

# Strengthening Website Usability in the Pandemic Era:

## Reflection of a Study of Internet Banking in Five Major Banks in Indonesia

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**Abstract**—The results of our research in 2016 showed that website usability is an important factor in the development of internet banking. It was found that website usability has a significant effect on service quality, customer satisfaction, and customer loyalty. The current pandemic situation shows a significant increase in the use of internet banking services because many people are forced to limit physical activity. What are the implications of the research for the current situation? Analysis of the research results shows that website usability needs to be strengthened in this pandemic era by referring to technical measures (design, structure, and content) as well as non-technical aspects such as: attractive design, personalization of service (customization), and user empowerment (sense of competence), so that customers get a satisfying experience per transaction.

**Keywords**—website usability, internet banking, pandemic era

### I. INTRODUCTION

The banking industry is quite aggressive in utilizing technological advancements for business development. It appears that companies engaged in finance usually require investment in technology infrastructure that is far higher than the average of other industries. As Weill, pointed out, technology infrastructure investments in large companies outside the financial sector generally cover 25 to 50 percent of information technology spending, whereas for companies in the financial sector the percentage always exceeds 50 percent [1]. It can be interpreted that the technological infrastructure in the financial industry is generally more complex, and perhaps also more expensive than other industrial sectors.

Internet Banking (IB) was pioneered in the mid-1990s and began to gain popularity a decade later (around the mid-2000s). IB is a continuation of the electronic banking system (e-banking), which begins with Automatic Teller Machine (ATM) technology, which allows customers to transact independently without having to come to the bank and deal with tellers. Furthermore, the widespread use of cellular phones gave birth to SMS-banking services, where customers can transact via Short Message Service (SMS) via mobile phones, without having to go to a bank or find the nearest ATM machine. IB is the most recent development with the presence of internet-

based banking services, making it even easier for customers to transact with banks.

Our research in 2016 revealed the growing importance of IBs in the banking business in Indonesia [2]. By taking a sample of 249 internet banking service customers from the five largest banks in Indonesia (BCA, Mandiri, BNI, Maybank Indonesia, and CIMB Niaga), the study developed a model of providing internet banking services that integrates website usability variables with several commonly used variables in IB research, namely service quality, satisfaction, trust, and customer loyalty.

Through testing with structural equation modeling (SEM), it was found that the website usability has a significant effect on service quality, customer satisfaction, and customer loyalty. However, website usability was found not to have a significant effect on trust. Service quality was found to have a significant effect on customer satisfaction, trust, and customer loyalty. Customer satisfaction was found to have a significant effect on customer trust and loyalty. Trust is found to have a significant effect on customer loyalty. Thus, the results of the study underline the importance of website usability in shaping customer loyalty, and the role of trust as a mediator in the satisfaction-loyalty relationship.

This paper is our reflection on the results of the study four years ago, to see its relevance to the current situation. It is particularly important to study here the response of the banking industry to the spread of the covid-19 pandemic which forced most customers to remain at home. Is IB a solution in this situation? What is the role of website usability in supporting the increasing use of IB in pandemic situations?

### II. BANKING INDUSTRY RESPONSE TO PANDEMIC

The spread of the covid-19 virus in Indonesia was officially announced by the government on March 2, 2020 with two people contracting it from contact with a Japanese citizen. Then two weeks later, on March 14, the government declared the covid-19 pandemic a national disaster. Work from home policies began to be implemented for civil servants two days later, March 16, 2020. A month later, on April 9, 2020, the pandemic had spread to 34 provinces, with DKI Jakarta, East

Java and South Sulawesi at the top. As of July 1 2020, Indonesia has reported 57,770 positive cases making it the highest country in Southeast Asia. In response to the pandemic, some regions imposed restrictions called Large-Scale Social Restrictions (PSBB), in an effort to limit the physical activity of the community so as not to further trigger the spread of the virus. After passing the three-month restriction period, on May 21, 2020 the government set “a new normal policy” to ease economic activities.

The response of the banking industry to the pandemic is generally the same as that of other industrial sectors, namely carrying out social restrictions as recommended by the government. For example, BCA banks implemented proactive measures to protect the health of customers and employees in accordance with health protocols, including conducting temperature checks at branch offices and managing physical distancing. Specifically, for employees, BCA has a rotating work from home policy, division of work operations, and provides employees with a special bus. BCA bank management supports the #BankingFromHome policy by strengthening digital banking platform initiatives, including increasing individual internet banking transfer limits (KlikBCA) to Rp 250 million / day. In addition, the company also consistently promotes the BCA Mobile application for a variety of customer financial activities, as well as the Halo BCA call center that is ready to serve 24 hours every day.

