Jasa Keuangan* (OJK) Regulation Number 12/POJK.03/2021 stated that the goal of digital banking in Indonesia is to provide services that meet customers' needs which are faster, easier, and can be performed independently.

The transformation of digital-banking is a huge opportunity for the banking market; the acceleration of digital banking in Indonesia is supported by many possible aspects, such as the

penetration of Internet usage, which is showing a phenomenal growth trend [2], demographic aspects stated that Indonesia's population is currently dominated by 66% of the productive generation who are technology savvy [3]. Besides that, the digital economic aspects also show the highest transaction value in Southeast Asia [4, 5]. Meanwhile, behavioral aspects of digital society have been proved by the increasingly varied intensity of the use of electronic devices and various applications [6]. Actually, the use of banking applications and financial services is still relatively lower and not as dramatic as other applications such as chatting, social media, entertainment, and others. Still, it can be said that the use of banking applications has started to spread and continues to grow in society. In 2021, OJK (Otoritas Jasa Keuangan/The Financial Services Authority) announced the use of m-banking and i-banking confirmed up to 300% from 2016 to 2021. Bank Indonesia in 2023 also emphasized that over the past 5 years from April 2018 to April 2023, the transaction of digital banking nationwide has increased by 158% compared to April 2018.

Most technology research is more interested in early technology adoption as an indicator of successful technology use. However, the truth is that early technology adoption is a short-term success, and more importantly, whether the initial decision will continue in the long term. According to [7], the initial acceptance of an information system is an important first step in achieving its success, but the long-term survival and success of the information system ultimately depend on its continued use, not initial use. Companies providing technology services, such as the banking industry, which currently compete with each other to provide i-banking services, require consistency in the early stages of implementing technological services in continuous use. If a person decides to continue using a technology service in the long term, it is an important contribution to the survival of the company providing the technology service. It also confirmed that the use of infrequent, inappropriate, and ineffective information systems increases the failure of technology service firms in the long run [8].

Investment by banking companies in the establishment and maintenance of information systems and technology to offer their customers an efficient and functional i-banking service naturally requires very large funds, as well as marketing costs to acquire new customers. As [9] confirmed, acquiring one new customer costs up to five times more than retaining an existing one due to the long process of customer acquisition, new account creation, and new customer acquisition costs. [10] also provide an example in the insurance sector, a 5% increase in customer retention would mean an 18% savings in operating costs. It is a big challenge for the banking industry, especially since they have invested a lot in developing their banking technology services [11].

Currently, almost all commercial banks in Indonesia offer i-banking services. The huge market potential makes interbank competition evolve into a perfectly competitive market; i-banking users can easily switch to other i-banking platforms. Several studies have observed a phenomenon where users stop using technological money transfer services [12] when they are not satisfied with the services provided and found a mismatch between initial expectations and actual experience. In addition, intense competition from competitors makes i-banking users stop some fintech services [13] because they can easily switch services to other banking services [14]. Therefore, retaining old customers is an important issue for banks offering i-banking services to maintain competitiveness [15]. The aforementioned realities emphasized that examining the factors that influence individual decisions when using i-banking technology services is appropriate.

Basically, when a user of banking technology such as i-banking services decides whether or not to continue using the i-banking application, they have completed the actual use of the application. During the use of i-banking services, consumers can psychologically have different experiences, positive and pleasant experiences about the functionality of the technology used in business. In this case, effective i-banking services that meet the consumers' needs will provide a feeling of satisfaction [16]. According to [17], satisfaction with using technology is achieved after consumers have used it, and the positive experiences gained during usage will lead to increased consumer satisfaction. Many research results have shown that the user's satisfaction with the technology used leads them to make the right decision to continue using the technology in the long term [18, 7, 19, 15, 20].

[7, 21] also mentioned that as a cognitive representation of evaluation results in the process of using technology services, consumers will confirm whether the products and services offered by the technology provider have met their expectations or not. Those past experiences form a set of beliefs, based on which one can easily conclude in new situations [22], either to continue using the technological service in the long term or to stop using it.

Social Psychology [23] stated that internal and external factors are predictors which are the main factors that influence human behavior. Therefore, it can be said that when deciding to perform a certain action, a person is essentially influenced by factors that come from inside and outside of him. In the same way, when deciding to use a technological service, the user also considers internal factors that come from him, as well as external factors that come from outside the person.

