



Constraints of implementation of e-banking security system configuration at people's credit bank in north Sumatera

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Abstract

The purpose of this paper is to look at the Constraints of Implementing an E-Banking Security System Configuration at Rural Banks in North Sumatera, Indonesia. This type of research is qualitative research, namely research that intends to understand the phenomena experienced by the research subjects such as behavior, perceptions, motivations, actions, etc. holistically, and by means of descriptions in the form of words and language, in a special context that naturally and by utilizing various natural methods. The results of this study conclude that the obstacles in the implementation of the E-Banking security system in BPR, in the form of preventive measures and also risk analysis on the implementation of the E-Banking security system application in BPR.

Keywords: System Configuration, E-Banking Security, Rural Banks

1. Introduction

The solution in the future to strengthen the performance of Rural Banks (BPR) is to develop low-cost fundraising or CASA. This can be achieved by innovating in digital banking services. Strengthening the role of BPR not only needs to be done through service improvement but also management (Nasfi *et al.*, 2022) ^[6]. Until now, every year there are people's credit banks which are liquidated by the Deposit Insurance Corporation. In parallel, improvements must be made internally to the bank, including human resources (HR), both in terms of their integrity and capacity. BPRs that are liquidated generally do not have sound management. This condition ultimately resulted in a decline in the company's performance.

As of the end of 2016, the Deposit Insurance Corporation has liquidated 76 banks, a total of 63 banks in liquidation have completed the process. A total of 76 banks are not fully BPR. The details are BPR 70 banks, BPR Syariah 5 banks, and 1 commercial bank. The Financial Services Authority (OJK) noted that in 2017 there were 1,632 BPRs. There are 12 BPRs with assets below Rp1 billion, assets of Rp1 billion – Rp5 billion, 128 banks, assets of Rp5 billion – Rp10 billion as many as 206 banks, and above IDR 10 billion there are 1,286 banks. The implementation of information and communication technology (ICT) in the financial sector is currently considered no longer the dominance of general banking, but also extends to rural banks (Hhaldar and Sethi, 2022) ^[3]. Therefore, it is necessary to strengthen the internal BPR as well as the regulator regarding this phenomenon.

Referring to the results of the examination by the Department of Quality Supervision Control (DPKP) of the Financial Services Authority (OJK) in 2015, there were a number of problems with the implementation of ICT in BPRs, especially ICT applications that were not aligned with BI/OJK. Several problems in the application of ICT in BPRs include poor supervision, weak human resources in the application of ICT and inadequate infrastructure. This situation must be addressed immediately, either in the form of internal strengthening of BPRs or regulators setting up e-Banking security risks for BPRs equivalent to handling

commercial bank e-Banking, as outlined by PBI No.9/15/PBI/2007 concerning information technology risk management. The reason is that some BPRs in Indonesia already have ICT-based assets and services that are close to national commercial banks. Thus, the potential risk increases (Sinaga *et al.*, 2020) ^[12].

There are three basic principles that must be met in strengthening BPR's ICT system. First, the risk continues to be suppressed by taking prevent – detect – recover. In other words, securing does not necessarily mean preventing security incidents from occurring (Al Qabri *et al.*, 2020). Second, security standards should cover the entire e-Banking system environment, such as the ecosystem from the issuer/acquirer side, e-money, banking system, communication channels, devices, and finally the user side. And lastly, BPR ICT security standards should encourage banks to continuously improve the security of the e-Banking system. All of this must be done because we have to pay attention to the Indonesian people, who apparently have a lot to do with BPRs.

2. Literature Review

2.1. The Rural Banks

Rural Banks (BPR) are banks that carry out business activities conventionally or based on sharia principles, which in their activities do not provide services in payment traffic. The activities of BPRs are much narrower than those of commercial banks because BPRs are prohibited from accepting demand deposits, foreign exchange activities, and insurance. BPR or Rural Banks are common in small towns to remote sub-districts, while in big cities the popularity of BPRs is still far below that of commercial banks (Wei, 2022) ^[13]. In the midst of the onslaught of digital transaction services (Alipay and Jenius), peer to peer lending (P2P) credit marketplaces such as Investree, Modalku), the role of banks is still significant in people's lives, although banking data shows that only 40% of Indonesians have bank accounts.

The presence of Rural Banks (BPR) itself has been focused from the beginning on serving the community, especially in remote areas in even smaller groups that have not been fully covered by commercial bank services. Therefore, in carrying out business activities either conventionally or based on sharia principles, BPRs are more limited in their business processes because they do not provide services in payment traffic.