Likewise, another large bank, Bank Mandiri, has shortened branch service hours from 8: 00-15: 00 to 9: 00-15: 00 starting March 23, 2020. In addition, 183 branch offices were closed on March 23, and increased to 287 on March 24, from a total of 457 branches in DKI Jakarta. This step is the same as that of BCA, which closed 30% of its branch offices in DKI Jakarta, valid from 24 March to 2 April 2020.

Bank BRI stressed that since the corona virus first spread in Indonesia in early March, they have been aggressively urging the public to use BRI's e-channel and e-banking services. In addition, the public is also provided banking services through the nearest BRILink Agent from their respective homes. Bank BRI made a policy of increasing the daily limit in e-commerce, with the aim of providing customer transaction flexibility during physical distancing. According to BRI management, this increase in transaction traffic will not reduce the quality of the digital transactions they provide. Bank BRI claimed to have anticipated by preparing back-end infrastructure that supports when there is a high transaction spike in certain conditions.

On the other hand, in addition to reducing off-line activity, restrictions on physical activity with the WFH policy, social distancing, and PSBB during the pandemic have had a positive impact on the use of IB. In mid-May 2020, for example, Bank BRI reported an increase of around 60 percent in IBs and mobile banking. It is estimated that IB and mobile banking cover on average 67.14 percent of the total transactions during January-April. BRI also recorded an increase in digital transactions through BRI internet banking, BRI Mobile Banking (BRImo) and shopping transactions in the

marketplace. Based on data from the last 3 months, customer transactions using Internet Banking and BRImo in March increased 61% compared to January 2020. Meanwhile, the surge in transactions recorded 32 million transactions with a volume reaching more than Rp 20 trillion. Meanwhile, BRImo transaction growth in March 2020 compared to the previous month grew to 28%. The increase in digital transactions also occurred in shopping transactions in the online marketplace. In March 2020 this transaction increased by 15% compared to the position at the end of February 2020.

The same thing happened to other major banks. Specifically, for business customers, Bank Mandiri utilizes three types of services that businesses can use during an online pandemic, namely Mandiri Cash Management (MCM), Mandiri Smart Account (MSA) and Mandiri Internet Business (MIB). MCM is a business internet banking service that provides access to corporate financial transactions, which cover online payments, receipts, and liquidity arrangements. Customers have the flexibility to determine transaction limits according to the needs of the company's needs through access to the settings in the MCM application. With this flexibility, customers can make large amounts of transactions without having to go to Bank Mandiri branches. This policy is expected to make it easier for customers to conduct transaction and financial management activities during the PSBB.

Corporate customers can also streamline account ownership easily through the concept of budgeting or allocation of operational funds based on virtual accounts in order to optimize liquidity and return on corporate funds through the Mandiri Smart Account (MSA) solution.

Finally, MIB is an e-banking service for conducting financial and non-financial transactions with internet banking applications intended for business customers from individual and corporate segments, especially the small and medium-sized company category. Features included in the business internet standalone service include general account information, transfers, payments, purchases, administration, business information and business activities. Specifically, for MIB services, Bank Mandiri provides flexibility in the form of an increase in the total daily nominal transfer to another bank online to Rp 200 million, from Rp 100 million previously. Whereas transfers through the National Clearing System (SKN) can reach a total of Rp 1 billion per day. In addition, MIB users can pay various bills up to a total of Rp 200 million per day.

Conditions in the pandemic era showed that the Internet and mobile banking were indeed the backbone of bank services outside the branch office. Its function is becoming increasingly important in times when people are not free to leave the house. A survey by payment technology providers, FIS (2020), confirms this. As many as 35 percent of respondents rely on food delivery services more often than before the pandemic. Furthermore, 40 percent of respondents said they would shop more online than coming to the store. This will increase the use of digital banking and electronic money.

Bank BNI estimates that the growth of digital transactions in the first quarter of 2020 in the BNI electronic services network will increase overall by 31 percent compared to the same period in 2019. This increase includes transactions through SMS Banking, Internet Banking and BNI Mobile Banking. But the biggest contributor was transaction growth at BNI Mobile Banking, which rose 84.4 percent from the first quarter of 2019. Transactions through BNI Mobile Banking in the first quarter of 2019 were 43 million transactions but have increased in the first quarter of 2020 to 63 million transactions, or up from Rp. 56.1 trillion to Rp. 103.4 trillion. The increase in digital transactions also occurred in services prepared for corporate customers, namely BNI Direct. In the early quarter of 2020, the volume of transactions using BNI Direct rose 55 percent compared to the same period in 2019. The number of transactions also increased 44 percent.