Considering the importance of the relationship between each of the variables above, this research evaluates the factors affecting the success of information technology systems based on Quality Factors and Individual Factors developed using models adopted from two technology acceptance models, namely The IS success factor model of DeLone and McLean (the D&M model) and Technology Acceptance Model (TAM). The D&M model which proposes the Quality Factors construct will be used to examine the success of i-Banking service software based on the Service Quality, System Quality, and Information Quality aspects. [24] showed that System Quality and Information Quality aspects influence the use of m-banking. Meanwhile, [25] proved that all three aspects of Quality Factors are significant in the continued use of technology.

In this study, internal factors are referred to as individual factors, i.e., those that determine technology service use, and are analyzed based on the TAM model which was proposed by Davis in 1989. It stated that user behavior in accepting and using technology services is determined by their perception of the usefulness as well as their perception of the ease of use of the technology. According to the study by [25, 26, 27]. [28] stated that perception is a direct response to human absorption or the process in which a person feels several things through perception. [23] has also explained that perception is how people manage and interpret their sensory impressions to give meaning to their environment. Therefore, the word perception can be understood as the internal factors of an individual, because it is based on the aspects that exist within that person.

On the other hand, external factors that determine the use of a technological service will be further referred to as Quality Factors, i.e. technical quality aspects that the service provider associates with the technology product itself. These technical quality factors include 3 aspects,

i.e., Information Quality, System Quality, and Service Quality. As defined by [17] in their concept of the Information-System Success Model, which stated that the success of a technology service is determined by the three main factors mentioned above. These three aspects are all the efforts by the service provider to market their technological service product in order to be accepted and satisfy market needs. The quality of information is the main element of Quality Factors related to e-commerce content, where web content must be personalized, complete, relevant, easy to understand, and safe. Those are mandatory if we expect potential users to make Internet transactions and return to use the site regularly [17]. Meanwhile, System Quality is defined as the desired quality characteristics of technology services, summarizing technology service measures that focus on usability aspects and performance characteristics of the system under study, including usability, availability, reliability, adaptability, and response time [29, 17]. Meanwhile, Service Quality is the third aspect, which is a measure of the quality of service/support that users receive from the technology service department and IT support staff of the relevant organization [29]. In i-banking services, the concept of service quality refers to the services that i-banking users receive from the banking providers, which are usually available 24 hours a day through help desk/call center services.

Considering that i-banking is a technology service that is a combination of the characteristics of information technology and financial products offered in electronic form, it is very important to consider the aspects of financial literacy to see the behavior of i-banking users. Consumers need to make increasingly well-informed financial decisions about whether or not to continue using technology services. Not only that, but growing evidence shows that financial literacy is one of the most important determinants of financial well-being [30]. As also explained by [31], financial intelligence is among the top 10 types of intelligences people should have, especially when using financial products banks offer. Informed financial decisions have been shown to be a key factor in making effective financial transaction choices [32]. In addition, [33] emphasized that today's complex financial markets offer consumers a variety of digital financial instruments, so they must be equipped with the knowledge and expertise necessary to evaluate options and make the best choice for long-term maximization of financial well-being. Consumers must therefore continue to increase their financial (and digital) sophistication to effectively use products offered through electronic channels [33]. However, there are currently few studies on the combination of information technology and financial functions.

Based on the above discussion, in addition to the theories supporting technology adoption and successful behavior, this study also examines the approach of the financial literacy theory regarding the level of knowledge and skills related to people's financial intelligence, the ability to manage and utilize finances optimally through technology services provided by banking.

2 Literature Review

2.1 Internet Banking (i-banking)

I-banking is a banking service that allows us to make mobile transactions through the bank's website using Internet technology. Today, i-banking services make it very easy for bank customers, they don't have to go to a bank or an ATM when doing business. The customer only needs to have a desktop, laptop, tablet, or smartphone connected to the network between the customer's device and the banking system. In fact, some i-banking products allow customers to

pay 24 hours a day using a laptop or mobile device (such as a cell phone) that can be taken anywhere as long as it is connected to the Internet and/or SMS network. The functions available in I-banking services include, for example, general information on savings accounts/current accounts, savings accounts, information on mutation of accounts, money transfers, account transfers and interbank transfers, credit purchases, ticket purchases, and information services such as interest rates, and exchange rates, and various online payments such as insurance payments, telephone, internet, TV cable, electricity, online shopping, and various other payments.