The history of people's credit institutions began during the Dutch colonial period in the 19th century with the formation of the Village Bank, Village Bank, Farmers Bank, and Village Trade Bank, with the aim of helping farmers, employees, and laborers to escape the snares of moneylenders. which provide high-interest loans. After Indonesia's independence, several types of small financial institutions and financial institutions were established in rural areas such as the Market Bank, the Village Production Work Bank (BKPD), and starting in the early 1970s, the Rural Credit Fund Institution (LDKP) by the Regional Government.

In 1988, the Government issued the October 1988 Policy Package (PAKTO 1988) through Presidential Decree No. 38 which became the initial momentum for the establishment of new BPRs. The policy provides clarity regarding the existence and business activities of "Rural Banks" or BPRs. With the issuance of Law No.7 concerning Banking in 1992 (Law No.7/1992 concerning Banking), BPRs were given a clear legal basis as a type of bank other than Commercial

Banks.

In accordance with Law No.7/1992 concerning Banking, Non-Bank Financial Institutions that have obtained a business license from the Minister of Finance can adjust their business activities as banks. In addition, it was also stated that small financial institutions such as the Village Bank, Lumbung Desa, Market Bank, Employee Bank, LPN, LPD, BKD, BKK, KURK, LPK, BKPD, and other similar institutions could be granted status. as a BPR by fulfilling the requirements and procedures stipulated by a Government Regulation (PP).

BPR business includes efforts to collect and distribute funds with the aim of making a profit. BPR profits are obtained from the spread effect and interest income. The BPR's efforts are:

- Collect funds from the public in the form of deposits in the form of time deposits, savings, and/or other equivalent forms.
- Give credit.
- Provide financing for customers based on the principle of profit sharing in accordance with the provisions stipulated in Government Regulations.
- Placing the funds in the form of Bank Indonesia Certificates (SBI), time deposits, certificates of deposit, and/or savings accounts with other banks. SBI is a certificate offered by Bank Indonesia to a BPR if the BPR experiences over liquidity or excess liquidity.

2.2. E-Banking

Electronic Banking or E-Banking which is also known as internet banking can be defined as bank services and products directly to customers through electronic, interactive communication channels (Kim *et al.*, 2022) ^[4]. E-Banking includes a system that allows bank customers, both individuals and businesses, to access accounts, conduct business transactions, or obtain information on bank products and services through private or public networks, including the internet.

Mosa (2022) ^[5] state that the existence of E-Banking is the result of the development of information technology that is used by banks to answer the wishes of banking customers who want fast, safe, comfortable, cheap and available services at any time (24 hours/day, 7 days/week) and can be accessed from anywhere. be it from cellphones, computers, laptops/notebooks, PDAs, and so on. In Indonesia, internet banking has been introduced to banking consumers since several years ago. Several large Indonesian state-owned or private banks that provide these services include BCA, Bank Mandiri, BNI, BII, Lippo Bank, Permata Bank and so on. Internet banking has provided benefits to banks, including:

- **Business expansion:** In the past, a bank had to have a branch office to operate in a certain place. Then this is made easier by simply placing the ATM machine so that he can be present at the place. Then there is phone banking which has begun to eliminate the physical limits where customers can use the phone to carry out their banking activities. Now there is internet banking which is even easier because it eliminates space and time limits.
- **Customer loyalty:** In particular, customers who frequently move (mobile), will feel more comfortable to carry out their banking activities without having to open accounts at different banks in various places. He can use only one bank.

- **Revenue and cost improvement:** The cost of providing banking services through Internet Banking can be cheaper than opening a branch office or setting up an ATM machine.
- **Competitive advantage:** Banks that have internet banking will have an advantage compared to banks that do not have internet banking. In the near future, people do not want to open an account at a bank that does not have Internet Banking facilities.
- **New business models:** Internet Banking enables a new business model. New banking services can be launched over the web quickly.

2.3. Security System

Bank Security or Bank Security is a security protocol system created by banks to protect and maintain the privacy and security of customers when visiting the bank's website or during transactions (Sibuea *et al.*, 2020) ^[11]. With E-Banking services, customers can perform various kinds of banking transactions more easily, with just an internet connection. This makes it easier for customers, especially those who are always busy in managing their finances. The use of internet access in this service requires that data security is always maintained from irresponsible parties. Therefore, this type of service uses various security methods to protect customer privacy and data.

Risk management in the procurement of E-Banking activities (Rao *et al.*, 2022) ^[8]. Regulations issued by Bank Indonesia relating to the management or risk management of the implementation of E-Banking activities are Bank Indonesia Regulation No. 5/8/PBI/2003 concerning the Implementation of Commercial Bank Risk Management and Bank Indonesia Circular Letter No. 6/8/DPNP, dated April 20, 2004 regarding the Implementation of Risk Management in Bank service activities through E-Banking.