The above explanation shows that the situation of physical restrictions in the pandemic era pushed financial activities that increasingly shifted to the online realm. The banking world has responded by developing services that are more flexible, allowing customers to carry out online banking activities more easily.

According to the McKinsey & Company report, for IB services to be more effective, banks need to personalize offers to customers. Personalization is believed to increase conversion rates by 10 to 15%. In terms of cost, personalization can reduce marketing costs by 10 to 20%. Based on the data they have, banks can offer differentiated asset placement or education insurance to the right customers. Banks can also choose which customers need mortgage offers or credit card ceiling increases. To get maximum results, McKinsey recommends a personalized program starting with a focus on priority customers. Marketing in this customer segment generates a return on investment three times higher than mass promotion. Successful marketing to priority customers will provide experience for banks to develop broader IB services to other customer groups. Based on experience during the Covid-19 pandemic, it was concluded that IB services were not merely a banking competition strategy. Digital services have become a necessity for banks to remain accepted by the market. However, banks can no longer be complacent by simply having a mobile application as a means of providing IB services. Banks must also pay attention to various aspects of service and support facilities to customers, so they can replace face-to-face banking activities.

### III. THE IMPORTANCE OF WEBSITE USABILITY

The website usability (WU) concept, as our results, is a further development of the "service quality" variable [3]. The rationale is that competition between banks in IB services is very tight, especially in the retail banking sector. IB services between one bank and another bank tend to be difficult to distinguish. For example, the menu display and sequence of steps in making a transaction are generally the same on every IB website. Therefore, an additional concept is needed to

complete the notion of "service quality" in the context of online banking services.

WU is a picture of the quality of the IB website seen in the eyes of customers or service users. The high level of website usability reflects the low level of difficulty in managing the functioning of a website, viewed from the user's perspective [4]. The concept of usability comes from the discourse of the introduction and adoption of technology (especially computers); namely the extent to which a technology requires an effort on the part of the user to master it. Casalo et al., defines "usability" as "the effort required to use a computer system" [5]. As explained by Nielsen, when applied to internet systems, usability consists of several aspects, namely [6]: (1) user convenience in learning how to use services through on-line systems; (2) ease in memorizing basic functions needed in using services; (3) the extent of efficiency in website design; (4) the extent of error avoidance; and (5) the extent to which users are satisfied in the context of the website's ability to manage services online.

WU can be considered a leading factor in developing internet banking services. First, it greatly influences customers' motivation to migrate from conventional services to on-line services. One reason customer does not use internet banking services is the perception of the difficulty of operating internet banking services [7,8]. If the customer finds a complicated and very disturbing menu on the website provided by the bank, it takes a lot of time and a more complicated learning process to understand the steps and processes that occur on the internet banking service. This will make it difficult, or even lead to unwillingness on the part of customers to use the service further. According to the technology acceptance model (TAM) theory, perceived ease of use is an important element in the use of computer technology by its users [4,9,10], and becomes very important for new users [10,11]. The same logic applies to internet banking services.

Second, ease of use affects service quality and in turn affects customer satisfaction [12]. Therefore, a high level of WU is needed to spur effectiveness and efficiency in the provision of IB services so as to support customer satisfaction or service users.

Third, the need for a combination of long-term and short-term thinking in building IB services. In developing IBs, service quality and WU must be seen as two complementary issues. On the one hand, service quality variables describe the cumulative or long-term effects of IB services on a banking site; meanwhile, WU illustrates the smoothness and perfection of the transaction, which is a short-term measure. The combination of service quality and WU, in turn, illustrates how customer cumulative experiences are mixed with transaction-specific experiences. Therefore, if the bank expects customers to be satisfied with IB services provided, then long-term considerations (service quality) and short-term considerations (WU) need to be integrated into one package. Quality of service ensures that IB services are available consistently and satisfactorily in the long run; on the other hand, website

usability guarantees smooth, short-term experience per transaction (transaction-specific experiences). The combination of these two measures is expected to give birth to IB services that truly satisfy customers, while ensuring the success of IBs to replace, or at least as a primary alternative outside other banking service channels.