According to Bank Indonesia Regulation no.5/8/PBI/2003, i-banking is a banking service that enables customers to obtain information, communicate, and make banking transactions via the Internet [34]. Currently, almost all commercial banks in Indonesia have i-banking services, and almost all bank customers also have i-banking. When a customer registers for a bank account, they will usually be immediately directed to register for i-banking (bundling). However, whether customers end up using i-banking services for transactions depends on many factors.

2.2 Individual Factors

Referring to the [28] opinion, perception is a direct response to the absorption or process of knowing several things through sensing. According to [23], perception is the process by which individuals manage and interpret their sensory impressions to provide meaning to their environment. So, perception can be understood as an internal factor of an individual since it is based on aspects that exist within that person. In this research, individual factors are defined as the factors behind the behavior of a technology service user when deciding to use i-banking services. Human behavior expresses a person's perception of the technology services they use.

TAM is a technology acceptance model that explains and predicts human behavior in using technology. Derived from the theory of reasoned action (TRA) developed by Fishbein and Ajzen in 1975, this theory asserts that a person's belief in something affects their attitudes, which lead to attitudes and, ultimately, behavior. According to [35], TAM explains the factors that determine human behavior in accepting technology, which basically consists of two factors, namely perceived usefulness and perceived ease of use, which is able to explain user behavior towards technology acceptance. Perceived usefulness is the usefulness experienced by users of technology services, i.e. the extent to which someone believes that using a certain system will improve their job performance. Meanwhile, perceived ease of use is the perception that a person believes using a certain technology is very easy. Some of the many concurrent studies believed that the two aspects of TAM must be used together to predict the adoption of technology services on a website [36, 37, 38, 39].

2.3 Quality Factors

The DL&ML model stated that a system with quality attributes leads to a positive user experience, increases user satisfaction, and also increases intention to use [17]. Many researchers agree that quality-related factors play an important role in the success of information systems [40, 41, 42]. So far, the updated DL&ML is one of the most used models in several

studies, including IS/IT-related success [43, 44] and therefore can be used to build on the current research model.

In this study, Quality Factors are defined as factors that support the technical quality of an IT service, which in this case is an i-banking service. Quality Factors should be part of the IT service, and the service provider should provide excellent service to user needs. The concept of Quality Factors has been widely discussed in several previous studies, because [17] the DL&ML model proposed that Quality Factors include three types of quality, namely: Information Quality, System Quality, and Service Quality, which are factors that define the level of user satisfaction, the intentions to use, and the benefits obtained from the use of information technology.

2.4 Actual Usage

Actual usage can be understood as real implementation when someone uses a system/technology service, or in this study is defined as a technology service, i.e. the web page the customer accesses when using i-banking. [17] explained that measuring the actual usage of a technology service must be able to describe a phenomenon that consists of several processes of technology service use starting with: The nature of website visits, website navigation patterns, the number of website visits, and the number of transactions made, which is should not only determine frequency. The Actual usage of a technology service is important from the research perspective because [17] it is also stated that actual usage can be used as an important indicator of the success of a technology service, especially informed and effective usage. This is not very different from several other technology adoption literature which argue that characteristics such as level of use, frequency of use, the intensity of use, and duration of use are metrics that can be used to measure the actual usage of a technology service [45, 46].

2.5 Satisfaction

Satisfaction is the result of previous actions. Satisfaction is considered one of the most important indicators of the success of a technology service. The satisfaction of a person in using a technology service is a measure of the success of the user satisfaction variable because the number of times of use is not an adequate indicator of the success of the system. As the original formulation of the D&M model suggested, use and satisfaction variables are closely related [17]. In the implementation process of a technological service, the variable Usage must precede the variable User Satisfaction. Positive experiences of using technology services lead to user satisfaction and vice versa.