3. Methods

The literature study carried out by the author is by searching various written sources, either in the form of books, archives, magazines, articles, and journals, or documents relevant to the problems studied. So that the information obtained from this literature study is used as a reference to strengthen the existing arguments. Literature study is a series of activities related to the methods of collecting library data, reading and taking notes, and managing research materials. According to Danial and Warsiah, literature study is a research conducted by researchers by collecting a number of books, magazines related to the problem and research objectives. This technique is carried out with the aim of revealing various theories that are relevant to the problems being faced/researched as reference material in the discussion of research results.

In general, literature study is a way to solve problems by tracing the sources of writings that have been made before. In other words, the term literature study is also very familiar with the term literature study (Ritonga *et al.*, 2020) ^[10]. In a research to be carried out, of course a researcher must have broad insight regarding the object to be studied. Otherwise, it can be ascertained in a large percentage that the research will fail. The method applied in data collection for the discussion of the problem in this paper is the method of collecting data randomly through electronic media, mainly data obtained from the internet, then after the data obtained has matched the discussion in this article, the editing process will be carried out. In other words, the data or information that has been

collected in the form of files or notes is read and understood first and then connected to the study of the problems contained in this paper. In this case, the problem that is often faced in the application of information technology to the banking system, especially BPR, is security. Therefore, to be able to solve problems related to technology, solving the problem must also be solved by increasing the security system of the technology.

4. Result and Discussion

4.1 Result

By utilizing E-Banking, customers will get many benefits, especially when viewed from the amount of time and energy that can be saved because E-Banking is clearly queue-free and can be done from anywhere as long as the customer has the supporting facilities to perform the E-Banking service (Cui and Xu, 2022) ^[2]. As for the implementation of the E-Banking system, there are still obstacles that must be considered. Some of the obstacles in the implementation of E-Banking that can be identified include:

- E-Banking transactions are not only easy, but can pose risks such as strategy, operations and reputation as well as various threats to data flow and the threat of damage/failure to the E-Banking system and the increasingly complex technology that forms the basis of E-Banking.
- Damage/Loss/loss suffered by the bank/customer is also caused by internal officers or bank management.
- E-Banking is one of the targets of cybercrimes who have problems in terms of proving both technically and non-technically.
- The government together with the DPR for "any period" so far still seem very slow in anticipating the rise of crimes that occur through E-Banking activities.
- E-Banking activities still do not have an accurate and firm legal umbrella due to the stagnant bill on information and electronic transactions.
- "banking" business actors and the public in general still do not care about the process of handling cases of E-Banking crimes.

4.2 Discussion

Due to the many obstacles in implementing the E-Banking security system in BPR, there are several things that can be discussed regarding preventive actions and also risk analysis on the implementation of the E-Banking security system application in BPR. The following are some of the preventive actions that can be taken by the entity:

- Banks must ensure that the bank's website provides information that enables prospective customers to obtain accurate information regarding the identity and legal status of the bank before making transactions through E-Banking.
- Banks must take steps to ensure that the provisions of customer confidentiality are applied in accordance with those applicable in the country where the bank is domiciled in providing E-Banking products and services.
- Banks must have effective emergency and business continuity planning procedures to ensure the availability of E-Banking systems and services.
- Banks must develop adequate treatment plans to manage, overcome and minimize problems arising from "internal and external" unexpected events that may hinder the

provision of E-Banking systems and services.

- In the event that the E-Banking system is carried out by an “outsourced” third party, the bank must establish and implement a comprehensive and ongoing supervision and due diligence procedure to manage the bank's relationship with the third party.

5. Conclusion

The following are suggestions that can be used as guidelines or references in implementing the E-Banking system:

- Banks must take adequate steps to test the authenticity of the identity "authentication" and authorization of customers who make transactions through E-Banking.
- Banks must use the method of testing the authenticity of transactions to ensure that transactions cannot be denied by "non-repudiation" customers and determine responsibilities in E-Banking transactions.
- Banks must ensure segregation of duties in the E-Banking system, database and other applications.
- Banks must ensure proper control over authorization and access rights of "privileges" to the E-Banking system, database and other applications.
- Banks must ensure the availability of adequate procedures to protect the integrity of data, records/archives and information on E-Banking transactions.
- Banks must ensure the availability of a clear “audit trail” tracking mechanism for all E-Banking transactions.
- Banks must take steps to protect the confidentiality of important information on E-Banking. Such measures must be appropriate to the sensitivity of the information released and/or stored in the database.

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