As mentioned above, WU occupies a high urgency in IB services, due to the characteristics of banking competition in the typical online sphere. In contrast to conventional services, in IB competition there is a phenomenon of uniformity of products offered. Almost all banks, especially large banks, offer IB services which are basically similar and almost indistinguishable from each other, because the basic technology used is indeed the same. When customers are offered financial products that are almost identical, banks are prone to losing loyalty, especially in the context of retail banks [13]. Chakravarty et al., noted the same symptom, that the high level of inter-bank competition and the relatively homogeneous products and services offered tended to make the IB world more vulnerable to switching behavior [14]. Symptoms of low customer loyalty are also triggered by the tendency of customers to have more than one account; so switching behavior is possible more often in the context of IB. Customers who have more than one account are more likely to switch banks, if they are not satisfied with the IB services provided by one bank [15].

It is proven here that user dissatisfaction in an IB context can be triggered by short-term experience, or even per transaction. When a customer is disappointed in one or several transaction processes that he does, then he is vulnerable to conduct switching behavior. As Reichheld and Scheffter said, competition in the internet world is only a touch of a mouse in the user's hand ('a mouse click away') [16]. That is why experience per transaction is very important, and therefore the WU variable needs to get high priority in building IB services.

#### IV. WEBSITE USABILITY STRENGTHENING IN PANDEMIC ERA

Based on the results of our research on IB services in five major banks in Indonesia, there are several thoughts that need to be studied for the banking world in developing IB services in this pandemic era.

First, the concept of WU basically departs from the concepts of "perceived usefulness" and "perceived ease of use" which were introduced by the TAM (technology acceptance model) theory in the era of IB adoption when it was initially introduced as a new banking service. IB services are broad services, because they have to respond to heterogeneous customer characteristics, with different demographic backgrounds, levels of technological mastery, transaction complexity, habits and needs in the use of services, and others. In order to be accepted and used well by customers, these two factors must be considered when designing website design, namely "benefits" and "ease of use". The WU concept explains how banks design an IB site that can accommodate the complexity and heterogeneity of customers, without

compromising security aspects which are the basic prerequisites for each IB service. The practical problem faced by banks is how to develop a website that can function optimally to replace physical meetings (face-to-face) that underlie conventional bank services.

Second, WU analysis basically covers aspects of design, structure, and content [3]. Initially the researchers emphasized the technical functioning of the menus displayed on the internet banking site. For example, Casalo et al., outlines the concept of "usefulness" through the following factors [5]: (1) ease of understanding the structure of a system, its functions, interfaces and contents that can be seen by users; (2) simplicity of website usage at the stage the beginning when the customer first uses it; (3) the speed or time required by the user to find what is needed; (4) perception of ease of surfing (navigation) on the site, related to the time and steps needed to get certain results; and (5) the user's ability to control what they do and know where they are when surfing.

Then it was felt that technical functioning alone was not sufficient to capture all aspects of the service that customers wanted. IB researchers and practitioners then included non-technical aspects, such as: attractive design, personalization of service (customization), and user empowerment (sense of competence) as a complement to technical elements. The integration between technical and non-technical aspects in turn gave birth to the concept of WU to measure the needs and desires of IB customers.

Third, a high level of WU can be achieved if the IB website is designed by prioritizing design rules oriented to ease of use (ease of usefulness). The interface design rules (layout, visual) between systems and humans lately we often hear combined with the aim of providing a good user experience called UI / UX (User Interface / User experience). UI / UX has evolved into a field of specialization in the field of information technology proving increasingly considered the importance of the area and expertise in that field is increasingly needed. It includes visual design, information architecture, navigation design, structuring, organization and labeling, interaction design and usability. The area which in the 1940s began with the need for interaction with machines, since the beginning of the era of computerization in the 1990s began to penetrate into the field of software (software) which was further in the development of the internet era from the mid-1990s which still continues today, when websites and mobile apps increasingly play an important role in people's lives. This is what drives the importance of UI / UX that is superior (has a high level of ease of use) as one of the strengths in competing with competitors who offer similar goods / services, including IB services.

Fourth, the fundamental difference between online and offline services is the absence of face-to-face interaction with online services. Service theory generally distinguishes three types of services, namely core services, facilitating services and supporting services. However, for online services, a fourth factor needs to be added, namely the user interface [17]. Understanding the user interface can be interpreted as the

design and functioning of the website in bridging between banks and customers, as covered by the WU concept, and supported by high quality services. The only difference between customer satisfaction in an online and off-line environment is that e-satisfaction must have a measure of online transaction satisfaction, as a separate indicator that is not present in conventional services.

Another difference is about how trust is developed in an online environment. The process of the formation of e-trust in IB services has a different conceptual basis from the theory of trust in conventional services. As stated by Chu et al., the characteristics of online services that do not contain face-to-face interaction, so that the type of trust that develops is different from the off-line environment, which is called "experience-based trust" [18]. That is, users must build trust through repeated interactions with service providers, because it is difficult to build pre-consumption expectations about the quality of an online service compared to off-line services that include physical evidence.