2.6 Continuance Usage

Continuance Usage of a technology service means long-term or continuous use of technology. In the blended learning study, students' intentions to continue an online learning system were based on the tendency that the system could offer significant benefits in improving learning. Research has shown that there is a positive relationship between actual use and intention to

continue using e-learning systems [47]. Similarly, in business, it means that if customers are satisfied with their previous experience of using a technology service, the customer believes that the technology service provider acted efficiently and reliably. So, it can be said that the technology service provider is honest and can successfully handle future events. Therefore, satisfactory and successful past transactions can increase customers' confidence in future transactions with technology service providers and stimulate customers' intention to reuse products or services offered by preferred service providers [48]. This process is called increasing the level of trust of the customer due to the fact that he used it in the past, only in the present, and becomes a decision to use it in the future.

2.7 Financial Literacy

Financial literacy, or financial intelligence, includes 10 intelligences that humans must have [31]. People who lack financial intelligence, whether they are rich or lower classes, immediately run out of money to pay debts and expenses, so there is nothing left to save [49]. It doesn't make sense for someone smart in school who has good emotions but cannot manage their finances. The money he earned from his work disappeared without a trace due to mismanagement [49]. Thus, it can be concluded that financial knowledge is essential for continuing human well-being. The sooner you have high financial intelligence, the more prosperous your life will be. [50] It is also defined as the ability to evaluate new and complex financial instruments and make decisions based on the choice and level of use of instruments according to one's long-term interests. However, [51] it is stated that the four most common topics in financial literacy are Budgeting, Savings, Loans, and Investment. High financial literacy is a basic requirement for everyone to avoid money problems. Financial difficulties are not only due to income (low income), financial difficulties can also occur when there are mistakes in financial management, such as misuse of credit, lack of financial planning, and lack of savings.

3 Research Method

This study uses a quantitative paradigm, emphasizing empirical testing of theory, measuring research variables numerically, and analyzing data using statistical methods. At the same time, the method used is explanatory, which aims to explain the causal relationship between research variables by testing previously formulated hypotheses.

This type of research data is secondary information that is collected through a survey by distributing closed questionnaires on the perceptions of i-banking technology service users on the metrics of the research variables studied. The research population is the millennial generation (currently 27-42 years old or born 1981-1994) as bank customers using i-banking services in Indonesia.

4 Results and Discussion

4.1 The Concept of Continuous Use of I-Banking Services

The main objective of this study is to find out which factors determine the consumer's decision to continue using i-banking services. Satisfactory and successful past transactions can increase customer trust in future transactions with technology service providers by stimulating customers' intentions to use the products or services offered again [48]. Several studies conducted by [52, 53, 54, 55, 15, 56, 57, 58, 59] agree that a person's satisfaction with the use of a technology service motivates the person in question to use it again or to continue using the technology service in the future. Retaining existing customers is far more important than acquiring new ones when it comes to online banking products. Because the market share and revenues of Internet banks depend on the adoption and continued use of the services offered [7].

4.2 Conceptual Model

This paper is a conceptual model based on a scientific approach incorporating empirical evidence from previous research, grand theory, mid-range theory, and applied theory. A conceptual model is a framework of thought that uses a scientific approach and shows the relationship between variables, concepts of variables, or other concepts of the studied problem. This conceptual model is useful for unifying or deepening the research topic at hand.

The main theory, or grand theory, used in this study is the theory of social psychology presented by James in 1890, James in 1907, and McDougall in 1908 [60]. In this study, knowledge based on empirical evidence is used to study and understand, explain, and predict changes in individual thoughts, feelings and behavior influenced by internal and external causes to make that person believe. changes in behavior. One of the most studied areas of social psychology is the cognitive perspective developed by Baldwin in 1897, Cooley in 1902, and Lewin in 1935, who emphasized mental or cognitive processes in the formation of behavior [61, 62, 63, 64]. In particular, Lewin in 1935 argued in his theory that behavior is the result of interaction between a person and the environment, then in 1990 he also argued that human behavior is a state of balance between driving and restraining forces [61, 62, 63, 64]. Thus, it can be said that a person's behavior is influenced by both internal situations within him and external situations outside him. Next, the behavioral theory TRA (Theory of Rational Action), which is widely used in various information technology literature and scientific references, aims to explain the relationship between attitudes and behavior in human activities. TRA indicates that the behavioral intention of a person towards a certain behavior determines whether or not that person performs that behavior [65]. TRA combines beliefs, attitudes, intentions, and behaviors that form a causal chain in which beliefs lead to attitudes and attitudes lead to intentions and behaviors. TRA explains that beliefs can influence attitudes and social norms that change the form of behavioral intention, either through direction or simply being present in an individual's behavior.