Fifth, how to develop customer loyalty in IB services. Actually, the basic principle of loyalty in the online environment is not different from loyalty in an off-line environment, which is measured by the behaviour of buying or using repeated services. However, if observed further, there are differences, namely mainly departing from the nature of competition in a tight virtual world. Open access in the internet world allows customers to search for information from anywhere in a flash, likened to just a touch of a mouse in the hands of customers ('just a mouse click away'); so e-loyalty is needed as a key to the success of online service providers [16]. In the context of IB services building customer loyalty is considered very important because of the phenomenon of uniformity of products offered; where almost all banks offer similar IB services, they are almost indistinguishable from each other, because the technology used is basically the same.

The e-loyalty theory tries to accommodate differences in online services compared to off-line services and shows how service providers can maintain loyalty in competitive situations and the availability of such open information. Our results provide empirical confirmation of the e-loyalty theory, where the findings obtained show a real difference between the concept of conventional loyalty with loyalty in the online environment. First, loyalty in the online environment is strongly influenced by WU, while loyalty in the off-line environment is more influenced by service quality. As found in this study, WU is the independent variable that contributes the most to customer loyalty, both calculated through direct effects and indirect effects. Second, trust plays an important role in building IB service loyalty, due to the absence of physical evidence and face-to-face meetings. Although in this study it was found that trust is the smallest independent variable contributing to customer loyalty, but its position as a mediator between satisfaction-loyalty plays an important role [19]. It was found that the satisfaction-loyalty relationship is not always linear and deterministic, so a high level of trust is needed to bind customer loyalty to an IB service.

## V. CONCLUSION

The concept of WU shows that winning in information technology-based competition is often not supported by the most sophisticated or the most technically advanced product or service in each era. Victory is often more determined by "usability", which is the product or service that is most easily understood and the flow of use is intuitive, so it is easily practiced by users from various cultural backgrounds, ages, professions, social classes, and so on. For example, in the competition of cellular phones, products made by Nokia in its era were more chosen to be used than Ericsson, Motorola or Siemens, so that they were once dubbed "the million mobile phones" that were used everywhere.

This is partly because of Nokia's more attractive icon-based user interface. Nokia phones were known for its layout, direct & simple menus, the settings are few but cover all aspects of the essential settings; thus simplifying the process of understanding compared to text-based menus, multilevel menus, complicated settings but many are considered not too essential by the user. The ease of interface of the Nokia cellular phone system is supported by the hardware design which is also seamless; that is attractive, unique and can be customized by exchanging one another in accordance with the tastes of its users. With its ease of use and attractive interface design, Nokia mobile phones are quickly accepted by consumers from various backgrounds. Most users at that time were still familiar with conventional telephones which were only available in landline and connected via cable (wired). Because of the easy to use offered by Nokia, it has encouraged many people to try and eventually switch to cellular phone users. These users then became loyal users of the Nokia brand for years thereafter, before the presence of the smartphone era (smartphone) which later shifted the era of mobile phones, which is roughly in 2007 with the launch of the Apple iPhone.

Reflections on the results of our research in 2016, as explained above, show that the pandemic conditions have forced many people to reduce and limit physical activity, which is an opportunity for the banking world to expand the provision of IB services. In long-term considerations, service quality is the foundation in building IB services that satisfy customers. However, with the characteristics of high competition between banks providing IB services, long-term considerations are not enough. The WU concept provides a short-term perspective, namely experience per transaction, so that it can complete the analysis of IB service provision. Indonesia has known IB since 1998, which was pioneered by Bank BII, who first introduced it to the public. However, the growth of its users tends to be slow, only seen a significant increase after 2010. This acceleration is driven, among others, by the widespread availability of internet access and affordable prices, as seen from the increased use of access using mobile devices by utilizing mobile data. McKinsey & Company survey data in 2015 showed significant growth in the use of IB in Indonesia, especially in the period after 2010. In 2016, when the research was conducted, the use of IB in Indonesia is at the same level as Malaysia and Vietnam, which is at the level of 40%; already

far above the Philippines and Thailand which are still in the level of 20%. Even if seen from the percentage increase in IB users, Indonesia is even the highest in the six ASEAN countries surveyed, which is 7.2 times with a position of 36% in 2014. This growth is accelerating at the moment, as mentioned earlier, with the existence of the Covid-19 pandemic that is encouraging more and more customers to use IB services. Therefore, this opportunity is an opportunity for banks in Indonesia to further expand IB technology and services, including by building better service quality and WU.

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