To form a reference for scientific thinking to understand the phenomena occurring and to make this study useful for the development of the discipline of information technology, the measurement of the conceptual framework of individual behavior is built based on the middle range a theoretical approach that can be used for analysis factors influencing the acceptance of using technology services. The approach uses TAM, a model developed by [66] that focuses on

two main elements of internal beliefs, i.e., perceived usefulness and perceived ease of use, to measure and predict individual technology acceptance [46]. TAM collaborates with Delone and McLean's Information System Success Model (D&M IS Success Model), a technological success model measured in six elements: system quality, information quality, use, user satisfaction, and individual impact [67].

In addition, in order to correctly apply the conceptual framework of the previous discussion in the conceptualization, the operational measurement variables used in this work were introduced through several theoretical approaches widely used in the study of information technology acceptance, which in this study are expected to be able to predict factors that are the predictor of individual behavior in i-bank for further use are internal construct factors, quality factors, actual use of i-bank, satisfaction and the role of financial literacy as a moderating variable of satisfaction and continued use, as well as on actual use and sustainable use. The structure of the conceptual framework for this study can be seen in Figure 1 below.

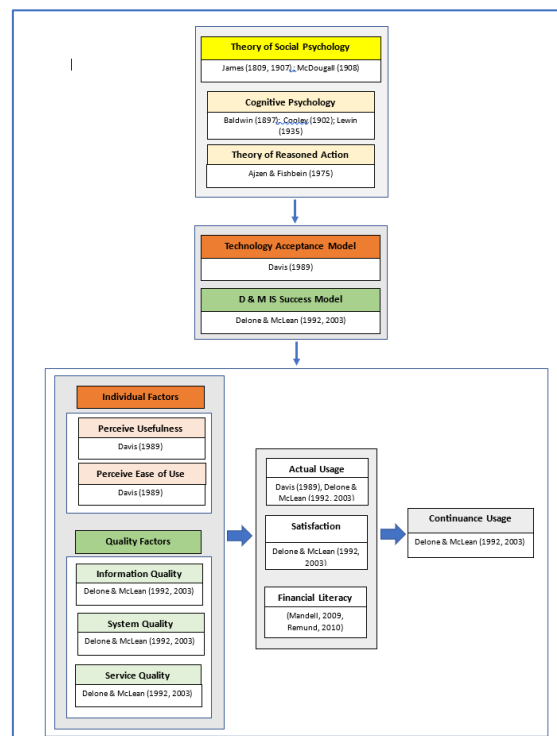


Figure 1: Conceptual Framework

5 Conclusion

5.1 Future Research Directions

Research related to the adoption of technology in general and the use of i-banking services, in particular, should not be limited to the study of the initial short-term acceptance of technology

services. Still, the final success of the technology is achieved when the technology is used for a long time because the survival of a technology service provider's business depends on its continued use.

The consumer decides whether to continue using the i-banking service if he has a positive user experience and meets his expectations when using the service.

For each individual, a positive experience is a cognitive process determined by his psychological tendencies, while the social psychological approach states that human behavior is always influenced by internal and external factors. Therefore, the construction of the website of the i-banking service must be planned based on these two circumstances, considering ease of use, usefulness, system quality, information quality, and service quality.

Because transactions using i-banks involve sensitive financial information, users are required to have sufficient financial literacy. Future research may include related constructs, namely financial inclusion, to see the willingness of the Indonesian government to support the development of the banking sector. Since people's life expectancy is now longer, there is a need to develop similar studies of a subset of generations often considered technological immigrant generations, such as Generation X and Baby Boomers, to determine the level of acceptance of technology, especially the i-banking services.

5.2 Implications for Research and Practice

For bank managers, providers of i-banking services, or other technology-based financial services, approaching the behavior of technology users by identifying internal and external factors can implement strategies that lead to positive experiences of using i-banking services. The good functioning of the banking technology system gives satisfaction to the service users that they remain competitive and can retain the users of the i-banking service in the long term.

To increase economic efficiency and support financial stability, banking or financial decision-makers can also pay more attention to public financial literacy levels to support financial products and services.

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